
Report on Stage 1 & 2 - Geotechnical Investigation

Green Square DC SYDGPU1

3 Brookhollow Avenue, Norwest NSW

**Prepared for Project Garden 1 Pty Ltd ATF
The Norwest Property Trust**

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The undersigned, on behalf of Douglas Partners Pty Ltd, confirm that this document and all attached drawings, logs and test results have been checked and reviewed for errors, omissions and inaccuracies.

Signature

Date

Author

5 December 2025

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Report on Stage 1 & 2 - Geotechnical Investigation

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3 Brookhollow Avenue, Norwest NSW

1. Introduction

This report presents the results of a geotechnical investigation for the Stage 1 and 2 works, including upgrades to the existing data centre building, construction of new data centre buildings, a generator and electrical plant room, and a new substation and transformer yard. This assessment was commissioned by Juan Lewis of Aurecon Australasia Pty Ltd as agent on behalf of Project Garden 1 Pty Ltd ATF The Norwest Property Trust in accordance with Douglas Partners Pty Ltd (Douglas) proposal 233937.00.P.003.Rev0, dated 25 June 2025.

It is understood that the proposed development is split into two development stages:

- Stage 1 – Upgrades and refurbishment to the existing building and its surrounds, occupying the western portion of the site.
- Stage 2 – Development of three new connected data centre buildings occupying the northern portion of the site with new generator and electrical plant room building immediately south of the new data centre buildings and a new substation and transformer yard occupying the eastern corner of the site. Additionally, a new road is proposed that traverses the perimeter of the proposed Stage 2 buildings.

Douglas previously undertook two rounds of geotechnical investigations at the site. The first was conducted in 1993 for the existing development (i.e. the current data centre) and comprised the drilling of six boreholes and the excavation of twelve test pits in the general vicinity of the existing building. The second investigation was carried out in 2003 for a proposed commercial development, which was ultimately not constructed. This investigation consisted of 14 boreholes located in the western and eastern areas of the site, where commercial buildings had been proposed. Data from both investigations has been used to assist in the preparation of the geotechnical model presented in this report.

Planning and design is currently underway for both Stage 1 and Stage 2 of the proposed development, and geotechnical investigations are required to inform the SSDA requirements as well as for design and planning of the proposed development. Accordingly, the current investigation was undertaken in the vicinity of the Stage 1 and Stage 2 development areas to provide information on subsurface conditions for design and planning purposes. The scope of works included the drilling of six augered boreholes and fourteen rock-cored boreholes, as well as laboratory testing and engineering assessment. Details of the investigation and commentary relevant to design and construction practices are provided herein.

2. Site Description

The property at 3 Brookhollow Avenue, Norwest, also known as Lot 2021 in Deposited Plan (DP) 831173, is located at the corner of Norwest Boulevard and Brookhollow Avenue. The lot forms an irregular shape with a total area of approximately 5.2 hectares. The site is situated within a

commercial precinct, with the surrounding area predominantly occupied by commercial buildings ranging between two and four storeys in height.

Currently, the property is occupied by a multi-storey data centre building situated on a southwest facing hill, with at-grade parking areas located to the east of the structure. The remaining parts of the lot are generally grassed, with mature trees along the boundaries. The existing building and associated infrastructure appear to generally be in good condition, with no significant settlements observed in the ground floor slab. Site surface levels fall from the eastern boundary, at the roundabout intersection of Norwest Boulevard and Brookhollow Avenue, at approximately RL 102 m AHD, down to the western boundary along Strangers Creek, at approximately RL 80 m AHD. Based on historical knowledge of the site, the existing data centre building is constructed on a levelled platform at approximately RL 89 m AHD. This pad was likely formed by cutting into the hillside by approximately 2 to 3 m at the northern end of the existing building and placing fill of up to approximately 5 m depth at the southern end, in the area of the existing loading dock.

The twin tunnels of the Sydney Metro Northwest rail line are understood to pass below the north-western part of the site. The tunnels are currently indicated on supplied plan (Drawing 230062-DA010 Issue 6 by Greenbox Architecture) to occupy a width of approximately 14 m, while the publicly available TfNSW report “Northwest Rail Link. EIS Stage 1 – Major Civil Construction Works” report indicates that the tunnel invert levels range from RL 75 m AHD to RL 70 m AHD. The approximate alignment of the Metro tunnels is shown in Drawing 1 in Appendix B as a guide, but this should be confirmed by Sydney Metro provided details.

3. Regional Mapping

3.1 Soil Landscape

Reference to the Penrith 1:100,000 Soil Landscape Sheet indicates that the site is situated along the boundary of two soil landscapes: the residual Blacktown landscape and the erosional Luddenham landscape.

The Blacktown soil landscape is mapped as underlying the western third of the site and typically comprises moderately to highly reactive, highly plastic red and brown loams and clays of moderate to deep depth. The Luddenham soil landscape, underlying the eastern two-thirds of the site, typically consists of moderately reactive brown to dark brown and grey loams and clays, which are susceptible to erosion.

3.2 Geology

Reference to the Penrith 1:100 000 Geology Sheet indicates that the site is underlain by Ashfield Shale, which typically comprises black to dark grey shale and laminite (interlaminated siltstone and sandstone), overlain by residual clays of medium to high plasticity. The results of the field work for the present investigation were consistent with the published geological mapping with the exception of deeper fill in some areas due to past earthworks.

3.3 Hydrogeology

A search of the NSW Department of Primary Industries groundwater bore records for registered groundwater bores indicated that the nearest groundwater bore (GW111242) is located approximately 500 m to the southwest of the site. Bore details state that the bore was drilled to 8.3 m depth and that groundwater levels have not been provided.

3.4 Acid Sulfate Soils

Reference to the NSW Acid sulphate soil risk map indicates that the site is not within an area of known acid sulphate soil risk.

3.5 Salinity

Reference to the map of salinity potential in Western Sydney 2002 indicates that the site is generally in an area of moderate salinity potential however an area of high salinity potential is present along the southwestern site boundary likely associated with the presence of Strangers Creek.

4. Previous Investigations

Previous investigations have been conducted by Douglas on this site, and the results are summarised below.

1993 Investigation:

Six test bores were drilled across the site to depths ranging between 6 m and 10 m, and fourteen test pits were excavated to depths of between 1 m and 2 m. The investigation identified topsoil layers ranging from 0.2 m to 0.4 m thick, underlain by stiff to hard clays to depths of up to 1 m. Siltstone (shale) bedrock was typically encountered beneath the clay, initially consisting of very low to low strength, highly fractured and weathered siltstone to depths of approximately 2 m, grading into fresher, stronger, and less fractured siltstone at greater depth.

2003 Investigation:

A subsequent investigation in 2003 involved the drilling of fourteen test bores to depths between 1.8 m and 15.0 m. The results indicated surface layers consisting of pavement and fill materials, varying from 0.2 m to 1.5 m thick in some locations. These were underlain by clays of variable stiffness (ranging from soft to hard), extending to the top of the siltstone bedrock at depths between 0.4 m and 5.6 m. The underlying bedrock generally comprised very low to low strength weathered siltstone, which typically graded into medium strength siltstone approximately 3 m to 4 m below the initial bedrock contact.

Groundwater was encountered within two monitoring wells, installed during the investigation, at depths of between 2.5 m and 2.7 m below existing grounds surface levels, approximately between RL 85.5 and RL 86.5 m.

5. Field Work

5.1 Field Work Methods

Electronic scanning of buried services was undertaken at the proposed test locations prior to ground penetration.

The field work for the Stage 1 geotechnical investigation was conducted between 20 May 2025 and 23 May 2025 and included:

- Coring of surface concrete to depths of between 0.15 m and 0.22 m at BH102 and BH104 to BH106.
- Four boreholes (BH101, BH107, BH109, and BH110) were drilled using a track-mounted drilling rig. Initial drilling was carried out using solid flight augers fitted with a tungsten carbide (TC) bit to the top of bedrock at depths ranging from 2.1 m to 6.4 m. Standard Penetration Tests (SPTs) were conducted at regular intervals to assess the in-situ consistency and inferred density of the encountered soils. These boreholes were then advanced to final depths of between 7.2 m and 10.5 m using an NMLC-sized, triple-tubed core barrel to recover continuous rock core samples for bedrock profiling.
- On completion of the drilling of BH110, a groundwater monitoring well was installed and subsequently developed.
- Three boreholes (BH105, BH106, and BH108) were drilled using a tight-access drilling rig. These were advanced with solid flight augers fitted with a TC bit to practical refusal within bedrock, encountered at depths ranging from 0.5 m to 4.0 m. Due to the limitations of the rig, Standard Penetration Tests could not be performed. Instead, Dynamic Cone Penetrometer (DCP) testing was undertaken within these boreholes to depths of approximately 1.2 m or to refusal.
- Three boreholes (BH102 to BH104) were excavated by hand using non-destructive methods to depths of between 0.5 m and 0.7 m, due to the presence of nearby underground services.

The field work for the Stage 2 geotechnical investigation was conducted between 7 July 2025 and 18 July 2025 and included:

- Ten boreholes (BH201 to BH210) drilled used a truck-mounted drilling rig. Initial drilling was carried out using solid flight augers fitted with a tungsten carbide (TC) bit followed by wash-bore drilling method to the top of bedrock at depths ranging from 1.6 m to 3.7 m. Standard Penetration Tests (SPTs) were conducted at regular intervals to assess the in-situ consistency and inferred density of the encountered soils. These boreholes were then advanced to final depths of between 10.2 m to 20.5 m using an NMLC-sized, triple-tubed core barrel to recover continuous rock core samples for bedrock profiling.
- On completion of the drilling of BH202 and BH205, a groundwater monitoring well was installed within each of these boreholes and subsequently developed.

Logging of encountered subsurface conditions was undertaken by a geotechnical engineer, who also collected samples of the soil profiles for subsequent laboratory testing. Sampling of soils and rock to assist in logging and to provide specimens for laboratory testing.

All test locations (excluding groundwater wells at BH110, BH202 and BH205) were backfilled with drilling spoil upon completion. A gatic cover was installed flush with the existing ground surface at the groundwater wells for subsequent access to collect groundwater measurements.

The ground surface levels at external boreholes (BH101, BH103, BH107, BH109, BH110 and BH201 to BH210) were measured relative to AHD using a global positioning system (GPS), which is accurate to within 0.2 m. Boreholes within the existing building were positioned by measuring offsets from site features, with surface levels inferred from supplied plans. The coordinates for each borehole location are referenced to Map Grid of Australia MGA2020, Zone 56. Douglas is not a registered surveyor, and the coordinates and levels should be considered approximate. The borehole locations are shown on Drawing 1 in Appendix B.

5.2 Field Work Results

The general sequence of subsurface materials encountered at the borehole locations is summarised below. The detailed bore logs and rock core photographs are included in Appendix C, together with notes defining classifications methods and terms used to describe the soils and rocks.

Pavement / Slabs/ Fill (Existing Fill)

Concrete slabs (with and without a tile surfacing) were observed at BH102 and BH104 to BH106, to depths of between 0.15 m and 0.22 m. Brick pavers were observed at BH108 with a thickness of 50 mm. Sand and gravelly sand (possibly road base gravel) were then observed within these boreholes to depths of between 0.25 m and 0.4 m, with the exception of BH105, where gravelly sand was observed to a depth of 1.6 m.

Asphaltic concrete (AC) pavements, between 20 mm and 30 mm thick, were observed at BH202, BH206 and BH208. In BH202 and BH208 this was underlain by gravel and sandy gravel to depths of between 0.25 m and 0.35 m, and in BH206 this was underlain by clayey fill to a depth of 0.9 m. In BH208, the gravel was underlain by clayey fill to a depth of 0.55 m.

Topsoil fill was observed at the surfaces of the remaining borehole locations, namely, BH101, BH103, BH107, BH109, BH110, BH201, BH203 to BH205, BH207, BH209 and BH210 to depths of between 0.1 m and 0.3 m.

General fill was generally encountered underlying the concrete, AC and topsoil surfaces (excluding BH102, BH103, BH105, BH201 to BH202, BH205, BH207 and BH209 to BH210) to depths of between 0.5 m and 4.1 m. The general fill typically consists of poorly to moderately compacted brown clay fill with minor constituents of sand and igneous, siltstone and sandstone gravel.

Natural Clay (Residual)

Encountered below the fill within all test locations (excluding BH103 and BH104) to depths of between 0.6 m and 6.4 m. Generally consisting of medium to high plasticity clay, orange-brown and grey to grey-brown, with varying proportions of ironstone gravels and moisture contents generally equivalent to, or less than the plastic limit. The consistencies of the clay were generally stiff to very stiff, grading to very stiff and hard with depth.

Siltstone (Very Low to Low Strength) Generally consisting of extremely to moderately weathered, very low to low strength, dark grey to grey-brown, siltstone with some sandstone laminations, hard clay bands and weathered seams of medium strength to depths of between 3.9 m and 7.9 m.

Siltstone (Medium Strength or Stronger) Generally consisting of slightly weathered to fresh, medium strength and stronger, dark grey siltstone with some sandstone laminations. Very high siltstone bands were encountered within BH107, BH201 to BH203, BH205 and BH209 at depths ranging from 6.7 m to 10.1 m, between 100 mm and 400 mm thick.

5.3 Groundwater and Permeability Testing

Groundwater seepage was observed within the clay fill during augering at BH105 and BH110, at depths of approximately 0.7 m and 2.5 m, respectively. Groundwater was not observed during auger drilling at the other locations. The essential use of water as a drilling fluid during rock coring precluded any further groundwater observations.

On completion of drilling at BH110 (on 20 May 2025), BH202 (on 17 July 2025) and BH205 (on 16 July 2025), a monitoring well was installed within each location and subsequently developed.

Continuous groundwater measurements were made within the installed monitoring wells using data loggers after they were purged dry using a bailer or pump. A summary of the measured groundwater levels an approximate 1 month period following purging is provided in Table 1.

Table 1: Summary of Groundwater Measurements during the Monitoring Period

Borehole	Surface RL (m AHD)	Monitoring Period	Maximum Groundwater RL (m AHD)	Minimum Groundwater RL (m AHD)	Variation (m)
BH110	89.0	1 August 2025 to 28 August 2025	<78.5 (dry)	<78.5 (dry)	n/a
BH202	96.0		88.0	87.7	0.3
BH205	100.0		94.3	94.3	n/a

Rising head permeability testing was undertaken in the monitoring wells of BH202 and BH205 to estimate the mass permeability of the bedrock unit types. The tests involved removing water from the monitoring well (i.e. pumping the well out) and then measuring the rate of recharge. The results of the permeability testing using Hvorslev's (1951) method are provided within Appendix C. The permeability testing results are summarised in Table 2. The measured hydraulic conductivity values are similar to typical values commonly seen within similar rock formations in Sydney (Pells et. al., 2018, Classification of Sandstones and Shales in the Sydney Region). Permeability testing in BH110 was not possible due to the absence of water within the monitoring well at the time of testing.

Table 2: Summary of Permeability Testing Results

Borehole	Material	Hydraulic Conductivity (m/s)
BH110	Very Low to High Strength Siltstone	N/A - dry
BH202	Medium to High Strength Siltstone and Sandstone	4.1×10^{-7}
BH205	High Strength Siltstone and Sandstone	7.3×10^{-10}

Hydrographs for the monitoring period at each borehole/well are attached in Appendix C. Reference to the hydrographs indicate that:

- Groundwater was not encountered within the monitoring well of BH110, with the groundwater table likely to be below the base of the well at RL 78.5 m.
- Groundwater was encountered within BH202 between RL 87.7 m and RL 88.0m. Results from this indicate that the groundwater table was encountered with the groundwater table reaching equilibrium following purging and the assessed hydraulic conductivity (of 4.1×10^{-7} m/s) generally in line with the anticipated range of values for the Norwest area
- Groundwater was encountered in BH205; however, monitoring results indicate that a significant period of time was required for the groundwater to stabilise following purging. The results were unexpected, with groundwater levels measured significantly higher than anticipated for the local area and exhibiting very low hydraulic conductivity. This is likely due to infiltration of surface water through the soil profile and defects within the rock due to heavy rainfall during the monitoring period. Due to the abnormal results obtained from the monitoring well at BH205, the monitoring well will be purged again with groundwater monitoring to continue for a period of two weeks at which point the results will be reassessed.

Refer to Section 7 (Geotechnical Model) for further comments on groundwater.

5.4 Laboratory Testing

Geotechnical and chemical laboratory testing was carried out on the soil and rock samples collected during the field investigation. The following tests were undertaken:

- Four Atterberg Limit test with moisture content and Linear Shrinkage to assess soil plasticity and reactivity;
- Three California bearing ratio (CBR) test (Standard compaction, 4-day soak) for preliminary pavement design purposes;
- Fourteen aggressivity tests (chloride, sulphates, electrical conductivity ($EC_{1:5}$) and pH_w) to assess the exposure classification of buried steel and concrete structures;
- Twelve salinity tests (electrical conductivity corrected for texture (EC_e) and textural class).

The detailed laboratory test results are presented in Appendix D and are summarised in Tables 3 to 6.

Table 3: Summary of Atterberg Limits, Moisture Content and Linear Shrinkage Test Results

Test Location	Depth (m)	Soil Description	LL (%)	PL (%)	PI (%)	MC (%)	LS (%)
BH105	1.6 – 3.2	Clay	45	22	23	21.6	11.0
BH201	1.0 – 1.4	Clay	34	21	13	-	8.5
BH202	0.4 – 1.0	Clay	40	23	17	-	-
BH209	0.3 – 1.0	Clay	56	29	27	-	-

Where: LL = Liquid limit, PL = Plastic Limit, PI = Plastic Index, MC = Moisture Content, LS = Linear Shrinkage

Table 4: Summary of California Bearing Ratio Test Results

Test Location	Depth (m)	Soil Description	FMC (%)	OMC (%)	CBR (%)	Swell (%)
BH105	1.6 – 3.2	Clay	20.4	18.0	4.5	2.0
BH202	0.4 – 1.0	Extremely Weathered Siltstone	14.6	15.5	16	0.0
BH209	0.3 – 1.0	Clay	30.2	29.0	6	0.5

Where: FMC = Field Moisture Content, OMC = Optimum Moisture Content, CBR = California Bearing Ratio.

Table 5: Summary of Chemical Test Results

Test Location	Depth (m)	Soil Description	EC _{1:5} (dS/m)	Texture Class	EC _e (dS/m)	pH _w (1:5)	Cl (ppm)	SO ₄ (ppm)	Comments	
									Salinity	Acidity
BH107	4.1 – 4.45	Residual Clay	0.034	-	-	5.6	<10	20	-	Mo.Ac
BH109	1.0 – 1.45	Fill / Clay	0.090	-	-	5.2	66	45	-	St.Ac
BH110	4.5 – 4.95	Residual Clay	0.057	MC	<2	5.3	10	27	NS	St.Ac
BH110	6.0 – 6.45	Residual Clay	0.087	MC	<2	5.3	43	64	NS	St.Ac
BH203	1.0 – 1.45	Fill / Clay	0.045	-	-	5.2	<10	44	-	St.Ac

Test Location	Depth (m)	Soil Description	EC _{1:5} (dS/m)	Texture Class	EC _e (dS/m)	pH _w (1:5)	Cl (ppm)	SO ₄ (ppm)	Comments	
									Salinity	Acidity
BH201	0.9 – 1.0	Residual Clay	0.026	-	-	5.6	<10	10	-	Mo.Ac
BH206	0.9 – 1.0	Residual Clay	0.170	-	-	6.2	36	130	-	Sl.Ac
BH203	2.5 – 2.78	Residual Clay	0.046	-	-	5.3	<10	44	-	St.Ac
BH202	0.4 – 0.5	Residual Clay	0.190	CL	<2	6.5	<10	170	NS	Sl.Ac
BH207	0.5 – 0.6	Residual Clay	0.074	CL	<2	5.4	<10	85	NS	St.Ac
BH207	0.9 – 1.0	Residual Clay	0.086	L	<2	5.4	20	88	NS	St.Ac
BH210	1.0 – 1.45	Residual Clay	0.031	HC	<2	5.6	<10	30	NS	Mo.Ac
BH210	0.4 – 0.5	Residual Clay	0.030	MC	<2	5.4	<10	20	NS	St.Ac
BH204	1.0 – 1.45	Residual Clay	0.019	HC	<2	5.7	<10	10	NS	Mo.Ac
BH204	2.5 – 2.95	Residual Clay	0.028	L	<2	5.6	<10	10	NS	Mo.Ac
BH206	1.0 – 1.45	Residual Clay	0.150	CL	<2	5.6	60	110	NS	Mo.Ac
BH205	0.4 – 0.5	Residual Clay	0.028	MC	<2	5.4	<10	20	NS	St.Ac
BH208	0.9 – 1.0	Residual Clay	0.140	MC	<2	5.1	<10	190	NS	St.Ac

Where:

EC_{1:5} = Electrical Conductivity in water,
pH_w = pH in water,
SO₄ = Sulfate ions
MC = Medium Clay
CL = Clay Loam
NS = non-saline
Mo.Ac = Moderately Acidic

EC_e = Electrical conductivity corrected for texture,
Cl = Chloride ions
dS = deci-siemens per metre
L = Loam
HC = Heavy Clay
St.Ac = Strongly Acidic
Sl.Ac = Slightly Acidic

Table 6: Summary of Sodicity Test Results

Test Location	Depth	Soil Description	ESP (%)	Sodicity*
BH110	4.5 – 4.95	Residual Clay	19	Highly Sodic
BH110	6.0 – 6.45	Residual Clay	20	Highly Sodic
BH202	0.4 – 0.5	Residual Clay	<1	Non Sodic
BH207	0.5 – 0.6	Residual Clay	6	Sodic
BH207	0.9 – 1.0	Residual Clay	22	Highly Sodic
BH210	1.0 – 1.45	Residual Clay	4	Non Sodic
BH210	0.4 – 0.5	Residual Clay	<1	Non Sodic
BH204	1.0 – 1.45	Residual Clay	11	Sodic
BH204	2.5 – 2.95	Residual Clay	26	Highly Sodic
BH206	1.0 – 1.45	Residual Clay	20	Highly Sodic
BH205	0.4 – 0.5	Residual Clay	6	Sodic
BH208	0.9 – 1.0	Residual Clay	7	Sodic

Where: ESP = Exchangeable Sodium Percentage

* As per the Department of Land and Water Conservation (2002), *Site investigation for Urban Salinity*

6. Proposed Development

Stage 1 – Upgrades and Refurbishment of Existing Data Centre Building

From the proposed architectural drawings (Drawing 230062-DA010-Issue 13 dated 29 May 2025 by Greenbox Architecture Pty Ltd) and the proposed structural design drawings (Drawing set 232040-TTW-00-DR-ST-00001 to 35001 revision P1 by TTW), it is understood that Stage 1 of the Green Square DC SYDGPU1 development will consist of upgrades and refurbishment of the existing data centre building and include:

- New on grade thermal energy storage (TES) tanks and water storage tanks, located near the western corner of the existing building.
- A new generator yard at the southern western end of the existing building.
- A new concrete hardstand, supported on piles, to the south of the new generator yard. The new concrete hardstand will also be required to support several on grade chillers;
- Reconfiguration of internal walls, to facilitate new data halls. This is also understood to include additional loads of approximately 10 kPa on the existing ground floor slab;

Subject to the detailed design and the construction methodology adopted, it is anticipated that excavations to depths of up to 1 m may be required to regrade existing ground slopes to tie into new structures (i.e. the new hardstand).

