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M HOUSE SURRY PTY LTD

Additional Geotechnical Investigation

47-97 Marlborough Street, Surry Hills, NSW

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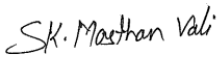	
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1. Introduction

1.1 Background

At the request of Ms Grace Hunt of M House Surry Pty ltd (the Client), EI Australia (EI) has carried out an Additional Geotechnical Investigation (AGI) for the proposed development at 47-97 Marlborough Street, Surry Hills, NSW (the Site).

This AGI report has been prepared to provide advice and recommendations to assist in the preparation of designs for the proposed development and to support a State Significant Development Application (SSDA) SSD-78545225 dated 19 December 2024. Specifically, this report has been prepared to address Item No. 12 of the SEARs requirement.

The investigation has been carried out in accordance with the agreed scope of works outlined in EI's proposal referenced P22722.2_Rev1, dated 29 August 2025.

EI previously completed a Geotechnical Investigation (GI) Report, referenced E26534.G03 dated 8 November 2024. However, as the depth of investigation in that report was limited, the current report supersedes and replaces the previous GI report.

1.2 Proposed Development

The following documents, supplied by the Client, were used to assist with the preparation of this AGI report:

- Architectural Drawings prepared by Wardle – Project no: 2517, Drawing no: AR 101 of Revision 1, AR 400 of Revision 3, dated 6 November 2025;
- Site survey plan prepared by LTS, Reference No. 52561 002DT, Sheets 1 to 5, dated 22 August 2025;
- Consultant Standard Text prepared by Urbis, Version 4, dated 23 March 2026.

Based on the provided documents above, EI understands that proposed development involves the following:

- Demolition of the existing car park on the northern portion of the site.
- Site preparation works including:
  - Tree removal.
  - Excavation on the northern portion of the site.
- Alterations and additions to the existing warehouse building for the purposes of a residential flat building comprising:
  - Heritage conservation works to the warehouse building and alterations to the warehouse roof profile on level 8.
  - Four level addition to the warehouse building on the central portion of the site.
  - 134 residential apartments across 9 levels.
  - Indoor communal resident amenity and rooftop communal open space on level 7.
  - Service vehicle access from Goodlet Street to an at-grade loading dock.
  - Lower ground storage, plant and services area.
- Construction of a new residential flat building on the northern portion of the site comprising:
  - Basement car stacker and vehicular access from Landsdowne Street.
  - Retail tenancy on ground level on the corner of Marlborough Street and Landsdowne Street.

- 38 residential apartments across 9 levels.

- Landscaping and associated public domain works including a private pedestrian link along the western site boundary.
- Provision of 15% affordable housing to be managed by a community housing provider for a period of 15 years from date of the Occupation Certificate.
- Extension and augmentation of physical infrastructure and utilities as required.

The Finished Floor Level (FFL) of the lowest basement carpark stacker is proposed to have RL 21.2 m AHD. A Bulk Excavation Level (BEL) of RL 20.9 m AHD is assumed which includes allowance for the construction of the basement slab. To achieve the BEL, excavation depths ranging between 26.1 m and 29.1 m Below Existing Ground levels (BEGL) are estimated. Locally deeper excavations may be required for footings, lift overrun pits, crane pads, and service trenches.

1.3 Objectives

The objective of the AGI was to assess site surface and subsurface conditions at three borehole locations, and to provide geotechnical advice and recommendations to assist in the design of the proposed development.

1.4 Fieldwork Methodology

The scope of works for the AGI included:

- Preparation of a Work Health and Safety Plan;
- Review of relevant geological maps for the project area;
- Site walkover inspection by a Geotechnical Engineer to assess topographical features and site conditions;
- Scanning of proposed borehole locations for buried conductive services using a licensed service locator with reference to Before You Dig Australia (BYDA) plans;
- Auger drilling of three boreholes (BH101M, BH102M and BH103M) by a track-mounted drill rig using solid flight augers equipped with a 'Tungsten-Carbide' (T-C) bit. The boreholes were auger drilled to depths as shown in **Table 1-1** below:

Table 1-1 Augering and Rock Coring Depths

Borehole ID	Surface RL (m AHD)	Augering Termination		Rock Coring Termination	
		Depth (m)	RL (m AHD)	Depth (m)	RL (m AHD)
BH101M	49.50	4.0	45.50	45.14	4.36
BH102M	46.90	7.1	39.8	24.82	22.08
BH103M	41.80	4.7	37.10	11.74	11.64

- Standard Penetration Testing (SPT) was carried out (as per AS 1289.6.3.1-2004), where possible, during auger drilling of the boreholes to assess soil strength/relative densities.
- Measurements of groundwater seepage/levels, where possible, in the augered sections of the boreholes during and shortly after completion of auger drilling;
- The strength of the bedrock in the augered sections of the boreholes was assessed by observation of the auger penetration resistance using a T-C drill bit and examination of

the recovered rock cuttings. It should be noted that rock strengths assessed from augered boreholes are approximate and strength variances can be expected.

- Northing and easting data are presented in the detailed borehole logs in **Appendix A**. The RL's of the borehole locations are interpolated from the survey plan referenced above.

- Continuation of all boreholes, using NMLC diamond coring techniques to termination depths shown above in **Table 1-1**. The rock core photographs are presented in **Appendix A**;
- Boreholes BH101M, BH102M, and BH103M were converted into groundwater monitoring wells.
- Soil and rock samples were sent to STS Geotechnics Pty Ltd (STS) and SGS Australia (SGS), which are National Australian Testing Authority (NATA) accredited laboratories, for testing and storage.
- Preparation of this AGI report.

EI's Geotechnical Engineer was present full-time onsite to set out the borehole locations, direct the testing and sampling, log the subsurface conditions and record groundwater levels.

1.5 Constraints

The AGI was limited by the intent of the investigation and the presence of existing site structures. The discussions and advice presented in this report are preliminary and intended to assist in the preparation of initial designs for the proposed development. Further geotechnical investigations should be carried out at the central portion of the site. Further geotechnical inspections be carried out during construction to confirm the geotechnical and groundwater models, and the design parameters provided in this report.

2. Site Description

2.1 Site Description and Identification

The site identification details and associated information are presented in **Table 2-1** below while the site locality is shown on **Figure 1.** An aerial photograph of the site is presented in **Plate 1** below.

Table 2-1 Summary of Site Information

Information	Detail
Street Address	47-97 Marlborough Street, Surry Hills, NSW
Lot and Deposited Plan (DP) Identification	Lot 1 in DP 225393 and Lot 1 in DP251056
Brief Site Description	At the time of our investigation, the site was occupied by an existing eight-storey building in the southern third of the site, connected to an existing three-storey building in the middle third of the site. The northern third of the site is an existing single-storey building with roof top open car parking. A driveway off Lansdowne Street runs along the western perimeter of the northern third of the site together with a car park. A driveway off Goodlet Street at the south-western corner of the site leads to a carport and loading dock with a raised ceiling space. The remaining areas of the site were occupied by concrete pavement.
Site Area	The site area is approximately 3,413m^2 (based on the standard text document referenced above).

Plate 1 Aerial photograph of the site (source: SDT Explorer, accessed on 12 September 2025)

2.2 Local Land Use

The site is situated within an area of commercial and residential uses. Current uses of the surrounding land at the time of our presence on site are described in **Table 2-2** below. For the purpose of this report, the site boundary adjacent to Lansdowne Street shall be adopted as the northern site boundary.

Table 2-2 Summary of Local Land Use

Direction Relative to Site	Land Use Description
North	Lansdowne Street, a wide two-lane, asphalt-paved road with dedicated parking on both sides of the road. Beyond the roadway is Eddie Ward Park, which comprises a mixture of green space and play equipment.
East	Marlborough Street, a one-way asphalt-paved road running north to south. Beyond the roadway is a series of two-storey residential terrace style houses. At the midpoint of the site Christie Lane is located to beyond Marlborough Street, which leads to a residential apartment complex.
South	Goodlet Street, a one-way asphalt-paved road running west to east. Beyond the roadway is a series of two-storey residential terrace style houses.
West	To the north of the western boundary is “Sydney County Council substation No. 901”. The substation is an Ausgrid asset. To the south of the western boundary is a nine-story residential building to the south, which may have a basement.

2.3 Regional Setting

The site topography and geological information for the locality is summarised in **Table 2-3** below**.**

Table 2-3 Topographic and Geological Information

Attribute	Description
Topography	The site is situated on the high western side of Marlborough Street, within gently south eastern dip[ping topography (0° to 8°) with site levels varying from RL 43 at the northern boundary to RL 40 at the southern boundary (RL have been estimated from publically available information).
Regional Geology	The geological map of Sydney, Series Sheet 9130, prepared by the Geological Survey of NSW Department of Mineral Resources, indicates that the site is underlain by Ashfield Shale (Twia). Ashfield Shale, typically comprising black to dark-grey shale and laminate and bordering Quaternary Age Deposits (Qhd) transgressive dunes, typically comprising medium to fine grained marine sand with podsols. A Volcanic Dyke was noted running in approximately an east west direction 400m to the north of the site.

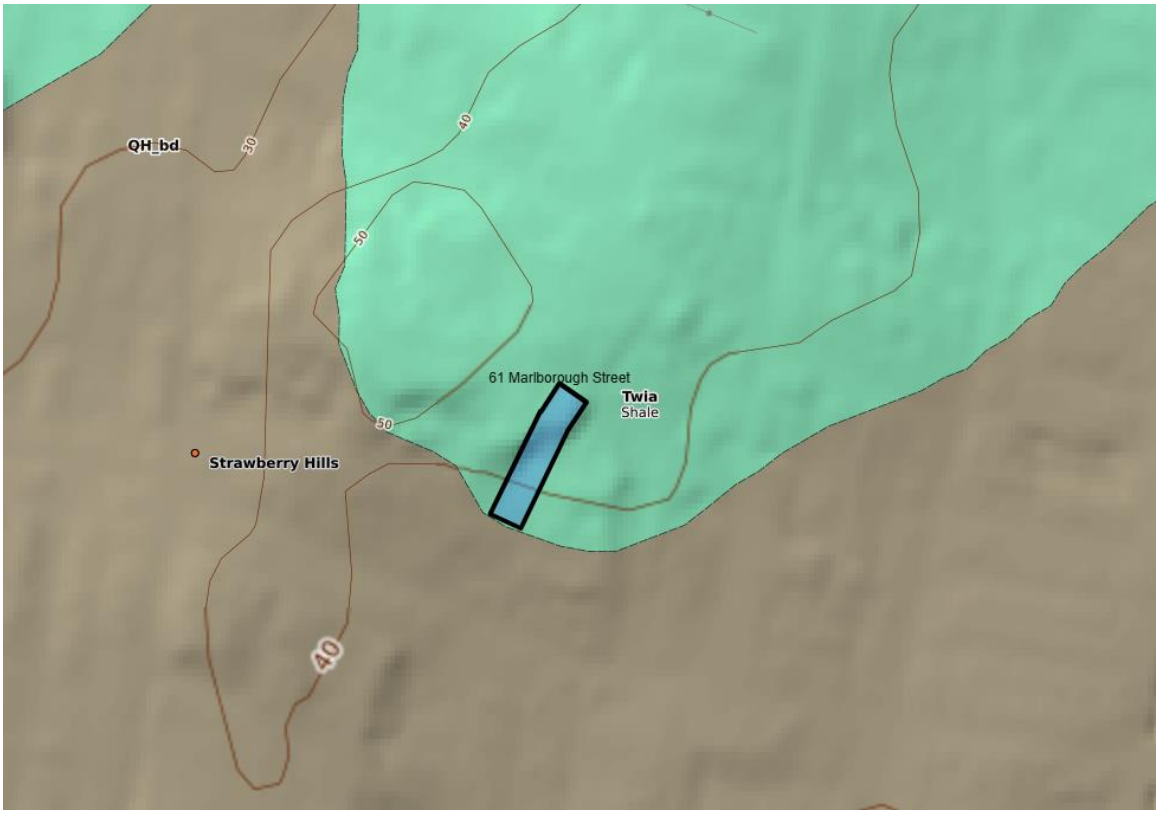


Plate 2 Excerpt of geological map showing location of site.

3. Investigation Results

3.1 Stratigraphy

For the development of a site-specific geotechnical model, the stratigraphy observed in the AGI has been grouped into seven geotechnical units. A summary of the subsurface conditions across the site, interpreted from the assessment results, is presented in **Table 3-1** below. More detailed descriptions of subsurface conditions at each borehole location are available on the borehole logs presented in **Appendix A**. The details of the methods of soil and rock classifications, explanatory notes and abbreviations adopted on the borehole logs are also in **Appendix A.** A summary of the depth and level of the units observed in each borehole is provided in **Table 3-2**.

Table 3-1 Summary of Subsurface Conditions

Unit	Material[2]	Depth to Top of Unit (m BEGL)[1]	RL of Top of Unit (m AHD)[1]	Observed Thickness (m)	Comments
1	Fill	0.13 to 0.2	41.67 to 49.37	0.2 to 1.17	Concrete surfacing between 100mm to 200mm thickness, underlain by Silty sand/silty clay, with building waste and angular to sub angular gravels. Fill was assessed, based on our observations to be variably compacted.
2	Residual Soil	0.4 to 1.3	41.30 to 48.20	1.7 to 4.57	Silty Clay, medium to high plasticity with, grey mottled orange, grading into weathered rock with depth, stiff to hard, SPT values range from 10 to 40.
3	Class V/IV Shale	3.0 to 5.07	36.73 to 46.50	1.43 to 5.69	Distinctly weathered, very low to low strength shale. Shale is typically highly fractured, with occasional extremely weathered seams. The fractured and crushed seams observed within this material are indicative of a shear zone or similar geological fault.
4	Class V/IV Sandstone	6.50	35.30	1.50	Extremely to distinctly weathered sandstone, very low to low strength sandstone, with extremely weathered seams. Observed only in BH103M.
5	Class III Shale	7.0 to 8.69	38.21 to 42.50	1.01 to 4.04	Slightly weathered to fresh, medium to high strength, dark grey to light grey, with thinly to medium bedded. Observed only in BH101M and BH102M
6	Class III Sandstone	8.0 to 11.04	33.80 to 38.46	0.91 to 1.34	Slightly weathered to fresh, fine to medium grained sandstone medium bedded, medium strength. Observed only in BH101M and BH103M.
7	Class II Sandstone	9.34 to 11.95	32.46 to 37.55	-[3]	Fresh, fine to medium grained, grey sandstone, medium to thickly bedded, high strength. Observed up to termination depths.

Note 1 Approximate depth and level at the time of our assessment. Depths and levels may vary across the site.
Note 2 For more detailed descriptions of the subsurface conditions, reference should be made to the borehole logs attached to Appendix A.

Table 3-2 Depths to Top of Units in Boreholes (mBEGL)

Weathering Unit	Material	BH101M		BH102M		BH103M	
		Depth (m BEGL)	RL (m AHD)	Depth (m BEGL)	RL (m AHD)	Depth (m BEGL)	RL (m AHD)
1	Fill	0.13	49.37	0.2	46.70	0.13	41.61
2	Residual Soil	1.30	48.20	0.4	46.50	0.5	41.30
3	Class V/IV Shale	3.0	46.50	3.0	43.90	5.07	36.73
4	Class V/IV Sandstone	-	-	-	-	6.50	35.30
5	Class III Shale	7.0	42.50	8.69	38.21	-	-
6	Class III Sandstone	11.04	38.46	-	-	8.0	33.80
7	Class II Sandstone	11.95	37.55	9.70	37.20	9.34	32.46

Weathering Gradation

3.2 Groundwater Observations

Groundwater seepage was observed during auger drilling of BH102M only. The depth of groundwater seepage during augering in BH102M is encountered at depths 7.0 m BEGL (RL 39.9 m AHD) and is noted on the borehole logs in **Appendix A**. Water circulation as is required for rock coring within the boreholes prevented further observations of groundwater levels.

Following completion, groundwater monitoring well were installed in BH101M, BH102M and BH103M and bailed dry. The installation details are presented in the **Table 3-3**. A groundwater monitoring visit was carried out on 22 September 2025 and the groundwater levels measured within the monitoring wells are presented in **Table 3-4** below.

Table 3-3 Groundwater Monitoring Well Installation Details

Borehole ID	Surface RL	Well Termination Depth		Start of Screened Zone	
		Depth (m)	RL (m AHD)	Depth (m)	RL (m AHD)
BH101M	49.50	28.0	21.5	22.0	27.5
BH102M	46.90	24.8	22.1	18.80	28.1
BH103M	41.80	25.20	16.6	19.20	22.6

Table 3-4 Groundwater Measurements Within the Monitoring Wells

Borehole ID	Groundwater Levels		
	Measurement Date	m BEGL	RL m AHD
BH101M	22/09/2025	10.83	38.67
BH102M	22/09/2025	8.08	38.82
BH103M	22/09/2025	4.37	37.43

3.2.1 Rising Head Test

A Rising Head Test was completed on 22 September 2025 in the monitoring wells installed in BH101M and BH102M. The following procedure was adopted:

- The groundwater level within the well was initially recorded;
- The well was purged using an electrical groundwater pump;
- The rising groundwater level within the temporary well was measured at various time intervals for 1 hour.

The results were then used to estimate the permeability of the Class II sandstone bedrock using the Hvorslev Method based on the borehole geometry. The average estimated permeability of the sandstone bedrock is calculated to be 5×10^{-8} m/s.