Stage 2 – Construction of New Data Centre Building and New Substation and Transformer Yard

From the proposed architectural drawings (Draft Drawing Set 230062 SYD1-ST2-A012 to A206 dated 28 November 2025 by Greenbox Architecture Pty Ltd), it is understood that Stage 2 of the Green Square DC SYDGPU1 development will consist of:

- Three new five-storey connected data centre buildings (including a roof level) within the central northern portion of the site, northeast of the existing data centre building, known as buildings B, C and D. Buildings B and C have an equivalent finished floor level (FFL) of RL 86.8 m, for a basement plant room, and Building D steps up higher to the east with a FFL of RL 100.8 m. It is anticipated that basement plant room for buildings B and C will require excavation depths of up to 8.3 m at the northwestern corner of building B, grading to an excavation depth of 12.4 m at the southwest corner of basement, partially beneath Building C. Building D will require fill thicknesses of up to 1.9 m to the west and up to 0.8 m to the west.
- Four-storey generator and electrical plant building in the central portion of the site, immediately south of the proposed data centre buildings. A single level basement is proposed which will be occupied by a fuel room and undercroft plant room with a FFL of RL 88.3 m. It is anticipated that the northern side of the plant building, immediately south of building D, will require excavation depths of up to 11 m, and up to 9.2 m on its southern side.
- On grade pavements are proposed around the various buildings and substations of Stage 2, with an additional site entry driveway off Brookhollow Avenue.
- A substation yard proposed to occupy the eastern corner of the site. It is anticipated that the construction of the road may require cut and fills of up to 1 m from existing surface levels.

7. Geotechnical Model

The site exhibits two distinct soil profiles that vary from east to west. In the Stage 1 area (western portion), beneath the existing data centre building, ground profile has been significantly modified by historic earthworks. The building platform was formed by cutting into the natural hillside upslope to the north and placing fill downslope to the south to create a level pad, with subsurface conditions confirming that the thickness of fill and natural clay increases towards Strangers Creek. In contrast, the Stage 2 area (eastern portion) has been subject to relatively minor disturbance, with ground levels more closely reflecting the natural topography. Earthworks in this area appear to have been largely limited to the construction of the on-grade carpark, roadways, and landscaping.

Fill conditions in the Stage 1 area varied from 0.3 m to 1.6 m deep in the northern boreholes (BH101–BH104) to 4.3 m to 4.5 m in the southern boreholes (BH109–BH110). Poorly compacted fill was identified at various depths in BH101, BH105, BH108, and BH109. In the Stage 2 area, borehole data indicated the presence of asphaltic concrete (20 mm to 30 mm thick) underlain by granular fill of 0.25 m to 0.35 m at BH202, BH206, and BH208. Clayey fill with gravel inclusions extended to 0.9 m at BH206, sandy clay fill was present to 0.55 m at BH208, and clayey fill extended to 2.0 m and 0.65 m at BH203 and BH204 respectively. Poorly compacted fill was noted in BH204. Documentation of fill placement associated with the construction of the building platform and carpark is not available and, given the observed variability in compaction, all fill at the site should be regarded as uncontrolled from an engineering perspective.

Beneath the fill, natural residual clay was encountered, typically pale grey to brown, stiff to hard with depth, and of medium to high plasticity. In the Stage 1 area, clay thickness ranged from 0.6m

to 1.8 m in the northern boreholes (BH101 and BH102), was absent in BH103 and BH104, and extended to 5.2 m to 6.4 m in the southern boreholes (BH109 and BH110). In the Stage 2 area, clay thickness was more consistent, ranging from 2.0 m to 3.65 m, except at BH202 and BH205 where it was limited to 0.6 m and 0.75 m respectively. Moisture contents were generally close to the plastic limit, approximately 1% dry to 2% wet of Standard optimum moisture content. Excavated clays may require drying prior to reuse. The clays are characterised by medium to high shrink-swell potential, variable dispersion potential, low salinity risk, and mild aggressivity.

Siltstone bedrock was encountered beneath the soils across the site. In the Stage 1 area, the depth to bedrock ranged from 0.3 m, in BH103, to 6.4 m, in BH110, while in the Stage 2 area, depths were generally 2.0 m to 3.65 m, except at BH202 and BH205 where bedrock was encountered at 0.6 m and 0.75 m respectively. The rock profile typically comprised extremely to slightly weathered, highly fractured, very low to low strength siltstone in the upper 2 m to 6 m, transitioning with depth to slightly weathered to fresh, medium to high strength siltstone. Numerous joints and fractures dipping between 30° and near-vertical were recorded, with jointing generally more frequent in the upper 2 m to 7 m but variable between boreholes. Faults were identified at BH201, between 13.3 m to 13.5 m, and at BH205 between 10.25 m to 10.3 m. Very high strength siltstone bands were observed in BH107, BH201, BH202, BH203, BH205, and BH209 at depths ranging from 6.7 m to 10.2 m.

Groundwater was recorded in monitoring wells installed at BH202 and BH205, with maximum levels between RL 88.0 m and RL 95.3 m. In the Stage 1 area, groundwater is unlikely to be encountered during proposed works. In the Stage 2 area, however, basement excavations are proposed to RL 86.8 m (beneath Building B and C) and RL 88.4 m (beneath the Generator and Electrical Plant building), and groundwater is likely to be intercepted at the soil-rock interface and within fractured bedrock. Perched seepage should also be expected within fill, along the clay and rock interface, and within rock fractures, particularly after rainfall, as indicated by seepage at 0.7 m depth in BH105 and observations from earlier investigations. Groundwater levels are transient and subject to climatic and anthropogenic influences, and ephemeral seepage along bedding planes and joints should be anticipated. While the permanent groundwater table is likely to be below the proposed excavation levels, ongoing groundwater monitoring is being undertaken to further characterise conditions.

A summary of the depths to the top of each identified soil and rock profile is presented in Table 7 and Table 8, however reference should be made to the borehole logs for detailed depth intervals and descriptions. The subsurface conditions encountered at the site have been classified into four distinct geotechnical materials.

Table 7: Summary of Geotechnical Model (Stage 1 Boreholes)

Unit	Material	Depth m and Reduced Level (m AHD) To Top of Each Unit									
		BH101	BH102	BH103	BH104	BH105	BH106	BH107	BH108	BH109	BH110
1	Pavement/ Existing Fill	0.0 (89.1)	0.0 (89.5)	0.0 (89.3)	0.0 (89.5)	0.0 (89.5)	0.0 (89.5)	0.0 (89.1)	0.0 (89.5)	0.0 (88.7)	0.0 (89.0)
2	Natural Clay (Residual)	1.6 (87.5)	0.2 (89.3)	n.e	n.e	1.6 (87.9)	1.6 (87.9)	4.1 (85.0)	1.9 (87.6)	4.2 (84.5)	4.5 (84.5)
3	Siltstone (VL-L)	1.8 (85.3)	0.4 (89.1)	0.3 (89.0)	0.5 (89.0)	3.2 (86.3)	3.1 (86.4)	4.7 (84.4)	3.0 (86.5)	5.2 (83.5)	6.4 (82.6)
4	Siltstone (M or Stronger)	4.6 (84.5)	0.6 (88.9)	n.e	n.e	n.e	n.e	7.3 (81.8)	n.e	5.8 (82.9)	7.9 (81.1)

Note: VL = Very Low Strength, L = Low Strength, M = Medium Strength

Table 8: Summary of Geotechnical Model (Stage 2 Boreholes)

Unit	Material	Depth m and Reduced Level (m AHD) To Top of Each Unit									
		BH201	BH202	BH203	BH204	BH205	BH206	BH207	BH208	BH209	BH210
1	Pavement/ Existing Fill	0.0 (95.1)	0.0 (96.0)	0.0 (99.2)	0.0 (98.9)	0.0 (100.0)	0.0 (89.2)	0.0 (90.6)	0.0 (95.5)	0.0 (96.7)	0.0 (100.6)
2	Natural Clay (Residual)	0.2 (94.9)	0.3 (95.7)	2.0 (97.2)	0.7 (98.2)	0.2 (99.8)	0.9 (88.3)	0.3 (90.3)	0.6 (94.9)	0.3 (96.4)	0.2 (100.4)
3	Very Low to Low Strength Siltstone	2.3 (92.8)	0.6 (95.4)	3.4 (95.8)	3.7 (95.2)	0.8 (99.2)	2.0 (87.2)	2.6 (88.0)	2.1 (93.4)	2.3 (94.4)	2.6 (98.1)
4	Medium Strength (or stronger) Siltstone	5.5 (89.6)	4.3 (91.7)	6.6 (92.6)	5.7 (93.2)	7.0 (93.0)	3.9 (85.2)	5.9 (84.7)	6.5 (89.0)	6.6 (90.1)	7.7 (93.0)

Note: VL = Very Low Strength, L = Low Strength, M = Medium Strength

8. Comments

8.1 Site Excavation

Based on the proposed Stage 1 and Stage 2 developments, it is anticipated that excavations into the hillside will be required to accommodate the proposed ground floor and single-level basement of the new data centre and generator buildings, respectively. Additional localised excavations will be necessary for footings, the new substation, loading docks, and associated infrastructure (including tanks and condensing units) servicing the existing building.

Modifications to the existing building platform to the west and construction of a new platform for portions of the new buildings to the east may require additional, relatively shallow excavations.

It is anticipated that the proposed excavation may intersect the full range of soil and rock materials identified during the geotechnical investigation.

The excavatability of the materials that will likely be encountered during these excavation works are summarised in Table 9.

Table 9: Summary of Soil and Rock Excavatability

Material	Material Strength	Excavatability
Filling / Topsoil	Existing Pavements, associated Fill, General Fill and Topsoil	Excavated using buckets of conventional earthmoving equipment, particularly if fitted with 'rock teeth'. However, the assistance of rock hammering or ripping will probably be required for the effective removal of any medium to high strength ironstone bands within the weathered rock profile.
Residual	Natural Clay, Stiff to Hard	
Siltstone (VL – L)	Very Low to Low Strength Siltstone	
Siltstone (M, M-H and VH bands)	Medium and High Strength Siltstone with Very High Strength Bands	Rock hammers may be required to break up and remove any concrete slabs or asphaltic concrete pavements encountered.
		Hard ripping using a large 'bulldozer' (such as a D9 or larger plant), or excavators fitted with either ripping tynes or rock hammers. Rock hammers or saws / grinders are generally required for effective excavation of slightly fractured and unbroken rock. Some of the unbroken, high and very high strength rock may be effectively 'unrippable' with very low productivity.

Note: VL = Very Low Strength, L = Low Strength, M = Medium Strength, H = High Strength, VH = Very High Strength

The detailed excavation for footings, services and side walls within low strength or stronger rock will generally require the use of a rotary rock saw or grinder, or hydraulic rock hammers.

The excavation rate that can be achieved, particularly within medium strength, or stronger, rock, varies considerably and is dependent upon the degree of jointing in the rock, the rock strength, the type of machinery being used and the skill of the operator. It is suggested that bulk excavation tenderers be required to make their own assessment of the equipment required to carry out the work.

8.2 Site Preparation

Where surface levels may need to be adjusted so that they grade into the new design of the existing building, such as at the hardstand extension, or where surface levels are modified for the proposed development, site preparation and earthworks is anticipated to be required.

8.2.1 General Earthworks

As a general guide, the following preliminary site preparation measures are suggested:

- Commence stripping or bulk excavation of the site area to expose natural stiff clays, stockpiling the suitable excavated material for later use as general fill, subject to contamination considerations. If structures are proposed to be suspended, then site stripping may be limited to 1.0 m within existing fills so that temporary support is provided during construction of these structures. For any areas requiring the placement of engineered fill, the areas should be suitably stripped of deleterious material. The stripped/excavated surfaces should be free of all existing topsoil and vegetation before being inspected by a geotechnical consultant. Subject to the required settlement tolerances or if ground bearing structures are proposed, the existing fill may be required to be stripped to expose natural clay.
- Stripped and excavated surfaces should be subjected to at least six passes of a minimum 16-tonne roller and then proof rolled in the presence of the geotechnical engineer to confirm the surface is stable and in a condition that can support new fill.
- Place approved imported fill or suitable site won materials (with a maximum particle size of 100 mm and free of organic matter) in 300 mm maximum thickness layers and compact to a minimum dry density ratio of 98%, relative to Standard compaction, maintaining the moisture content of the fill within 2% of Standard OMC.
- Place sufficient layers of fill to achieve design subgrade/foundation level and compact as outlined above, increasing the minimum dry density ratio to 100%, relative to Standard compaction, within the upper 300 mm of the design subgrade surface.

Geotechnical inspection and testing of the filling should be carried out in accordance with Level 1 controls, as defined in AS3798-2007.

The plastic nature of the clay fill and residual clay is such that very poor trafficability conditions should be expected when this material is exposed to wet weather. The use of a minimum 150 mm thick layer of strong, durable crushed rock fill or recycled concrete as a protective 'running' surface may allow 'all-weather' access to the site following wet weather.

8.2.2 Subgrade Preparation

All subgrades formed in residual soil or controlled (i.e. engineered) fill must be conditioned so that they have field moisture contents within 2% of SOMC.

Subgrades formed in rock, if encountered, should be ripped to a depth of 300 mm below the design subgrade level and then re-compacted and moisture conditioned to within 2% of SOMC. Ripping should result in a maximum particle size of 100 mm, which may necessitate some additional breakdown of the rock following initial ripping.

Any subgrades that expose existing fill should be assessed. In general, where ground bearing structures are proposed all uncontrolled fill would need to be removed and replaced as controlled (engineered) fill in accordance with the requirements for Level 1 control. The assessment would also need to consider the suitability of the fill for reuse on site.

8.2.3 Pavements/Hardstands

A design CBR value of 3% is suggested as a preliminary value for engineered fill and residual clays at the site, based on the laboratory results from the current investigation. The CBR of any imported fill should also be assessed to confirm the suggested design value is appropriate.

The subgrade should be prepared in accordance with Sections 8.2.1 and 8.2.2 of this report. The granular pavement layers (i.e. roadbase gravels) should be compacted to achieve a dry density ratio of at least 98% relative to Modified compaction.

Suitable cross-fall drainage and robust subsoil drainage lines should be provided to reduce the risk of the subgrade becoming saturated during the life of the pavement.

8.3 Excavation Support

From our understanding of the proposed Stage 1 upgrades to the existing building, excavations may consist of temporary excavations to facilitate changes in site surface levels and installation of new buried structures.

It is further understood that the proposed Stage 2 development, in particular, the new data centre and generator buildings, will require bulk excavations of varying depths, namely, between 8.3 m and 12.4 m, beneath Buildings B and C, and up to 11 m beneath the generator and electrical plant building.

Vertical excavations within the soil (Unit 1 and 2) and rock profile (Unit 3 and 4) will require both temporary and permanent lateral support during and after excavation.

8.3.1 Batter Slopes

Suggested temporary and permanent batter slopes for unsupported excavations up to a maximum height of 4 m are shown in Table 10. If surcharge loads are applied near the crest of the batter, or steeper and/or higher batters are required, then further specific geotechnical review may be required and may consist of flatter batters or slope stabilisation measures. The batters in the rock, particularly the medium strength or stronger rock, will be mostly influenced by jointing and fracturing in the rock which has not been assessed at this stage. Excavations near existing footings at higher levels, if proposed, should be assessed on a case by case basis.

Table 10: Recommended Batter Slopes for Exposed Material

Unit	Material	Maximum Temporary Batter Slope (H : V)	Maximum Permanent Batter Slope (H : V)
1	Filling	1.5 : 1	2 : 1**
2	Residual Soil	1 : 1	2 : 1**
3	Siltstone (VL – L)	0.75 : 1*	1 : 1*
4	Siltstone (M or stronger)	0.5 : 1*	1 : 1*

Note: VL = Very Low Strength, L = Low Strength, M = Medium Strength

* Subject to jointing assessment by experienced Geotechnical Engineer/Engineering Geologist.

** Permanent batters in soil may need to be reduced to 3H: 1V to facilitate maintenance of grassed slopes, if required.

8.3.2 Retaining Walls

Where batter slopes cannot be used, temporary or permanent retaining structures may be designed based on the advice provided below and in Table 11. Anchored soldier pile walls are often used to provide temporary retaining support to soils and rock. The soldier piles are usually spaced at approximately 2 m to 2.5 m centres, however, more closely spaced piles may be required to reduce wall movements, or prevent collapse of infill materials, particularly where pavements, structures or services are located in close proximity to the excavation.

It is suggested that preliminary design of cantilevered shoring systems (or shoring with one row of anchors or propping) be based on a triangular earth pressure distribution using the earth pressure coefficients provided in Table 11. 'Active' earth pressure coefficient (K_a) values may be used where some wall movement is acceptable, and 'at rest' earth pressure (K_o) values should be used where the wall movement needs to be reduced (i.e. adjacent to existing structures or utilities).

Table 11: Recommended Design Parameters for Shoring Systems

Unit	Material	Unit Weight (kN/m ³)	Earth Pressure Coefficient		Effective Cohesion c' (kPa)	Effective Friction Angle (Degrees)
			Active (K_a)	At Rest (K_o)		
1	Filling	20	0.4	0.6	0	25
2	Residual Soil	20	0.35	0.45	2	25
3	Siltstone (VL – L)	24	0.25 ¹	0.4 ¹	20	30
4	Siltstone (M or stronger)	24	0.2 ¹	0.3 ¹	100	35

Note: VL = Very Low Strength, L = Low Strength, M = Medium Strength

¹ Provided that adverse jointing is not encountered in the rock

The design for lateral earth pressures where multiple rows of anchors or propping are used (i.e. two rows or more of anchors or props) may be based on a trapezoidal earth pressure distribution.

The following earth pressure magnitudes are considered appropriate, where H is the height of soil and very low to low strength rock to be retained, in metres:

- 6H kPa, where some lateral movement is allowed; and
- 8H kPa, where lateral movements need to be limited (e.g. next to buildings and services).

In each case the maximum pressure generally acts over the central 60% of the wall, reducing to zero at the top and base of the wall.

The design of the shoring should allow for all surcharge loads, including building footings, inclined slopes behind the wall, traffic, site sheds, and construction related activities.

Shoring walls should also be designed for full hydrostatic pressures unless drainage of the ground behind impermeable walls can be provided. Drainage could comprise 150 mm wide strip drains pinned to the face at 1 m to 2 m centres behind shotcrete in-fill panels. The base of the strip drains should extend out from the shoring wall to allow any seepage to flow into a perimeter toe drain which is connected to the stormwater drainage system.

The design of shoring must also separately consider rock wedge loading as outlined in Section 9.2.3. A 20 kPa value is suggested for design of pressures acting on the shotcrete.

If a more accurate assessment of predicted ground movements at nearby buildings/infrastructure as a result of the proposed excavations is required, then numerical modelling (using commercially available software such as Plaxis 2D or FLAC 2D) of the proposed excavation may be required.

8.3.3 Design for Rock Wedges

Numerous steeply dipping features (45° to 90° to the core axis) including some faults/shear zones were encountered in the boreholes. The design of temporary and permanent support will also need to consider the possibility that 45-degree joints in the siltstone will daylight near the base of the excavation, leading to large wedges of rock which will need to be supported by the shoring/retaining structure.

The support system to stabilise steep joints would typically comprise rock bolts or anchors spaced at 2 m to 3 m centres over the rock face, preferably through the shoring piles/wall. These anchors should have their bond lengths formed in rock behind a line projected up at 45 degrees from the base of the shoring.

It is recommended that the anchor capacity (working load) of the support system should be designed for two half height wedges with an anchor force per unit width of $4.2 H^2$ (kN) where H is the height of the assumed wedge (for example a 10 m deep excavation should consider two 5 m high wedges). This approximation of the anchor force required to support a 45-degree wedge is based on an anchor inclination of 10 degrees below horizontal, an average bulk weight of 22 kN/m³, a friction angle of 25 degrees, and a cohesion of 0 kPa along the failure plane. Given that there is a very low probability that a joint would run the full length and height of the excavation it suggested that this aspect of the design may be carried out using a factor of safety of 1.0.

Should there be a requirement to increase the angle of installation of the anchor to steeper than 10 degrees (i.e. to reach stronger rock) then the anchor capacity would need to be increased to provide the equivalent horizontal force.

8.3.4 Passive Resistance

Passive resistance for piles founded in rock below the base of the bulk excavation (including allowance for services and/or footings) may be based on the ultimate passive restraint values provided in Table 12. This ultimate value represents the pressure mobilised at high displacements and therefore it will be necessary to incorporate a factor of safety of at least 3 to limit wall movement.

A triangular passive earth pressure distribution (increasing linearly with depth) may be assumed, starting from 0.5 m below bulk excavation level and below the level of any perimeter drains or excavations adjacent to the shoring walls. The presence of adjacent batters (e.g. the hillside) must also be considered, as there is a significant reduction in the passive support available.

Table 12: Recommended Passive Resistance Values

Unit	Foundation Stratum	Maximum Allowable Passive Pressure (kPa)	Maximum Ultimate Passive Pressure (kPa)
3	Siltstone (VL – L)	100*	300*
4	Siltstone (M or stronger)	300*	900*

Note: VL = Very Low Strength, L = Low Strength, M = Medium Strength

* subject to geotechnical inspection

8.3.5 Ground Anchors

The design of temporary and permanent ground anchors/rock bolts for the support of excavations and/or shoring systems may be carried out on the basis of the maximum bond stresses given in Table 13.

Table 13: Recommended Bond Stresses for Rock Anchor Design

Unit	Material Description	Maximum Allowable Bond Stress (kPa)	Maximum Ultimate Bond Stress (kPa)
3	Siltstone (VL – L)	75	150
4	Siltstone (M or stronger)	400	800

Note: VL = Very Low Strength, L = Low Strength, M = Medium Strength

The parameters given in Table 13 assume that the drilled holes are clean and adequately flushed. The anchors should be bonded behind a line drawn up at 45 degrees from the base of the shoring, and "lift-off" tests should be carried out to confirm the anchor capacities. Trial anchors should be used to confirm bond stress values. It is suggested that ground anchors should be proof loaded to 125% of the design working load and locked-off at no higher than 80% of the working load.

It is anticipated that the building will support the basement excavation over the long-term and therefore the ground anchors (where utilised) are expected to be temporary only. The use of permanent anchors would require careful attention to corrosion protection. Further advice on design and specification should be sought if permanent anchors are to be employed at this site.

It will be necessary to obtain permission from neighbouring landowners prior to installing anchors that will extend beyond the site perimeter. In addition, care should be taken during anchor installation to avoid damaging buried services and pipes, and possibly neighbouring piled footings or basement walls. Anchoring should only be carried out by an experienced contractor with demonstrated experience in similar ground conditions.

8.3.6 Stress Relief and Excavation Induced Ground Movement

Horizontal movements due to stress relief will occur during the excavation works. Based on published literature and DPs experience, the lateral deflections associated with excavation in Ashfield Shale are likely to be in the order of 0.05% to 0.15% of the excavation height, which corresponds to approximately 5 – 15 mm for the largest anticipated excavation depth of 9.3 m. The predicted deflections would generally be greatest at the centre of the excavated faces and would reduce with distance from the excavation face / boundary.

It is unlikely to be practicable to provide restraint (i.e. anchoring) for the relatively high in-situ horizontal stresses associated with stress relief movements. Therefore, it is recommended that appropriate allowance be made for movements of this order in construction and planning.

Precise survey monitoring of excavation faces should be carried out to assess vertical and horizontal movements during excavation. The survey should commence prior to excavation to provide a baseline and should continue every 1.5 m drop of the excavation. If surveyed movements increase rapidly or exceed the predicted movements, then the structural engineer and geotechnical engineer should be contacted for immediate review.

8.4 Groundwater

Groundwater seepage was encountered within the wells of BH202 and BH205. The source of this water is believed to be predominantly from rainfall infiltration seepage flowing down the soil/rock interface and through joints and bedding planes in the rock (i.e. unconfined, low productivity aquifer). Due to the perched nature of this water, it is thought to be a 'local' water table. During periods of heavy rainfall, shallow seepage flow along the interface between the soil and rock is expected.

Given the elevated topographical location of the site it is expected that the regional groundwater table will be well below the proposed bulk excavation level.

The results of the groundwater monitoring indicate that the elevation of perched perennial groundwater flows within the rock ranges from between RL 88.0 m and RL 94.3 m, generally dipping down to the southwest across the site. Given the proposed basement excavation levels of about RL 87 m and RL 93.5 m, the proposed basements are likely to intercept perched groundwater flows in the rock.

Permeability testing results (Table 2) indicate a range of hydraulic conductivity values. However it is recommended that a hydraulic conductivity value of 4.1×10^{-7} m/s is adopted for preliminary

assessment purposes (i.e. from BH202) as this is to typical values commonly seen within similar rock formations in Sydney (Pells et. al., 2018, Classification of Sandstones and Shales in the Sydney Region). The permeability value obtained from testing at BH205 is significantly lower than anticipated for the area and this result should be disregarded, with further testing and assessment being currently undertaken to reassess the hydraulic conductivity value obtained.

During construction and in the long term, it is anticipated that groundwater flows into the excavation could be controlled by perimeter and subfloor drainage connected to a sump-and-pump system. On this basis, a drained basement is appropriate for this site. Generally, water collected should be suitable for disposal by pumping to stormwater drains, however this will be subject to confirmation testing of groundwater quality and approval from Council and relevant authorities.

It is possible that groundwater flows into the basement may give rise to precipitation of a red-brown iron oxide residue from the oxidation of soluble iron likely to be present in the groundwater. Therefore, perimeter and subfloor drains should be designed for easy access to allow for inspection, maintenance and periodic cleaning.

Higher than expected inflows may occur locally in the rock faces (i.e. along fractured zones or defects), in which case some form of grouting may be required to reduce inflow rates.

Management of the inflow rates and drawdowns associated with adopting a drained basement is considered to be feasible geotechnically. However, construction of a drained basement would be subject to approval from the relevant authority and given the size and depth of the proposed basements, this will require additional detailed investigation and groundwater modelling to assess the inflow rates and drawdown effects on adjacent buildings, infrastructure, groundwater users and groundwater dependent ecosystems. It would be beneficial to carry out a review of neighbouring deep basements to assess the construction (presumably drained) and inflow rates pumped on a daily basis. If access to nearby basements can be arranged, then Douglas could assist with such a review to inform the planning and design.

Notwithstanding the above, it should be noted that groundwater levels can vary and may fluctuate overtime, particularly, following periods of heavy rainfall.

8.5 Footings

In the absence of compaction records, the existing fill on the site is considered to be uncontrolled and therefore may exhibit higher variability (and associated variability in foundation pressure and settlement behaviour) than is acceptable for a foundation material. Footings or slabs for new structures founding on existing uncontrolled fill are not recommended and it is recommended that footing are deepened (possibly piles) are proposed to be found below the fill with slabs suspended between these footings.

It is expected that portions of the new buildings will expose siltstone of very low to medium or better strength through bulk excavations, and portions will be built up with fill to achieve final pad levels.

Subject to design loads, footings could comprise either shallow footings or piles. Irrespective of type, footings should be founded uniformly on similar material being either entirely on suitable engineered fill, stiff natural clay or entirely on rock. The most appropriate footing system will

depend on the building's loads and serviceability design (i.e. settlements) as well as soil reactivity tolerances.

Pad footings are expected to be suitable, although piles founded (i.e. socketed) in stronger rock could be used to achieve higher capacities. If piles are proposed, bored piles may be considered as they are likely to represent the most economical and effective installation method. In general, the excavation for bored piles is expected to remain open for the duration of construction. Any minor sidewall instability or groundwater ingress encountered should be manageable through appropriate excavation support measures (i.e. cleaning of the bored pile excavation) and dewatering (e.g., pumping out accumulated water) prior to concrete placement.

Footings may be designed using the values given in Table 14. For bored piles, if required, shaft adhesion values for uplift (tension) may be taken as being equal to 70% of the shaft adhesion values for compression in Table 14.

Table 14: Recommended Parameters for Foundation Design

Unit	Material	Maximum Allowable Pressure (Serviceability)		Maximum Ultimate Pressure		Young's Modulus, E (MPa)
		End Bearing (kPa)	Shaft Adhesion (Compression) (kPa)	End Bearing (kPa)	Shaft Adhesion (Compression) (kPa)	
2	Residual clay	150	-	450	-	25
3	Siltstone (VL – L)	1,000	75	3,000	150	200
4	Siltstone (M or stronger)	3,500	175	20,000	350	700

Note: VL = Very Low Strength, L = Low Strength, M = Medium Strength

To confirm the suitability of the adopted design footing parameters, it is recommended that all footing excavations are subjected to geotechnical inspection and in-situ testing during construction to verify that the listed bearing pressures are satisfied. Local variations in rock strength and depth may occur across the site. All piles or footing excavations in weathered rock should be inspected by a geotechnical engineer or engineering geologist and approved prior to concreting to confirm it satisfies design requirements.

Shallow footings near excavations (i.e. service trenches, OSD tanks or similar) must have all loads transferred to below an influence line inclined upwards at 1.5H:1V in soil and 1H:1V in rock commencing from the lowest and closest side of the excavation or trench base. Pad footings can be deepened to accommodate this load transfer or alternatively pile footings may be used.

8.5.1 Settlements

Foundations proportioned on the basis of the allowable bearing pressures in Table 14 are generally likely to experience total settlements of less than 1% of the footing width under the applied working load, with differential settlements between adjacent columns expected to be less than half of this value.

Footings designed using ultimate values and Limit State Design will need to consider serviceability which usually governs the design in this case. For pile design, a basic geotechnical strength reduction factor, Φ_{gb} , of about 0.56 (or possibly higher) calculated from Table 4.3.2 (A, B, and C) of AS2159-2009: Piling Design and Installation, is considered feasible. However, the structural engineer will need to make their own assessment with the final (Φ_{gb}) number being dependent on the design and installation method (and associated risk rating) adopted by the structural engineer. A Φ_{gb} of 0.4 is required if pile load testing is not carried out.

8.5.2 Site Classification

Although the proposed development primarily consist of refurbishment and upgrades to the existing building at Stage 1 and construction of a new structures at Stage 2, it is important to note that the test results for Atterberg limits and CBR testing indicated a moderate to high susceptibility of the natural clays to undergo considerable shrink and swell movements as a result of changes in ground moisture conditions (i.e. seasonal or otherwise).

Although the site would be classified as Class P due to the presence of up to 4.1 m of fill, based on our investigation results and laboratory testing, the plasticity and thus reactivity of the soils at the site are generally considered representative of Class H1 conditions when assessed in accordance with AS2870-2011. This classification and standard are not relevant to commercial/industrial development, but the comments are provided as a guide.

8.6 Effect of Development on Metro Tunnels

Where the proposed development will encroach over the Second Reserve of the Metro tunnels, the potential impacts of the proposed development on the Metro tunnels will need to be assessed in detail in order to provide a geotechnical impact assessment for review and approval by Sydney Metro. The First Reserve typically extends 5m from the edge of the tunnels and the Second Reserve another 25 m from the First Reserve. The Metro guidelines usually require assessment for excavations greater than 2 m depth or footings with bearing pressures greater than 150kPa within the second reserve. This assessment may require detailed numerical modelling and preparation of separate reports for submission to Sydney Metro and or TfNSW depending on the extent of work required within the Second Reserve, if any.

8.7 Salinity Assessment

The NSW Salinity Potential map for Western Sydney indicates a moderate salinity potential category is applicable to the site and its immediate surrounds. A total of 12 laboratory test results on samples from seven boreholes (BH110, BH202, BH204 to BH208 and BH210) have been undertaken,. The samples of the natural soil layers of indicate non-saline values.

Soil salinity is assessed with respect to electrical conductivity after conversion of the result to EC_e (electrical conductivity of a saturated extract) by multiplication with a factor dependent on soil texture. Once converted, the EC_e value is compared to the guideline ranges listed in Table 15.

Table 15: Soil Salinity Classification

Class	EC_e (dS/m)	Implication
Non-Saline	<2	Salinity effects are mostly negligible
Slightly Saline	2 – 4	Yields of sensitive crops effected
Moderately Saline	4 – 8	Yields of many crops effected
Very Saline	8 – 16	Only tolerant crops yield satisfactorily
Highly Saline	>16	Only a few very tolerant crops yield satisfactorily

During the site investigation, samples from the soil profile were collected. 12 samples underwent chemical testing in an attempt to 'ground truth' the relevance of the mapped conditions. The results of the testing (Table 5 and Table 6) show that non saline soils conditions are present throughout the site.

The 12 samples equate to approximately one laboratory samples for every 4,400 m² of land proposed for development. Seven detailed soil profiles were used to obtain the samples, which equates to one full profile laboratory analysis per 7,600 m². This frequency equates to the minimum testing frequency listed in the Site Investigation for Urban Salinity guideline booklet (commonly adopted and published by the Department of Land and Water Conservation [DLWC], 2002). The results, therefore, are considered to be an appropriate representation of the site.

Given the results obtained (i.e. non saline soils) the provision of a salinity management plan is generally not required to address planning requirements.

8.8 Seismic Design

In accordance with Part 4 of the Structural design actions Standard, AS1170.4 – 2024 the general development area is assessed to have a Site Sub-Soil Class of 'Be', however a Site Sub-Soil Class of 'Ce' applies for areas to the south of the existing building (i.e. the proposed hardstand extension of Stage 1) where soil depths exceed 3 m.

8.9 Aggressivity

In accordance with AS2159-2009, the results of the chemical laboratory tests from previous and current investigations show that the soils are non-aggressive to steel and mildly aggressive to concrete.

9. Limitations

Douglas Partners Pty Ltd (Douglas) has prepared this report for this project at 3 Brookhollow Avenue, Norwest NSW in line with Douglas' proposal 233937.00.P.003.Rev0 dated 25 June 2025 and acceptance received by Juan Lewis of Aurecon Australasia Pty Ltd acting on as agents on behalf of ATF Norwest Property Trust. The work was carried out under Douglas' Engagement Terms. This report is provided for the exclusive use of Project Garden 1 Pty Ltd ATF Norwest Property Trust for this project only and for the purposes described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of Douglas, does so entirely at its own risk and without recourse to Douglas for any loss or damage. In preparing this report Douglas has necessarily relied upon information provided by the client and their agents.

The scope of work for this investigation/report did not include the assessment of surface or sub-surface materials or groundwater for contaminants, within or adjacent to the site. Should evidence of fill of unknown origin be noted in the report, and in particular the presence of building demolition materials, it should be recognised that there may be some risk that such fill may contain contaminants and hazardous building materials.

The results provided in the report are indicative of the sub-surface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Sub-surface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after Douglas' field testing has been completed.

Douglas' advice is based upon the conditions encountered during this investigation. The accuracy of the advice provided by Douglas in this report may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

The assessment of atypical safety hazards arising from this advice is restricted to the geotechnical components set out in this report and based on known project conditions and stated design advice and assumptions. While some recommendations for safe controls may be provided, detailed 'safety in design' assessment is outside the current scope of this report and requires additional project data and assessment.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. Douglas cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

This report, or sections from this report, should not be used as part of a specification for a project, without review and agreement by Douglas. This is because this report has been written as advice and opinion rather than instructions for construction.

Appendix A

About This Report

Introduction

These notes have been provided to amplify DP's report in regard to classification methods, field procedures and the comments section. Not all are necessarily relevant to all reports.

DP's reports are based on information gained from limited subsurface excavations and sampling, supplemented by knowledge of local geology and experience. For this reason, they must be regarded as interpretive rather than factual documents, limited to some extent by the scope of information on which they rely.

Copyright

This report is the property of Douglas Partners Pty Ltd. The report may only be used for the purpose for which it was commissioned and in accordance with the Conditions of Engagement for the commission supplied at the time of proposal. Unauthorised use of this report in any form whatsoever is prohibited.

Borehole and Test Pit Logs

The borehole and test pit logs presented in this report are an engineering and/or geological interpretation of the subsurface conditions, and their reliability will depend to some extent on frequency of sampling and the method of drilling or excavation. Ideally, continuous undisturbed sampling or core drilling will provide the most reliable assessment, but this is not always practicable or possible to justify on economic grounds. In any case the boreholes and test pits represent only a very small sample of the total subsurface profile.

Interpretation of the information and its application to design and construction should therefore take into account the spacing of boreholes or pits, the frequency of sampling, and the possibility of other than 'straight line' variations between the test locations.

Groundwater

Where groundwater levels are measured in boreholes there are several potential problems, namely:

- In low permeability soils groundwater may enter the hole very slowly or perhaps not at all during the time the hole is left open;
- A localised, perched water table may lead to an erroneous indication of the true water table;
- Water table levels will vary from time to time with seasons or recent weather changes. They may not be the same at

the time of construction as are indicated in the report; and

- The use of water or mud as a drilling fluid will mask any groundwater inflow. Water has to be blown out of the hole and drilling mud must first be washed out of the hole if water measurements are to be made.

More reliable measurements can be made by installing standpipes which are read at intervals over several days, or perhaps weeks for low permeability soils. Piezometers, sealed in a particular stratum, may be advisable in low permeability soils or where there may be interference from a perched water table.

Reports

The report has been prepared by qualified personnel, is based on the information obtained from field and laboratory testing, and has been undertaken to current engineering standards of interpretation and analysis. Where the report has been prepared for a specific design proposal, the information and interpretation may not be relevant if the design proposal is changed. If this happens, DP will be pleased to review the report and the sufficiency of the investigation work.

Every care is taken with the report as it relates to interpretation of subsurface conditions, discussion of geotechnical and environmental aspects, and recommendations or suggestions for design and construction. However, DP cannot always anticipate or assume responsibility for:

- Unexpected variations in ground conditions. The potential for this will depend partly on borehole or pit spacing and sampling frequency;
- Changes in policy or interpretations of policy by statutory authorities; or
- The actions of contractors responding to commercial pressures.

If these occur, DP will be pleased to assist with investigations or advice to resolve the matter.

continued next page

About this Report

Site Anomalies

In the event that conditions encountered on site during construction appear to vary from those which were expected from the information contained in the report, DP requests that it be immediately notified. Most problems are much more readily resolved when conditions are exposed rather than at some later stage, well after the event.

Information for Contractual Purposes

Where information obtained from this report is provided for tendering purposes, it is recommended that all information, including the written report and discussion, be made available. In circumstances where the discussion or comments section is not relevant to the contractual situation, it may be appropriate to prepare a specially edited document. DP would be pleased to assist in this regard and/or to make additional report copies available for contract purposes at a nominal charge.

Site Inspection

The company will always be pleased to provide engineering inspection services for geotechnical and environmental aspects of work to which this report is related. This could range from a site visit to confirm that conditions exposed are as expected, to full time engineering presence on site.

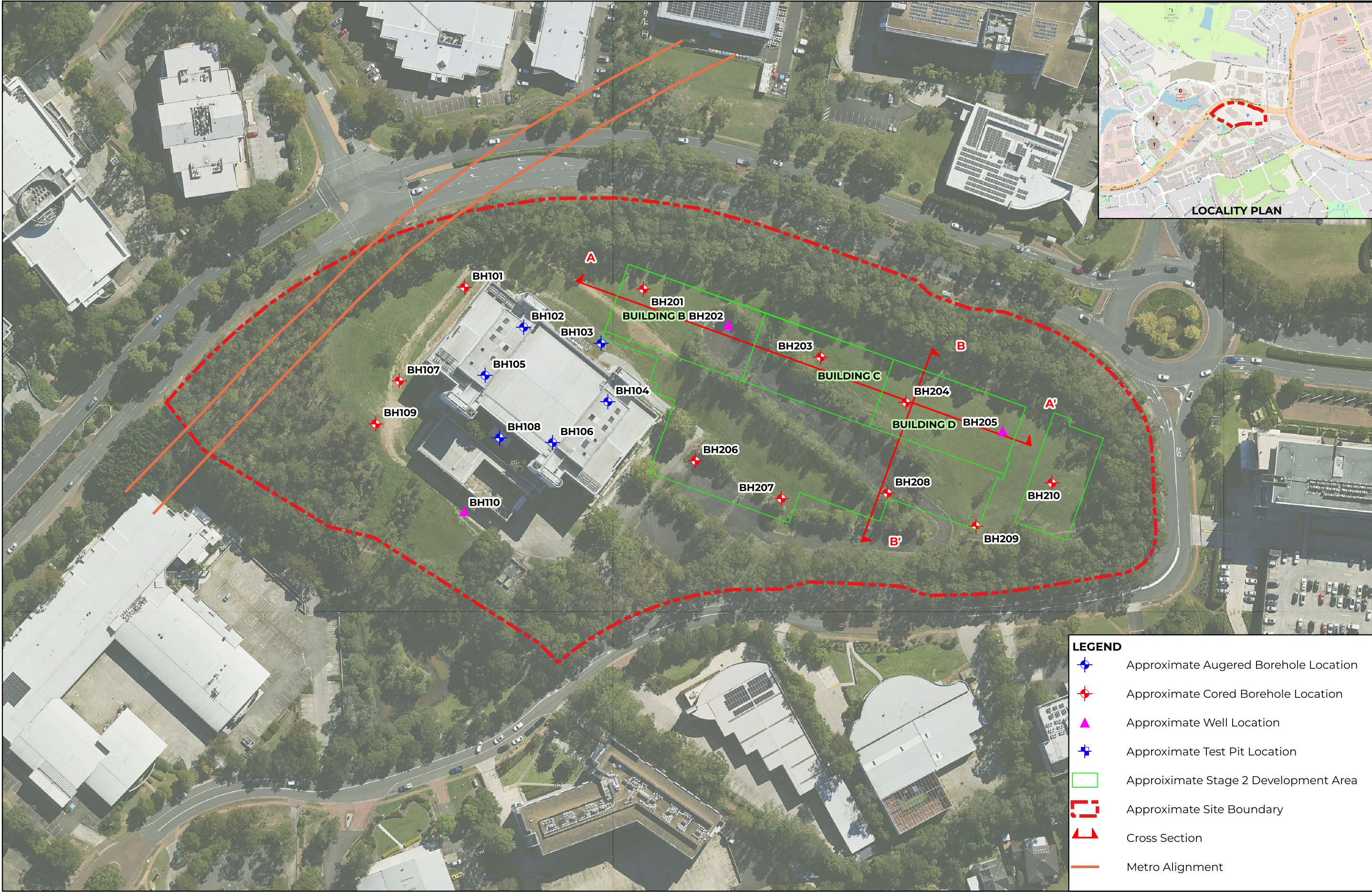
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Appendix B

Drawings

\\dpsdhas02\Projects\23393700 - BAULKHAM HILLS\3 Brookhollow Avenue\70 Drawings\73 QGIS\QGIS.qgz



REV	DESCRIPTION/COMMENT	DATE	DRAWN BY
0	Initial Issue	10.09.2025	MN

SCALE:
0 15 30 45 60 m
1:1500 @ A3

Douglas
PARTNERS
OFFICE: SYDNEY
96-98 Hermitage Rd, West Ryde NSW 2114
(02)9809 0666

CLIENT:
**Project Garden 1 Pty Ltd ATF
The Norwest Property Trust**

NOTE:
1: Basemap from - Metromap (Dated 06.04.2025)
2: Development outlines from Greenbox Architects, Job No. 230062, Drawing No.0033, Issue 00 (Dated 06.09.2025)

COORDINATE REFERENCE SYSTEM: GDA2020 / MGA zone 56

PROJECT NAME:
Green Square DC SYDGPU1

PROJECT ADDRESS:
**3 Brookhollow Ave,
Norwest**

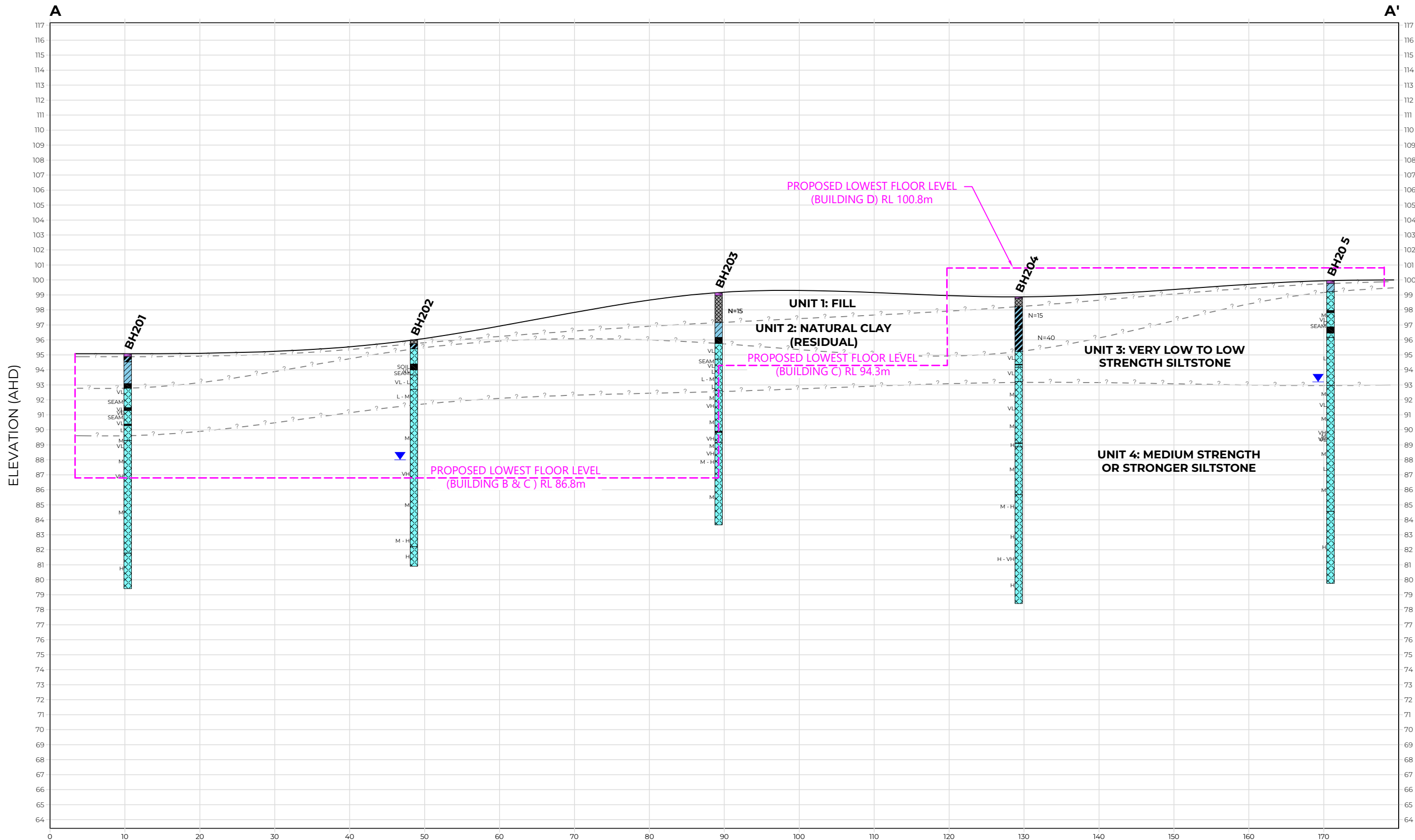
DRAWING TITLE:
Test Location Plan

PROJECT NO:
233937.00

DRAWING NO:
1

REVISION:
1

\\dps\dna20\Projects\233937\00 - BAULKHAM HILLS\3 Brookhollow Avenue\7.0 Drawings\7.0 D.D.002.3 Rev0_Sections.dwg