3.3 Test Results

Three soil samples were selected for laboratory testing to assess the following:

- Atterberg Limits and Linear Shrinkage
- Soil aggressivity (pH, chloride and sulfate content and electrical conductivity).

A summary of the soil test results is provided in **Table 3-5** below. Laboratory test certificates are presented in **Appendix B**.

Table 3-5 Summary of Soil Laboratory Test Results

Test / Sample ID	BH101M_0.5-0.95	BH101M_1.5-1.95	BH101M_2.5-2.6	BH103M_3.0-3.2	BH103M_3.5-3.6	BH103M_4.5-4.83
Borehole ID	BH101M	BH101M	BH101M	BH103M	BH103M	BH103M
Sample Depth (mBEGL)	0.5-0.95	1.5-1.95	2.5-2.6	3.0-3.2	3.5-3.6	4.5-4.83
Unit	1	2	2	2	2	2
Material[1]	Fill	Residual Soil	Residual Soil	Residual Soil	Residual Soil	Residual Soil
USCS Description	Silty SAND	Silty CLAY	Silty CLAY	Silty CLAY	Silty CLAY	Silty CLAY
Moisture Content (%)	8.8	18.9	10.9	13.3	16.4	16.4
Aggressivity						
Chloride Cl (ppm)	3.1	-	5.4	-	23	-
Sulfate SO_4 (ppm)	14	-	50	-	23	-
pH	8.7	-	5.9	-	5.3	-
Electrical Conductivity (µS/cm)	63	-	27	-	31	-
Atterberg Limits						
Liquid Limit (%)	-	38	-	48	-	58
Plastic Limit (%)	-	22	-	23	-	26
Plasticity Index (%)	-	16	-	25	-	32
Linear Shrinkage (%)	-	9.5	-	11	-	12.5

Note 1 More detailed descriptions of the subsurface conditions at each borehole location are available on the borehole logs presented in **Appendix A**.

The Atterberg Limits result on the selected clay sample indicated clays to be of medium to high plasticity and of moderate shrink-swell potential.

The assessment indicated low permeability soil was present above the groundwater table. In accordance with Tables 6.4.2(C) and 6.5.2(C) of AS 2159:2009 'Piling – Design and Installation', the results of the pH, chloride and sulfate content and electrical conductivity of the soil provided the following exposure classifications:

- 'Mild' for buried concrete structural elements; and
- 'Non-Aggressive' for buried steel structural elements.

Eighty five (85) selected rock core samples were tested by STS Geotechnics Pty Ltd to estimate the Point Load Strength Index (Is_{50}) values to assist with rock strength assessment. The results of the testing are presented in the laboratory test reports (**Appendix B**) and reproduced on the attached borehole logs (**Appendix A**). The point load strength index tests correlated reasonably well with our field assessments of the rock strength.

4. Recommendations

4.1 Geotechnical Considerations

Based on the results of the assessment, we consider the following to be the main geotechnical issues for the proposed development:

- Basement excavation and retention;
- Rock excavation and vibration; and
- Foundation design for building loads.

4.2 Dilapidation Surveys

Prior to excavation and construction, we recommend that detailed dilapidation surveys be carried out on all structures and infrastructures surrounding the site that falls within the zone of influence of the excavation to allow assessment of the recommended vibration limits. The zone of influence of the excavation is defined by a distance back from the excavation perimeter of twice the total depth of the excavation. The reports would provide a record of existing conditions prior to commencement of the work. A copy of each report should be provided to the adjoining property owner who should be asked to confirm that it represents a fair assessment of existing conditions. The reports should be carefully reviewed prior to demolition and construction.

4.3 Demolition Considerations

Care should be taken during demolition, particularly the concrete pavement, to avoid damaging neighbouring structures and infrastructures. Demolition of concrete slabs, pavement and floor slabs may require breaking into smaller size prior to disposal offsite. We recommend that saw cut slots be provided near adjoining buildings to reduce the risk of vibrations being transferred to nearby structures and infrastructures. This measure will help ensure that such vibrations do not cause damage to the adjacent Ausgrid building and the surrounding heritage structures. If possible, the concrete slabs should be removed using hydraulic equipment rather than impact hammers.

4.4 Excavation Methodology

4.4.1 Excavation Assessment

Prior to any excavation commencing, we recommend that reference be made to the Safe Work NSW Excavation Work Code of Practice, dated January 2020.

EI assumes that the proposed development will require excavation depths ranging between 26.1 m and 29.1 BEGL for the car stacker. Locally deeper excavations for footings, service trenches, crane pads and lifts overrun pits may be required.

Based on the borehole logs, the proposed basement excavations for the car stacker towards the northern part of the site will therefore extend through units 1, 2, 3, 5. 6 and 7 as outlined in **Table 3-1** above. As such, an engineered retention system must be installed prior to excavation commencing to support the overburden profile (Units 1 and 2) and the weathered shale bedrock (Unit 3). Unit 5 to Unit 7 may be allowed to stand vertically unsupported provided the following:

- The excavation face is absent of adversely oriented defects that may result in instability;
- Inspections be carried out by an experienced geotechnical engineer progressively during basement excavations to assess rock quality and absence of adversely oriented defects;
- Where adversely oriented defects are present which may form slip planes, wedges or unstable blocks, such areas be stabilised prior to further excavations.

- Further groundwater measurements, long term groundwater monitoring and Groundwater Take Assessment (GTA) be carried out to determine whether the water table is within the depth of proposed excavations and seepage flow rates which if sufficiently high would preclude unsupported cuts in the bedrock and the potential need for tanking of the basement.

Units 1 and 2, could be excavated using buckets of large earthmoving Hydraulic Excavators, particularly if fitted with 'Tiger Teeth' for excavations in Unit 3 (Class V/IV shale) and Unit 4 (Class V/IV Sandstone) if encountered. Excavation of Units 5, 6 and 7 will present hard or heavy ripping, or "hard rock" excavation conditions. Wear and tear should also be allowed for. The use of smaller size machinery will result in lower productivity and higher wear and tear, and this should be allowed for. Alternatively, hydraulic rock breakers, rock saws or rotary grinders could be used, though productivity would be lower and equipment wear increased, and this should be allowed for.

To assist in reducing vibrations and over-break of the bedrock and due to the presence of sensitive assets and the heritage structures in and around the site we recommend saw cutting the entire excavations of the site wherever units 3 to 7 are encountered and rock hammers should only be used to break the saw cut rock. Rock sawing throughout the excavation has several advantages as it often reduces the need for rock bolting as the cut faces generally remain more stable and require a lower level of rock support than hammer cut excavations, ground vibrations from rock saws are minimal and the saw cuts will provide a slight increase in buffer distance for use of rock hammers. However, the effectiveness of such approach must be confirmed by the results of vibration monitoring. Although rock saws and smaller size rock breakers and these are likely to be less productive, they would reduce or possibly eliminate risks of damage to adjoining properties through vibration effects transmitted via the ground.

The vibration measurements should be carried out using either an attended or an unattended vibration monitoring system. An unattended vibration monitoring system must be fitted with an alarm in the form of a strobe light or siren or alerts sent directly to the site supervisor to make the plant operator aware immediately when the vibration limit is exceeded. The vibration monitor must be set to trigger the alarm when the overall Peak Particle Velocity (PPV) exceeds set limits outlined by a vibration monitoring plan. Reference should be made to **Appendix C** for a guide to acceptable limits of transmitted vibrations.

Also, there is a potential for poorly oriented defects within the excavated bedrock to result in localized rock slide/topple failure with potential impact to the work site or the adjacent structures. However through selection of suitable excavation equipment, geotechnical inspections and mapping during the excavation works along with the installation of support measures as determined necessary by the inspections, the risk from the proposed works can be maintained within 'Acceptable' levels. In addition, we recommend that only excavation contractors with appropriate insurances and experience on similar projects be used. The contractor should also be provided with a copy of this report to make his own judgement on the most appropriate excavation equipment.

Groundwater seepage monitoring should be carried out during bulk excavation works and prior to finalising the design of a pump out facility. Outlets into the stormwater system will require Council approval.

Furthermore, any existing buried services, which run below the site, will require diversion prior to the commencement of excavation or alternatively be temporarily supported during excavation, subject to permission or other instructions from the relevant service authorities. Enquiries should also be made for further information and details, such as invert levels, on the buried services.

4.4.2 Excavation Monitoring

Consideration should be made to the impact of the proposed development upon neighbouring structures, roadways and services. Basement excavation retention systems should be designed so as to limit lateral deflections.

Contractors should also consider the following limits associated with carrying out excavation and construction activities:

- Limit lateral deflection of temporary or permanent retaining structures;
- Limit vertical settlements of ground surface at common property boundaries and services easement; and
- Limit Peak Particle Velocities (PPV) from vibrations, caused by construction equipment or excavation, experienced by any nearby structures and services.

Monitoring of deflections of retaining structures and surface settlements should be carried out by a registered surveyor at agreed points along the excavation boundaries and along existing building foundations / services / pavements and other structures located within or near the zone of influence of the excavation. Owners of existing services adjacent to the site should be consulted to assess appropriate deflection limits for their infrastructures. Measurements should be taken in the following sequence:

- Before commencing installation of retaining structures where appropriate to determine the baseline readings. Two independent sets of measurements must be taken confirming measurement consistency;
- After installation of the retaining structures, but before commencement of excavation;
- After excavation to a depth of 1.5m, and every 1.5m interval thereafter.
- After excavation to the first row of supports or anchors, but prior to installation of these supports or anchors;
- After excavation to any subsequent rows of supports or anchors, but prior to installation of these supports or anchors;
- After excavation to the base of the excavation;
- After de-stressing and removal of any rows of supports or anchors; and
- One month after completion of the permanent retaining structure or after three consecutive measurements not less than a week apart showing no further movements, whichever is the latter.

4.5 Groundwater Considerations

Groundwater was observed in all groundwater monitoring wells as detailed in **Table 3-4**, all of which are above the assumed BEL.

EI notes that based on the measured water level being within the bedrock in BH101M and BH102M where excavation for the proposed car stacker, it is our assessment that it is likely to be perched groundwater. Hence, we expect some minor seepage inflows into the excavation along the soil/rock interface and through any defects within the bedrock (such as jointing, and bedding planes, etc.) particularly following periods of heavy rainfall. Due to the low permeability of the soil and bedrock profile, any groundwater inflows into the excavation should not have any adverse impact on the proposed development or on the neighbouring sites and should be manageable. The initial flows into the excavation may be locally high, but would be expected to decrease considerably with time as the bedding seams/joints are drained. We recommend that monitoring of seepage be implemented during the excavation works to confirm the capacity of the drainage system.

Notwithstanding the above EI recommend long term groundwater monitoring to facilitate a groundwater seepage assessment to estimate the groundwater inflows into the proposed basement excavations for car stacker.

Preliminary design of a conventional sump and pump system may be feasible to control seepage encountered during excavation.

In the long term, drainage should be provided behind all basement retaining walls, around the perimeter of the basement and below the basement slab. The completed excavation should be inspected by the hydraulic engineer to confirm that adequate drainage has been allowed for. Drainage should be connected to the sump-and-pump system and discharging into the stormwater system. The permanent groundwater control system should take into account any possible soluble substances in the groundwater which may dictate whether or not groundwater can be pumped into the stormwater system. On-going maintenance of the drainage and pump systems should be allowed for.

Council and WaterNSW normally do not allow permanent dewatering and the basement may be required to be designed as a tanked structure. Should a drained basement be desired, additional investigations, monitoring and analysis will be required including seepage analysis, long-term groundwater monitoring, and laboratory testing. Reference should be made to Department of Planning and Environment (DPE) guidelines “Minimum requirements for building site groundwater investigation and reporting”, dated October 2022. EI should be contacted for further advice for the approval process for a drained basement.

4.6 Excavation Retention

4.6.1 Support Systems

From a geotechnical perspective, it is critical to maintain the stability of all adjacent structures and infrastructures during demolition, excavation and construction works.

Based on the depth of the excavation, the encountered subsurface conditions and limited setbacks, temporary batters are not feasible for this site. Unsupported vertical cuts of the soil and weathered bedrock are not recommended for this site as these carry the risk of potential collapse especially after a period of wet weather. Collapse of the material may result in injury to personnel and/or damage to nearby structures/infrastructures and equipment.

A suitable retention system will be required for the support of Units 1, 2, 3 and 4 (if encountered). For this site, EI recommends an anchored and/or propped soldier pile wall with reinforced shotcrete panels in between the piles be founded into Unit 5 materials or better. Consideration may be made for some piles, which are not supporting the vertical structural loads of the building, to be terminated at least 1.0m, into Unit 5 material or better, above the base of the bulk excavation levels. Excavations within Unit 5 to Unit 7 should generally be able to be cut vertically and without support, provided an anchor is installed at the toe of the solider pile wall. Anchors/props and reinforced shotcrete must be installed progressively as excavation proceeds. Given the propensity for shale to deteriorate if exposed to the elements, we recommend that surface protection be provided to Unit 5 materials.

Bored piles are considered to be the most suitable for this site. Tremie pumps may be required where high groundwater seepage inflows are present during the drilling of the bored piles. However, relatively large capacity piling rigs will be required for drilling through the medium and high strength shale and sandstone bedrock. The proposed pile locations should take into account the presence of buried services. Further advice should be sought from prospective piling contractors who should be provided with a copy of this report.

Due to the presence of the basement structures within the site and around the site, anchors installation may or may not be possible and internal props may be required. Details of nearby basements, shoring pile walls and anchors must be obtained prior to final design.

For vertical cuts, the excavations must be inspected by a geotechnical engineer at regular intervals to check for any inclined joints or weak seams that require stabilisation. Geotechnical inspections should be carried out at depth intervals of no more than 1.5 m. If adverse defects are encountered, the stabilisation measures may comprise rock bolts, shotcrete and mesh or dental treatment of thin weak seams using non-shrink grout, and this should be allowed for.

The existence of significant horizontal in-situ stresses in bedrock, particularly in the Sydney basin, is well established. The release of such stresses during the basement excavation may

cause adverse impact on the stability of the excavation faces and thus increase the movements. Monitoring of several deep excavations within sandstone and shale in the Sydney indicates that the lateral displacement at the top of the excavation is generally between 0.5 mm to 2 mm per meter depth of excavation. As the maximum depth of excavation into bedrock is of about 23 m, a lateral deflection at the crest of the excavation between 12 mm to 46 mm can be expected which will reduce in a stepped fashion to zero at the bulk excavation level. Monitoring of the lateral movement as the excavation progresses is recommended. An assessment of such movements and their impact can be carried out using finite element software such as PLAXIS.

4.6.2 Retaining Wall Design Parameters

The following parameters may be used for static design of temporary and permanent retaining walls at the subject site. EI note that the below parameters, particularly with determining lateral earth pressures, are for preliminary planning purposes. We recommend that detailed analysis such as the use of finite element analysis software be used to design retaining walls.

The design parameters provided below in **Table 4-1** are considered preliminary in nature and confirmation of the depth and quality of the bedrock in the form of at least three additional boreholes is required prior to the finalisation of the design.

- For progressively anchored or propped walls where minor movements can be tolerated (provided there are no buried movement sensitive services), we recommend the use of a trapezoidal earth pressure distribution of 5H kPa for soil, where H is the retained height in meters. These pressures should be assumed to be uniform over the central 50% of the support system, tapering to nil at top and bottom;
- For progressively anchored or propped walls which support areas which are highly sensitive to movement (such as areas where movement sensitive structures or infrastructures or buried services are located in close proximity), we recommend the use of a trapezoidal earth pressure distribution of 8H kPa for soil, where ‘H’ is the retained height in meters. These pressures should be assumed to be uniform over the central 50% of the support system, tapering to nil at top and bottom;
- All surcharge loading affecting the walls (including from construction equipment, construction loads, adjacent high level footings, footpath and vehicular loadings from roadway etc.) should be adopted in the retaining wall design as an additional surcharge using an ‘at rest’ earth pressure coefficient, K_o.
- The retaining walls should be designed as drained and measures are to be taken to provide complete and permanent drainage behind the walls. Strip drains protected with a non-woven geotextile fabric should be used behind the reinforced shotcrete infill panels for soldier pile walls. Alternatively, for the contiguous pile walls, weepholes comprising 20mm diameter, slotted PVC pipes installed into holes or gaps between adjacent piles at 1.2m centres (horizontal and vertical), may be used. The embedded pipes must, however, be wrapped with a non-woven geotextile fabric (such as Bidim A34) to act as a filter against subsoil erosion;
- For piles embedded into Unit 5 or better, the allowable lateral toe resistance values outlined in **Table 4-1** below may be adopted. These values assume excavation is not carried out within the zone of influence of the wall toe and the rock does not contain adverse defects etc. The upper 0.3m depth of the socket should not be taken into account to allow for tolerance and disturbance effects during excavation.
- If temporary anchors extend beyond the site boundaries, then permission from the neighbouring properties would need to be obtained prior to installation. Also, the presence of neighbouring basements and/or services and their levels must be confirmed prior to finalising anchor design**.**
- Anchors should have their bond length within Unit 5 or better. For the design of anchors bonded into Unit 5 or better, the allowable bond stress value outlined in **Table 4-1** below may be used, subject to the following conditions:

- Anchor bond lengths of at least 3m behind the ‘active’ zone of the excavation (taken as a 45 degree zone above the base of the excavation) is provided;
- Overall stability, including anchor group interaction, is satisfied;
- All anchors should be proof loaded to at least 1.25 times the design working load before locking off at about 80% of their working load. Such proof loading is to be witnessed by and engineer independent of the anchoring contractor. Lift-off tests should be carried out on at least 10% of the anchors 24 to 48 hours following locking off to confirm that the anchors are holding their load. Usually anchors are commissioned on design and construct basis so that failure of anchors to hold their load does not then become a contractual issue. We recommend that only experienced contractors be considered for anchor design, specification and installation with appropriate insurances;

Table 4-1 Geotechnical Design Parameters

Material [1]	Unit 1 Fill	Unit 2 Residual Soil	Unit 3 Class V/IV Shale	Unit 4 Class V/IV Sandstone	Unit 5 Class III Shale	Unit 6 Class III Sandstone	Unit 7 Class II Sandstone
Bulk Unit Weight (kN/m^3)	17	19	23	22	23	23	24
Friction Angle, ϕ' (°)	25	25	27	33	32	40	45
Cohesion c' (kPa)	-	2	12	20	50	200	500
Young's Modulus, E' (MPa)	-	20	100	150	400	500	1000
Earth Pressure at rest, K_o [3]	0.58	0.58	0.55	0.38			
Active Earth Pressure, K_a [3]	0.41	0.41	0.38	0.24			
Allowable Bearing Pressure (kPa) [5]	-	-	-	-	2500	3500	6000
Ultimate Shaft Adhesion in Compression (kPa)	-	-	-	-	450	800	1500
Ultimate Shaft Adhesion in Uplift (kPa)	-	-	-	-	225	400	750
Allowable Toe Resistance (kPa)	-	-	-	-	500	700	900
Working Bond Stress (kPa)	-	-	-	-	180	300	400
Earthquake Site Risk Classification			AS 1170.4:2007 indicates earthquake subsoil Class C_e.(Shallow Soil) AS 1170.4:2007 indicates the hazard factor (z) for Sydney is 0.08.				

Note 1 More detailed descriptions of subsurface conditions are available on the borehole logs in Appendix A.

Note 2 Approximate levels of top of unit at the time of our investigation. Levels may vary across the site.

Note 3 Earth pressures are provided on the assumption that the ground behind the retaining walls is horizontal.

Note 4 Side adhesion values given assume there is intimate contact between the pile and foundation material and should achieve a clean socket roughness category R2 or better. Design engineer to check both 'piston pull-out' and 'cone lift out' mechanics in accordance with AS4678-2002 Earth Retaining Structures.

Note 5 To adopt these parameters we have assumed that:

a. Footings have a nominal socket of at least 0.3m, into the relevant founding material;
b. For piles, there is intimate contact between the pile and foundation material (a clean socket roughness category of R2 or better);
c. Potential soil and groundwater aggressivity will be considered in the design of piles and footings;
d. Piles should be drilled in the presence of a Geotechnical Engineer prior to pile construction to verify that ground conditions meet design assumptions. Where groundwater ingress is encountered during pile excavation, concrete is to be placed as soon as possible upon completion of pile excavation. Pile excavations should be pumped dry of water prior to pouring concrete, or alternatively a tremmie system could be used;
e. The bases of all pile, pad and strip footing excavations are cleaned of loose and softened material and water is pumped out prior to placement of concrete;
f. The concrete is poured on the same day as drilling, inspection and cleaning.

Note 6 The allowable bearing pressures given above are based on serviceability criteria of settlements at the footing base/pile toe of less than or equal to 1% of the minimum footing dimension (or pile diameter).

4.7 Foundations

Following bulk excavations to the BEL of assumed RL 20.9 m AHD, we expect Unit 7 material to be exposed at BEL.

It is recommended that all footings for the building be founded within the sandstone bedrock of similar strength of at least Unit 7 or better to provide uniform support and reduce the potential for differential settlements.

Pad or strip footings founded within Unit 7 may be preliminarily designed for an allowable bearing capacity of 6000kPa, based on serviceability.

Geotechnical inspections of all foundations are recommended to determine that the required bearing capacity has been achieved and to determine any variations that may occur between the boreholes and inspected locations.

For footings designed for higher bearing capacities of 6000kPa or better, EI recommends that spoon tests are completed on at least 1/3 / 100% of the footings. Spoon tests involve the drilling of a small core hole through the base of the footing to a depth of 1.5 times the minimum footing width, and a spoon is used to measure the locations and thicknesses of any seams to confirm the bedrock class.

4.8 Basement Floor Slab

Following bulk excavations to RL 20.9 m AHD for the proposed basement excavations, Unit 7 Class II sandstone bedrock is expected to be exposed at the basement floor BEL.

Following the removal of all loose and softened materials, we recommend that underfloor drainage be provided and should comprise a strong, durable, single sized washed aggregate such as ‘blue metal gravel’. Joints in the concrete floor slab should be designed to accommodate shear forces but not bending moments by using dowelled and keyed joints. The basement floor slab should be isolated from columns. The completed excavation should be inspected by the hydraulic engineer to confirm the extent of the drainage required.

In addition, a system of sub-soil drains comprising a durable single sized aggregate with perforated drains/pipes leading to sumps should be provided. The basement floor slab should be isolated from columns.

Permission may need to be obtained from Council and WaterNSW for any permanent discharge of seepage into the drainage system. A Given the subsurface conditions, we expect that seepage volumes would be low and within acceptable limits manageable by drainage systems. However, if permission for discharge is not obtained, the basement may need to be designed as a tanked basement.

5. Further Geotechnical Inputs

Below is a summary of the recommended additional work that needs to be carried out:

- Additional Geotechnical Investigations in the form of boreholes at the central portion of the site to assess the subsurface conditions;
- Footing investigations for the existing building to determine underpinning requirements where proposed excavations for the car stacker meets or extends to close proximity of existing building, and/or to inform founding conditions to inform building storey additions;
- Long term groundwater monitoring and seepage modelling;
- Dilapidation surveys;
- Classification of all excavated material transported off site;
- Witnessing installation of support measures and proof-testing of anchors (if required).
- Geotechnical inspections of rock faces during excavation by experience geotechnical professional at depth of no greater than 1.5m within medium to high strength bedrock, if vertical cut are adopted;
- Geotechnical inspections of all new footings/piles by an experienced geotechnical professional before concrete or steel are placed to verify their bearing capacity and the in-situ nature of the founding strata; and
- Ongoing monitoring of groundwater inflows into the bulk excavation;

We recommend that a meeting be held after initial structural design has been completed to confirm that our recommendations have been correctly interpreted. We also recommend a meeting at the commencement of construction to discuss the primary geotechnical issues and inspection requirements.

6. Statement of Limitations

This report has been prepared for the exclusive use of Grace Hunt and M House Surry Pty ltd who is the only intended beneficiary of EI's work. The scope of the assessment carried out for the purpose of this report is limited to those agreed with Grace Hunt and M House Surry Pty ltd

No other party should rely on the document without the prior written consent of EI, and EI undertakes no duty, or accepts any responsibility or liability, to any third party who purports to rely upon this document without EI's approval.

EI has used a degree of care and skill ordinarily exercised in similar investigations by reputable members of the geotechnical industry in Australia as at the date of this document. No other warranty, expressed or implied, is made or intended. Each section of this report must be read in conjunction with the whole of this report, including its appendices and attachments.

The conclusions presented in this report are based on a limited investigation of conditions, with specific sampling and test locations chosen to be as representative as possible under the A Given circumstances.

EI's professional opinions are reasonable and based on its professional judgment, experience, training and results from analytical data. EI may also have relied upon information provided by the Client and other third parties to prepare this document, some of which may not have been verified by EI.

EI's professional opinions contained in this document are subject to modification if additional information is obtained through further investigation, observations, or validation testing and analysis during construction. In some cases, further testing and analysis may be required, which may result in a further report with different conclusions.

We draw your attention to the document "Important Information", which is included in **Appendix D** of this report. The statements presented in this document are intended to advise you of what your realistic expectations of this report should be. The document is not intended to reduce the level of responsibility accepted by EI, but rather to ensure that all parties who may rely on this report are aware of the responsibilities each assumes in so doing.

Should you have any queries regarding this report, please do not hesitate to contact EI.

References

AS1289.6.3.1:2004, Methods of Testing Soils for Engineering Purposes, Standards Australia.

AS1726:2017, *Geotechnical Site Investigations*, Standards Australia.

AS2159:2009, *Piling – Design and Installation*, Standards Australia.

AS3600:2018, *Concrete Structures,* Standards Australia

Safe Work Australia Excavation Work Code of Practice, dated January 2020 – WorkCover NSW

NSW Department of Mineral Resources (1983) Sydney 1:100,000 GeoloAGIcal Series Sheet 9130 (Edition 1). GeoloAGIcal Survey of New South Wales, Department of Mineral Resources.

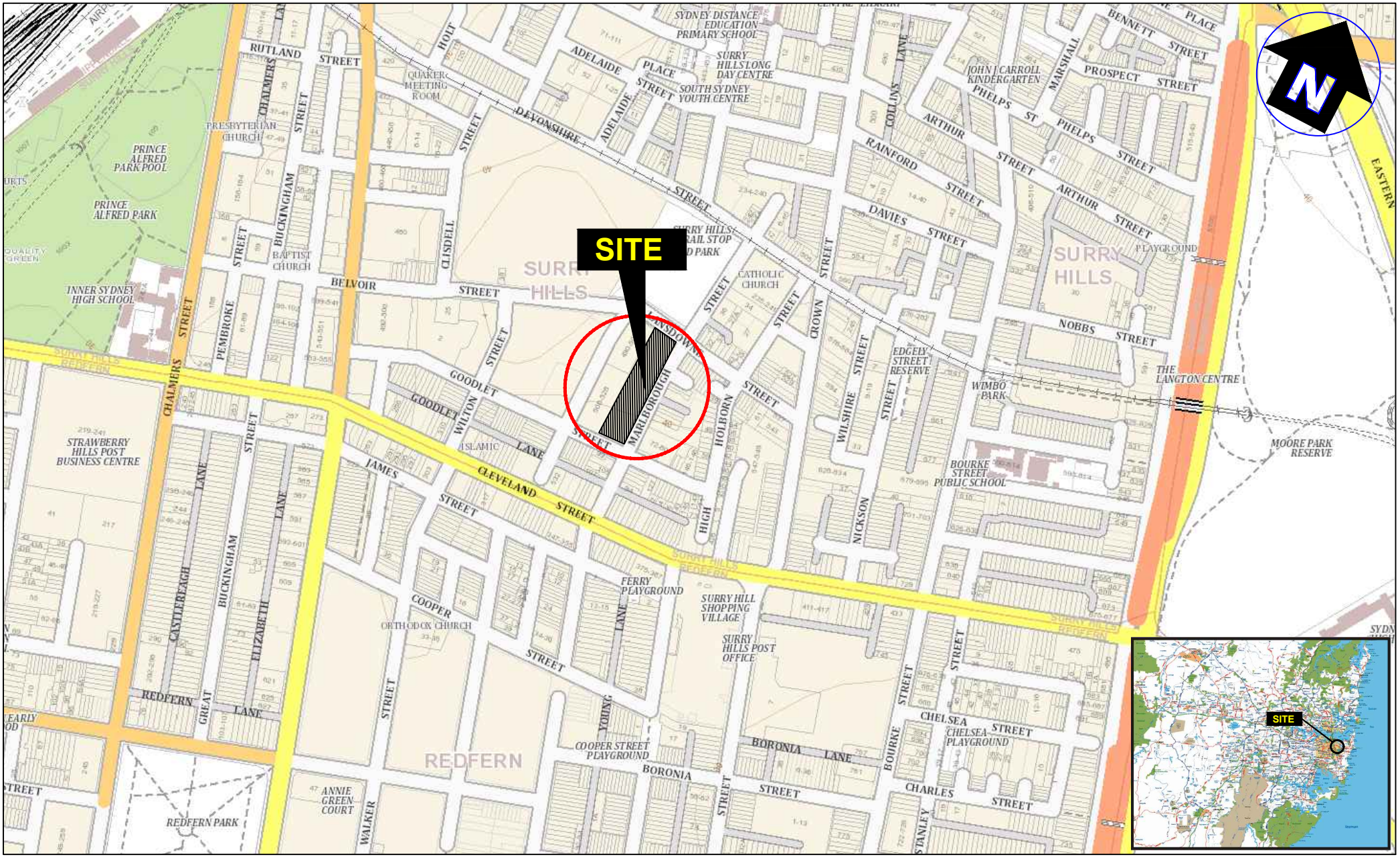
Abbreviations

AHD	Australian Height Datum
AS	Australian Standard
BEL	Bulk Excavation Level
BEGL	Below Existing Ground Level
BH	Borehole
CPT	Cone Penetration Test
DBYD	Dial Before You Dig
DCP	Dynamic Cone Penetrometer
DP	Deposited Plan
EI	EI Australia
AGI	Additional Geotechnical Investigation
NATA	National Association of Testing Authorities, Australia
RL	Reduced Level
SPT	Standard Penetration Test
T-C	Tungsten-Carbide
UCS	Unconfined Compressive Strength

Figures

Figure 1 Site Locality Plan

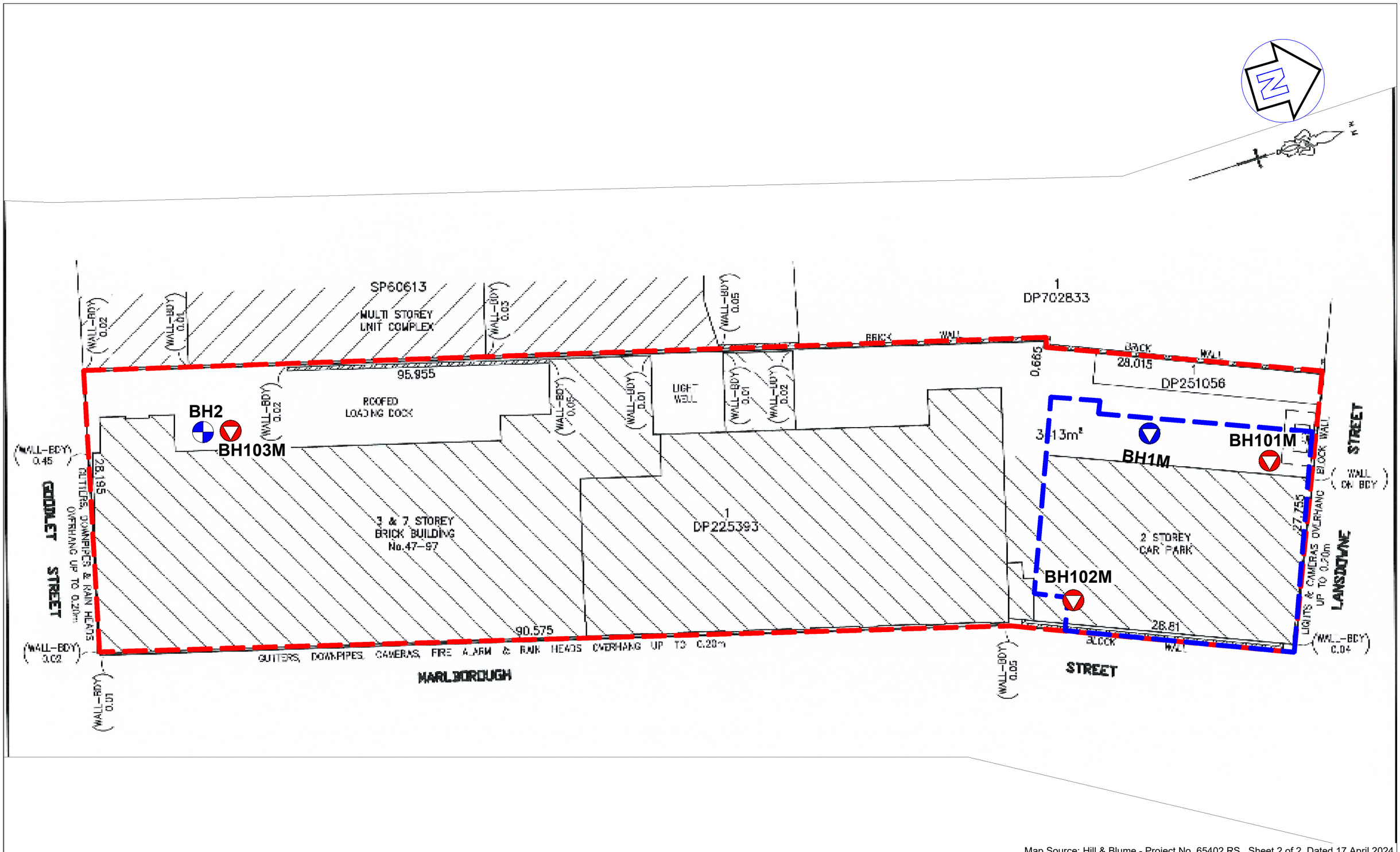
Figure 2 Borehole Location Plan



eiaustralia Practical Solutions for Built Environments Suite 6.01, 55 Miller Street, PYRMONT 2009 Ph (02) 9516 0722 Fax (02) 9518 5088	Drawn:	M.S.	**M House Surry Pty Ltd** Additional Geotechnical Investigation! 47-97 Marlborough Street, Surry Hills, NSW Site Locality Plan
	Approved:	G.P.	
	Date:	26-09-2025	
	Scale:	Not To Scale	