LEGEND			
	ASPHALTIC CONCRETE		Cl-CH - Medium to High Plasticity CLAY
	CH - High Plasticity CLAY		CLAY
	Cl - Medium Plasticity CLAY		NO CORE
	FILL		SILTSTONE
	TOPSOIL		

TESTS / OTHER	
N	- Standard penetration test value
- ? -	- Interpreted geotechnical boundary
	- Groundwater Level

ROCK STRENGTH	
VL	- Very Low
L	- Low
M	- Medium
H	- High
VH	- Very High
EH	- Extremely High
SOIL CONSISTENCY	
vs	- Very Soft
s	- Soft
f	- Firm
st	- Stiff
vst	- Very Stiff
h	- Hard

REV	DESCRIPTION/COMMENT	DATE	DRAWN BY
0	Initial Issue	11.08.2025	MN
1	Updated with new Architectural Levels	10.09.2025	MN
2	Updated with new Basement Levels	04.12.2025	EC

SCALE:

010

Horizontal Scale 1:500
Vertical Exaggeration = 2.0

OFFICE: SYDNEY
96-98 Hermitage Rd, West Ryde NSW 2114
(02) 9809 0666

CLIENT:
Project Garden 1 Pty Ltd
ATF The Norwest Property Trust

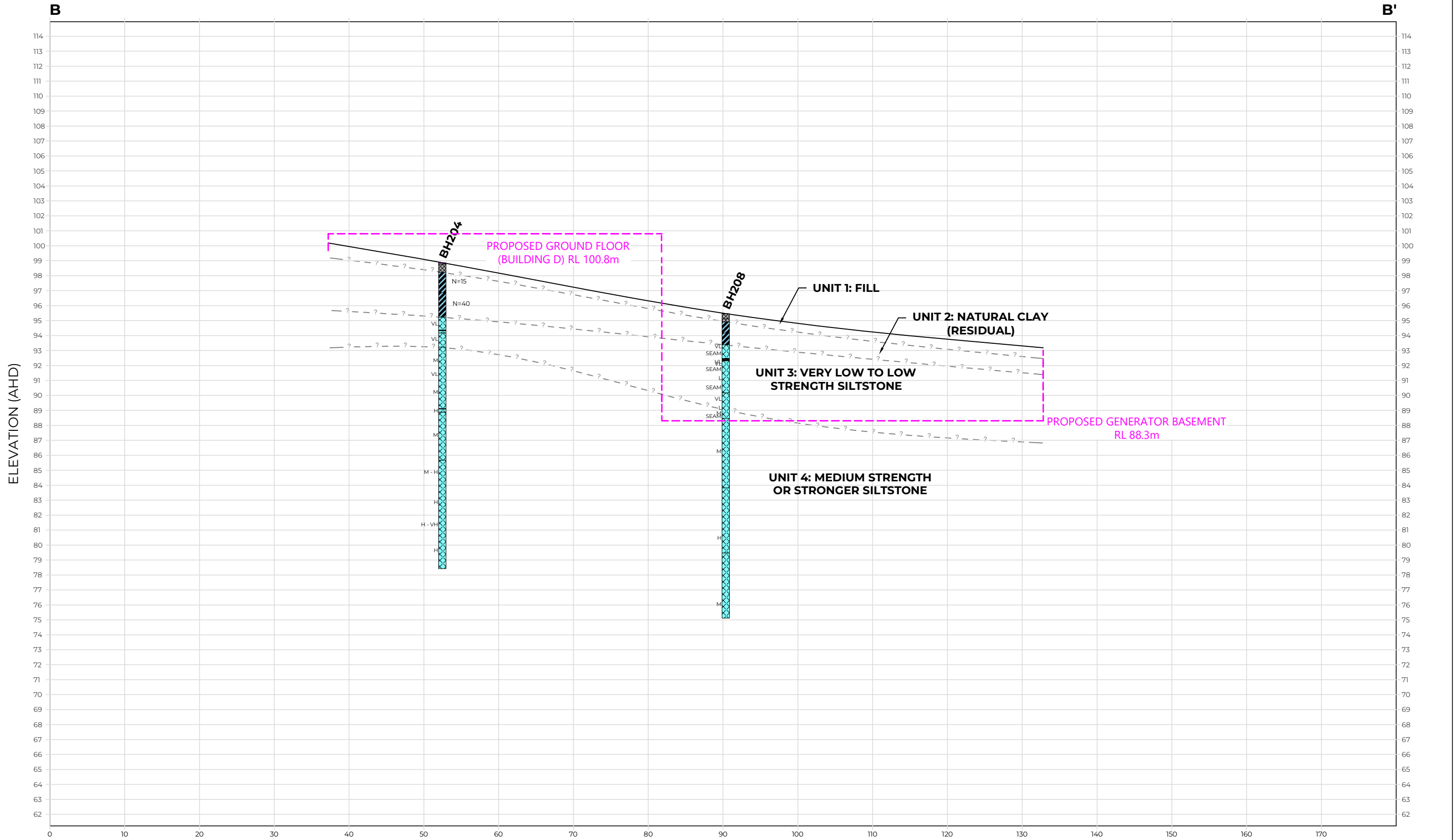
NOTES
1. Subsurface conditions are accurate at the borehole locations only.
Variations in subsurface conditions may occur between borehole locations.
Interpreted strata boundaries are approximate and should be used as a guide only.
2. Summary logs only and should be read in conjunction with detailed logs.
3. Horizontal and vertical scales are not equal.

PROJECT NAME:
Green Square DC
SYDGPU1
PROJECT ADDRESS:
3 Brookhollow Avenue,
Norwest

DRAWING TITLE:
Geological Cross Section
A-A'

PROJECT No:	233937.00
DRAWING No:	2
REVISION:	2

\\dps\dna20\Projects\233937\00 - BAULKHAM HILLS\3 Brookhollow Avenue\7.0 Drawings\72 OA\233937\00.D.002.3 Rev0_Section.dwg



LEGEND

- ASPHALTIC CONCRETE
- CH - High Plasticity CLAY
- NO CORE
- FILL
- TOPSOIL
- SILTSTONE

TESTS / OTHER
N - Standard penetration test value
- ? - - - Interpreted geotechnical boundary

ROCK STRENGTH
VL - Very Low
L - Low
M - Medium
H - High
VH - Very High
EH - Extremely High

SOIL CONSISTENCY
vs - Very Soft
s - Soft
f - Firm
st - Stiff
vst - Very Stiff
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REV	DESCRIPTION/COMMENT	DATE	DRAWN BY
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SCALE:

Horizontal Scale 1:500
Vertical Exaggeration = 2.0

Douglas
PARTNERS

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96-98 Hermitage Rd, West Ryde NSW 2114
(02) 9809 0666

CLIENT:

Project Garden 1 Pty Ltd
ATF The Norwest Property Trust

NOTES

- Subsurface conditions are accurate at the borehole locations only. Variations in subsurface conditions may occur between borehole locations. Interpreted strata boundaries are approximate and should be used as a guide only.
- Summary logs only and should be read in conjunction with detailed logs.
- Horizontal and vertical scales are not equal.

PROJECT NAME:
Green Square DC
SYDGPU1

PROJECT ADDRESS:
3 Brookhollow Avenue,
Norwest

DRAWING TITLE:

Geological Cross Section
B-B'

PROJECT No:
233937.00

DRAWING No:
3

REVISION:
2

Appendix C

Field Work Results

Introduction to Terminology, Symbols and Abbreviations

Douglas Partners' reports, investigation logs, and other correspondence may use terminology which has quantitative or qualitative connotations. To remove ambiguity or uncertainty surrounding the use of such terms, the following sets of notes pages may be attached Douglas Partners' reports, depending on the work performed and conditions encountered:

- Soil Descriptions;
- Rock Descriptions; and
- Sampling, insitu testing, and drilling methodologies

In addition to these pages, the following notes generally apply to most documents.

Abbreviation Codes

Site conditions may also be presented in a number of different formats, such as investigation logs, field mapping, or as a written summary. In some of these formats textual or symbolic terminology may be presented using textual abbreviation codes or graphic symbols, and, where commonly used, these are listed alongside the terminology definition. For ease of identification in these note pages, textual codes are presented in these notes in the following style **XW**. Code usage conforms with the following guidelines:

- Textual codes are case insensitive, although herein they are generally presented in upper case; and
- Textual codes are contextual (i.e. the same or similar combinations of characters may be used in different contexts with different meanings (for example `PL` is used for plastic limit in the context of soil moisture condition, as well as in `PL(A)` for point load test result in the testing results column)).

Data Integrity Codes

Subsurface investigation data recorded by Douglas Partners is generally managed in a highly structured database environment, where records "span" between a top and bottom depth interval. Depth interval "gaps" between records are considered to introduce ambiguity, and, where appropriate, our practice guidelines may require contiguous data sets. Recording meaningful data is not always appropriate (for example assigning a "strength" to a concrete pavement) and the following codes may be used to maintain contiguity in such circumstances.

Term	Description	Abbreviation Code
Core loss	No core recovery	KL
Unknown	Information was not available to allow classification of the property. For example, when auguring in loose, saturated sand auger cuttings may not be returned.	UK
No data	Information required to allow classification of the property was not available. For example, if drilling is commenced from the base of a hole predrilled by others	ND
Not Applicable	Derivation of the properties not appropriate or beyond the scope of the investigation. For example, providing a description of the strength of a concrete pavement	NA

Graphic Symbols

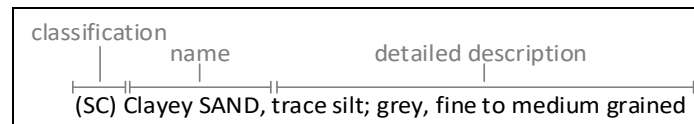
Douglas Partners' logs contain a "graphic" column which provides a pictorial representation of the basic composition of the material. The symbols used are directly representing the material name stated in the adjacent "Description of Strata" column, and as such no specific graphic symbology legend has been provided in these notes.

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Introduction

All materials which are not considered to be “in-situ rock” are described in general accordance with the soil description model of AS 1726-2017 Part 6.1.3, and can be broken down into the following description structure:



The “classification” comprises a two character “group symbol” providing a general summary of dominant soil characteristics. The “name” summarises the particle sizes within the soil which most influence its behaviour. The detailed description presents more information about composition, condition, structure, and origin of the soil.

Classification, naming and description of soils require the relative proportion of particles of different sizes within the whole soil mixture to be considered.

Particle size designation and Behaviour Model

Solid particles within a soil are differentiated on the basis of size.

The engineering behaviour properties of a soil can subsequently be modelled to be either “fine grained” (also known as “cohesive” behaviour) or “coarse grained” (“non cohesive” behaviour), depending on the relative proportion of fine or coarse fractions in the soil mixture.

Particle Size Designation	Particle Size (mm)	Behaviour Model	
		Behaviour	Approximate Dry Mass
Boulder	>200	Excluded from particle behaviour model as “oversize”	
Cobble	63 - 200		
Gravel ¹	2.36 - 63	Coarse	>65%
Sand ¹	0.075 - 2.36		
Silt	0.002 - 0.075	Fine	>35%
Clay	<0.002		

¹ – refer grain size subdivision descriptions below

The behaviour model boundaries defined above are not precise, and the material behaviour should be assumed from the name given to the material (which considers the particle fraction which dominates the behaviour, refer “component proportions” below), rather than strict observance of the proportions of particle sizes. For example, if a material is named a “Sandy CLAY”, this is indicative that the material exhibits fine grained behaviour, even if the dry mass of coarse grained material may exceed 65%.

Component proportions

The relative proportion of the dry mass of each particle size fraction is assessed to be a “primary”, “secondary”, or “minor” component of the soil mixture, depending on its influence over the soil behaviour.

Component Proportion Designation	Definition ¹	Relative Proportion	
		In Fine Grained Soil	In Coarse Grained Soil
Primary	The component (particle size designation, refer above) which dominates the engineering behaviour of the soil	The clay/silt component with the greater proportion	The sand/gravel component with the greater proportion
Secondary	Any component which is not the primary, but is significant to the engineering properties of the soil	Any component with greater than 30% proportion	Any granular component with greater than 30%; or Any fine component with greater than 12%
Minor ²	Present in the soil, but not significant to its engineering properties	All other components	All other components

¹ As defined in AS1726-2017 6.1.4.4

² In the detailed material description, minor components are split into two further sub-categories. Refer “identification of minor components” below.

Composite Materials

In certain situations, a lithology description may describe more than one material, for example, collectively describing a layer of interbedded sand and clay. In such a scenario, the two materials would be described independently, with the names preceded or followed by a statement describing the arrangement by which the materials co-exist. For example, “INTERBEDDED Silty CLAY AND SAND”.

Classification

The soil classification comprises a two character group symbol. The first character identifies the primary component. The second character identifies either the grading or presence of fines in a coarse grained soil, or the plasticity in a fine grained soil. Refer AS1726-2017 6.1.6 for further clarification.

Soil Name

For most soils, the name is derived with the primary component included as the noun (in upper case), preceded by any secondary components stated in an adjective form. In this way, the soil name also describes the general composition and indicates the dominant behaviour of the material.

Component ¹	Prominence in Soil Name
Primary	Noun (eg "CLAY")
Secondary	Adjective modifier (eg "Sandy")
Minor	No influence

¹ – for determination of component proportions, refer component proportions on previous page

For materials which cannot be disaggregated, or which are not comprised of rock or mineral fragments, the names "ORGANIC MATTER" or "ARTIFICIAL MATERIAL" may be used, in accordance with AS1726-2017 Table 14.

Commercial or colloquial names are not used for the soil name where a component derived name is possible (for example "Gravelly SAND" rather than "CRACKER DUST").

Materials of "fill" or "topsoil" origin are generally assigned a name derived from the primary/secondary component (where appropriate). In log descriptions this is preceded by uppercase "FILL" or "TOPSOIL". Origin uncertainty is indicated in the description by the characters (?), with the degree of uncertainty described (using the terms "probably" or "possibly" in the origin column, or at the end of the description).

Identification of minor components

Minor components are identified in the soil description immediately following the soil name. The minor component fraction is usually preceded with a term indicating the relative proportion of the component.

Minor Component Proportion Term	Relative Proportion	
	In Fine Grained Soil	In Coarse Grained Soil
With	All fractions: 15-30%	Clay/silt: 5-12% sand/gravel: 15-30%
Trace	All fractions: 0-15%	Clay/silt: 0-5% sand/gravel: 0-15%

The terms "with" and "trace" generally apply only to gravel or fine particle fractions. Where cobbles/boulders are encountered in minor proportions (generally less than about 12%) the term "occasional" may be used. This term describes the sporadic distribution of the material within the confines of the investigation excavation only, and there may be considerable variation in proportion over a wider area which is difficult to factually characterise due to the relative size of the particles and the investigation methods.

Soil Composition

Plasticity

Descriptive Term	Laboratory liquid limit range	
	Silt	Clay
Non-plastic materials	Not applicable	Not applicable
Low plasticity	≤50	≤35
Medium plasticity	Not applicable	>35 and ≤50
High plasticity	>50	>50

Note, Plasticity descriptions generally describe the plasticity behaviour of the whole of the fine grained soil, not individual fine grained fractions.

Grain Size

Type	Particle size (mm)	
	Coarse	Fine
Gravel	19 - 63	6.7 - 19
	Medium	2.36 - 6.7
	Fine	0.6 - 2.36
Sand	0.21 - 0.6	0.075 - 0.21

Grading

Grading Term	Particle size (mm)
Well	A good representation of all particle sizes
Poorly	An excess or deficiency of particular sizes within the specified range
Uniformly	Essentially of one size
Gap	A deficiency of a particular size or size range within the total range

Note, AS1726-2017 provides terminology for additional attributes not listed here.

Soil Condition

Moisture

The moisture condition of soils is assessed relative to the plastic limit for fine grained soils, while for coarse grained soils it is assessed based on the appearance and feel of the material. The moisture condition of a material is considered to be independent of stratigraphy (although commonly these are related), and this data is presented in its own column on logs.

Applicability	Term	Tactile Assessment	Abbreviation code
Fine	Dry of plastic limit	Hard and friable or powdery	w<PL
	Near plastic limit	Can be moulded	w=PL
	Wet of plastic limit	Water residue remains on hands when handling	w>PL
	Near liquid limit	"oozes" when agitated	w=LL
	Wet of liquid limit	"oozes"	w>LL
Coarse	Dry	Non-cohesive and free running	D
	Moist	Feels cool, darkened in colour, particles may stick together	M
	Wet	Feels cool, darkened in colour, particles may stick together, free water forms when handling	W

The abbreviation code **NDF**, meaning "not-assessable due to drilling fluid use" may also be used.

Note, observations relating to free ground water or drilling fluids are provided independent of soil moisture condition.

Consistency/Density/Compaction/Cementation/Extremely Weathered Material

These concepts give an indication of how the material may respond to applied forces (when considered in conjunction with other attributes of the soil). This behaviour can vary independent of the composition of the material, and on logs these are described in an independent column and are generally mutually exclusive (i.e it is inappropriate to describe both consistency and compaction at the same time). The method by which the behaviour is described depends on the behaviour model and other characteristics of the soil as follows:

- In fine grained soils, the "consistency" describes the ease with which the soil can be remoulded, and is generally correlated against the materials undrained shear strength;
- In granular materials, the relative density describes how tightly packed the particles are, and is generally correlated against the density index;
- In anthropogenically modified materials, the compaction of the material is described qualitatively;
- In cemented soils (both natural and anthropogenic), the cemented "strength" is described qualitatively, relative to the difficulty with which the material is disaggregated; and
- In soils of extremely weathered material origin, the engineering behaviour may be governed by relic rock features, and expected behaviour needs to be assessed based the overall material description.

Quantitative engineering performance of these materials may be determined by laboratory testing or estimated by correlated field tests (for example penetration or shear vane testing). In some cases, performance may be assessed by tactile or other subjective methods, in which case investigation logs will show the estimated value enclosed in round brackets, for example (VS).

Consistency (fine grained soils)

Consistency Term	Tactile Assessment	Undrained Shear Strength (kPa)	Abbreviation Code
Very soft	Extrudes between fingers when squeezed	<12	VS
Soft	Mouldable with light finger pressure	>12 - ≤25	S
Firm	Mouldable with strong finger pressure	>25 - ≤50	F
Stiff	Cannot be moulded by fingers	>50 - ≤100	St
Very stiff	Indented by thumbnail	>100 - ≤200	VSt
Hard	Indented by thumbnail with difficulty	>200	H
Friable	Easily crumbled or broken into small pieces by hand	-	Fr

Relative Density (coarse grained soils)

Relative Density Term	Density Index	Abbreviation Code
Very loose	<15	VL
Loose	>15 - ≤35	L
Medium dense	>35 - ≤65	MD
Dense	>65 - ≤85	D
Very dense	>85	VD

Note, tactile assessment of relative density is difficult, and generally requires penetration testing, hence a tactile assessment guide is not provided.

Soil Descriptions

Terminology
Symbols
Abbreviations

Compaction (anthropogenically modified soil)

Compaction Term	Abbreviation Code
Well compacted	WC
Poorly compacted	PC
Moderately compacted	MC
Variably compacted	VC

Cementation (natural and anthropogenic)

Cementation Term	Abbreviation Code
Moderately cemented	MOD
Weakly cemented	WEK

Extremely Weathered Material

AS1726-2017 considers weathered material to be soil if the unconfined compressive strength is less than 0.6 MPa (i.e. less than very low strength rock). These materials may be identified as “extremely weathered material” in reports and by the abbreviation code **XWM** on log sheets. This identification is not correlated to any specific qualitative or quantitative behaviour, and the engineering properties of this material must therefore be assessed according to engineering principles with reference to any relic rock structure, fabric, or texture described in the description.

Soil Origin

Term	Description	Abbreviation Code
Residual	Derived from in-situ weathering of the underlying rock	RS
Extremely weathered material	Formed from in-situ weathering of geological formations. Has strength of less than ‘very low’ as per as1726 but retains the structure or fabric of the parent rock.	XWM
Alluvial	Deposited by streams and rivers	ALV
Estuarine	Deposited in coastal estuaries	EST
Marine	Deposited in a marine environment	MAR
Lacustrine	Deposited in freshwater lakes	LAC
Aeolian	Carried and deposited by wind	AEO
Colluvial	Soil and rock debris transported down slopes by gravity	COL
Slopewash	Thin layers of soil and rock debris gradually and slowly deposited by gravity and possibly water	SW
Topsoil	Mantle of surface soil, often with high levels of organic material	TOP
Fill	Any material which has been moved by man	FILL
Littoral	Deposited on the lake or seashore	LIT
Unidentifiable	Not able to be identified	UID

Cobbles and Boulders

The presence of particles considered to be “oversize” may be described using one of the following strategies:

- Oversize encountered in a minor proportion (when considered relative to the wider area) are noted in the soil description; or
- Where a significant proportion of oversize is encountered, the cobbles/boulders are described independent of the soil description, in a similar manner to composite soils (described above) but qualified with “MIXTURE OF”.

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Rock Strength

Rock strength is defined by the unconfined compressive strength, and it refers to the strength of the rock substance and not the strength of the overall rock mass, which may be considerably weaker due to defects.

The Point Load Strength Index $I_{s(50)}$ is commonly used to provide an estimate of the rock strength and site specific correlations should be developed to allow UCS values to be determined. The point load strength test procedure is described by Australian Standard AS4133.4.1-2007. The terms used to describe rock strength are as follows:

Strength Term	Unconfined Compressive Strength (MPa)	Point Load Index ¹ $I_{s(50)}$ MPa	Abbreviation Code
Very low	0.6 - 2	0.03 - 0.1	VL
Low	2 - 6	0.1 - 0.3	L
Medium	6 - 20	0.3 - 1.0	M
High	20 - 60	1 - 3	H
Very high	60 - 200	3 - 10	VH
Extremely high	>200	>10	EH

¹ Rock strength classification is based on UCS. The UCS to $I_{s(50)}$ ratio varies significantly for different rock types and specific ratios may be required for each site. The point load Index ranges shown above are as suggested in AS1726 and should not be relied upon without supporting evidence.

The following abbreviation codes are used for soil layers or seams of material “within rock” but for which the equivalent UCS strength is less than 0.6 MPa.