Figure: 1

Project: E26534 G04



Map Source: Hill & Blume - Project No. 65402 RS, Sheet 2 of 2, Dated 17 April 2024

LEGEND (All Locations are Approximate)

- Site Boundary
- Excavation Boundary
- Borehole Locations (September 2024)
- Monitoring Well Locations on (September 2024)
- Monitoring Well Locations (September 2025)

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Drawn:	D.C.
Approved:	G.P.
Date:	11-09-25

M House Surry Pty Ltd
Additional Geotechnical Investigation
47-97 Marlborough Street, Surry Hills NSW
Borehole Location Plan

Figure: 2

Project: E26534.G04

Appendix A Borehole Logs And Explanatory Notes

BOREHOLE LOG

BH ID: BH101M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	01 September 2025
Client	M House Surry Pty Ltd			**Completed**	02 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 02 September 2025
Sheets	1 of 6			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈49.50 m (AHD)	**Northing**	6248676.6 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334609.4 (MGA 2020 Zone 56)

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE			0.00		49.50	CONCRETE: 130mm thick	-		CONCRETE
				0.13		49.37	FILL: Silty SAND: fine to medium grained, brown /grey, with angular to sub-angular gravels.			FILL
		BH101M_0.50-0.95 SPT 0.50-0.95 3,5,5 N=10		0.50		49.00	From 0.50m, with brick fragments.	M	-	
		BH101M_1.00-1.10		1.00		48.50	From 1.00m, brown.			
				1.30		48.20	Silty CLAY: medium plasticity, yellow mottled brown, fine grained, angular to sub-angular gravels trace.			RESIDUAL SOIL
		BH101M_1.50-1.95 SPT 1.50-1.95 2,5,8 N=13		2.00		47.50	From 2.00m, grading into extremely weathered bedrock, highly weathered angular to sub-angular shale gravels, very low strength.	M < PL	St	
		BH101M_2.50-2.60								
		BH101M_3.00-3.15 SPT 3.00-3.15 20/150 mm HB N=R		3.00		46.50	SHALE: grey, brown, with iron staining, very low strength	-	-	WEATHERED ROCK
		BH101M_4.00-4.15 SPT 4.00-4.15 14/150 mm N=R		4.00		45.50	*Log continued on next page.*			

BOREHOLE CORE LOG

BH ID: BH101M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	01 September 2025
Client	M House Surry Pty Ltd			**Completed**	02 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 02 September 2025
Sheets	2 of 6			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈49.50 m (AHD)	**Northing**	6248676.6 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334609.4 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL 0-1, L 0-3, M 1, H 3, VH 10, EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30, 100, 300, 1000, 3000)
				0			*Log continued from previous page.*				
NMLC	100%	100	5	4			SHALE: grey, iron stained.	DW		4.10-4.80: BP SN 0-10°, OP, FE 4.80-4.92: CZ 5.00-5.30: BP SN 0-10°, OP, FE 5.30-5.47: CZ 5.32-5.48: CZ 5.47-5.68: BP SN 0-10°, OP, FE 5.68-5.97: CZ 5.80-5.97: CZ 6.00-6.07: FS SN 6.15-6.17: CS 6.26: XWS 6.38: BP SM Fe SN 6.47-6.49: CS 6.51-6.53: CS 6.57: BP SM Fe SN 6.61-6.65: CS 6.73: BP SM Fe SN 6.86: CS 6.98: BP SM SN 7.06: JT 5° PR SM CN 7.27: JT 10° IR SM CL 7.30: JT 10° PR SM CN 7.42: JT 30° PR SM CN 7.63: JT 30° PR SM CN 7.74: JT 30° PR SM CN 7.88: JT 30° CU SM CN 7.96: DB 8.13: DB 8.20: JT 70° CU SM CN 8.50: JT 40° CU SM CN 8.75-9.00: FZ 9.07-9.20: FZ 9.38: DB	
				6.28		43.22	From 6.28m, dark grey, distinctly laminated at 0°-5°.				
		100	83	8.00		41.50	From 8.00m, dark gray, massive.	FR			
	90%			10							

BOREHOLE CORE LOG

BH ID: BH101M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	01 September 2025
Client	M House Surry Pty Ltd			**Completed**	02 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 02 September 2025
Sheets	3 of 6			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈49.50 m (AHD)	**Northing**	6248676.6 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334609.4 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL 0-1, L 0-3, M 1, H 3, VH 10, EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30, 100, 300, 1000, 3000)
NMLC	90%	100	99	11 11.04	38.46	From 8.00m, dark gray, massive. SANDSTONE: fine to medium grained, pale grey, indistinctly cross-bedded at 5°.			10.00: HB 10.08: DB 10.41: JT 5° PR RO CL 10.54: JT PR RO Clay Infilled 10.93: JT 20° CU SM CN 11.04: CO 11.35: JT 5° CU RO CN 11.70: BP Clay Infilled 11.76: JT 70° CU RO CN 11.80: JT 5-2° CU RO CN 11.97: JT 5° CU RO Clay Infilled 12.00: HB 12.31: BP 30°	
		100	100	12 13 14					13.45: DB 13.57: DB 14.00: HB	
				14.44	35.06	From 14.44m, distinctly cross-bedded at 5°–15°, with some massive facies; overall thickness less than 1m.			14.46: BP 15°	
				15			FR		15.00: HB	
		100	99	15.54	33.96	From 15.54m, occasional presence of minor siltstone and carbonaceous laminations.			15.58: BP 5° 15.88: BP 5° CN 16.04: JT 10-15° IR RO CN 16.15: BP CN 16.43: JT 80° CU RO CN 16.63: JT 80° CU RO CN 16.90: BP 5° 17.15: JT 7° PR RO CN 17.38: JT 5° CU RO CN	
				16 17 18					17.96: JT 5° CU RO CN 18.12: BP CN	
		100	99	19 20					18.60: JT 10° CU RO CN 18.81: JT 10° CU RO CN 19.15: JT 5° CU RO CN 19.63: JT 10° CU RO CN	

BOREHOLE CORE LOG

BH ID: BH101M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	01 September 2025
Client	M House Surry Pty Ltd			**Completed**	02 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 02 September 2025
Sheets	4 of 6			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈49.50 m (AHD)	**Northing**	6248676.6 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334609.4 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL 0-1, L 0-3, M 1, H 3, VH 10, EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30, 100, 300, 1000, 3000)
NMLC	90%	100	100	21			From 15.54m, occasional presence of minor siltstone and carbonaceous laminations.			19.95: JT 10° CU RO CN 20.05: JT 5° CU RO CN	
										21.47: DB 21.52: DB	
				22		27.50	From 22.00m, medium to coarse-grained, grey, generally distinctly cross-bedded at 0°–5°; indistinct bedding observed in exposed sections.			22.20: BP Clay VN	
				22.00							
				23						23.45: BP CN	
										23.68: DB	
				24						24.50: BP CN	
										24.73: DB	
				25				FR		25.10: BP CN	
		100	100	26						26.25: BP CN	
				27						27.05: HB	
				28						28.20: HB 28.30: HB	
		100	99							28.80: JT 10° PR RO CN	
				29						28.95: BP CN 29.16: HB 29.25: HB	
										29.81: HB	
				30							

BOREHOLE CORE LOG

BH ID: BH101M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	01 September 2025
Client	M House Surry Pty Ltd			**Completed**	02 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 02 September 2025
Sheets	5 of 6			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈49.50 m (AHD)	**Northing**	6248676.6 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334609.4 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL 0-1, L 0-3, M 1, H 3, VH 10, EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30, 100, 300, 1000, 3000)
NMLC	90%	100	99	31			From 22.00m, medium to coarse-grained, grey, generally distinctly cross-bedded at 0°–5°; indistinct bedding observed in exposed sections.			30.65: JT 20° PR RO CN 30.94: BP CN 31.57: BP CN 31.68: BP CN 31.72: BP CN 32.44: JT 20° PR RO CN 32.80: HB 32.85: HB 33.02: BP CN	
				32							
				33		16.50					
				33.00			From 33.00m, distinctly to indistinctly cross-bedded at 0°–5°, minor massive facies and siltstone and carbonaceous laminations.			33.90: JT 80° PR RO CN 34.06: JT 70° PR RO CN 34.15: JT 90° PR RO CN 34.23: JT 80° PR RO CN 34.31: DB	
				34							
		100	99	35				FR		35.00: HB 35.67: HB 35.80: HB	
				36						36.00: HB	
				37						36.90: HB 37.00: HB	
		100	100	38						37.82: HB 38.00: HB 38.46: BP CN	
				39						39.00: HB 39.33: JT 70° PR RO CN	
				40						39.90: HB	

BOREHOLE CORE LOG

BH ID: BH101M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	01 September 2025
Client	M House Surry Pty Ltd			**Completed**	02 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 02 September 2025
Sheets	6 of 6			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈49.50 m (AHD)	**Northing**	6248676.6 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334609.4 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL 0-1, L 0-3, M 1, H 3, VH 10, EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30, 100, 300, 1000, 3000)
NMLC	90%	100	100	41			From 33.00m, distinctly to indistinctly cross-bedded at 0°–5°, minor massive facies and siltstone and carbonaceous laminations.	FR	▼ H	40.00: HB 40.96: HB 41.00: HB 41.72: HB 41.84: HB 41.97: HB 42.00: HB 42.20: BP CN 42.35: HB	
				42							
		100	100	43.00		6.50	From 43.00m, massive with dark grey flakes.		▼ H	42.98: HB 43.14: BP CN	
				44						44.22: BP CN	
				45		4.36	Terminated at 45.14m. Target Depth Reached.		▼ H	44.88: HB	
				46							
				47							
				48							
				49							
				50							

MONITORING WELL LOG

BH ID: BH101M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	01 September 2025
Client	M House Surry Pty Ltd			**Completed**	02 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 02 September 2025
Sheets	1 of 5			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈49.50 m (AHD)	**Northing**	6248676.6 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334609.4 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
		0.00	49.50	CONCRETE: 130mm thick	-		Well Stickup =0.0m (RL 49.50m)
		0.13	49.37	FILL: Silty SAND: fine to medium grained, brown / grey, with angular to sub-angular gravels.			
	BH101M_0.50-0.95 SPT 0.50-0.95 3,5,5 N=10	0.50	49.00	From 0.50m, with brick fragments.	M		
	BH101M_1.00-1.10	1.00	48.50	From 1.00m, brown.			
		1.30	48.20	Silty CLAY: medium plasticity, yellow mottled brown, fine grained, angular to sub-angular gravels trace.			
	BH101M_1.50-1.95 SPT 1.50-1.95 2,5,8 N=13	2.00	47.50	From 2.00m, grading into extremely weathered bedrock, highly weathered angular to sub-angular shale gravels, very low strength.	M < PL		
	BH101M_2.50-2.60						
	BH101M_3.00-3.15 SPT 3.00-3.15 20/150 mm HB N=R	3.00	46.50	SHALE: grey, brown, with iron staining, very low strength	-		
	BH101M_4.00-4.15 SPT 4.00-4.15 14/150 mm N=R	4.00	45.50	SHALE: grey, iron stained.			
		6.28	43.22	From 6.28m, dark grey, distinctly laminated at 0°-5°.			
		8.00	41.50	From 8.00m, dark gray, massive.			

MONITORING WELL LOG

BH ID: BH101M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	01 September 2025
Client	M House Surry Pty Ltd			**Completed**	02 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 02 September 2025
Sheets	2 of 5			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈49.50 m (AHD)	**Northing**	6248676.6 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334609.4 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
		11	38.46	From 8.00m, dark gray, massive.		Sand 0.00m - 20.00m	0.0m - 22.0m PVC casing (50mm Ø)
		11.04		SANDSTONE: fine to medium grained, pale grey, indistinctly cross-bedded at 5°.			
		12					
		13					
		14					
		14.44	35.06	From 14.44m, distinctly cross-bedded at 5°–15°, with some massive facies; overall thickness less than 1m.			
		15					
		15.54	33.96	From 15.54m, occasional presence of minor siltstone and carbonaceous laminations.			
		16					
		17					
		18					
		19					
		20					

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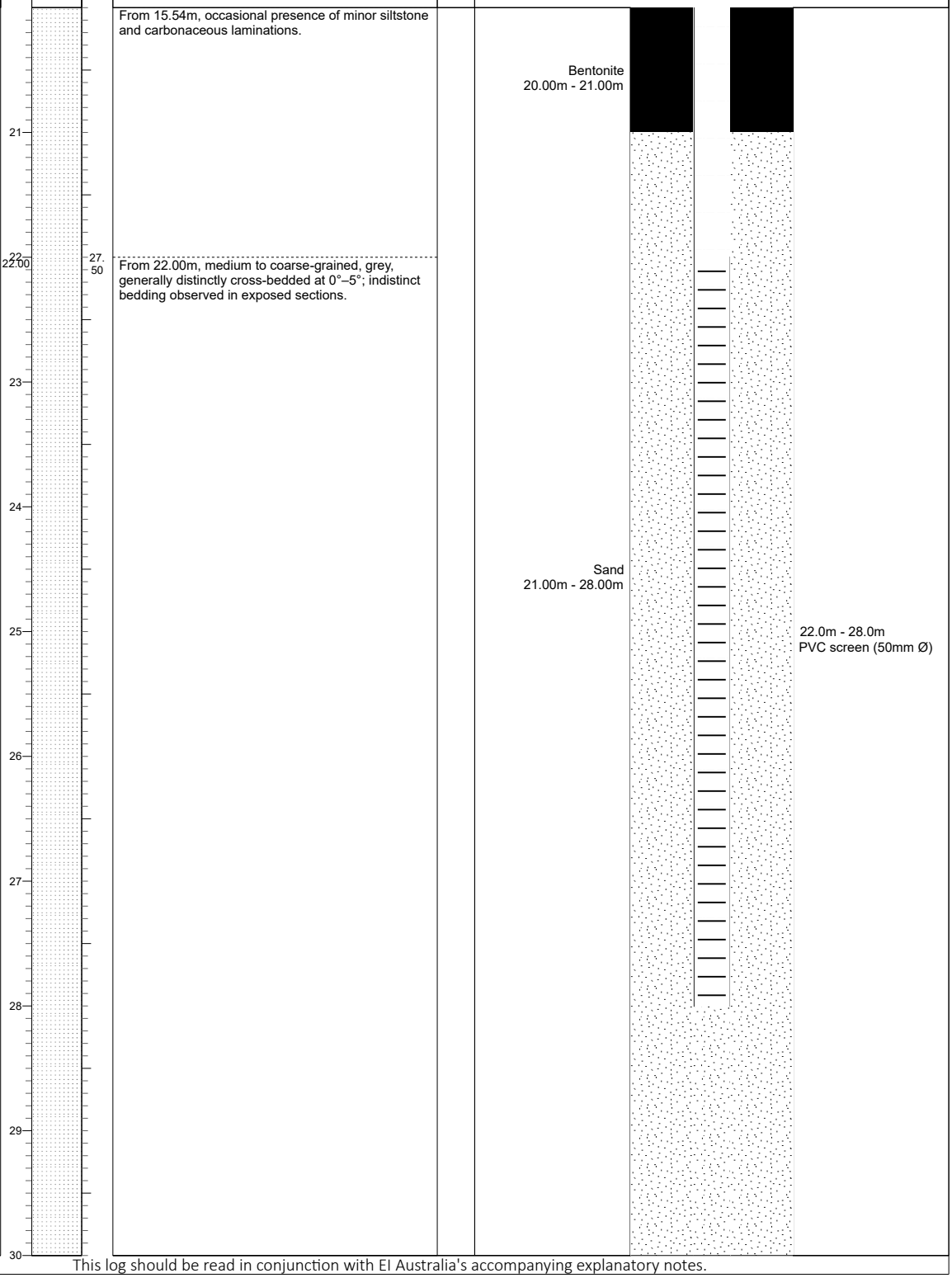
MONITORING WELL LOG

BH ID: BH101M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	01 September 2025
Client	M House Surry Pty Ltd			**Completed**	02 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 02 September 2025
Sheets	3 of 5			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈49.50 m (AHD)	**Northing**	6248676.6 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334609.4 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
					From 15.54m, occasional presence of minor siltstone and carbonaceous laminations.		Bentonite 20.00m - 21.00m	
		22.00		27.50	From 22.00m, medium to coarse-grained, grey, generally distinctly cross-bedded at 0°–5°; indistinct bedding observed in exposed sections.		Sand 21.00m - 28.00m	22.0m - 28.0m PVC screen (50mm Ø)



This log should be read in conjunction with EI Australia's accompanying explanatory notes.