Scenario	Abbreviation Code
The material encountered has an equivalent UCS strength of less than 0.6 MPa, and therefore is considered to be soil (as per Note 1 of Table 20 of AS 1726-2017). The properties of the material encountered over this interval are described in the “Description of Strata” and soil properties columns.	SOIL
The material encountered has an equivalent UCS strength of less than 0.6 MPa, and therefore is considered to be soil (as per Note 1 of Table 20 of AS 1726-2017). The prominence of the material is such that it can be considered to be a seam (as defined in Table 22 of AS1726-2017) and the properties of the material are described in the defect column.	SEAM

Degree of Weathering

The degree of weathering of rock is classified as follows:

Weathering Term	Description	Abbreviation Code
Residual Soil ¹	Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are no longer visible, but the soil has not been significantly transported.	RS
Extremely weathered ¹	Material is weathered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible	XW
Highly weathered	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is significantly changed by weathering. Some primary minerals have weathered to clay minerals. Porosity may be increased by leaching or may be decreased due to deposition of weathering products in pores.	HW
Moderately weathered	The whole of the rock material is discoloured, usually by iron staining or bleaching to the extent that the colour of the original rock is not recognisable but shows little or no change of strength from fresh rock.	MW
Slightly weathered	Rock is partially discoloured with staining or bleaching along joints but shows little or no change of strength from fresh rock.	SW
Fresh	No signs of decomposition or staining.	FR
Note: If HW and MW cannot be differentiated use DW (see below)		
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 weathered products in pores.	DW

¹ The parent rock type, of which the residual/extremely weathered material is a derivative, will be stated in the description (where discernible).

Degree of Alteration

The degree of alteration of the rock material (physical or chemical changes caused by hot gasses or liquids at depth) is classified as follows:

Term	Description	Abbreviation Code
Extremely altered	Material is altered to such an extent that it has soil properties. Mass structure and material texture and fabric of original rock are still visible.	XA
Highly altered	The whole of the rock material is discoloured, usually by staining or bleaching to the extent that the colour of the original rock is not recognisable. Rock strength is changed by alteration. Some primary minerals are altered to clay minerals. Porosity may be increased by leaching or may be decreased due to precipitation of secondary materials in pores.	HA
Moderately altered	The whole of the rock material is discoloured, usually by staining or bleaching to the extent that the colour of the original rock is not recognisable but shows little or no change of strength from fresh rock.	MA
Slightly altered	Rock is slightly discoloured but shows little or no change of strength from fresh rock	SA
Note: If HA and MA cannot be differentiated use DA (see below)		
Distinctly altered	Rock strength usually changed by alteration. The rock may be highly discoloured, usually by staining or bleaching. Porosity may be increased by leaching or may be decreased due to precipitation of secondary minerals in pores.	DA

Degree of Fracturing

The following descriptive classification apply to the spacing of natural occurring fractures in the rock mass. It includes bedding plane partings, joints and other defects, but excludes drilling breaks. These terms are generally not required on investigation logs where fracture spacing is presented as a histogram, and where used are presented in an unabbreviated format.

Term	Description
Fragmented	Fragments of <20 mm
Highly Fractured	Core lengths of 20-40 mm with occasional fragments
Fractured	Core lengths of 30-100 mm with occasional shorter and longer sections
Slightly Fractured	Core lengths of 300 mm or longer with occasional sections of 100-300 mm
Unbroken	Core contains very few fractures

Rock Quality Designation

The quality of the cored rock can be measured using the Rock Quality Designation (RQD) index, defined as:

$$RQD \% = \frac{\text{cumulative length of 'sound' core sections} > 100 \text{ mm long}}{\text{total drilled length of section being assessed}}$$

where 'sound' rock is assessed to be rock of low strength or stronger. The RQD applies only to natural fractures. If the core is broken by drilling or handling (i.e., drilling breaks) then the broken pieces are fitted back together and are not included in the calculation of RQD.

Stratification Spacing

These terms may be used to describe the spacing of bedding partings in sedimentary rocks. Where used, these terms are generally presented in an unabbreviated format

Term	Separation of Stratification Planes
Thinly laminated	< 6 mm
Laminated	6 mm to 20 mm
Very thinly bedded	20 mm to 60 mm
Thinly bedded	60 mm to 0.2 m
Medium bedded	0.2 m to 0.6 m
Thickly bedded	0.6 m to 2 m
Very thickly bedded	> 2 m

Rock Descriptions

Terminology
Symbols
Abbreviations

Defect Descriptions

Defect Type

Term	Abbreviation Code
Bedding plane	B
Infilled seam	IS
Cleavage	CV
Crushed zone	CZ
Decomposed seam	DS
Fault	F
Joint	JT
Lamination	LAM
Parting	P
Shear zone	SZ
Vein	VN
Drilling/handling break	DB , HB
Fracture	FC

Rock Defect Orientation

Term	Abbreviation Code
Horizontal	H
Vertical	V
Sub-horizontal	SH
Sub-vertical	SV

Rock Defect Coating

Term	Abbreviation Code
Clean	CN
Coating	CT
Healed	HE
Infilled	INF
Stained	SN
Tight	TI
Veneer	VNR

Rock Defect Infill

Term	Abbreviation Code
Calcite	CA
Carbonaceous	CBS
Clay	CLAY
Iron oxide	FE
Manganese	MN

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Rock Defect Shape/Planarity

Term	Abbreviation Code
Curved	CU
Irregular	IR
Planar	PR
Stepped	ST
Undulating	UN

Rock Defect Roughness

Term	Abbreviation Code
Polished	PO
Rough	RF
Slickensided	SL
Smooth	SM
Very rough	VR

Defect Orientation

The inclination of defects is always measured from the perpendicular to the core axis.

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Sampling and Testing

A record of samples retained, and field testing performed is usually shown on a Douglas Partners' log with samples appearing to the left of a depth scale, and selected field and laboratory testing (including results, where relevant) appearing to the right of the scale, as illustrated below:

SAMPLE			DEPTH (m)	TESTING	
SAMPLE REMARKS	TYPE	INTERVAL		TEST TYPE	RESULTS AND REMARKS
	SPT		1.0 1.45	SPT	4,9,11 N=20

Sampling

The type or intended purpose for which a sample was taken is indicated by the following abbreviation codes.

Sample Type	Code
Auger sample	A
Bulk sample	B
Core sample	C
Disturbed sample	D
Sample from SPT test	SPT
Environmental sample	ES
Gas sample	G
Undisturbed tube sample	U ¹
Water sample	W
Piston sample	P
Core sample for unconfined compressive strength testing	UCS
Material Sample	MT

¹ – numeric suffixes indicate tube diameter/width in mm

The above codes only indicate that a sample was retained, and not that testing was scheduled or performed.

Field and Laboratory Testing

A record that field and laboratory testing was performed is indicated by the following abbreviation codes.

Test Type	Code
Pocket penetrometer (kPa)	PP
Photo ionisation detector (ppm)	PID
Standard Penetration Test x/y = x blows for y mm penetration HB = hammer bouncing HW = fell under weight of hammer	SPT
Shear vane (kPa)	V
Unconfined compressive strength, (MPa)	UCS

Field and laboratory testing (continued)

Test Type	Code
Point load test, (MPa), axial (A), diametric (D), irregular (I)	PLT(L)
Dynamic cone penetrometer, followed by blow count penetration increment in mm (cone tip, generally in accordance with AS1289.6.3.2)	DCP/150
Perth sand penetrometer, followed by blow count penetration increment in mm (flat tip, generally in accordance with AS1289.6.3.3)	PSP/150

Groundwater Observations

▷	seepage/inflow
▽	standing or observed water level
NFGWO	no free groundwater observed
OBS	observations obscured by drilling fluids

Drilling or Excavation Methods/Tools

The drilling/excavation methods used to perform the investigation may be shown either in a dedicated column down the left-hand edge of the log, or stated in the log footer. In some circumstances abbreviation codes may be used.

Method	Abbreviation Code
Toothed bucket	TB ¹
Mud/blade bucket	MB ¹
Ripping tyne/ripper	R
Rock breaker/hydraulic hammer	RB
Hand auger	HA ¹
NMLC series coring	NMLC
HMLC series coring	HMLC
NQ coring	NQ3
HQ coring	HQ3
PQ coring	PQ3
Push tube	PT ¹
Rock roller	RR ¹
Solid flight auger. Suffixes: /T = tungsten carbide tip, /V = v-shaped tip	AD ¹
Sonic drilling	SON ¹
Vibrocore	VC ¹
Wash bore (unspecified bit type)	WB ¹
Existing exposure	X
Hand tools (unspecified)	HAND
Predrilled	PD
Diatube	DT ¹
Hollow flight auger	HSA ¹
Vacuum excavation	VE

¹ – numeric suffixes indicate tool diameter/width in mm

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.1 AHD
COORDINATE: E:311663.0, N:6265701.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH101
PROJECT No: 233937.00
DATE: 22/05/25
SHEET: 1 of 2

CONDITIONS ENCOUNTERED						SAMPLE			TESTING AND REMARKS	
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. (%)	DENSITY (%)	MOISTURE	REMARKS	TYPE	INTERVAL
RL (m)										
89	0.15	TOPSOIL / Silty CLAY trace rootlets trace gravel: dark brown; medium plasticity; fine to coarse, igneous and siltstone gravel; Topsoil Fill.	TS	TOP	ND					
		FILL / CLAY with gravel: brown; medium plasticity; fine to coarse, igneous and siltstone gravel.		FILL	PC to MC		w=PL			
88	1									
1.60		CLAY (CI): pale grey and orange-brown; medium plasticity.		XWM	H					
1.80										
2.10		SILTSTONE: dark grey and orange-brown; inferred very low strength, generally iron stained. Ashfield shale.			NA		NA			
2.10		Continued as rock log								
3										
86										
4										
85										
5										
84										
6										
83										
7										
82										
8										
81										
9										
80										

NOTES: #Soil origin is "probable" unless otherwise stated. %Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Geo205 **OPERATOR:** Terratest (K.Mccorron) **LOGGED:** R.Muller
METHOD: SFA (115mm) to 2.0m, NMLC to 7.2m **CASING:** HWT to 2.3m
REMARKS: Grass cover at surface

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.1 AHD
COORDINATE: E:311663.0, N:6265701.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH101
PROJECT No: 233937.00
DATE: 22/05/25
SHEET: 2 of 2

[illegible]

PLANT: Geo205
METHOD: SFA (115mm) to 2.0m, NMLC to 7.2m
REMARKS: Grass cover at surface

OPERATOR: Terratest (K.Mccorron)

LOGGED: R.Muller
CASING: HWT to 2.3m

CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.1 AHD
COORDINATE: E:311663.0, N:6265701.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH101
PROJECT No: 233937.00
DATE: 22/05/25
SHEET: 1 of 1



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.5 AHD
COORDINATE: E:311688.0, N:6265684.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH102
PROJECT No: 233937.00
DATE: 23/05/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED														SAMPLE				TESTING AND REMARKS			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS							
23/05/25 No Free Groundwater	Observed Whilst Augering	0.15	CONCRETE: 150mm thick.			NA		NA		C	0.15	0.15	DCP9/150		41/100mm						
		0.20	8mm diameter biaxial mesh at 75mm depth.		FILL			D		0.20											
			FILL / SAND: yellow-brown; fine to medium.			MC		M		D	0.30										
		0.40	FILL / Gravelly SAND: dark grey; fine to coarse; fine to coarse, igneous gravel.					D		0.40											
			CLAY (CI): pale grey; medium plasticity.		XWM	H	w=PL	D		0.50											
		0.60	SILTSTONE: grey; inferred very low strength, with clay seams. Ashfield Shale.			NA	NA	D		0.60											
			Borehole discontinued at 0.70m depth. Hand Auger Refusal.							0.70											
		1																			



NOTES: #Soil origin is "probable" unless otherwise stated. %Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: **OPERATOR:** R.Muller **LOGGED:** R.Muller
METHOD: Diatube (175mm) to 0.15m, Hand Auger (75mm) to 0.7m **CASING:** Uncased
REMARKS:

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.3 AHD
COORDINATE: E:311720.0, N:6265677.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH103
PROJECT No: 233937.00
DATE: 23/05/25
SHEET: 1 of 1

GROUNDWATER		CONDITIONS ENCOUNTERED						SAMPLE			TESTING AND REMARKS			
	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*) 	DENSITY. ^(*) 	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
Whilst Augering	89	0.30	TOPSOIL / Silty CLAY trace rootlets: brown; medium plasticity; Topsoil Fill.	TS TS										

NOTES: ^(#) Soil origin is "probable" unless otherwise stated. ^(†) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT:
METHOD: Hand Auger (75mm) to 0.5m
REMARKS: Grass cover at surface

OPERATOR: R.Muller

LOGGED: R.Muller
CASING: Uncased

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.5 AHD
COORDINATE: E:311723.0, N:6265653.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH104
PROJECT No: 233937.00
DATE: 23/05/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED															SAMPLE			TESTING AND REMARKS										
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS														
23/05/25 No Free Groundwater Observed Whilst Augering	89	0.15	CONCRETE: 150mm thick.			NA	NA	NA		C		0.15																
		0.20	8mm diameter biaxial mesh at 90mm depth.												FILL	D	0.20											
			FILL / SAND: yellow-brown; fine to medium.															ND	M	0.30								
			FILL / Gravelly SAND: dark grey; fine to coarse; fine to coarse, igneous gravel.																		w=PL	0.40						
		0.40																					D	0.53				
		0.50	FILL / CLAY with gravel: brown; medium plasticity; fine to coarse, igneous and siltstone gravel.																						D			
			SILTSTONE: grey and red-brown; inferred very low to low strength. Ashfield Shale.																							D		
			Borehole discontinued at 0.53m depth.																								D	
			Hand Auger Refusal.																									D
		1																										
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NOTES: #Soil origin is "probable" unless otherwise stated. °Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT:
METHOD: Diatube (175mm) to 0.15m, Hand Auger (75mm) to 0.53m
REMARKS:

OPERATOR: R.Muller

LOGGED: R.Muller
CASING: Uncased

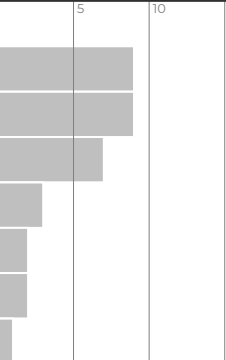
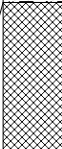
Refer to explanatory notes for symbol and abbreviation definitions

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.5 AHD
COORDINATE: E:311672.0, N:6265664.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH105
PROJECT No: 233937.00
DATE: 23/05/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED							SAMPLE			TESTING AND REMARKS				
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*) DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	
23/05/25 ▼	89	0.22	TILE: 5mm thick. CONCRETE: 215mm thick. 8mm diameter biaxial mesh at 120mm depth.			NA	NA		C		0.22	DCP9/150 		
			FILL / Gravelly SAND: dark grey; fine to coarse; fine to coarse, igneous gravel.			MC	M		D		0.30			
									D		0.40			
										0.50				
										0.90				
		1				PC	W		D		1.00			
		88	1.60	CLAY: pale grey; medium to high plasticity.						D		1.40		
											1.50			
											1.60			
		2				RS	(St) to (VSt)	w=PL		B		2		
		87	3									3		
	86	3.20	SILTSTONE: dark grey and orange-brown; inferred very low strength.			NA	NA		D		3.40			
											3.50			
											3.90			
	85	4	Borehole discontinued at 4.00m depth.						D		4.00			

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: #Soil origin is "probable" unless otherwise stated. °Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: XC
METHOD: Diatube (175mm) to 0.22m, SFA (115mm) to 4.0m
REMARKS:

OPERATOR: Terratest (J.Wright)

LOGGED: R.Muller
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.5 AHD
COORDINATE: E:311700.0, N:6265636.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH106
PROJECT No: 233937.00
DATE: 23/05/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED										SAMPLE			TESTING AND REMARKS				
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS				
RL (m)	TEST TYPE												5	10	15		
23/05/25 No Free Groundwater Observed Whilst Augering	0.17	TILE: 5mm thick. CONCRETE: 165mm thick. 10mm biaxial mesh at 70mm depth.			NA	NA			C		0.17	DCP9/150					
	0.30								D		0.30						
	0.40								D		0.40						
	0.50		FILL	(MC)	M	D	0.50										
	0.90					D	0.90										
	1.00					D	1.00										
	1.40					D	1.40										
	1.50					D	1.50										
	1.60	CLAY (CI-CH): pale grey mottled yellow-brown; medium to high plasticity.				w=PL			B	1.60							
	2									RS	(St) to (VSt)						2
	3																3
	3.10	SILTSTONE: dark grey and orange-brown; apparently very low strength, generally iron stained. Ashfield Shale.			NA	NA			D	3.10							
	3.40								D	3.40							
	3.50	Borehole discontinued at 3.50m depth.															
4																	
5																	

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: #Soil origin is "probable" unless otherwise stated. °Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: XC
METHOD: Diatube (175mm) to 0.17m, SFA (115mm) to 3.5m
REMARKS:

OPERATOR: Terratest (J.Wright)

LOGGED: R.Muller
CASING: Uncased

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.1 AHD
COORDINATE: E:311636.0, N:6265662.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH107
PROJECT No: 233937.00
DATE: 21/05/25
SHEET: 1 of 3

CONDITIONS ENCOUNTERED						SAMPLE			TESTING AND REMARKS			
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*) DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
21/05/25 No Free Groundwater Observed Whilst Augering	0.15	TOPSOIL / Silty CLAY trace rootlets trace gravel: dark brown; medium plasticity; fine to coarse, igneous and siltstone gravel; Topsoil Fill.	TS	TOP	ND	w=PL		D	0.10			
					(MC)			D	0.40			
								D	0.50			
	1	FILL / CLAY with gravel: brown; medium plasticity; fine to coarse, igneous and siltstone gravel.						D	0.90			
								D	1.00			
								D	1.40			
								D	1.50			
	2							D	1.90			
								D	2.00			
	4.10	CLAY (CI-CH): pale grey mottled yellow-brown; medium to high plasticity.		RS	VSt	w=PL					SPT	4,7,13 N=20
	4.70	SILTSTONE: orange-brown and red-brown; iron stained, with clay seams, inferred very low strength. Ashfield shale.			NA	NA					SPT	4,16,27 N=43
	4.95	Continued as rock log										
	6											
	7											
	8											
	9											

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: #Soil origin is "probable" unless otherwise stated. °Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Geo205
METHOD: SFA (115mm) to 4.95m, NMLC to 10.42m
REMARKS: Grass cover at surface

OPERATOR: Terratest (K.Mccorron)

LOGGED: R.Muller
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.1 AHD
COORDINATE: E:311636.0, N:6265662.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH107
PROJECT No: 233937.00
DATE: 21/05/25
SHEET: 2 of 3

CONDITIONS ENCOUNTERED														SAMPLE				TESTING				
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
21/05/25 No Free Groundwater Observed Whilst Augering	89																					
		1																1				
																		2				
		2																				
																		3				
		3																				
																		4				
		4																				
		5		Continued from soil log SILTSTONE: dark grey; 1-5% fine grain pale grey sandstone laminations, occasional iron staining. Ashfield shale.				XW	4.98	SEAM	100	0	SEAM	4.98-5.30m: EW								
							SW	5.30	L				5.68m: JT, 70°, PR, TI				PLT	PL(A)=0.21MPa				
													5.77m: JT, 20°, UN, VNR Clay				PLT	PL(A)=0.28MPa				
							HW	6.00	VL				5.80m: JT, 60°, TI				PLT	PL(A)=0.14MPa				
													5.88m: JT, 60°, UN, SN Fe									
													5.97m: JT, 20°, PR, SN Fe									
													6.09-6.26m JT x5, 30°, PR, INF Clay, 1mm									
							MW	6.30	L	100	40		6.30m: JT, 10°, UN, VNR Clay									
													6.36-6.42m JT x3, 0-50°, CU, INF Clay, 2mm				PLT	PL(A)=0.21MPa				
													6.53m JT, 10°, PR, CN									

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Geo205
METHOD: SFA (115mm) to 4.95m, NMLC to 10.42m
REMARKS: Grass cover at surface

OPERATOR: Terratest (K.Mccorron)

LOGGED: R.Muller
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.1 AHD
COORDINATE: E:311636.0, N:6265662.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH107
PROJECT No: 233937.00
DATE: 21/05/25
SHEET: 3 of 3

GROUNDWATER		CONDITIONS ENCOUNTERED											SAMPLE			TESTING							
RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)		SOIL MOISTURE		GRAPHIC	WEATH.		DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
			PS	SW	HW	DW		NW	SW														
79		[CONT] SILTSTONE: dark grey; 1-5% fine grain pale grey sandstone laminations. Ashfield shale. Borehole discontinued at 10.42m depth.		FR				H	100	98		10.03-10.06m: JT x2,15°, UN, CN Fe								PLT	PL(A)=2.3MPa		
78	11																						
77	12																						
76	13																						
75	14																						
74	15																						
73	16																						
72	17																						
71	18																						
70	19																						

NOTES: [#]Soil origin is "probable" unless otherwise stated.