MONITORING WELL LOG

BH ID: BH101M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	01 September 2025
Client	M House Surry Pty Ltd			**Completed**	02 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 02 September 2025
Sheets	4 of 5			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈49.50 m (AHD)	**Northing**	6248676.6 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334609.4 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
		31			From 22.00m, medium to coarse-grained, grey, generally distinctly cross-bedded at 0°–5°; indistinct bedding observed in exposed sections.			
		32						
		33		16.50	From 33.00m, distinctly to indistinctly cross-bedded at 0°–5°, minor massive facies and siltstone and carbonaceous laminations.			
		33.00						
		34						
		35						
		36					Sand 28.00m - 45.14m	
		37						
		38						
		39						
		40						

MONITORING WELL LOG

BH ID: BH101M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	01 September 2025
Client	M House Surry Pty Ltd			**Completed**	02 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 02 September 2025
Sheets	5 of 5			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈49.50 m (AHD)	**Northing**	6248676.6 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334609.4 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
		41			From 33.00m, distinctly to indistinctly cross-bedded at 0°–5°, minor massive facies and siltstone and carbonaceous laminations.			
		42						
		43.00		6.50	From 43.00m, massive with dark grey flakes.			
		44						
		45		4.36	Terminated at 45.14m. Target Depth Reached.			
		46						
		47						
		48						
		49						
		50						

CORE PHOTOGRAPH OF BOREHOLE: BH101M

Project	Proposed Development			**Depth Range**	4.0m to 45.14m		
Location	Marlborough House, 47-97 Marlborough Street, Surry Hills			**Contractor**	Geosense Drilling Engineers		
Position	See Figure 2	**Surface RL**	49.50 m AHD	**Drill Rig**	Comacchio Geo205		
Job No.	E26534.G04	**Inclination**	90°	**Logged**	MS	**Date**	1/09/2025
Client	M House Surry Pty Ltd	**Box**	1-2 of 9	**Checked**	GP	**Date**	15/10/2025

CORE PHOTOGRAPH OF BOREHOLE: BH101M

Project	Proposed Development			**Depth Range**	4.0m to 45.14m		
Location	Marlborough House, 47-97 Marlborough Street, Surry Hills			**Contractor**	Geosense Drilling Engineers		
Position	See Figure 2	**Surface RL**	49.50 m AHD	**Drill Rig**	Comacchio Geo205		
Job No.	E26534.G04	**Inclination**	90°	**Logged**	MS	**Date**	1/09/2025
Client	M House Surry Pty Ltd	**Box**	3-4 of 9	**Checked**	GP	**Date**	15/10/2025

CORE PHOTOGRAPH OF BOREHOLE: BH101M

Project	Proposed Development			**Depth Range**	4.0m to 45.14m		
Location	Marlborough House, 47-97 Marlborough Street, Surry Hills			**Contractor**	Geosense Drilling Engineers		
Position	See Figure 2	**Surface RL**	49.50 m AHD	**Drill Rig**	Comacchio Geo205		
Job No.	E26534.G04	**Inclination**	90°	**Logged**	MS	**Date**	1/09/2025
Client	M House Surry Pty Ltd	**Box**	5-6 of 9	**Checked**	GP	**Date**	15/10/2025

CORE PHOTOGRAPH OF BOREHOLE: BH101M

Project	Proposed Development			**Depth Range**	4.0m to 45.14m		
Location	Marlborough House, 47-97 Marlborough Street, Surry Hills			**Contractor**	Geosense Drilling Engineers		
Position	See Figure 2	**Surface RL**	49.50 m AHD	**Drill Rig**	Comacchio Geo205		
Job No.	E26534.G04	**Inclination**	90°	**Logged**	MS	**Date**	1/09/2025
Client	M House Surry Pty Ltd	**Box**	7-8 of 9	**Checked**	GP	**Date**	15/10/2025

CORE PHOTOGRAPH OF BOREHOLE: BH101M

Project	Proposed Development			**Depth Range**	4.0m to 45.14m		
Location	Marlborough House, 47-97 Marlborough Street, Surry Hills			**Contractor**	Geosense Drilling Engineers		
Position	See Figure 2	**Surface RL**	49.50 m AHD	**Drill Rig**	Comacchio Geo205		
Job No.	E26534.G04	**Inclination**	90°	**Logged**	MS	**Date**	1/09/2025
Client	M House Surry Pty Ltd	**Box**	9 of 9	**Checked**	GP	**Date**	15/10/2025

BOREHOLE LOG

BH ID: BH102M

Location	47-97 Marlborough Street, Surry Hills NSW 2010			**Started**	06 September 2025
Client	M House Surry Pty Ltd			**Completed**	08 September 2025
Job No.	E26534.G04			**Logged By**	S2 **Date** 08 September 2025
Sheets	1 of 4			**Review By**	ML **Date** 23 October 2025
Drilling Contractor	STS Geotechnics Pty Limited	**Surface RL**	≈46.90 m (AHD)	**Northing**	6250708.7 (MGA 2020 Zone 56)
Plant	Christie Track Rig	**Inclination**	90°	**Easting**	332826.8 (MGA 2020 Zone 56)

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
DT				0.00		46.90	CONCRETE: 200mm thick	-	-	CONCRETE
				0.20		46.70	FILL: Silty CLAY: low to medium plasticity, dark brown, trace of fine to medium grained gravels	M	-	FILL
				0.40		46.50	Silty CLAY: medium to high plasticity, red brown	M > PL	-	RESIDUAL SOIL
AD/T	▽			3.00		43.90	SHALE: dark grey, very low to low strength, highly weathered.	-	-	WEATHERED ROCK
				7.10		39.80	*Log continued on next page.*			

BOREHOLE CORE LOG

BH ID: BH102M

Location	47-97 Marlborough Street, Surry Hills NSW 2010			**Started**	06 September 2025
Client	M House Surry Pty Ltd			**Completed**	08 September 2025
Job No.	E26534.G04			**Logged By**	S2 **Date** 08 September 2025
Sheets	2 of 4			**Review By**	ML **Date** 23 October 2025
Drilling Contractor	STS Geotechnics Pty Limited	**Surface RL**	≈46.90 m (AHD)	**Northing**	6250708.7 (MGA 2020 Zone 56)
Plant	Christie Track Rig	**Inclination**	90°	**Easting**	332826.8 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL 0-1, L 0-3, M 1, H 3, VH 10, EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30, 100, 300, 1000, 3000)
				0			*Log continued from previous page.*				
				1							
				2							
				3							
				4							
				5							
				6							
				7							
NMLC	80%	100	0				SHALE: dark grey, with interbedded pale grey sandstone laminate, thinly bedded.				
		100	16	8				MW		7.50-7.58: XWS 7.56: JT 15° PR RO CN 7.61-7.68: XWS 7.73-7.77: FS 7.86-8.19: XWZ 8.33: JT 70-90° PR RO Clay VN	
		100	100	9				FR		8.89: JT 50° PR RO CN	
		100	100	9.70		37.20	SANDSTONE: medium to coarse-grained, pale grey, exhibiting facies variations from distinctly to indistinctly cross-bedded at 0°–15°.			9.62: JT 60° PR RO Clay VN	
				10							

BOREHOLE CORE LOG

BH ID: BH102M

Location	47-97 Marlborough Street, Surry Hills NSW 2010			**Started**	06 September 2025
Client	M House Surry Pty Ltd			**Completed**	08 September 2025
Job No.	E26534.G04			**Logged By**	S2 **Date** 08 September 2025
Sheets	3 of 4			**Review By**	ML **Date** 23 October 2025
Drilling Contractor	STS Geotechnics Pty Limited	**Surface RL**	≈46.90 m (AHD)	**Northing**	6250708.7 (MGA 2020 Zone 56)
Plant	Christie Track Rig	**Inclination**	90°	**Easting**	332826.8 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL 0-1, L 0-3, M 1, H 3, VH 10, EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30, 100, 300, 1000, 3000)
NMLC	80%			10			SANDSTONE: medium to coarse-grained, pale grey, exhibiting facies variations from distinctly to indistinctly cross-bedded at 0°–15°.				
		100	91	11						10.35: BP PR VR CN 10.39: BP PR VR CN 10.43: BP PR VR CN 10.87: BP PR VR CN	
		100	97	12							
		100	99	13							
		100	100	14						14.25: BP UN VR 14.55: BP 25° PR VR	
		100	100	15				FR		15.20: JT 30° PR VR CN 15.35: BP PR VR CN	
		100	100	16							
		100	93	17							
				18						18.27: JT 75-85° PR VR CN 18.33: JT PR VR CN	
				19							
				20							

BOREHOLE CORE LOG

BH ID: BH102M

Location	47-97 Marlborough Street, Surry Hills NSW 2010			**Started**	06 September 2025
Client	M House Surry Pty Ltd			**Completed**	08 September 2025
Job No.	E26534.G04			**Logged By**	S2 **Date** 08 September 2025
Sheets	4 of 4			**Review By**	ML **Date** 23 October 2025
Drilling Contractor	STS Geotechnics Pty Limited	**Surface RL**	≈46.90 m (AHD)	**Northing**	6250708.7 (MGA 2020 Zone 56)
Plant	Christie Track Rig	**Inclination**	90°	**Easting**	332826.8 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL$_{0-1}$ L$_{0-3}$ M$_1$ H$_3$ VH$_{10}$ EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30 100 300 1000 3000)
NMLC	80%	100	100	21			SANDSTONE: medium to coarse-grained, pale grey, exhibiting facies variations from distinctly to indistinctly cross-bedded at 0°–15°.	FR	▼ M$_1$	20.07: BP PR VR CN	
		100	100	22					▼ M$_1$	21.06: BP PR VR CN 21.88: BP PR VR CN 22.17: BP PR VR CN	
		100	94	23					▼ M$_1$	22.58: BP PR VR CN 22.79: BP PR VR CN 22.88: BP PR VR CN	
		100	100	24					▼ M$_1$	24.53: BP PR VR CN	
						22.08	Terminated at 24.82m. Target Depth Reached.				
				25							
				26							
				27							
				28							
				29							
				30							

MONITORING WELL LOG

BH ID: BH102M

Location	47-97 Marlborough Street, Surry Hills NSW 2010			**Started**	06 September 2025
Client	M House Surry Pty Ltd			**Completed**	08 September 2025
Job No.	E26534.G04			**Logged By**	S2 **Date** 08 September 2025
Sheets	1 of 3			**Review By**	ML **Date** 23 October 2025
Drilling Contractor	STS Geotechnics Pty Limited	**Surface RL**	≈46.90 m (AHD)	**Northing**	6250708.7 (MGA 2020 Zone 56)
Plant	Christie Track Rig	**Inclination**	90°	**Easting**	332826.8 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION
		0.00	46.90	CONCRETE: 200mm thick	-
		0.20	46.70	FILL: Silty CLAY: low to medium plasticity, dark brown, trace of fine to medium grained gravels	M
		0.40	46.50	Silty CLAY: medium to high plasticity, red brown	M > PL
		3.00	43.90	SHALE: dark grey, very low to low strength, highly weathered.	-
▷		7.10	39.80	SHALE: dark grey, with interbedded pale grey sandstone laminate, thinly bedded.	
		9.70	37.20	SANDSTONE: medium to coarse-grained, pale grey, exhibiting facies variations from distinctly to indistinctly cross-bedded at 0°–15°.	

BACKFILL DETAILS

Cuttings
0.10m - 9.00m

STANDPIPE DETAILS

Well Stickup =-0.10m
(RL 46.80m)

0.10m - 18.80m
PVC casing (50mm Ø)

MONITORING WELL LOG

BH ID: BH102M

Location	47-97 Marlborough Street, Surry Hills NSW 2010			**Started**	06 September 2025
Client	M House Surry Pty Ltd			**Completed**	08 September 2025
Job No.	E26534.G04			**Logged By**	S2 **Date** 08 September 2025
Sheets	2 of 3			**Review By**	ML **Date** 23 October 2025
Drilling Contractor	STS Geotechnics Pty Limited	**Surface RL**	≈46.90 m (AHD)	**Northing**	6250708.7 (MGA 2020 Zone 56)
Plant	Christie Track Rig	**Inclination**	90°	**Easting**	332826.8 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
		11			SANDSTONE: medium to coarse-grained, pale grey, exhibiting facies variations from distinctly to indistinctly cross-bedded at 0°–15°.			
		12						
		13					Sand 9.00m - 16.50m	
		14						
		15						
		16						
		17					Bentonite 16.50m - 18.00m	
		18						
		19						
		20						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

MONITORING WELL LOG

BH ID: BH102M

Location	47-97 Marlborough Street, Surry Hills NSW 2010			**Started**	06 September 2025
Client	M House Surry Pty Ltd			**Completed**	08 September 2025
Job No.	E26534.G04			**Logged By**	S2 **Date** 08 September 2025
Sheets	3 of 3			**Review By**	ML **Date** 23 October 2025
Drilling Contractor	STS Geotechnics Pty Limited	**Surface RL**	≈46.90 m (AHD)	**Northing**	6250708.7 (MGA 2020 Zone 56)
Plant	Christie Track Rig	**Inclination**	90°	**Easting**	332826.8 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
		21			SANDSTONE: medium to coarse-grained, pale grey, exhibiting facies variations from distinctly to indistinctly cross-bedded at 0°–15°.		Sand 18.00m - 24.80m	18.80m - 24.80m PVC screen (50mm Ø)
		22						
		23						
		24						
				22.08	Terminated at 24.82m. Target Depth Reached.			
		25						
		26						
		27						
		28						
		29						
		30						

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

CORE PHOTOGRAPH OF BOREHOLE: BH102M

Project	Proposed Development			**Depth Range**	7.10m to 24.82m		
Location	Marlborough House, 47-97 Marlborough Street, Surry Hills			**Contractor**	STS Geotechnics Pty Ltd		
Position	See Figure 2	**Surface RL**	46.90 m AHD	**Drill Rig**	Christie Track Rig		
Job No.	E26534.G04	**Inclination**	90°	**Logged**	MS	**Date**	1/09/2025
Client	M House Surry Pty Ltd	**Box**	1-2 of 4	**Checked**	GP	**Date**	15/10/2025

CORE PHOTOGRAPH OF BOREHOLE: BH102M

Project	Proposed Development			**Depth Range**	7.10m to 24.82m		
Location	Marlborough House, 47-97 Marlborough Street, Surry Hills			**Contractor**	STS Geotechnics Pty Ltd		
Position	See Figure 2	**Surface RL**	46.90 m AHD	**Drill Rig**	Christie Track Rig		
Job No.	E26534.G04	**Inclination**	90°	**Logged**	MS	**Date**	1/09/2025
Client	M House Surry Pty Ltd	**Box**	3-4 of 4	**Checked**	GP	**Date**	15/10/2025

BOREHOLE LOG

BH ID: BH103M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	03 September 2025
Client	M House Surry Pty Ltd			**Completed**	04 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 04 September 2025
Sheets	1 of 5			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈41.80 m (AHD)	**Northing**	6248582.1 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334560.5 (MGA 2020 Zone 56)

METHOD	GROUND WATER LEVELS	SAMPLES & FIELD TESTS	SAMPLE RECOVERY	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	CONSISTENCY / REL. DENSITY	MATERIAL ORIGIN & OBSERVATIONS
AD/T	GWNE	BH103M_0.20-0.30 BH103M_0.30-0.40		0.00 0.13		41.80 41.67	CONCRETE: 130mm thick	-	-	CONCRETE
		BH103M_0.50-0.95 SPT 0.50-0.95 5,6,7 N=13		0.50		41.30	FILL: Silty CLAY: medium plasticity, grey, brown, orange, with fine to medium grained sand, trace brick fragments, with fine to medium sub-angular to angular gravels	M < PL	-	FILL
		BH103M_1.50-1.95 SPT 1.50-1.95 6,11,11 N=22		1 2			Silty CLAY: medium plasticity, red mottled grey, with fine grained, angular to sub-angular gravels.	M > PL	St VSt	RESIDUAL SOIL
		BH103M_3.00-3.20 SPT 3.00-3.20 12,4/50 mm HB N=R BH103M_3.50-3.60		3.00 4		38.80	From 3.00m, medium to high plasticity, red mottled grey, very low strength, highly weathered shale gravel trace.		H	
		BH103M_4.50-4.83 SPT 4.50-4.83 10,16,3/30 mm HB N=R		4.70 5 6 7 8 9 10		37.10	*Log continued on next page.*			

BOREHOLE CORE LOG

BH ID: BH103M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	03 September 2025
Client	M House Surry Pty Ltd			**Completed**	04 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 04 September 2025
Sheets	2 of 5			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈41.80 m (AHD)	**Northing**	6248582.1 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334560.5 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL 0-1, L 0-3, M 1, H 3, VH 10, EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30, 100, 300, 1000, 3000)
				0			*Log continued from previous page.*				
NMLC	90%	100	32	5			Silty CLAY: brown, grey, mottled orange	XW		4.80-5.07: XWZ	
				5.07		36.73	SHALE: grey, brown			5.34-6.00: CZ	
				6				HW		6.00-6.10: XWS 6.10-6.44: BP SN 0-5°, OP, FE 6.44-6.50: CS 6.56-6.83: FZ SN 10-20°, OP, FE	
				7						7.05-7.10: XWS 7.18-7.49: BP SN	
				7.17		34.63	SANDSTONE: fine to medium grained, brown/orange, exhibiting facies ranging from indistinctly cross-bedded to massive.	MW		7.55: JT 5° IR RO CN 7.63: JT IR VR OP 7.69-7.77: FS 7.81: JT 5° CU RO CN 7.88-7.91: IS Clay 7.95: BP 8.28: DB	
		100	78	8						8.57-8.62: XWS	
				9				FR		8.90: BP SN 8.97-9.00: XWS 9.12: BP CN 9.17: BP 9.28: BP Clay VN	
				9.73		32.07	From 9.73m, pale grey.			9.62-9.66: XWS	
				10							

BOREHOLE CORE LOG

BH ID: BH103M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	03 September 2025
Client	M House Surry Pty Ltd			**Completed**	04 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 04 September 2025
Sheets	3 of 5			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈41.80 m (AHD)	**Northing**	6248582.1 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334560.5 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL 0-1, L 0-3, M 1, H 3, VH 10, EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30, 100, 300, 1000, 3000)
NMLC	90%	100	99	10.00		31.80	From 10.00m, distinctly cross-bedded at 5°-20°.			10.00: HB 10.26: BP CN 10.67: BP 20° 10.91: BP 20° CN 11.11: DB 11.13: DB 11.34-11.40: JT 50° CU RO CN 11.72: JT 15° IR RO OP 11.94: JT 15° SN 11.98: BP SN 12.00: HB 12.24-12.30: CS 12.34: JT 70° PR RO CN 12.46: JT 70° PR RO CN 13.00: HB 13.86: BP 14.00: HB 14.50: JT 10° CU RO OP 14.89: BP 20° 15.00: HB 15.31: JT 70° PR RO CN 15.88: BP CN 16.00: HB 16.06: BP CN 17.12: BP 17.73: JT 2° PR RO CN 17.90: BP 5° CN 18.03: DB 18.75: BP 19.00: HB 19.47: BP CN 19.87: BP CN	
				11							
				12							
				13							
				14							
		100	99	15				FR			
				16							
	95%	100	100	17							
				18							
				19							
				20							

BOREHOLE CORE LOG

BH ID: BH103M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	03 September 2025
Client	M House Surry Pty Ltd			**Completed**	04 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 04 September 2025
Sheets	4 of 5			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈41.80 m (AHD)	**Northing**	6248582.1 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334560.5 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL 0-1, L 0-3, M 1, H 3, VH 10, EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30, 100, 300, 1000, 3000)
NMLC	95%	100	100	21			From 10.00m, distinctly cross-bedded at 5°-20°.		▼ H	19.90: BP CN 20.77: BP CN 20.90: HB 20.92: JT 5° PR RO CN 21.12: JT 10° PR RO CL	
				22					▼ H	22.00: HB 22.05: BP	
		100	100	22.85		18.95	From 22.85m to 22.95m, with shale bands		▼ H	22.70: CO 22.85: CO CN	
				22.95		18.85	From 22.95m, massive.		▼ H	22.95: BP CN 23.00: HB	
				24					▼ H	23.55: BP 23.66: BP 24.00: HB 24.11: JT 7° PR RO CN	
		100	100	25				FR	▼ H	24.66: BP 25.00: HB 25.07: BP 25.14: DB	
				26					▼ H	25.70: DB 26.00: HB 26.20: BP 5° CN	
		100	100	27					▼ H	26.65: BP CN 27.30-27.32: IS Clay	
				28					▼ H	27.96: JT 2° PR RO CL 28.00: HB 28.08: BP 5° CN 28.13-28.15: JT 7° IR RO OP	
				29						28.65: JT 5° PR RO CN 29.00: HB	
				30							

BOREHOLE CORE LOG

BH ID: BH103M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	03 September 2025
Client	M House Surry Pty Ltd			**Completed**	04 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 04 September 2025
Sheets	5 of 5			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈41.80 m (AHD)	**Northing**	6248582.1 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334560.5 (MGA 2020 Zone 56)

METHOD	Flush Return	TCR %	RQD %	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	WEATHERING	ESTIMATED STRENGTH Is(50) ▼ - Axial ▽ - Diametral (VL 0-1, L 0-3, M 1, H 3, VH 10, EH)	DISCONTINUITIES & ADDITIONAL DATA	FRACTURE SPACING (30, 100, 300, 1000, 3000)
NMLC	95%					11.64	From 22.95m, massive.	FR	H ▼	30.00: HB	
							Terminated at 30.16m. Target Depth Reached.				

MONITORING WELL LOG

BH ID: BH103M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	03 September 2025
Client	M House Surry Pty Ltd			**Completed**	04 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 04 September 2025
Sheets	1 of 4			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈41.80 m (AHD)	**Northing**	6248582.1 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334560.5 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
		0.00	41.80	CONCRETE: 130mm thick	-		Well Stickup =0.0m (RL 41.80m)
	BH103M_0.20-0.30 BH103M_0.30-0.40	0.13	41.67	FILL: Silty CLAY: medium plasticity, grey, brown, orange, with fine to medium grained sand, trace brick fragments, with fine to medium sub-angular to angular gravels	M < PL		
	BH103M_0.50-0.95 SPT 0.50-0.95 5,6,7 N=13	0.50	41.30	Silty CLAY: medium plasticity, red mottled grey, with fine grained, angular to sub-angular gravels.			
	BH103M_1.50-1.95 SPT 1.50-1.95 6,11,11 N=22	1					
		2			M > PL		
	BH103M_3.00-3.20 SPT 3.00-3.20 12,4/50 mm HB N=R BH103M_3.50-3.60	3.00	38.80	From 3.00m, medium to high plasticity, red mottled grey, very low strength, highly weathered shale gravel trace.			
		4					
	BH103M_4.50-4.83 SPT 4.50-4.83 10,16,3/30 mm HB N=R	4.70	37.10	Silty CLAY: brown, grey, mottled orange			
		5.07	36.73	SHALE: grey, brown			
		6					
		7					
		7.17	34.63	SANDSTONE: fine to medium grained, brown/ orange, exhibiting facies ranging from indistinctly cross-bedded to massive.		Sand 0.00m - 18.00m	
		8					
		9					
		9.73	32.07	From 9.73m, pale grey.			0.0m - 19.20m PVC casing (50mm Ø)
		10					

This log should be read in conjunction with EI Australia's accompanying explanatory notes.

MONITORING WELL LOG

BH ID: BH103M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	03 September 2025
Client	M House Surry Pty Ltd			**Completed**	04 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 04 September 2025
Sheets	2 of 4			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈41.80 m (AHD)	**Northing**	6248582.1 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334560.5 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
04/09/2025 01:43 PM		10.00		31.80	From 10.00m, distinctly cross-bedded at 5°-20°.		Bentonite 18.00m - 18.50m	

MONITORING WELL LOG

BH ID: BH103M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	03 September 2025
Client	M House Surry Pty Ltd			**Completed**	04 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 04 September 2025
Sheets	3 of 4			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈41.80 m (AHD)	**Northing**	6248582.1 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334560.5 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
		21			From 10.00m, distinctly cross-bedded at 5°-20°.			
		22					Sand 18.50m - 25.20m	19.20m - 25.20m PVC screen (50mm Ø)
		22.85		18.95	From 22.85m to 22.95m, with shale bands			
		22.95		18.85	From 22.95m, massive.			
		24						
		25						
		26						
		27						
		28					Sand 25.20m - 30.16m	
		29						
		30						

MONITORING WELL LOG

BH ID: BH103M

Location	47 -97 Marlborough Street, Surry Hills NSW 2010			**Started**	03 September 2025
Client	M House Surry Pty Ltd			**Completed**	04 September 2025
Job No.	E26534.G04			**Logged By**	MS **Date** 04 September 2025
Sheets	4 of 4			**Review By**	ML **Date** 10 October 2025
Drilling Contractor	Geosense Drilling Engineers	**Surface RL**	≈41.80 m (AHD)	**Northing**	6248582.1 (MGA 2020 Zone 56)
Plant	Comacchio Geo 205	**Inclination**	90°	**Easting**	334560.5 (MGA 2020 Zone 56)

WATER	SAMPLES & FIELD TESTS	DEPTH (m)	GRAPHIC LOG	RL (m AHD)	MATERIAL DESCRIPTION	MOISTURE CONDITION	BACKFILL DETAILS	STANDPIPE DETAILS
				11.64	From 22.95m, massive. Terminated at 30.16m. Target Depth Reached.			

CORE PHOTOGRAPH OF BOREHOLE: BH103M

Project	Proposed Development			**Depth Range**	4.7m to 30.16m		
Location	Marlborough House, 47-97 Marlborough Street, Surry Hills			**Contractor**	Geosense Drilling Engineers		
Position	See Figure 2	**Surface RL**	41.8 m AHD	**Drill Rig**	Comacchio Geo205		
Job No.	E26534.G04	**Inclination**	90°	**Logged**	MS	**Date**	1/09/2025
Client	M House Surry Pty Ltd	**Box**	1-2 of 6	**Checked**	GP	**Date**	15/10/2025

CORE PHOTOGRAPH OF BOREHOLE: BH103M

Project	Proposed Development			**Depth Range**	4.7m to 30.16m		
Location	Marlborough House, 47-97 Marlborough Street, Surry Hills			**Contractor**	Geosense Drilling Engineers		
Position	See Figure 2	**Surface RL**	41.8 m AHD	**Drill Rig**	Comacchio Geo205		
Job No.	E26534.G04	**Inclination**	90°	**Logged**	MS	**Date**	1/09/2025
Client	M House Surry Pty Ltd	**Box**	3-4 of 6	**Checked**	GP	**Date**	15/10/2025

CORE PHOTOGRAPH OF BOREHOLE: BH103M

Project	Proposed Development			**Depth Range**	4.7m to 30.16m		
Location	Marlborough House, 47-97 Marlborough Street, Surry Hills			**Contractor**	Geosense Drilling Engineers		
Position	See Figure 2	**Surface RL**	41.8 m AHD	**Drill Rig**	Comacchio Geo205		
Job No.	E26534.G04	**Inclination**	90°	**Logged**	MS	**Date**	1/09/2025
Client	M House Surry Pty Ltd	**Box**	5-6 of 6	**Checked**	GP	**Date**	15/10/2025

EXPLANATION OF NOTES, ABBREVIATIONS & TERMS USED ON BOREHOLE AND TEST PIT LOGS

DRILLING/EXCAVATION METHOD

HA	Hand Auger	**ADH**	Hollow Auger	**NQ**	Diamond Core - 47 mm
DT	Diatube Coring	**RT**	Rotary Tricone bit	**NMLC**	Diamond Core - 52 mm
NDD	Non-destructive digging	**RAB**	Rotary Air Blast	**HQ**	Diamond Core - 63 mm
AD*	Auger Drilling	**RC**	Reverse Circulation	**HMLC**	Diamond Core - 63 mm
***V**	V-Bit	**PT**	Push Tube	**EX**	Tracked Hydraulic Excavator
***T**	TC-Bit, e.g. AD/T	**WB**	Washbore	**HAND**	Excavated by Hand Methods

PENETRATION RESISTANCE

L	**Low Resistance**	Rapid penetration/ excavation possible with little effort from equipment used.
M	**Medium Resistance**	Penetration/ excavation possible at an acceptable rate with moderate effort from equipment used.
H	**High Resistance**	Penetration/ excavation is possible but at a slow rate and requires significant effort from equipment used.
R	**Refusal/Practical Refusal**	No further progress possible without risk of damage or unacceptable wear to equipment used.

These assessments are subjective and are dependent on many factors, including equipment power and weight, condition of excavation or drilling tools and experience of the operator.

WATER

Standing Water Level — **Partial water loss**

Water Seepage — **Complete Water Loss**

GWNO	GROUNDWATER NOT OBSERVED - Observation of groundwater, whether present or not, was not possible due to drilling water, surface seepage or cave-in of the borehole/ test pit.
GWNE	GROUNDWATER NOT ENCOUNTERED - Borehole/ test pit was dry soon after excavation. However, groundwater could be present in less permeable strata. Inflow may have been observed had the borehole/ test pit been left open for a longer period.

SAMPLING AND TESTING

SPT	Standard Penetration Test to AS1289.6.3.1-2004
4,7,11 N=18	4,7,11 = Blows per 150mm. N = Blows per 300mm penetration following a 150mm seating drive
30/80mm	Where practical refusal occurs, the blows and penetration for that interval are reported, N is not reported
RW	Penetration occurred under the rod weight only, N<1
HW	Penetration occurred under the hammer and rod weight only, N<1
HB	Hammer double bouncing on anvil, N is not reported
Sampling	
DS	Disturbed Sample
ES	Sample for environmental testing
BDS	Bulk disturbed Sample
GS	Gas Sample
WS	Water Sample
U50	Thin walled tube sample - number indicates nominal sample diameter in millimetres
Testing	
FP	Field Permeability test over section noted
FVS	Field Vane Shear test expressed as uncorrected shear strength (sv= peak value, sr= residual value)
PID	Photoionisation Detector reading in ppm
PM	Pressuremeter test over section noted
PP	Pocket Penetrometer test expressed as instrument reading in kPa
WPT	Water Pressure tests
DCP	Dynamic Cone Penetrometer test
CPT	Static Cone Penetration test
CPTu	Static Cone Penetration test with pore pressure (u) measurement

GEOLOGICAL BOUNDARIES

———— = Observed Boundary (position known)

– – – – – – – – – – = Observed Boundary (position approximate)

– –?– –?– –?– – = Boundary (interpreted or inferred)

ROCK CORE RECOVERY

TCR=Total Core Recovery (%)

$$= \frac{\textit{Length of core recovered}}{\textit{Length of core run}} \times 100$$

RQD = Rock Quality Designation (%)

$$= \frac{\sum \textit{Axial lengths of core} > 100mm}{\textit{Length of core run}} \times 100$$

METHOD OF SOIL DESCRIPTION USED ON BOREHOLE AND TEST PIT LOGS

	FILL		ORGANIC SOILS (OL, OH or Pt)		CLAY (CL, CI or CH)
	COUBLES or BOULDERS		SILT (ML or MH)		SAND (SP or SW)
	GRAVEL (GP or GW)	Combinations of these basic symbols may be used to indicate mixed materials such as sandy clay			

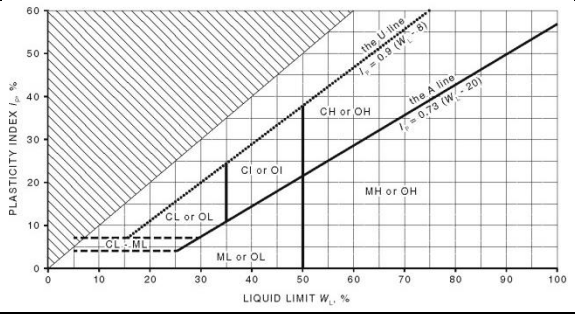
CLASSIFICATION AND INFERRED STRATIGRAPHY

Soil is broadly classified and described in Borehole and Test Pit Logs using the preferred method given in AS 1726:2017, Section 6.1 – Soil description and classification.

PARTICLE SIZE CHARACTERISTICS

Fraction	Components	Sub Division	Size mm
Oversize	BOULDERS		>200
	COBBLES		63 to 200
Coarse grained soil	GRAVEL	Coarse	19 to 63
		Medium	6.7 to 19
		Fine	2.36 to 6.7
	SAND	Coarse	0.6 to 2.36
		Medium	0.21 to 0.6
		Fine	0.075 to 0.21
Fine grained soil	SILT		0.002 to 0.075
	CLAY		<0.002

PLASTICITY PROPERTIES



GROUP SYMBOLS

Major Divisions		Symbol	Description
COARSE GRAINED SOILS More than 65% of soil excluding oversize fraction is greater than 0.075mm	GRAVEL More than 50% of coarse fraction is >2.36mm	GW	Well graded gravel and gravel-sand mixtures, little or no fines, no dry strength.
		GP	Poorly graded gravel and gravel-sand mixtures, little or no fines, no dry strength.
		GM	Silty gravel, gravel-sand-silt mixtures, zero to medium dry strength.
		GC	Clayey gravel, gravel-sand-clay mixtures, medium to high dry strength.
	SAND More than 50% of coarse fraction is <2.36 mm	SW	Well graded sand and gravelly sand, little or no fines, no dry strength.
		SP	Poorly graded sand and gravelly sand, little or no fines, no dry strength.
		SM	Silty sand, sand-silt mixtures, zero to medium dry strength.
		SC	Clayey sand, sandy-clay mixtures, medium to high dry strength.
FINE GRAINED SOILS More than 35% of soil excluding oversized fraction is less than 0.075mm	Liquid Limit less < 50%	ML	Inorganic silts of low plasticity, very fine sands, rock flour, silty or clayey fine sands, zero to medium dry strength.
		CL, CI	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, medium to high dry strength.
		OL	Organic silts and organic silty clays of low plasticity, low to medium dry strength.
	Liquid Limit > than 50%	MH	Inorganic silts of high plasticity, high to very high dry strength.
		CH	Inorganic clays of high plasticity, high to very high dry strength.
		OH	Organic clays of medium to high plasticity, medium to high dry strength.
Highly Organic soil		PT	Peat muck and other highly organic soils.

MOISTURE CONDITION

Symbol	Term	Description
D	Dry	Non- cohesive and free-running.
M	Moist	Soils feel cool, darkened in colour. Soil tends to stick together.
W	Wet	Soils feel cool, darkened in colour. Soil tends to stick together, free water forms when handling.