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Geo205
METHOD: SFA (115mm) to 4.95m, NMLC to 10.42m
REMARKS: Grass cover at surface

OPERATOR: Terratest (K.Mccorron)

LOGGED: R.Muller
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions



CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.1 AHD
COORDINATE: E:311636.0, N:6265662.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH107
PROJECT No: 233937.00
DATE: 21/05/25
SHEET: 1 of 1



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.5 AHD
COORDINATE: E:311678.0, N:6265638.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH108
PROJECT No: 233937.00
DATE: 23/05/25
SHEET: 1 of 1

CONDITIONS ENCOUNTERED							SAMPLE			TESTING AND REMARKS											
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS								
RL (m)	TEST TYPE												5	10	15						
23/05/25 No Free Groundwater Observed Whilst Augering	0.05	PAVER: 50mm thick.		FILL	PC	NA	M		D	0.05-0.10	0.05	DCP9/150									
	0.10	FILL / SAND: yellow-brown; fine to medium.																			
	0.25	FILL / CLAY with gravel: brown; medium plasticity; fine to coarse, igneous and siltstone gravel.																			
	0.30																				
	0.40																				
	0.50																				
	0.90																				
	1.00																				
	1.40																				
	1.50																				
	1.90	CLAY (CI-CH): pale grey mottled yellow-brown; medium to high plasticity.																			
	2																				
Borehole discontinued at 3.50m depth.	3.00	SILTSTONE: red-brown; inferred very low strength, iron stained. Ashfield shale.												RS	(St) to (VSt)	NA	NA		D	3.00-3.10	3.00
	3.10																				
	3.40																				
	3.50																				
Borehole discontinued at 3.50m depth.	4																				
	85																				

NOTES: ^(#) Soil origin is "probable" unless otherwise stated. ^(*) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: #Soil origin is "probable" unless otherwise stated. °Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: XC
METHOD: Hand Tools to 0.05m, SFA (115mm) to 3.5m
REMARKS:

OPERATOR: Terratest (J.Wright)

LOGGED: R.Muller
CASING: Uncased

Refer to explanatory notes for symbol and abbreviation definitions

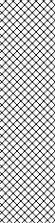


BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 88.7 AHD
COORDINATE: E:311627.0, N:6265644.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH109
PROJECT No: 233937.00
DATE: 21/05/25
SHEET: 1 of 2

GROUNDWATER	CONDITIONS ENCOUNTERED					SAMPLE			TESTING AND REMARKS						
	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	
21/05/25 No Free Groundwater Observed Whilst Augering	88	0.15	TOPSOIL / Silty CLAY trace rootlets trace gravel: dark brown; medium plasticity; fine to coarse, igneous and siltstone gravel; Topsoil Fill.		TS	TOP	ND	w=PL			D	0.10			
											D	0.40 0.50			
											D	0.90 1.00			
	87	1	FILL / CLAY with gravel: brown; medium plasticity; fine to coarse, igneous and siltstone gravel.			(MC)		w=PL						SPT	4,7,9 N=16
	86	2			FILL						D	1.90 2.00			
	85	3												SPT	2,9,14 N=23
	84	4									D	3.90 4.00			
		4.20	CLAY (Cl-CH): pale grey mottled yellow-brown; medium to high plasticity.											SPT	1,5,7 N=12
									</						

NOTES: ^(#)Soil origin is "probable" unless otherwise stated. ^(†)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Geo205

OPERATOR: Terratest (K.Mccorron)

LOGGED: R.Muller

METHOD: SFA (115mm) to 5.5m, NMLC to 9.96m

CASING: HWT to 5.6m

REMARKS: Water added to hole from 2.5m to aid with hole collapse
Grass cover at surface

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 88.7 AHD
COORDINATE: E:311627.0, N:6265644.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH109
PROJECT No: 233937.00
DATE: 21/05/25
SHEET: 2 of 2

CONDITIONS ENCOUNTERED														SAMPLE				TESTING			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
							RS XW HW MW SW FR		VL L M H VH												
21/05/25 No Free Groundwater Observed Whilst Augering																					
	88	1																			
	87	2																			
	86	3																			
	85	4																			
	84	5																			
	83	6	Continued from soil log SILTSTONE: dark grey; 5-20% fine grain pale grey sandstone laminations, occasional iron staining. Ashfield shale.				XW SW XW	5.52 5.61 5.76 5.84	SEAM M SEAM	100	29	SEAM SEAM	5.52-5.61m: CS, 90mm 5.76-5.84m: EW, 80mm					PLT	PL(A)=0.55MPa		

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Geo205
METHOD: SFA (115mm) to 5.5m, NMLC to 9.96m
REMARKS: Water added to hole from 2.5m to aid with hole collapse
Grass cover at surface

OPERATOR: Terratest (K.Mccorron)

LOGGED: R.Muller
CASING: HWT to 5.6m

Refer to explanatory notes for symbol and abbreviation definitions



CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 88.7 AHD
COORDINATE: E:311627.0, N:6265644.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH109
PROJECT No: 233937.00
DATE: 21/05/25
SHEET: 1 of 1



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.0 AHD
COORDINATE: E:311663.0, N:6265608.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH110
PROJECT No: 233937.00
DATE: 20/05/25
SHEET: 1 of 3

CONDITIONS ENCOUNTERED							SAMPLE			TESTING AND REMARKS							
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ⁽¹⁾ DENSITY. ⁽¹⁾	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE		
▼ 20/05/25		0.15	TOPSOIL / Silty CLAY trace rootlets trace gravel: dark brown; medium plasticity; fine to coarse, igneous and siltstone gravel; Topsoil Fill.		TS	TOP	ND	w=PL									
							(MC)			D	0.40 0.50						
		1	FILL / CLAY with gravel: brown; medium plasticity; fine to coarse, igneous and siltstone gravel.					w=PL				1	SPT	4,4,5 N=9			
							MC										
		2								D	1.90 2.00						
							FILL										
		3					PC	w>PL				3	SPT	0,1,2 N=3			
		4										4					
			4.50	CLAY (CI-CH): grey pale grey mottled yellow-brown; medium to high plasticity.				F to St			D	4.40 4.50		SPT	3,3,4 N=7		
			5				RS	w=PL			B						
								VSt				6	SPT	6,13,19 N=32			
			6.40	SILTSTONE: grey and red-brown; inferred very low strength, iron stained. Ashfield shale.				NA	NA			6.40					
			7									7	SPT	24,25,25 N=50			
			7.50	Continued as rock log													
		8									8						
		9									9						

Gravel

NOTES: #Soil origin is "probable" unless otherwise stated. °Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Geo205
METHOD: SFA (115mm) to 7.0m, NMLC to 10.5m
REMARKS: Grass cover at surface

OPERATOR: Terratest (K.Mccorron)

LOGGED: R.Muller
CASING: HWT to 7.1m

Refer to explanatory notes for symbol and abbreviation definitions

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.0 AHD
COORDINATE: E:311663.0, N:6265608.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH110
PROJECT No: 233937.00
DATE: 20/05/25
SHEET: 2 of 3

[illegible]

PLANT: Geo205
METHOD: SFA (115mm) to 7.0m, NMLC to 10.5m
REMARKS: Grass cover at surface

OPERATOR: Terratest (K.Mccorron)

LOGGED: R.Muller
CASING: HWT to 7.1m

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.0 AHD
COORDINATE: E:311663.0, N:6265608.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH110
PROJECT No: 233937.00
DATE: 20/05/25
SHEET: 3 of 3

GROUNDWATER		CONDITIONS ENCOUNTERED															SAMPLE			TESTING			
RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)		GRAPHIC	WEATH.			DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
			SOIL STRENGTH	SOIL MOISTURE		PS	SW	DW															FR
		[CONT] SILTSTONE: dark grey; 5-15% fine grain, pale grey sandstone laminations, occasional iron staining. Ashfield shale.				SW			H		100	66		10.07-10.15m: JT x3, 10° 10.21-10.25m: JT x3, 0-50°, CU					PLT	PL(A)=1.3MPa	Gravel		
78	11	Borehole discontinued at 10.50m depth.																					
77	12																						
76	13																						
75	14																						
74	15																						
73	16																						
72	17																						
71	18																						
70	19																						

NOTES: [Ⓘ]Soil origin is "probable" unless otherwise stated.

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Geo205
METHOD: SFA (115mm) to 7.0m, NMLC to 10.5m
REMARKS: Grass cover at surface

OPERATOR: Terratest (K.Mccorron)

LOGGED: R.Muller
CASING: HWT to 7.1m



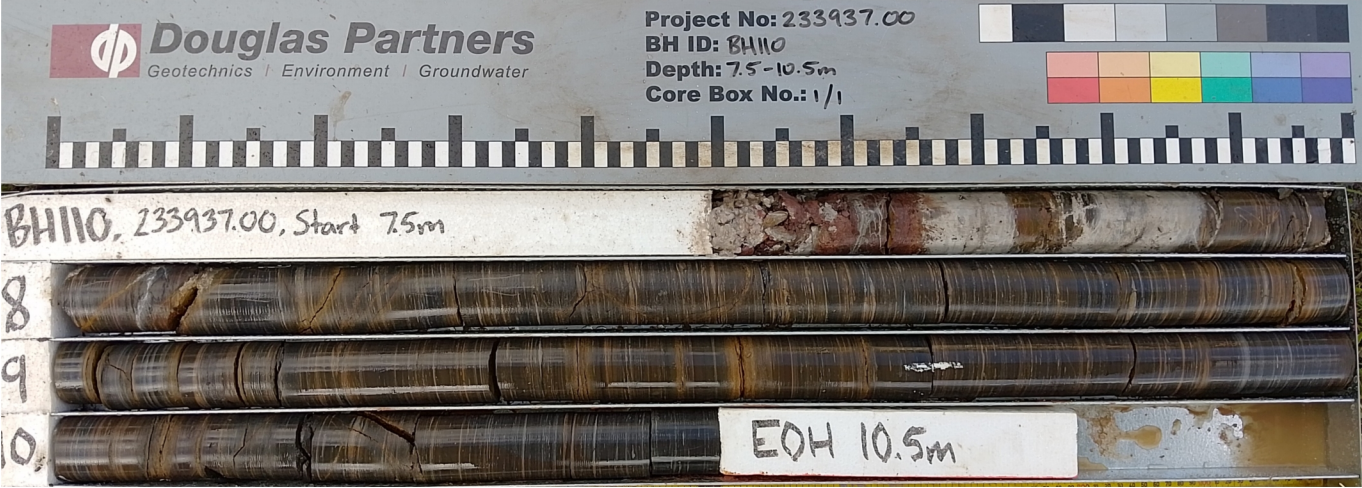
Refer to explanatory notes for symbol and abbreviation definitions

CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.0 AHD
COORDINATE: E:311663.0, N:6265608.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH110
PROJECT No: 233937.00
DATE: 20/05/25
SHEET: 1 of 1



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 95.1 AHD
COORDINATE: E:311737.8, N:6265699.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH201
PROJECT No: 233937.00
DATE: 11/07/25
SHEET: 1 of 3

CONDITIONS ENCOUNTERED							SAMPLE			TESTING AND REMARKS			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(%)	CONSIS. ^(*) DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
11/07/25 No Free Groundwater Observed While Augering	95	0.20	TOPSOIL / Silty CLAY trace grass roots: grey-brown; medium plasticity.		TS	TOP	ND	M		A	0.10		SPT 11,18,25/120 R
			CLAY (CH): brown; high plasticity.		RS	(St)	w=PL			A	0.40 0.50		
		0.55	CLAY (CI): pale grey-brown; medium plasticity.							A	0.90 1.00		
	94	1			XWM	VS _t to H	w<PL		SPT		1.42		
		2.00	Continued as rock log								2		
		3									3		
		4									4		
		5									5		
		6									6		
		7									7		
		8									8		
		9									9		

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: [®]Soil origin is "probable" unless otherwise stated. [°]Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 15.67m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 1m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 95.1 AHD
COORDINATE: E:311737.8, N:6265699.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH201
PROJECT No: 233937.00
DATE: 11/07/25
SHEET: 2 of 3

GROUNDWATER	CONDITIONS ENCOUNTERED										SAMPLE				TESTING						
	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered) SOIL MOISTURE	GRAPHIC	FR XW HW MW SW FR	WEATH. DW LW SW FR	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
11/07/25 No Free Groundwater Observed While Augering	95																				
		1																			
		2	Continued from soil log SILTSTONE: grey-brown; 50% clay, Ashfield Shale.																		
	2.30																				
		3																			
		3																			
		4																			
		4																			
		5	SILTSTONE: grey-brown; Ashfield Shale.																		
		5																			
		6	SILTSTONE: grey to dark grey; with 5% sandstone laminations. Ashfield Shale.																		
	6																				
	7																				
	7																				
	8																				
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NOTES: (M) Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 15.67m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 1m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 95.1 AHD
COORDINATE: E:311737.8, N:6265699.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH201
PROJECT No: 233937.00
DATE: 11/07/25
SHEET: 3 of 3

CONDITIONS ENCOUNTERED													SAMPLE			TESTING							
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered) SOIL MOISTURE	GRAPHIC	FS XW HW MW SW FR	WEATH. DW	DEPTH (m)	VL L M H VH	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
	85		[CONT] SILTSTONE: grey to dark grey; with 5% sandstone laminations. Ashfield Shale.																	PLT	PL(A)=0.60MPa		
	84	11									100	100							11	PLT	PL(A)=0.65MPa		
	83	12																	12	PLT	PL(A)=0.72MPa		
	82	13						13.00						12.50m: JT, 60°, PR, 50mm, SM, FG, SZ 12.70-13.10m: JT, 85°, UN, CN, RF 13.15m: JT, 45°, PR, CN, SM 13.30m: JT, 45°, PR, CN, SM 13.30-13.50m: , fault zone 13.45m: F, 30° 13.50m: JT, 45-70°, CU, TI, SM				13	PLT	PL(A)=1.1MPa			
	81	14									100	97							14	PLT	PL(A)=2.5MPa		
	80	15	13.30m-13.50m: Irregular / disturbed bedding																15	PLT	PL(A)=2.5MPa		
	79	16	Borehole discontinued at 15.67m depth. Target depth reached.																				
	78	17																					
	77	18																					
	76	19																					

NOTES: *Soil origin is "probable" unless otherwise stated.

NOTES: *Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 15.67m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

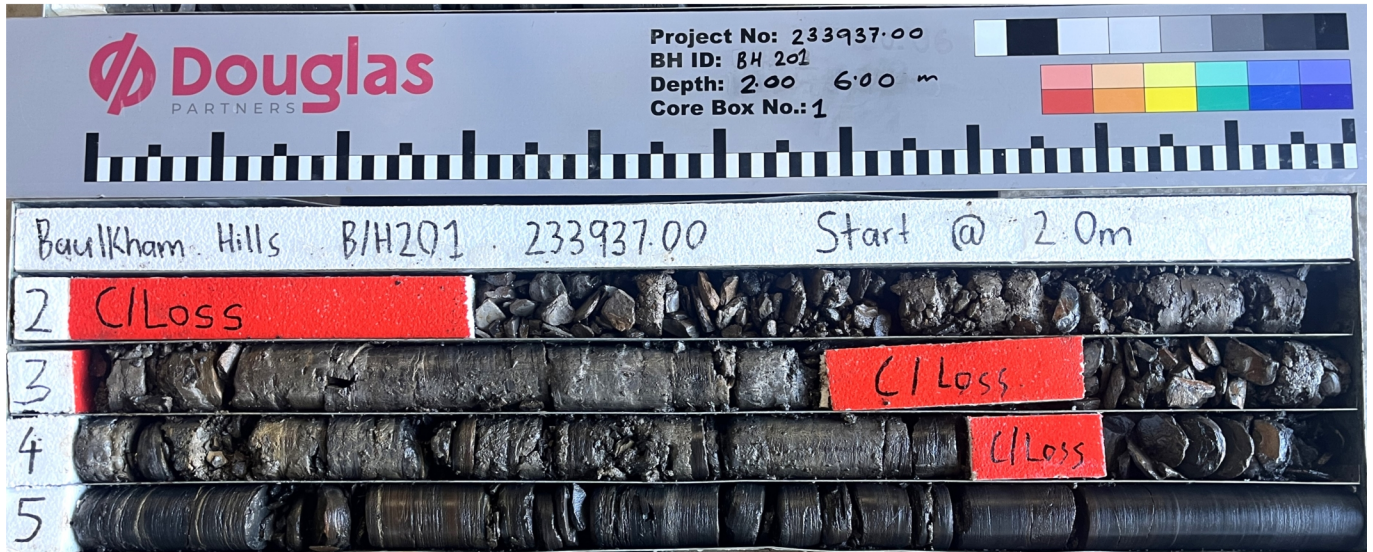
LOGGED: S. Islam
CASING: HW to 1m

CORE PHOTO LOG

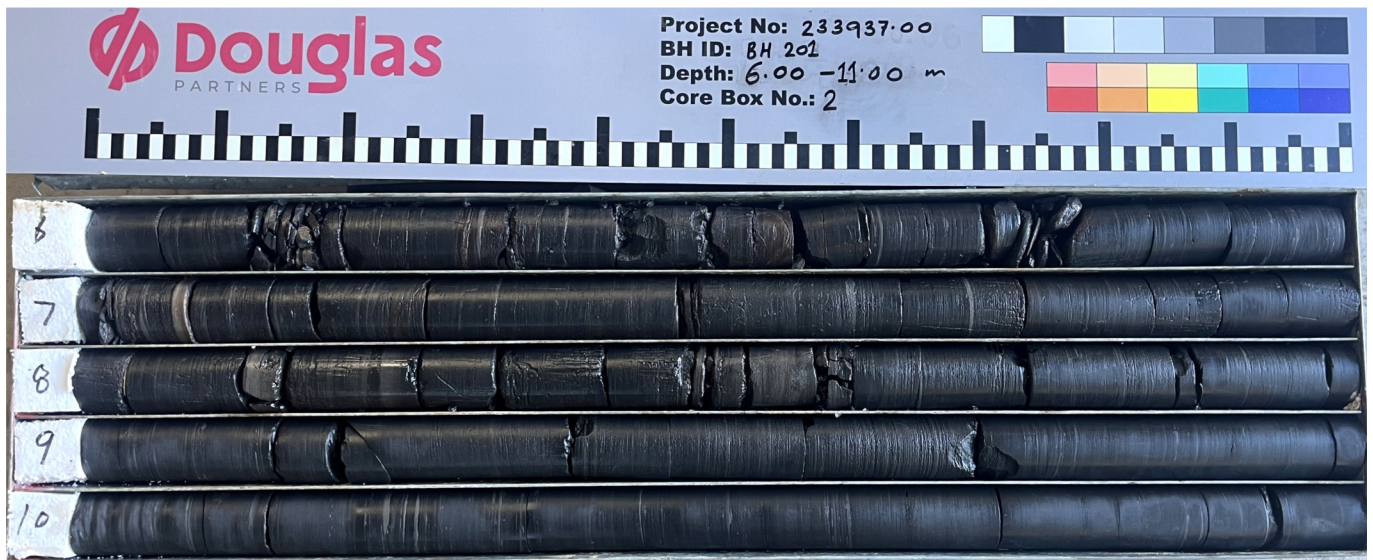
CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 95.1 AHD
COORDINATE: E:311737.8, N:6265699.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH201
PROJECT No: 233937.00
DATE: 11/07/25
SHEET: 1 of 2



2.00-6.00 m depth



6.00-11.00 m depth

CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 95.1 AHD
COORDINATE: E:311737.8, N:6265699.8
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH201
PROJECT No: 233937.00
DATE: 11/07/25
SHEET: 2 of 2



11.00-15.67 m depth

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 96.0 AHD
COORDINATE: E:311773.0, N:6265685.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH202
PROJECT No: 233937.00
DATE: 17/07/25
SHEET: 1 of 3

CONDITIONS ENCOUNTERED							SAMPLE				TESTING AND REMARKS					
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN (#)	CONSIS. ^(*) DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
17/07/25 No Free Groundwater Observed Whilst Augering		0.02	ASPHALTIC CONCRETE; 20 mm thick.		FILL	(WC)	M		A		0.10		25/130 R			
		0.25	FILL / GRAVEL; fine to medium, angular, igneous.		RS	(St)	w=PL		A		0.40					
			CLAY (CH): orange-brown; high plasticity.						B		0.50					
		0.60	SILTSTONE: grey-brown; inferred very low strength.						A		0.90					
			Ashfield Shale.		NA	NA	NA		SPT		1.00					
											1.13					
		1.60	Continued as rock log													
		2														
		3														
		4														
		5														
	6															
	7															
	8															
	9															

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: ^(a)Soil origin is "probable" unless otherwise stated. ^(b)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 1.6m, NMLC to 15.10m
REMARKS:

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 1m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 96.0 AHD
COORDINATE: E:311773.0, N:6265685.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH202
PROJECT No: 233937.00
DATE: 17/07/25
SHEET: 2 of 3

GROUNDWATER	CONDITIONS ENCOUNTERED													SAMPLE			TESTING						
	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (kN/m ²) SOIL MOISTURE	GRAPHIC	FS XW HW MW SW FR	WEATH. DW LW SW FR	DEPTH (m)	STRENGTH VL L M H VH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE		
17/07/25 No Free Groundwater Observed Whilst Augering	95	1																1					
			Continued from soil log																				
			SILTSTONE: grey-brown. Ashfield Shale.																				
	94	2.00				HW		2.00	VL				2.00-2.12m: FG				2						
						XW		2.12					2.12-2.35m: , Clay										
	2.35		SILTSTONE: grey-brown; 10% clay seams. Ashfield Shale.					2.35	SEAM														
						HW			VL L	61	55		2.35-2.95m: B x6, 0°, Clay, 2-5mm						PLT	PL(A)=0.11MPa			
	93	3																					
			SILTSTONE: dark grey; with 5% fine sandstone laminations;. Ashfield Shale.						3.30					3.70-3.85m: FG						PLT	PL(A)=0.35MPa		
	92	4				MW			L M				4.05m: JT, 70°, UN, SN Fe, RF										
									4.25				4.25-4.90m: B x3, 0°, CT Clay, 2-3mm						PLT	PL(A)=0.56MPa			
	91	5				SW				100	95									PLT	PL(A)=0.82MPa		
													5.75m: JT, 45°, PR, CN, SM										
	90	6											5.95m: B, 0°, Clay 2mm										
													6.22m: JT, 45°, PR, Clay, SM										
													6.40m: JT, 70°, PR, SN Fe, RF, Clay, 10mm										
										M			6.70-6.73m: FG, CBS, shale						PLT	PL(A)=0.67MPa			
89	7											6.75m: JT, 45°, PR, CN, SM											
												7.50m: JT, 45°, PR, CN, SM						PLT	PL(A)=0.68MPa				
88	8				FR					100	97												
													8.40-8.45m: FG						PLT	PL(A)=0.69MPa			
													8.85m: JT, 30°, PR, 150mm, SM, siderite band						PLT	PL(A)=3.2MPa			
87	9	8.85m-9.00m: fine grained sandstone bed						8.85	VH														
								9.00												PLT	PL(A)=0.72MPa		
									M	100	100												
NOTES: 1)Soil origin is "probable" unless otherwise stated.																							

NOTES: (M) Soil origin is "probable" unless otherwise stated

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 1.6m, NMLC to 15.10m
REMARKS:

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 1m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 96.0 AHD
COORDINATE: E:311773.0, N:6265685.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH202
PROJECT No: 233937.00
DATE: 17/07/25
SHEET: 3 of 3

CONDITIONS ENCOUNTERED													SAMPLE			TESTING				
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered) SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
			[CONT] SILTSTONE: dark grey; with 5% fine sandstone laminations;. Ashfield Shale.																	
	85	11										10.50m: FG, 0°, 10mm, B					PLT	PL(A)=0.66MPa		
									100	100		11.30m: FG, 0°, 5mm, B					PLT	PL(A)=0.63MPa		
	84	12										12.40m: JT, 45°, UN, CN, RF					PLT	PL(A)=0.38MPa		
	83	13					13.00													
	13.80	14	SILTSTONE: dark grey; with 10-20% pale grey fine grained sandstone. Ashfield Shale.				13.80		100	100		14.85m: JT, 45°, PR, CN, SM					PLT	PL(A)=3.0MPa		
	81	15															PLT	PL(A)=2.0MPa		
			Borehole discontinued at 15.10m depth. Target depth reached.																	
	80	16																		
	79	17																		
	78	18																		
	77	19																		

NOTES: *Soil origin is "probable" unless otherwise stated.