Moisture content of cohesive soils shall be described in relation to plastic limit (PL) or liquid limit (LL) for soils with higher moisture content as follows: Moist, dry of plastic limit (w < PL); Moist, near plastic limit (w ≈ PL); Moist, wet of plastic limit (w < PL); Wet, near liquid limit (w ≈ LL), Wet, wet of liquid limit (w > LL),

CONSISTENCY

Symbol	Term	Undrained Shear Strength (kPa)	SPT "N" #
VS	Very Soft	≤ 12	≤ 2
S	Soft	>12 to ≤ 25	>2 to ≤ 4
F	Firm	>25 to ≤ 50	>4 to 8
St	Stiff	>50 to ≤ 100	>8 to 15
VSt	Very Stiff	>100 to ≤ 200	>15 to 30
H	Hard	>200	>30
Fr	Friable	-	

DENSITY

Symbol	Term	Density Index %	SPT "N" #
VL	Very Loose	≤ 15	0 to 4
L	Loose	>15 to ≤ 35	4 to 10
MD	Medium Dense	>35 to ≤ 65	10 to 30
D	Dense	>65 to ≤ 85	30 to 50
VD	Very Dense	>85	Above 50

In the absence of test results, consistency and density may be assessed from correlations with the observed behaviour of the material.
SPT correlations are not stated in AS1726:2017, and may be subject to corrections for overburden pressure, moisture content of the soil, and equipment type.

MINOR COMPONENTS

Term	Assessment Guide	Proportion by Mass
Add 'Trace'	Presence just detectable by feel or eye but soil properties little or no different to general properties of primary component	Coarse grained soils: ≤ 5% Fine grained soil: ≤ 15%
Add 'With'	Presence easily detectable by feel or eye but soil properties little or no different to general properties of primary component	Coarse grained soils: 5 - 12% Fine grained soil: 15 - 30%
Prefix soil name	Presence easily detectable by feel or eye in conjunction with the general properties of primary component	Coarse grained soils: >12% Fine grained soil: >30%

TERMS FOR ROCK MATERIAL STRENGTH AND WEATHERING

CLASSIFICATION AND INFERRED STRATIGRAPHY

Rock is broadly classified and described in Borehole and Test Pit Logs using the preferred method given in AS1726 – 2017, Section 6.2 – Rock identification, description and classification.

ROCK MATERIAL STRENGTH CLASSIFICATION

Symbol	Term	Point Load Index, $Is_{(50)}$ (MPa) #	Field Guide
VL	Very Low	0.03 to 0.1	Material crumbles under firm blows with sharp end of pick; can be peeled with knife; too hard to cut a triaxial sample by hand. Pieces up to 30 mm can be broken by finger pressure.
L	Low	0.1 to 0.3	Easily scored with a knife; indentations 1 mm to 3 mm show in the specimen with firm blows of pick point; has dull sound under hammer. A piece of core 150 mm long by 50 mm diameter may be broken by hand. Sharp edges of core may be friable and break during handling.
M	Medium	0.3 to 1	Readily scored with a knife; a piece of core 150 mm long by 50 mm diameter can be broken by hand with difficulty.
H	High	1 to 3	A piece of core 150 mm long by 50 mm diameter cannot be broken by hand but can be broken with pick with a single firm blow; rock rings under hammer.
VH	Very High	3 to 10	Hand specimen breaks with pick after more than one blow; rock rings under hammer.
EH	Extremely High	>10	Specimen requires many blows with geological pick to break through intact material; rock rings under hammer.

 # Rock Strength Test Results

▼ Point Load Strength Index, $Is_{(50)}$, Axial test (MPa)

● Point Load Strength Index, $Is_{(50)}$, Diametral test (MPa)

Relationship between rock strength test result ($Is_{(50)}$) and unconfined compressive strength (UCS) will vary with rock type and strength, and should be determined on a site-specific basis. However UCS is typically 20 x $Is_{(50)}$.

ROCK MATERIAL WEATHERING CLASSIFICATION

Symbol		Term	Field Guide
RS		Residual Soil	Soil developed on extremely weathered rock; the mass structure and substance fabric are no longer evident; there is a large change in volume but the soil has not been significantly transported.
XW		Extremely Weathered	Rock is weathered to such an extent that it has soil properties - i.e. it either disintegrates or can be remoulded, in water.
DW	HW	Distinctly Weathered	Rock strength usually changed by weathering. The rock may be highly discoloured, usually by iron staining. Porosity may be increased by leaching, or may be decreased due to deposition of weathering products in pores. In some environments it is convenient to subdivide into Highly Weathered and Moderately Weathered, with the degree of alteration typically less for MW.
	MW		
SW		Slightly Weathered	Rock slightly discoloured but shows little or no change of strength relative to fresh rock.
FR		Fresh	Rock shows no sign of decomposition or staining.

ABBREVIATIONS AND DESCRIPTIONS FOR ROCK MATERIAL AND DEFECTS

CLASSIFICATION AND INFERRED STRATIGRAPHY
Rock is broadly classified and described in Borehole and Test Pit Logs using the preferred method given in AS1726 – 2017, Section 6.2 – Rock identification, description and classification.

DETAILED ROCK DEFECT SPACING

Defect Spacing

Spacing/width (mm)	Descriptor	Symbol
<20	Extremely Close	EC
20-60	Very Close	VC
60-200	Close	C
200-600	Medium	M
600-2000	Wide	W
2000-6000	Very Wide	VW

Bedding Thickness (Stratification)

Term	Spacing (mm)
Thinly laminated	<6
Laminated	6 – 20
Very thinly bedded	20 – 60
Thinly bedded	60 – 200
Medium bedded	200 – 600
Thickly bedded	600 – 2,000
Very thickly bedded	> 2,000

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT TYPES

Defect Type	Abbr.	Description
Joint	JT	Surface of a fracture or parting, formed without displacement, across which the rock has little or no tensile strength. May be closed or filled by air, water or soil or rock substance, which acts as cement.
Bedding Parting	BP	Surface of fracture or parting, across which the rock has little or no tensile strength, parallel or sub-parallel to layering/ bedding. Bedding refers to the layering or stratification of a rock, indicating orientation during deposition, resulting in planar anisotropy in the rock material.
Contact	CO	The surface between two types or ages of rock.
Sheared Surface	SSU	A near planar, curved or undulating surface which is usually smooth, polished or slickensided.
Sheared Seam/ Zone (Fault)	SS/SZ	Seam or zone with roughly parallel almost planar boundaries of rock substance cut by closely spaced (often <50 mm) parallel and usually smooth or slickensided joints or cleavage planes.
Crushed Seam/ Zone (Fault)	CS/CZ	Seam or zone composed of disoriented usually angular fragments of the host rock substance, with roughly parallel near-planar boundaries. The brecciated fragments may be of clay, silt, sand or gravel sizes or mixtures of these.
Extremely Weathered Seam/ Zone	XWS/XWZ	Seam of soil substance, often with gradational boundaries, formed by weathering of the rock material in places.
Infilled Seam	IS	Seam of soil substance, usually clay or clayey, with very distinct roughly parallel boundaries, formed by soil migrating into joint or open cavity.
Vein	VN	Distinct sheet-like body of minerals crystallised within rock through typically open-space filling or crack-seal growth.

NOTE: Defects size of <100mm SS, CS and XWS. Defects size of >100mm SZ, CZ and XWZ.

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT SHAPE AND ROUGHNESS

Shape	Abbr.	Description	Roughness	Abbr.	Description
Planar	PR	Consistent orientation	Polished	POL	Shiny smooth surface
Curved	CU	Gradual change in orientation	Slickensided	SL	Grooved or striated surface, usually polished
Undulating	UN	Wavy surface	Smooth	SM	Smooth to touch. Few or no surface irregularities
Stepped	ST	One or more well defined steps	Rough	RO	Many small surface irregularities (amplitude generally <1mm). Feels like fine to coarse sandpaper
Irregular	IR	Many sharp changes in orientation	Very Rough	VR	Many large surface irregularities, amplitude generally >1mm. Feels like very coarse sandpaper

Orientation: **Vertical Boreholes –** The dip (inclination from horizontal) of the defect.
Inclined Boreholes – The inclination is measured as the acute angle to the core axis.

ABBREVIATIONS AND DESCRIPTIONS FOR DEFECT COATING

Coating	Abbr.	Description
Clean	CN	No visible coating or infilling
Stain	SN	No visible coating but surfaces are discoloured by staining, often limonite (orange-brown)
Veneer	VNR	A visible coating of soil or mineral substance, usually too thin to measure (< 1 mm); may be patchy

DEFECT APERTURE

Aperture	Abbr.	Description
Closed	CL	Closed.
Open	OP	Without any infill material.
Infilled	-	Soil or rock i.e. clay, silt, talc, pyrite, quartz, etc.

Appendix B Laboratory Certificates

ANALYTICAL REPORT

Accreditation No. 2562

CLIENT DETAILS

Contact	Mastan Vali. Shaik
Client	EI AUSTRALIA
Address	SUITE 6.01 55 MILLER STREET PYRMONT NSW 2009
Telephone	61 2 9516 0722
Facsimile	(Not specified)
Email	mastan.shaik@eiaustralia.com.au
Project	**E26534.G03 Marlborough House, 61 Marlbor**
Order Number	**E26534.G03**
Samples	3

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	**SE289460 R0**
Date Received	15/9/2025
Date Reported	22/9/2025

COMMENTS

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

SIGNATORIES

Dong LIANG
Metals/Inorganics Team Leader

Ly Kim HA
Organic Section Head

Ying Ying ZHANG
Laboratory Technician

pH in soil (1:5) [AN101] Tested: 19/9/2025

PARAMETER	UOM	LOR	BH101M_0.5-0.95 SOIL - 1/9/2025 SE289460.001	BH101M_2.5-2.6 SOIL - 1/9/2025 SE289460.002	BH103M_3.5-3.6 SOIL - 3/9/2025 SE289460.003
pH	pH Units	0.1	**8.7**	**5.9**	**5.3**

Conductivity and TDS by Calculation - Soil [AN106] Tested: 19/9/2025

PARAMETER	UOM	LOR	BH101M_0.5-0.95 SOIL - 1/9/2025 SE289460.001	BH101M_2.5-2.6 SOIL - 1/9/2025 SE289460.002	BH103M_3.5-3.6 SOIL - 3/9/2025 SE289460.003
Conductivity of Extract (1:5 dry sample basis)	µS/cm	1	**63**	**27**	**31**

Soluble Anions (1:5) in Soil/Solids by Ion Chromatography [AN245] Tested: 19/9/2025

PARAMETER	UOM	LOR	BH101M_0.5-0.95 SOIL - 1/9/2025 SE289460.001	BH101M_2.5-2.6 SOIL - 1/9/2025 SE289460.002	BH103M_3.5-3.6 SOIL - 3/9/2025 SE289460.003
Chloride	mg/kg	0.25	**3.1**	**5.4**	**23**
Sulfate	mg/kg	5	**14**	**50**	**23**

Moisture Content [AN002] Tested: 19/9/2025

PARAMETER	UOM	LOR	BH101M_0.5-0.95 SOIL - 1/9/2025 SE289460.001	BH101M_2.5-2.6 SOIL - 1/9/2025 SE289460.002	BH103M_3.5-3.6 SOIL - 3/9/2025 SE289460.003
% Moisture	%w/w	1	**8.8**	**10.9**	**16.4**

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.
AN101	pH in Soil Sludge Sediment and Water: pH is measured electrometrically using a combination electrode and is calibrated against 3 buffers purchased commercially. For soils, sediments and sludges, an extract with water (or 0.01M CaCl2) is made at a ratio of 1:5 and the pH determined and reported on the extract. Reference APHA 4500-H+.
AN106	Conductivity and TDS by Calculation: Conductivity is measured by meter with temperature compensation and is calibrated against a standard solution of potassium chloride. Conductivity is generally reported as µmhos /cm or µS/cm @ 25°C. For soils, an extract of as received sample with water is made at a ratio of 1:5 and the EC determined and reported on the extract, or calculated back to the as-received sample. Salinity can be estimated from conductivity using a conversion factor, which for natural waters, is in the range 0.55 to 0.75. Reference APHA 2510 B.
AN245	Anions by Ion Chromatography: A water sample is injected into an eluent stream that passes through the ion chromatographic system where the anions of interest ie Br, Cl, NO2, NO3 and SO4 are separated on their relative affinities for the active sites on the column packing material. Changes to the conductivity and the UV-visible absorbance of the eluent enable identification and quantitation of the anions based on their retention time and peak height or area. APHA 4110 B

FOOTNOTES

*	NATA accreditation does not cover the performance of this service.	-	Not analysed.	UOM	Unit of Measure.
		NVL	Not validated.	LOR	Limit of Reporting.
**	Indicative data, theoretical holding time exceeded.	IS	Insufficient sample for analysis.	↑↓	Raised/lowered Limit of Reporting.
		LNR			
***	Indicates that both * and ** apply.		Sample listed, but not received.		
NAD	No Asbestos Detected.	NA	Not Applicable.		

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.

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Phone: (02)9756 2166 | Email: enquiries@stsgeo.com.au

Accredited for Compliance with ISO/IEC 17025 - Testing No. 2750

Atterberg Limits and Linear Shrinkage Report

Project: E26534.G04 61 MARLBOROUGH STREET, SURRY HILLS — Project No.: 31380

Client: EI AUSTRALIA PTY LTD — Report No.: 25/2387

Address: SUITE 6.01, 55 MILLER STREET, PYRMONT NSW 2009 — Report Date: 24/09/2025

Test Method: AS 1289.3.3.1, 3.2.1, 3.1.2, 3.4.1 — Page: 1 of 1

Sampling Procedure: Samples Supplied By Client (Not covered under NATA Scope of Accreditation)

STS / Sample No.	1257E-L/1	1257E-L/2	1257E-L/3			
Sample Location	BH101M	BH103M	BH103M			
Material Description	Silty CLAY, yellow brown, trace Gravel	Silty CLAY, rddish grey, trace Gravel	Silty CLAY, reddish grey, trace Gravel			
Depth (m)	1.5- 1.95	3.0- 3.2	4.5- 4.83			
Sample Date	6,7& 8/08/2025	6,7& 8/08/2025	6,7& 8/08/2025			
Test Date	22/09/2025	22/09/2025	22/09/2025			
Sample History	Air Dried	Air Dried	Air Dried			
Method of Preparation	Dry Sieved	Dry Sieved	Dry Sieved			
Liquid Limit (%)	**38**	**48**	**58**			
Plastic Limit (%)	**22**	**23**	**26**			
Plasticity Index	**16**	**25**	**32**			
Linear Shrinkage (%)	**9.5**	**11.0**	**12.5**			
Mould Size (mm)	127	127	127			
Crumbing	N	N	N			
Curling	N	N	N			
Cracking	N	N	N			

Remarks:

Approved Signatory..... .....

Technician: SP — Senior Laboratory Technician - Dilan Wijegunawardana

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Moisture Content of Soil and Aggregate Samples

Project: E26534.G04 61 MARLBOROUGH STREET, SURRY HILLS — Project No.: 31380

Client: EI AUSTRALIA PTY LTD — Report No.: 25/2388

Address: SUITE 6.01, 55 MILLER STREET, PYRMONT NSW 2009 — Report Date: 24/09/2025

Test Method: AS1289.2.1.1 — Page: 1 of 2

Sampling Procedure: Samples Supplied By Client (Not covered under NATA Scope of Accreditation)

STS / Sample No.	1257E-L/1	1257E-L/2	1257E-L/3	1257E-L/4	1257E-L/5	1257E-L/6
Sample Location	BH101M	BH103M	BH103M	BH101M	BH103M	BH103M
Material Description	Silty CLAY, yellow brown, trace Gravel	Silty CLAY, rddish grey, trace Gravel	Silty CLAY, reddish grey, trace Gravel	Silty CLAY, dark grey	Clayey SAND, dark grey, trace Gravel	Silty CLAY, orange brown, trace Gravel
Depth (mm)	1.5- 1.95	3.0- 3.2	4.5- 4.83	1.0- 1.1	0.2- 0.3	0.5- 0.95
Sample Date	6,7& 8/08/2025	6,7& 8/08/2025	6,7& 8/08/2025	6,7& 8/08/2025	6,7& 8/08/2025	6,7& 8/08/2025
Moisture Content (%)	**18.9**	**13.3**	**16.4**	**15.3**	**11.7**	**29.8**

Remarks:

Approved Signatory.....

Technician: SP

Bala Velupillai - Laboratory Supervisor

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Moisture Content of Soil and Aggregate Samples

Project: E26534.G04 61 MARLBOROUGH STREET, SURRY HILLS — Project No.: 31380

Client: EI AUSTRALIA PTY LTD — Report No.: 25/2388

Address: SUITE 6.01, 55 MILLER STREET, PYRMONT NSW 2009 — Report Date: 24/09/2025

Test Method: AS1289.2.1.1 — Page: 2 of 2

Sampling Procedure: Samples Supplied By Client (Not covered under NATA Scope of Accreditation)

STS / Sample No.	1257E-L/7					
Sample Location	BH103M					
Material Description	Silty CLAY, brown grey, trace Gravel					
Depth (mm)	1.5- 1.95					
Sample Date	6,7& 8/08/2025					
Moisture Content (%)	**13.2**					

Remarks:

Approved Signatory.....