NOTES: *Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 1.6m, NMLC to 15.10m
REMARKS:

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 1m

CORE PHOTO LOG

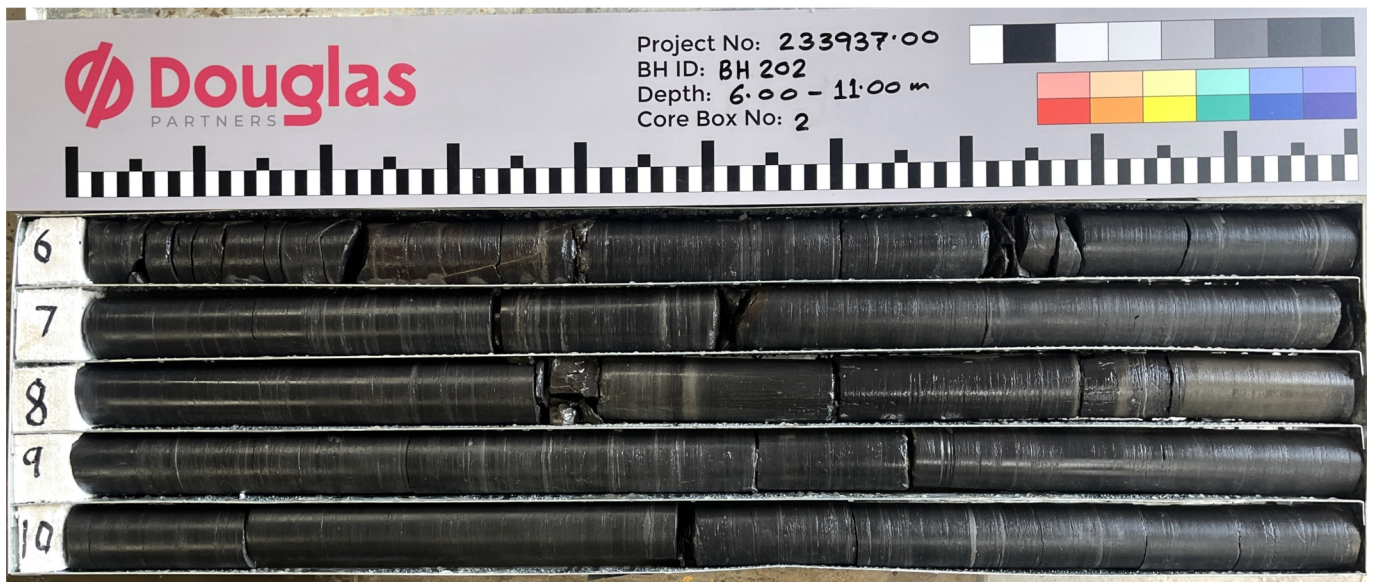
CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 96.0 AHD
COORDINATE: E:311773.0, N:6265685.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH202
PROJECT No: 233937.00
DATE: 17/07/25
SHEET: 1 of 2



1.60-6.00 m depth



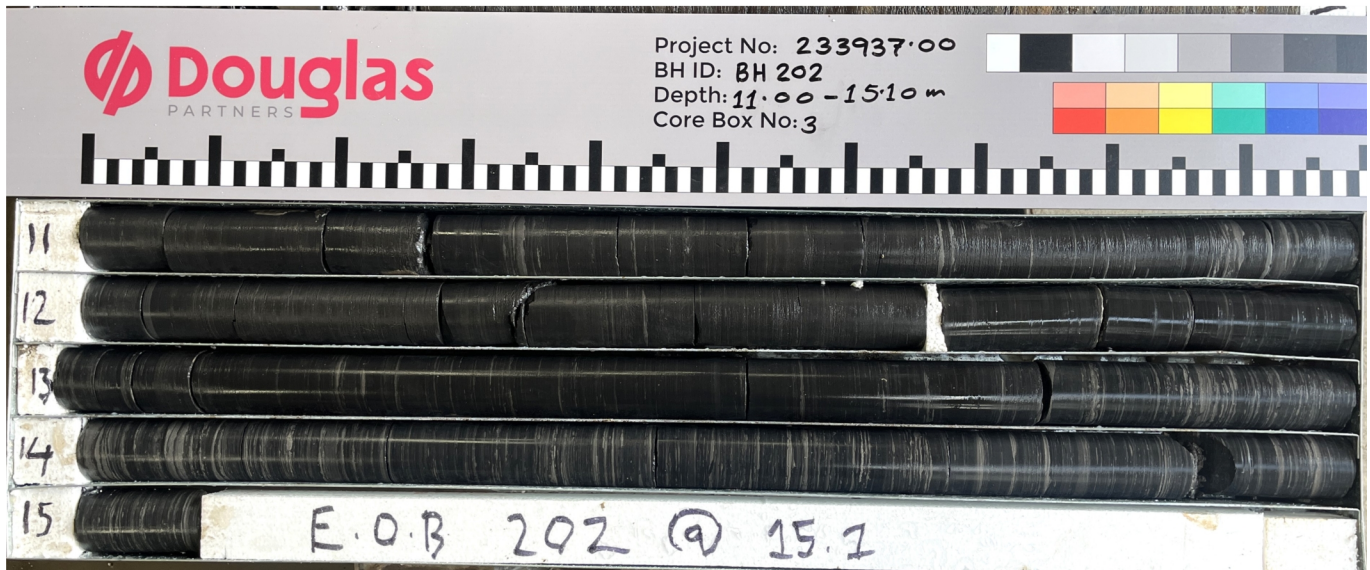
6.00-11.00 m depth

CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 96.0 AHD
COORDINATE: E:311773.0, N:6265685.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH202
PROJECT No: 233937.00
DATE: 17/07/25
SHEET: 2 of 2



11.00-15.10 m depth

Permeability Testing - Rising or Falling Head Test Report

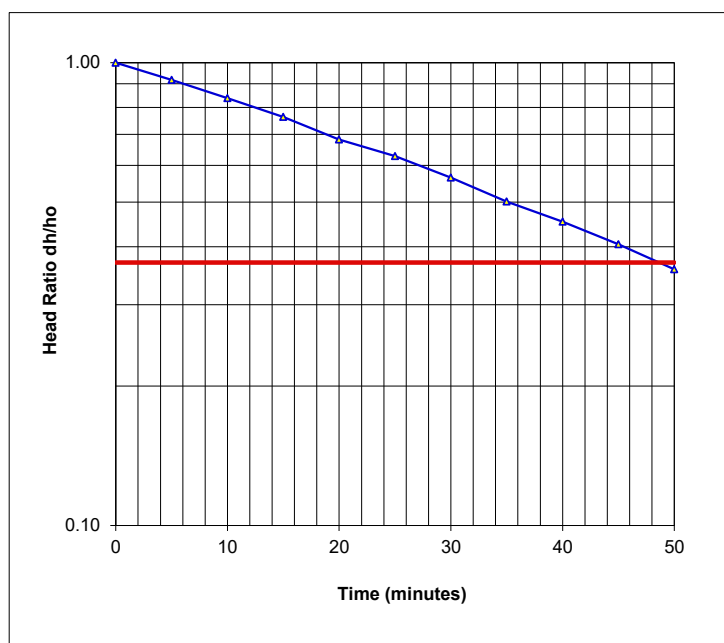
Client:	GreenSquareDC Pty Ltd	Project No:	233937.00
Project:	Green Square DC SYDGPU1	Test date:	28.07.2025
Location:	3 Brookhollow Avenue, Baulkham Hills, NSW	Tested by:	LDS

Test Location	Test No.	BH202
Description:	Easting:	311773.0 m
Material type:	Northing	6265685.0 m
	Surface Level:	96 m AHD

Details of Well Installation

Effective diameter (2re)	96	mm	Depth to water before test	8.05	m
borehole diameter (2R)	96	mm	Depth to water at start of test	14.34	m
Effective Length of well screen (Le)	4.30	m	Depth to top of gravel pack	10.80	m
			Depth of base of PVC standpipe	15.10	m

Test Results

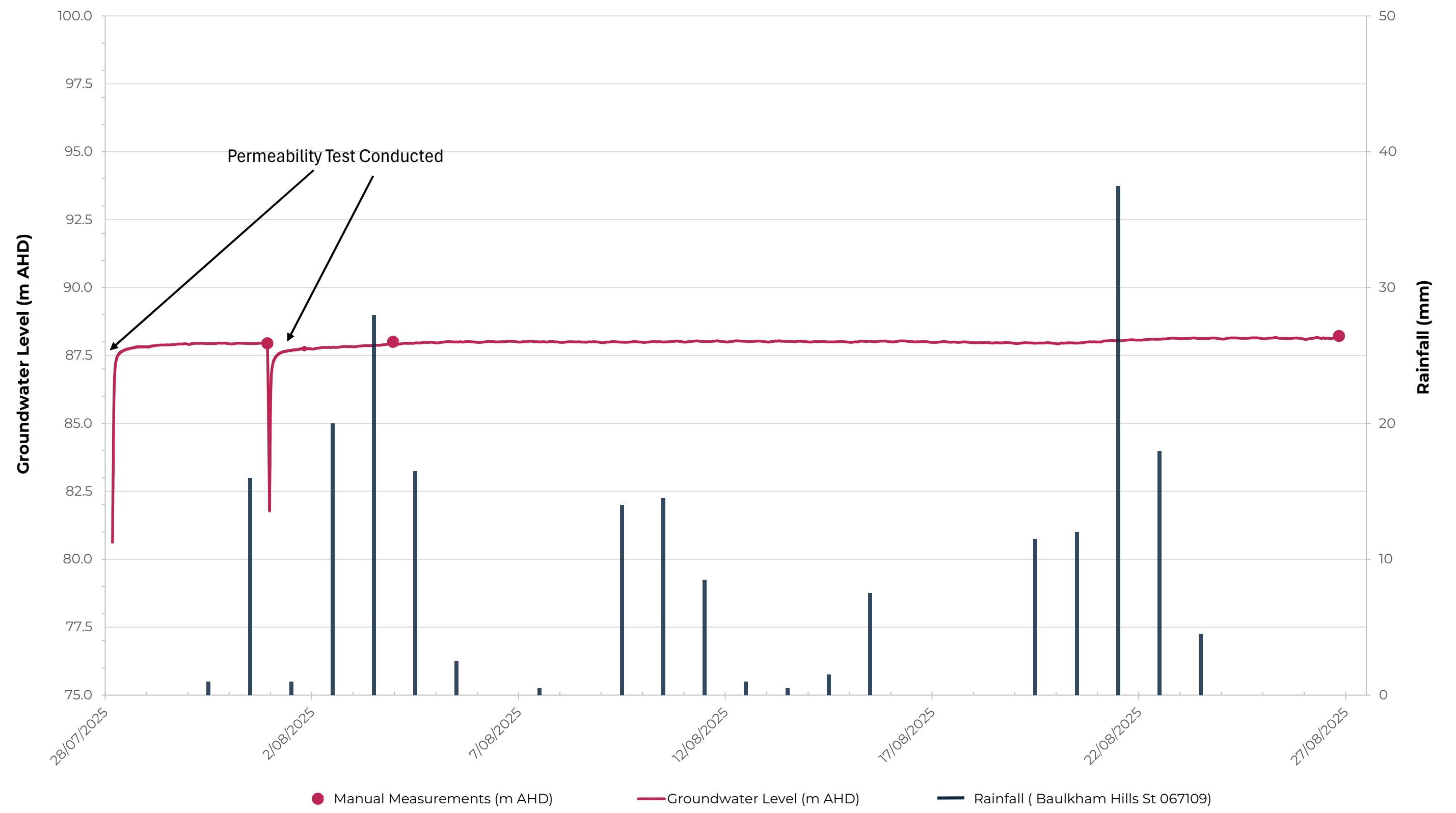
[illegible]

To = 48.7 mins
2922 secs

Theory:	Falling Head Permeability calculated using equation by Hvorslev	
	$k = [r^2 \ln(L_e/R)] / 2L_e T_o$	where r = radius of casing
		R = radius of well screen
		L_e = length of well screen
		T_o = time taken to rise or fall to 37% of initial change

Hydraulic Conductivity	k =	4.1E-07	m/sec
	=	0.036	m/day

BH202



CLIENT: GreenSquareDC Pty Ltd	
OFFICE: Sydney	DRAWN BY: L. Sigdel
SURFACE LEVEL: 96.0 m AHD	DATE: 29 August 2025

Groundwater Monitoring 28/07/2025 to 29/08/25
Green Square DC SYDGPU1
3 Brookhollow Avenue, Baulkham Hills, NSW 2153

PROJECT NO: 233937.00
FIGURE NO: 1 of 1
REVISION: Rev1

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 99.2 AHD
COORDINATE: E:311811.4, N:6265671.6
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH203
PROJECT No: 233937.00
DATE: 14/07/25
SHEET: 1 of 3

CONDITIONS ENCOUNTERED							SAMPLE			TESTING AND REMARKS		
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(%)	CONSIS. ^(*) DENSITY, ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
14/07/25 No Free Groundwater Observed	0.20	TOPSOIL / Silty CLAY trace grass roots: grey-brown; low plasticity.		TOP	ND	w<PL		A		0.10		5,7,8 N=15
		FILL / CLAY trace silt trace sand: grey-brown; medium plasticity; fine sand.		FILL	(MC)	w=PL		A		0.40 0.50		
	1							A		0.90 1.00		
								SPT		1.45	SPT	
	2.00	CLAY (CL): pale grey-brown; low plasticity.		XWM	H	w<PL				2		14,25/130
								SPT		2.50 2.78	SPT	
	3.00	Continued as rock log								3		
	4									4		
	5									5		
	6									6		
	7									7		
	8									8		
	9									9		

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: ^(a)Soil origin is "probable" unless otherwise stated. ^(b)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Explorer
METHOD: AD/T to 2.5m, WB to 3.0m, NMLC to 15.50m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 2.5m, then HQ to 3m

Refer to explanatory notes for symbol and abbreviation definitions

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 99.2 AHD
COORDINATE: E:311811.4, N:6265671.6
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH203
PROJECT No: 233937.00
DATE: 14/07/25
SHEET: 2 of 3

[illegible]

NOTES: (m) Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 2.5m, WB to 3.0m, NMLC to 15.50m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 2.5m, then HQ to 3m

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 99.2 AHD
COORDINATE: E:311811.4, N:6265671.6
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH203
PROJECT No: 233937.00
DATE: 14/07/25
SHEET: 3 of 3

CONDITIONS ENCOUNTERED														SAMPLE						
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (kPa) SOIL MOISTURE	GRAPHIC	WEATH.		DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL					
RL (m)					RS	XW	DW	VL	L	M	H	VH	EH							
89	10.00	SILTSTONE: grey and dark grey; <1% fine grained sandstone laminations, Ashfield Shale.			FR			10.00												
88	11																			
87	12																			

PLANT: Explorer	OPERATOR: Ground Test (S. Salib)	LOGGED: S. Islam
METHOD: AD/T to 2.5m, WB to 3.0m, NMLC to 15.50m		CASING: HW to 2.5m, then HQ to 3m
REMARKS: Grass cover at surface		

Refer to explanatory notes for symbol and abbreviation definitions

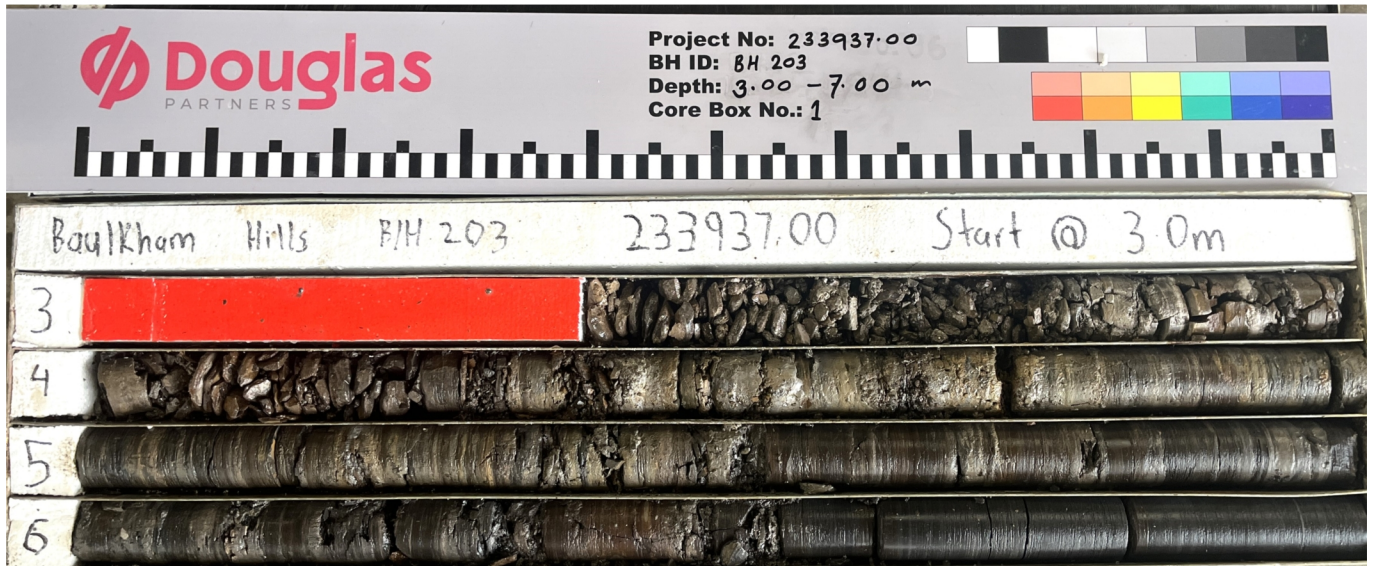


CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 99.2 AHD
COORDINATE: E:311811.4, N:6265671.6
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH203
PROJECT No: 233937.00
DATE: 14/07/25
SHEET: 1 of 2



3.00-7.00 m depth



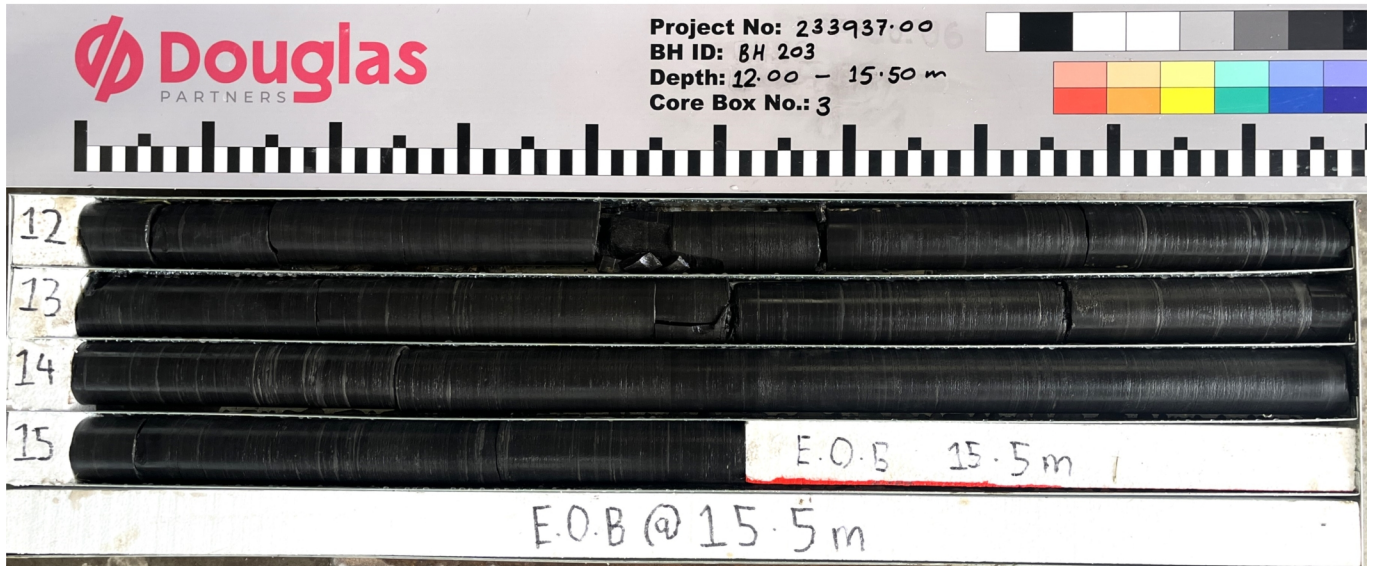
7.00-12.00 m depth

CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 99.2 AHD
COORDINATE: E:311811.4, N:6265671.6
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH203
PROJECT No: 233937.00
DATE: 14/07/25
SHEET: 2 of 2



12.00-15.50 m depth

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 98.9 AHD
COORDINATE: E:311847.0, N:6265652.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH204
PROJECT No: 233937.00
DATE: 18/07/25
SHEET: 1 of 4

GROUNDWATER		CONDITIONS ENCOUNTERED					SAMPLE			TESTING AND REMARKS			
RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(%)	CONSIS. ⁽¹⁾ DENSITY. ⁽²⁾	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	
18/07/25 No free groundwater observed while augering	0.10	TOPSOIL / Silty CLAY trace rootlets: grey-brown; low plasticity.	TS	TOP	ND	w<PL		A		0.10			
		FILL / Silty CLAY trace gravel: dark grey-brown; low to medium plasticity; concrete gravel; trace organic debris.		FILL	(PC)	w=PL		A		0.40 0.50			
	0.65	CLAY (CH) trace gravel: pale grey and orange-brown; high plasticity; ironstone gravel.						A		0.90 1.00			
	1			RS	St			SPT		1.45	SPT	7,7,8 N=15	
	2.00	CLAY (CI): grey-brown; medium plasticity.								2			
				XWM	H	w<PL		SPT		2.50 2.95	SPT	15,17,23 N=40	
	3.65	Continued as rock log											
	4									4			
	5									5			
	6									6			
7									7				
8									8				
9									9				

NOTES: ⁽¹⁾Soil origin is "probable" unless otherwise stated. ⁽²⁾Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: ^(a)Soil origin is "probable" unless otherwise stated. ^(c)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Explorer
METHOD: AD/T to 2.5m, WB to 3.65m, NMLC to 20.45m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 3.65m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 98.9 AHD
COORDINATE: E:311847.0, N:6265652.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH204
PROJECT No: 233937.00
DATE: 18/07/25
SHEET: 2 of 4

CONDITIONS ENCOUNTERED														SAMPLE			TESTING			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
18/07/25 No free groundwater observed while augering	98	1																		
	97	2																		
	96	3																		
	95	4	Continued from soil log SILTSTONE: pale grey-brown; 50% clay, fractured. Ashfield Shale.		XW to HW	VL	3.65		94	0		3.65-4.50m: FG, Clay, DS								
	4.50	4.50					4.55					4.55-4.70m: FG, Clay								
	4.70	5	SILTSTONE: grey-brown; with 5-10% sandstone laminations. Ashfield Shale.		HW	VL						5.15m: JT, 40°, PR, TI, RF								
	5.65	6	SILTSTONE: grey; with 5% sandstone laminations. Ashfield Shale.		SW	M	5.65		100	58		5.40-5.55m: FG					PLT	PL(A)=0.58MPa		
	6											5.70m: JT, 30°, PR, Clay, SM								
	6.45											6.45m: JT, 45-65°, ST, CN, SM, 2								
	6.70-6.85											6.70-6.85m: JT, 90°, PR, CN, SM					PLT	PL(A)=0.56MPa		
	7	7			FR		7.00					6.85m: JT, 45°, PR, CN, SM								
	7.15											7.15m: JT, 45°, PR, CN, SM								
	7.40				HW	VL	7.40					7.40m: JT, 25°, PR, Clay 30mm, SM, FG								
	7.50											7.80m: JT, 30°, PR, CN, SM					PLT	PL(A)=0.53MPa		
	8	8							100	94		8.90m: JT, 45°, PR, SN Fe, SM					PLT	PL(A)=0.87MPa		
	9	9										9.35m: JT, 70°, PR, CN, SM								
	9.75											9.42m: JT, 65°, PR, CN, SM								
	9.78				FR	H	9.78		99	97		9.80-9.85m: , siderite bands					PLT	PL(A)=2.2MPa		

NOTES: *Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 2.5m, WB to 3.65m, NMLC to 20.45m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 3.65m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 98.9 AHD
COORDINATE: E:311847.0, N:6265652.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH204
PROJECT No: 233937.00
DATE: 18/07/25
SHEET: 3 of 4

CONDITIONS ENCOUNTERED										SAMPLE			TESTING								
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
		10.00	[CONT] SILTSTONE: grey, with 5% sandstone laminations. Ashfield Shale.					10.00													
	88	11								99	97		10.25m: , 30°, TI, micro fault				11	PLT	PL(A)=0.52MPa		
	87	12															12	PLT	PL(A)=0.76MPa		
	86	13						13.00					12.85m: B, 0°, Clay				13	PLT	PL(A)=0.82MPa		
		13.20	SILTSTONE: dark grey; with 10-20% pale grey fine grained sandstone laminations. Ashfield Shale.										13.20m: JT, 20°, PR, Clay, SM								
	85	14											13.60m: JT, 45°, PR, Clay, SM				14	PLT	PL(A)=1.2MPa		
	84	15					FR	15.00									15	PLT	PL(A)=0.80MPa		
	83	16															16	PLT	PL(A)=1.6MPa		
	82	17						17.00									17	PLT	PL(A)=2.1MPa		
	81	18						18.00									18	PLT	PL(A)=3.1MPa		
	80	19															19	PLT	PL(A)=2.3MPa		
	79									100	100							PLT	PL(A)=2.0MPa		

NOTES: ①Soil origin is "probable" unless otherwise stated.