Technician: SP

Bala Velupillai - Laboratory Supervisor

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Point Load Strength Index Report

Project: E26534.G04 61 MARLBOROUGH STREET, SURRY HILLS
Client: EI AUSTRALIA PTY LTD
Address: SUITE 6.01,55 MILLER STREET, PYRMONT NSW 2009
Test Method: AS 4133.4.1
Sampling Procedure: Samples Supplied By Client (Not covered under NATA Scope of Accreditation)

Project No.: 31380/1257E-L
Report No.: 25/2295
Report Date: 16/09/2025

Borehole / Sample No.	Depth (m)	Date Sampled	Date Tested	Test Type	Is (MPa)	$Is_{(50)}$ (MPa)	Rock Type	Failure Type	Moisture
BH101M	6.90	06/08/2025	15/09/2025	A	**0.55**	**0.55**	ST	3	M
BH101M	7.70	06/08/2025	15/09/2025	A	**0.85**	**0.87**	ST	3	M
BH101M	8.37	06/08/2025	15/09/2025	A	**0.98**	**0.98**	ST	3	M
BH101M	9.33	06/08/2025	15/09/2025	A	**0.47**	**0.47**	ST	3	M
BH101M	10.51	06/08/2025	15/09/2025	A	**1.4**	**1.4**	ST	3	M
BH101M	11.25	06/08/2025	15/09/2025	A	**0.74**	**0.75**	SS	3	M
BH101M	12.87	06/08/2025	15/09/2025	A	**1.4**	**1.4**	SS	3	M
BH101M	13.66	06/08/2025	15/09/2025	A	**1.6**	**1.6**	SS	3	M
BH101M	14.52	06/08/2025	15/09/2025	A	**1.2**	**1.2**	SS	3	M
BH101M	15.85	06/08/2025	15/09/2025	A	**1.8**	**1.8**	SS	3	M
BH101M	16.96	06/08/2025	15/09/2025	A	**1.6**	**1.6**	SS	3	M
BH101M	17.35	06/08/2025	15/09/2025	A	**1.7**	**1.7**	SS	3	M
BH101M	18.62	06/08/2025	15/09/2025	A	**2**	**2**	SS	3	M
BH101M	19.60	06/08/2025	15/09/2025	A	**1.8**	**1.9**	SS	3	M
BH101M	20.13	06/08/2025	15/09/2025	A	**2.2**	**2.2**	SS	3	M
BH101M	21.45	06/08/2025	15/09/2025	A	**1.3**	**1.3**	SS	3	M
BH101M	22.13	06/08/2025	15/09/2025	A	**1.3**	**1.3**	SS	3	M
BH101M	23.08	06/08/2025	15/09/2025	A	**1.4**	**1.4**	SS	3	M
BH101M	23.76	06/08/2025	15/09/2025	A	**1.2**	**1.2**	SS	3	M
BH101M	24.08	06/08/2025	15/09/2025	A	**1.1**	**1.1**	SS	3	M
BH101M	24.53	06/08/2025	15/09/2025	A	**1**	**1**	SS	3	M
BH101M	24.95	06/08/2025	15/09/2025	A	**1.2**	**1.2**	SS	3	M
BH101M	25.11	06/08/2025	15/09/2025	A	**1.2**	**1.2**	SS	3	M
BH101M	26.10	06/08/2025	15/09/2025	A	**1.5**	**1.5**	SS	3	M
BH101M	27.50	06/08/2025	15/09/2025	A	**2.6**	**2.7**	SS	3	M
BH101M	28.81	07/08/2025	15/09/2025	A	**1.6**	**1.6**	SS	3	M
BH101M	29.58	07/08/2025	15/09/2025	A	**1.4**	**1.3**	SS	3	M
BH101M	30.81	07/08/2025	15/09/2025	A	**2.2**	**2.2**	SS	3	M
BH101M	32.66	07/08/2025	15/09/2025	A	**1.5**	**1.5**	SS	3	M

Failure Type
1 = Fracture through bedding or weak plane
2 = Fracture along bedding
3 = Fracture through rock mass
4 = Fracture influenced by natural defect or drilling
5 = Partial fracture or chip (invalid result)

Test Type
A = Axial
D = Diametrial
I = Irregular
C = Cube

Moisure Condition
W = Wet
M = Moist
D = Dry

Rock Type
SS = Sandstone
ST = Siltstone
SH = Shale
YS = Claystone
IG = Igneous

Remarks:

Approved Signatory.....

Technician: NL

Mrigesh Tamang - Manager

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Point Load Strength Index Report

Project: E26534.G04 6 MARLBOROUGH STREET, SURRY HILLS
Client: EI AUSTRALIA PTY LTD
Address: SUITE 6.01,55 MILLER STREET, PYRMONT NSW 2009
Test Method: AS 4133.4.1
Sampling Procedure: Samples Supplied By Client (Not covered under NATA Scope of Accreditation)

Project No.: 31380/1257E-L
Report No.: 25/2295
Report Date: 16/09/2025

Borehole / Sample No.	Depth (m)	Date Sampled	Date Tested	Test Type	Is (MPa)	$Is_{(50)}$ (MPa)	Rock Type	Failure Type	Moisture
BH101M	33.28	06/08/2025	12/09/2025	A	**1.7**	**1.7**	SS	3	M
BH101M	35.56	06/08/2025	12/09/2025	A	**2.9**	**2.9**	SS	3	M
BH101M	37.72	06/08/2025	12/09/2025	A	**3**	**3**	SS	3	M
BH101M	38.44	06/08/2025	12/09/2025	A	**1.9**	**1.9**	SS	3	M
BH101M	39.67	06/08/2025	12/09/2025	A	**1.8**	**1.8**	SS	3	M
BH101M	40.12	06/08/2025	12/09/2025	A	**1.9**	**2**	SS	3	M
BH101M	42.83	06/08/2025	12/09/2025	A	**2.1**	**2.1**	SS	3	M
BH101M	43.55	06/08/2025	12/09/2025	A	**2.5**	**2.5**	SS	3	M
BH101M	44.90	06/08/2025	12/09/2025	A	**2.5**	**2.5**	SS	3	M
BH101M	45.10	06/08/2025	12/09/2025	A	**2.4**	**2.4**	SS	3	M
BH102M	7.64	08/08/2025	15/09/2025	A	**0.72**	**0.72**	ST	3	M
BH102M	8.63	08/08/2025	15/09/2025	A	**0.89**	**0.9**	ST	3	M
BH102M	9.32	08/08/2025	15/09/2025	A	**1.5**	**1.5**	ST	3	M
BH102M	9.77	08/08/2025	15/09/2025	A	**2.5**	**2.5**	ST	3	M
BH102M	10.60	08/08/2025	15/09/2025	A	**1.3**	**1.3**	ST	3	M
BH102M	11.66	08/08/2025	15/09/2025	A	**1.6**	**1.6**	SS	3	M
BH102M	13.40	08/08/2025	15/09/2025	A	**1.1**	**1.1**	SS	3	M
BH102M	14.06	08/08/2025	15/09/2025	A	**1.4**	**1.4**	SS	3	M
BH102M	14.84	08/08/2025	15/09/2025	A	**1.4**	**1.4**	SS	3	M
BH102M	15.82	08/08/2025	15/09/2025	A	**1.9**	**1.9**	SS	3	M
BH102M	16.40	08/08/2025	15/09/2025	A	**1.6**	**1.6**	SS	3	M
BH102M	17.78	08/08/2025	15/09/2025	A	**1.2**	**1.2**	SS	3	M
BH102M	18.75	08/08/2025	15/09/2025	A	**1.5**	**1.4**	SS	3	M
BH102M	19.40	08/08/2025	15/09/2025	A	**1.1**	**1.1**	SS	3	M
BH102M	20.76	08/08/2025	15/09/2025	A	**1.3**	**1.3**	SS	3	M
BH102M	21.16	08/08/2025	15/09/2025	A	**1**	**1**	SS	3	M
BH102M	22.66	08/08/2025	15/09/2025	A	**1.8**	**1.7**	SS	3	M
BH102M	23.13	08/08/2025	15/09/2025	A	**1.3**	**1.3**	SS	3	M

Failure Type
1 = Fracture through bedding or weak plane
2 = Fracture along bedding
3 = Fracture through rock mass
4 = Fracture influenced by natural defect or drilling
5 = Partial fracture or chip (invalid result)

Test Type
A = Axial
D = Diametrial
I = Irregular
C = Cube

Moisure Condition
W = Wet
M = Moist
D = Dry

Rock Type
SS = Sandstone
ST = Siltstone
SH = Shale
YS = Claystone
IG = Igneous

Remarks:

Approved Signatory.....

Technician: NB

Mrigesh Tamang - Manager

STS GEOTECHNICS PTY LTD
CONSULTING GEOTECHNICAL ENGINEERS

STS Geotechnics Pty Ltd
14/1 Cowpasture Place, Wetherill Park NSW 2164
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Point Load Strength Index Report

Project: E26534.G04 61 MARLBOROUGH STREET, SURRY HILLS
Client: EI AUSTRALIA PTY LTD
Address: SUITE 6.01,55 MILLER STREET, PYRMONT NSW 2009
Test Method: AS 4133.4.1
Sampling Procedure: Samples Supplied By Client (Not covered under NATA Scope of Accreditation)

Project No.: 31380/1257E-L
Report No.: 25/2295
Report Date: 16/09/2025

Borehole / Sample No.	Depth (m)	Date Sampled	Date Tested	Test Type	Is (MPa)	$Is_{(50)}$ (MPa)	Rock Type	Failure Type	Moisture
BH102M	23.96	08/08/2025	15/09/2025	A	1.6	1.6	SS	3	M
BH102M	24.78	08/08/2025	15/09/2025	A	1.1	1.1	SS	3	M
BH103M	5.89	08/08/2025	15/09/2025	A	0.44	0.43	SS	3	M
BH103M	6.20	08/08/2025	15/09/2025	A	0.36	0.36	SS	3	M
BH103M	6.90	08/08/2025	15/09/2025	A	0.42	0.42	SS	3	M
BH103M	7.85	08/08/2025	15/09/2025	A	0.9	0.9	SS	3	M
BH103M	8.74	08/08/2025	15/09/2025	A	1.2	1.2	SS	3	M
BH103M	9.95	08/08/2025	12/09/2025	A	1.3	1.3	SS	3	M
BH103M	10.46	08/08/2025	12/09/2025	A	1.2	1.2	SS	3	M
BH103M	11.91	08/08/2025	12/09/2025	A	1.3	1.4	SS	3	M
BH103M	12.63	08/08/2025	12/09/2025	A	1.3	1.3	SS	3	M
BH103M	13.81	08/08/2025	12/09/2025	A	1.3	1.3	SS	3	M
BH103M	14.54	08/08/2025	12/09/2025	A	1.7	1.7	SS	3	M
BH103M	15.84	08/08/2025	12/09/2025	A	1.5	1.5	SS	3	M
BH103M	16.15	08/08/2025	12/09/2025	A	1.5	1.5	SS	3	M
BH103M	17.82	08/08/2025	12/09/2025	A	1.5	1.4	SS	3	M
BH103M	18.35	08/08/2025	12/09/2025	A	1.3	1.3	SS	3	M
BH103M	19.09	08/08/2025	12/09/2025	A	1.2	1.3	SS	3	M
BH103M	20.89	08/08/2025	12/09/2025	A	1.6	1.7	SS	3	M
BH103M	21.58	08/08/2025	12/09/2025	A	1.6	1.7	SS	3	M
BH103M	22.17	08/08/2025	12/09/2025	A	1.5	1.5	SS	3	M
BH103M	22.73	08/08/2025	15/09/2025	A	1.8	1.7	SS	3	M
BH103M	23.55	08/08/2025	15/09/2025	A	1.6	1.6	SS	3	M
BH103M	24.13	08/08/2025	15/09/2025	A	2	1.9	SS	3	M
BH103M	25.66	08/08/2025	15/09/2025	A	1.3	1.4	SS	3	M
BH103M	26.29	08/08/2025	15/09/2025	A	1.8	1.8	SS	3	M
BH103M	27.50	08/08/2025	15/09/2025	A	1.7	1.7	SS	3	M
BH103M	28.27	08/08/2025	15/09/2025	A	2.2	2.2	SS	3	M
BH103M	30.09	08/08/2025	15/09/2025	A	2	2	SS	3	M

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Rock Type
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ST = Siltstone
SH = Shale
YS = Claystone
IG = Igneous

Remarks:

Approved Signatory.....

Technician: NB/NL

Mrigesh Tamang - Manager

Appendix C Vibration Limits

German Standard DIN 4150 – Part 3: 1999 provides guideline levels of vibration velocity for evaluating the effects of vibration in structures. The limits presented in this standard are generally considered to be conservative.

The DIN 4150 values (maximum levels measured in any direction at the foundation, OR, maximum levels measured in (x) or (y) directions, in the plane of the uppermost floor), are summarised in **Table A** below.

It should be noted that peak vibration velocities higher than the minimum figures in Table A for low frequencies may be quite 'safe', depending on the frequency content of the vibration and the actual conditions of the structures.

It should also be noted that these levels are 'safe limits', up to which no damage due to vibration effects has been observed for the particular class of building. 'Damage' is defined by DIN 4150 to include even minor non-structural cracking in cement render, the enlargement of cracks already present, and the separation of partitions or intermediate walls from load bearing walls. Should damage be observed at vibration levels lower than the 'safe limits', then it may be attributed to other causes. DIN 4150 also states that when vibration levels higher than the 'safe limits' are present, it does not necessarily follow that damage will occur. Values AGIven are only a broad guide.

Table A DIN 4150 – Structural Damage – Safe Limits for Building Vibration

Group	Type of Structure	Peak Vibration Velocity (mm/s)			
		At Foundation Level at a Frequency of:			Plane of Floor of Uppermost Storey
		Less than 10 Hz	10 Hz to 50 Hz	50 Hz to 100 Hz	All Frequencies
1	Buildings used for commercial purposes, industrial buildings and buildings of similar design	20	20 to 40	40 to 50	40
2	Dwellings and buildings of similar design and/or use	5	5 to 15	15 to 20	15
3	Structures that because of their particular sensitivity to vibration, do not correspond to those listed in Group 1 and 2 and have intrinsic value (e.g. buildings that are under a preservation order)	3	3 to 8	8 to 10	8

Note: For frequencies above 100 Hz, the higher values in the 50 Hz to 100 Hz column should be used.

Appendix D Important Information

Important Information

SCOPE OF SERVICES

The geotechnical report ("the report") has been prepared in accordance with the scope of services as set out in the contract, or as otherwise agreed, between the Client And EI Australia ("EI"). The scope of work may have been limited by a range of factors such as time, budget, access and/or site disturbance constraints.

RELIANCE ON DATA

EI has relied on data provided by the Client and other individuals and organizations, to prepare the report. Such data may include surveys, analyses, designs, maps and plans. EI has not verified the accuracy or completeness of the data except as stated in the report. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations ("conclusions") are based in whole or part on the data, EI will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to EI.

GEOTECHNICAL ENGINEERING

Geotechnical engineering is based extensively on judgment and opinion. It is far less exact than other engineering disciplines. Geotechnical engineering reports are prepared for a specific client, for a specific project and to meet specific needs, and may not be adequate for other clients or other purposes (e.g. a report prepared for a consulting civil engineer may not be adequate for a construction contractor). The report should not be used for other than its intended purpose without seeking additional geotechnical advice. Also, unless further geotechnical advice is obtained, the report cannot be used where the nature and/or details of the proposed development are changed.

LIMITATIONS OF SITE INVESTIGATION

The investigation programme undertaken is a professional estimate of the scope of investigation required to provide a general profile of subsurface conditions. The data derived from the site investigation programme and subsequent laboratory testing are extrapolated across the site to form an inferred geological model, and an engineering opinion is rendered about overall subsurface conditions and their likely behaviour with regard to the proposed development. Despite investigation, the actual conditions at the site might differ from those inferred to exist, since no subsurface exploration program, no matter how comprehensive, can reveal all subsurface details and anomalies. The engineering logs are the subjective interpretation of subsurface conditions at a particular location and time, made by trained personnel. The actual interface between materials may be more gradual or abrupt than a report indicates.

SUBSURFACE CONDITIONS ARE TIME DEPENDENT

Subsurface conditions can be modified by changing natural forces or man-made influences. The report is based on conditions that existed at the time of subsurface exploration. Construction operations adjacent to the site, and natural events such as floods, or ground water fluctuations, may also affect subsurface conditions, and thus the continuing adequacy of a geotechnical report. EI should be kept appraised of any such events, and should be consulted to determine if any additional tests are necessary.

VERIFICATION OF SITE CONDITIONS

Where ground conditions encountered at the site differ significantly from those anticipated in the report, either due to natural variability of subsurface conditions or construction activities, it is a condition of the report that EI be notified of any variations and be provided with an opportunity to review the recommendations of this report. Recognition of change of soil and rock conditions requires experience and it is recommended that a suitably experienced geotechnical engineer be engaged to visit the site with sufficient frequency to detect if conditions have changed significantly.

REPRODUCTION OF REPORTS

 Where information from the accompanying report is to be included in contract documents or engineering specification for the project, the entire report should be included in order to minimize the likelihood of misinterpretation from logs.

REPORT FOR BENEFIT OF CLIENT

The report has been prepared for the benefit of the Client and no other party. EI assumes no responsibility and will not be liable to any other person or organisation for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisation arising from matters dealt with or conclusions expressed in the report (including without limitation matters arising from any negligent act or omission of EI or for any loss or damage suffered by any other party relying upon the matters dealt with or conclusions expressed in the report). Other parties should not rely upon the report or the accuracy or completeness of any conclusions and should make their own inquiries and obtain independent advice in relation to such matters.

OTHER LIMITATIONS

EI will not be liable to update or revise the report to take into account any events or emergent circumstances or fact occurring or becoming apparent after the date of the report.