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 2.5m, WB to 3.65m, NMLC to 20.45m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 3.65m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 98.9 AHD
COORDINATE: E:311847.0, N:6265652.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH204
PROJECT No: 233937.00
DATE: 18/07/25
SHEET: 4 of 4

CONDITIONS ENCOUNTERED														SAMPLE			TESTING					
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)		GRAPHIC	WEATH.		DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
				RS	DW		RS	DW														
			[CONT] SILTSTONE: dark grey; with 10-20% pale grey fine grained sandstone laminations. Ashfield Shale.			XXXXXX	FR			H	100	100							PLT	PL(A)=2.7MPa		
		78	Borehole discontinued at 20.45m depth. Target depth reached.																			
		21																				
		77																				
		22																				
		76																				
		23																				
		75																				
		24																				
		74																				
		25																				
		73																				
		26																				
		72																				
		27																				
		71																				
		28																				
		70																				
		29																				
		69																				
NOTES: #Soil origin is "probable" unless otherwise stated.																						

PLANT: Explorer
METHOD: AD/T to 2.5m, WB to 3.65m, NMLC to 20.45m
REMARKS: Grass cover at surface

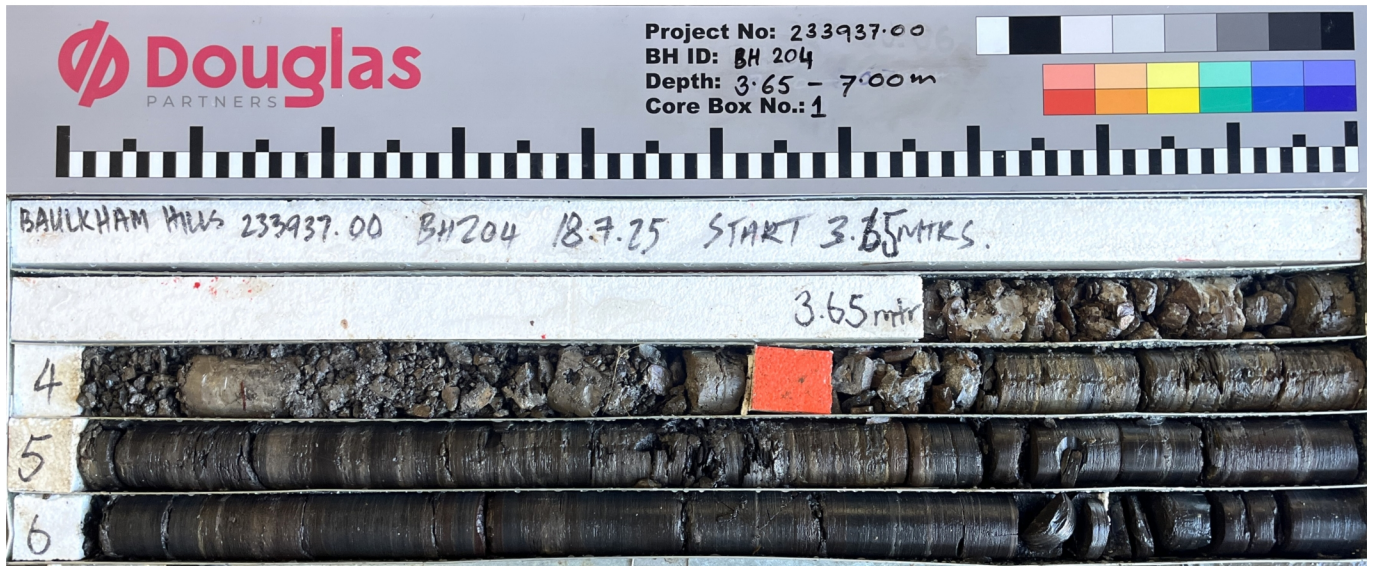
OPERATOR: Ground Test (S. Salib)
LOGGED: S. Islam
CASING: HW to 3.65m

CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 98.9 AHD
COORDINATE: E:311847.0, N:6265652.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH204
PROJECT No: 233937.00
DATE: 18/07/25
SHEET: 1 of 2



3.65-7.00 m depth



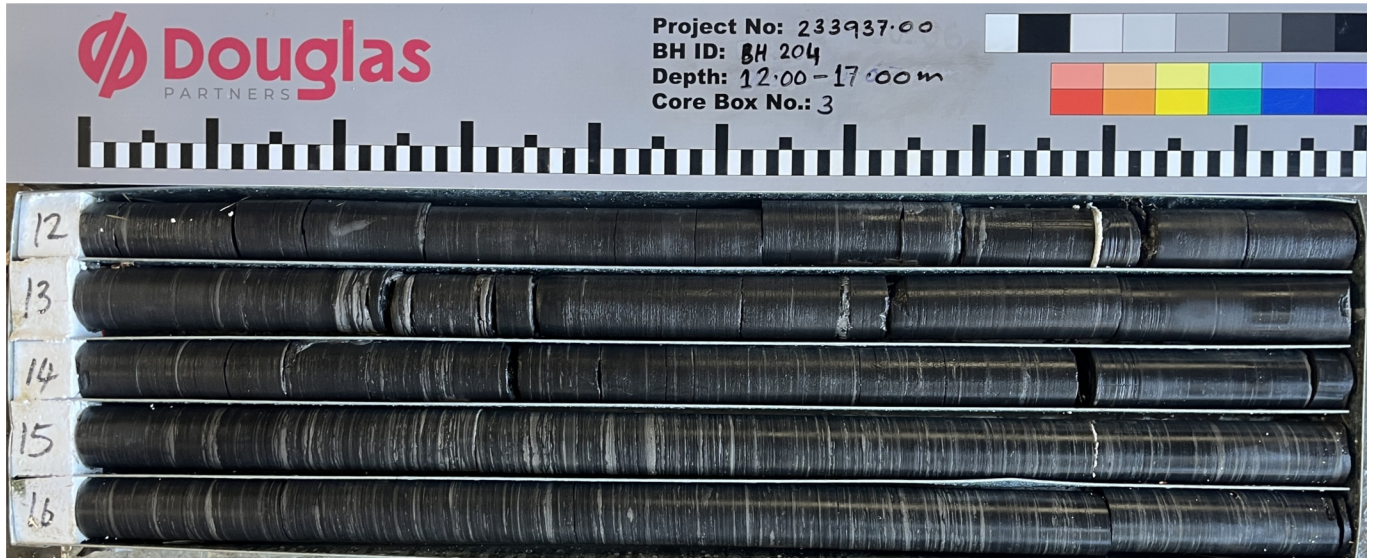
7.00-12.00 m depth

CORE PHOTO LOG

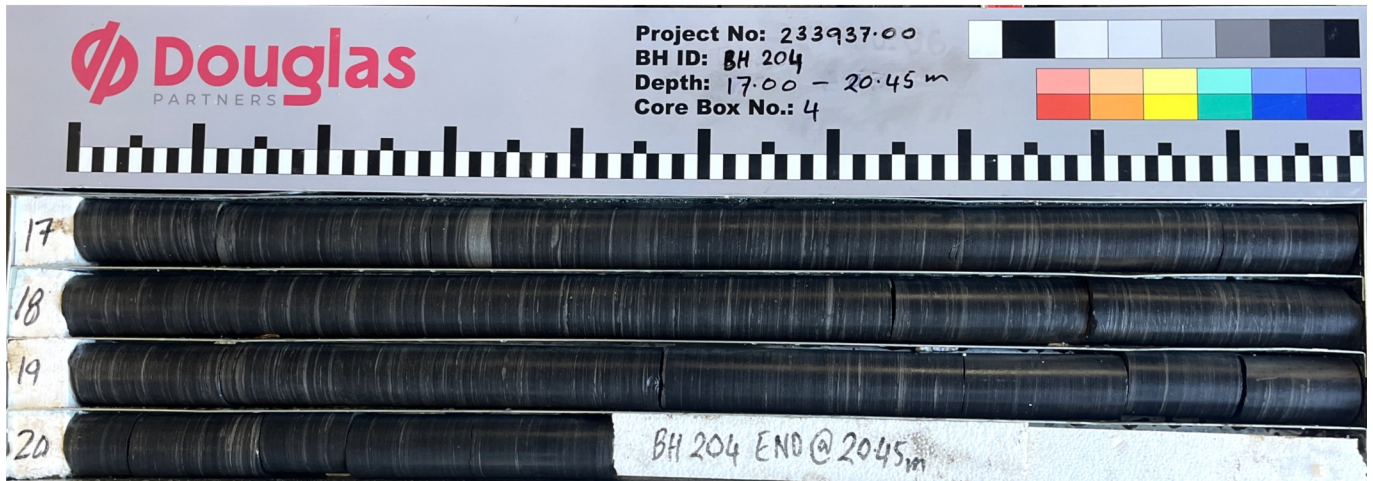
CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 98.9 AHD
COORDINATE: E:311847.0, N:6265652.7
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH204
PROJECT No: 233937.00
DATE: 18/07/25
SHEET: 2 of 2



12.00-17.00 m depth



17.00-20.45 m depth

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 100.0 AHD
COORDINATE: E:311887.1, N:6265641.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH205
PROJECT No: 233937.00
DATE: 16/07/25
SHEET: 1 of 4

CONDITIONS ENCOUNTERED																SAMPLE				TESTING AND REMARKS			
GROUNDWATER	FL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(%)	CONSIS. ^(%)	DENSITY. ^(%)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE							
16/07/25 No Free Groundwater Observed While Augering		0.20	TOPSOIL / Silty CLAY trace grass roots: grey-brown; low plasticity.	TS	TOP	ND		M		A		0.10		25/150	Flush cover - Galic cover	Backfill							
			CLAY (CI-CH): brown; medium to high plasticity.	RS		(St)		w=PL		A		0.40 0.50											
		0.75	SILTSTONE: pale grey; trace ironstone band, inferred very low strength, Ashfield Shale.							A		0.90 1.00											
	99	1				NA		NA	SPT		1.15												
		2.00	Continued as rock log									2											
NOTES: ^(%) Soil origin is "probable" unless otherwise stated. ^(%) Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.																							

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 20.20m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 1m



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 100.0 AHD
COORDINATE: E:311887.1, N:6265641.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH205
PROJECT No: 233937.00
DATE: 16/07/25
SHEET: 2 of 4

[illegible]

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 20.20m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 1m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 100.0 AHD
COORDINATE: E:311887.1, N:6265641.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH205
PROJECT No: 233937.00
DATE: 16/07/25
SHEET: 3 of 4

CONDITIONS ENCOUNTERED											SAMPLE			TESTING										
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (NOT ASSURED)	SOIL MOISTURE	GRAPHIC	RS XW HW MW SW FR	WEATH. DW LW SW FR	DEPTH (m)	VL L M H VH EH	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
			[CONT] SILTSTONE: grey and grey-brown; Ashfield Shale.																					
	89	11					FR		10.00 10.10 10.20	M M M											PLT	PL(A)=3.3MPa		
									10.25 10.26							10.60-10.65m: DS, FG					PLT	PL(A)=0.61MPa		
	88	12					FR					100	95			11.10m: JT, 60°, UN, CN, SM					PLT	PL(A)=0.51MPa		
																11.35m: JT, 80°, PR, CN, RF								
																12.40m: JT, 45°, PR, CN, SM								
							HW		12.50 12.60	L						12.50-12.60m: FG, 100mm, SZ					PLT	PL(A)=0.44MPa		
	87	13														13.30-13.32m: DS								
																13.40m: JT, 45°, PR, 10mm, SM, FG					PLT	PL(A)=0.42MPa		
	86	14										100	97			13.95m: JT, 30°, PR, 10mm, SM, FG								
																14.60-14.75m: JT, 80°, PR, CN, SM					PLT	PL(A)=0.39MPa		
	85	15																						
	15.40		SILTSTONE: dark grey; 5-15% pale grey fine grained sandstone laminations. Ashfield Shale.						15.40							15.45m: JT, 45°, PR, CN, RF					PLT	PL(A)=1.3MPa		
	84	16					FR																	
	83	17										100	100											
	82	18																						
	81	19										100	100											

NOTES: ^(m)Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 20.20m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 1m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 100.0 AHD
COORDINATE: E:311887.1, N:6265641.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH205
PROJECT No: 233937.00
DATE: 16/07/25
SHEET: 4 of 4

CONDITIONS ENCOUNTERED												SAMPLE			TESTING						
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
			[CONT] SILTSTONE: dark grey; 5-15% pale grey fine grained sandstone laminations. Ashfield Shale.			XXXXXX	FR		I	100	100	0.00 0.00 0.00 0.00						PLT	PL(A)=1.6MPa	Gravel	1.00
	79	21	Borehole discontinued at 20.20m depth. Target depth reached.																		
	78	22																			
	77	23																			
	76	24																			
	75	25																			
	74	26																			
	73	27																			
	72	28																			
	71	29																			

NOTES: ①Soil origin is "probable" unless otherwise stated.

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 20.20m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)
LOGGED: S. Islam
CASING: HW to 1m



Refer to explanatory notes for symbol and abbreviation definitions

CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 100.0 AHD
COORDINATE: E:311887.1, N:6265641.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH205
PROJECT No: 233937.00
DATE: 16/07/25
SHEET: 1 of 2



2.00-6.00 m depth



6.00-11.00 m depth

CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 100.0 AHD
COORDINATE: E:311887.1, N:6265641.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH205
PROJECT No: 233937.00
DATE: 16/07/25
SHEET: 2 of 2



11.00-16.00 m depth



16.00-20.20 m depth

Permeability Testing - Rising or Falling Head Test Report

Client:	GreenSquareDC Pty Ltd
Project:	Green Square DC SYDGPU1
Location:	3 Brookhollow Avenue, Baulkham Hills, NSW

Project No:	233937.00
Test date:	28.07.2025
Tested by:	LDS

Test Location

Description:	Standpipe in borehole
Material type:	Ashfield shale

Test No.

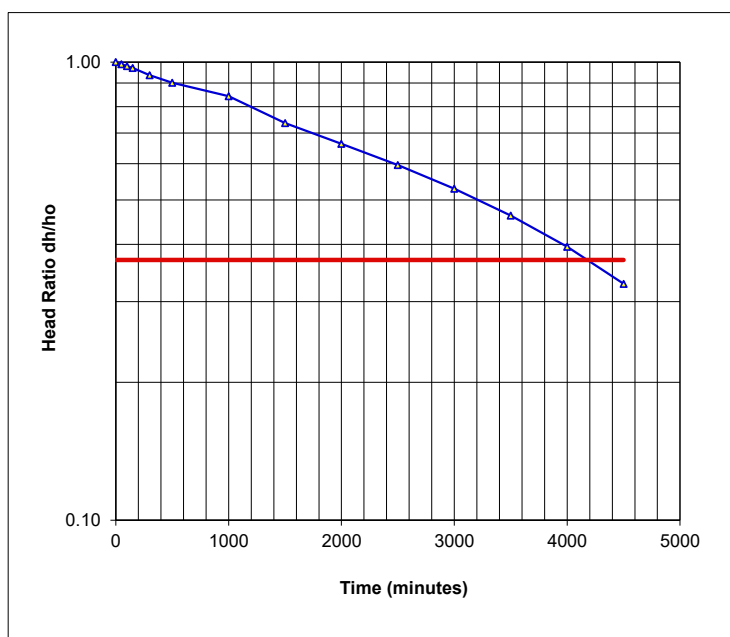
Test No.	BH205	
Easting:	311887.1	m
Northing	6265641.0	m
Surface Level:	100	m AHD

Details of Well Installation

Effective diameter (2re)	96	mm
borehole diameter (2R)	96	mm
Effective Length of well screen (Le)	8.65	m

Depth to water before test	11.55	m
Depth to water at start of test	19.01	m
Depth to top of gravel pack	16.30	m
Depth of base of PVC standpipe	20.20	m

Test Results

[illegible]

To = 4187 mins
251220 secs

Theory:

Falling Head Permeability calculated using equation by Hvorslev

$$k = [r^2 \ln(L_e/R)]/2L_e \text{ To}$$

where r = radius of casing

R = radius of well screen

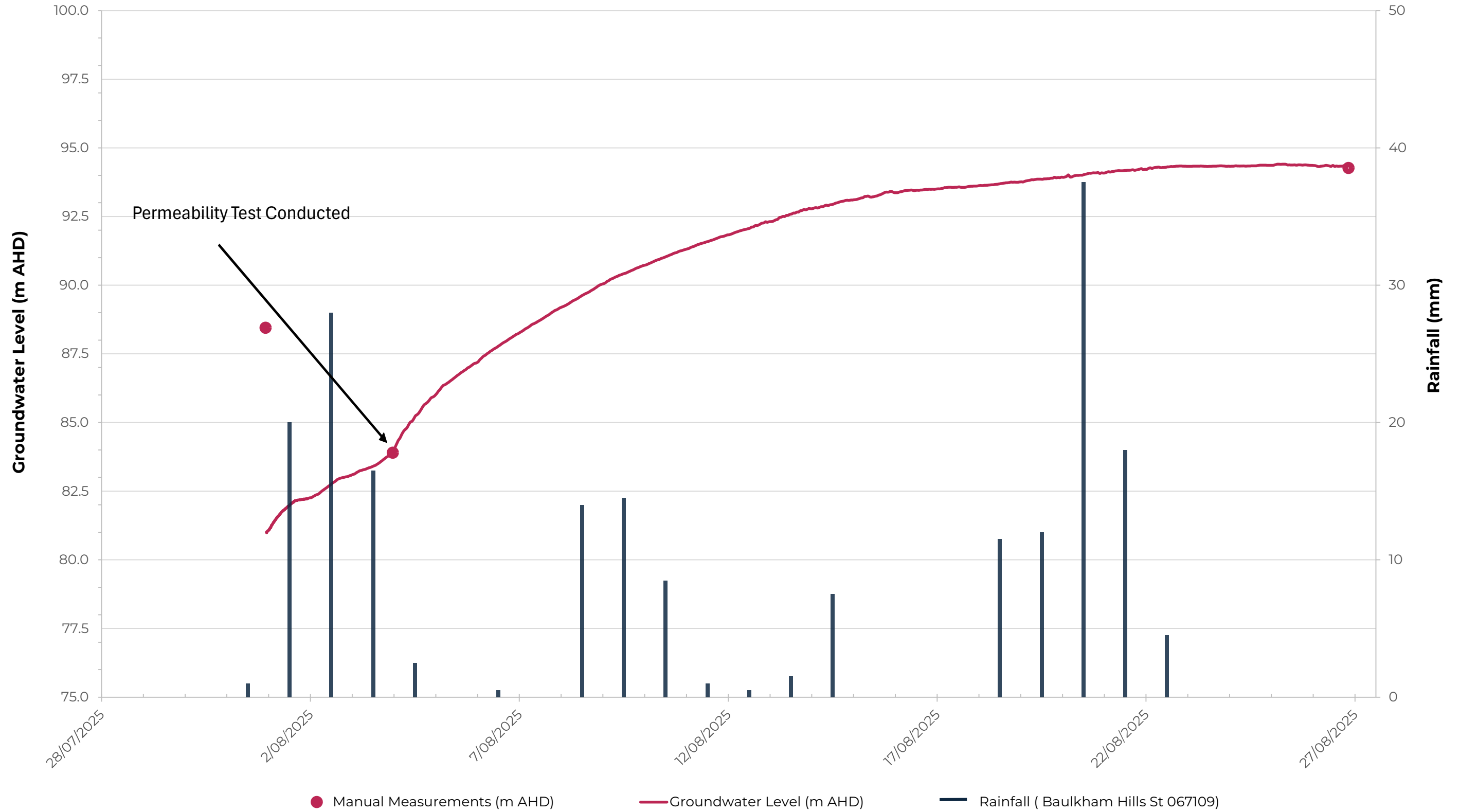
Le = length of well screen

To = time taken to rise or fall to 37% of initial change

Hydraulic Conductivity

k = 2.8E-09 m/sec
= 0.00024 m/day

BH205



CLIENT: GreenSquareDC Pty Ltd

OFFICE: Sydney

SURFACE LEVEL: 100.0 m AHD

DRAWN BY: L. Sigdel

DATE: 29 August 2025

Groundwater Monitoring 01/08/2025 to 27/08/25

Green Square DC SYDGPU1

3 Brookhollow Avenue, Baulkham Hills, NSW 2153

PROJECT NO: 233937.00

FIGURE NO: 1 of 1

REVISION: Rev1

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.2 AHD
COORDINATE: E:311759.4, N:6265628.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH206
PROJECT No: 233937.00
DATE: 07/07/25 - 08/07/25
SHEET: 1 of 3

CONDITIONS ENCOUNTERED							SAMPLE			TESTING AND REMARKS			
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(%)	CONSIS. (°)	DENSITY, (°)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
07/07/25 No Free Groundwater Observed Whilst Augering	0.03	ASPHALTIC CONCRETE.		FILL	ND		w=PL		X2	A	0.10	SPT	7,13,20 N=33
		FILL / CLAY with gravel: grey to brown; medium plasticity; medium to coarse, igneous and siltstone gravel.								A	0.20		
										A	0.50		
										A	0.60		
										A	0.90		
										A	1.00		
										SPT	1.45		
	0.90	CLAY (CI-CH) with gravel: brown; medium to high plasticity; fine, siltstone gravel.		RS	H		w<PL					SPT	7,13,20 N=33
	1.00	CLAY (CI-CH) with gravel: dark brown to orange; medium to high plasticity; fine, siltstone gravel.											
	2.00	Continued as rock log		XWM	H							SPT	7,13,20 N=33

NOTES: ^(a)Soil origin is "probable" unless otherwise stated. ^(c)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 15.25m
REMARKS:

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges
CASING: HWT to 1m



Refer to explanatory notes for symbol and abbreviation definitions

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.2 AHD
COORDINATE: E:311759.4, N:6265628.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH206
PROJECT No: 233937.00
DATE: 07/07/25 - 08/07/25
SHEET: 2 of 3

CONDITIONS ENCOUNTERED													SAMPLE			TESTING					
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
07/07/25 No Free Groundwater Observed Whilst Augering	89																				
	1																				
	2		Continued from soil log																		
	2.20		SILTSTONE: dark grey. Ashfield Shale.					2.20	SEAM				2.20-2.30m: EW, Clay								
	3							2.30	SEAM	83	0		2.40-2.86m: IS x6, 0-20°, UN, SN Fe, SM, TI					PLT	PL(A)=0.02MPa		
	3.30							2.40	SEAM				2.95-3.00m: EW								
	3.45		SILTSTONE: dark grey. Ashfield Shale.					2.86	SEAM				3.00-3.29m: B x9, 0°, PR, CT Clay, SM, 1-2mm								
	4							3.00	VL				3.62-3.66m: JT, 60°, IR 3mm, SM								
	5							3.60	SEAM				3.60-3.87m: EW								
	6		SILTSTONE: dark grey; with 10-20% pale grey fine grained sandstone. Ashfield Shale.					3.87		75	69		3.92m: B, PR, CT Clay 5mm, SM					PLT	PL(A)=0.49MPa		
	7							3.93					4.09m: B, PR, CN, SM					PLT	PL(A)=0.72MPa		
	8												4.19m: B, PR, CN, SM					PLT	PL(A)=0.77MPa		
	9												4.92m: B, PR, VNR Clay, SM								
													5.09m: JT, 5°, UN, CN, SM					PLT	PL(A)=1.9MPa		
													5.20m: JT, 30°, UN, CN, SM								
												5.42m: B, PR, VNR Clay, SM									
												6.70m: B, PR, VNR Clay, SM					PLT	PL(A)=1.6MPa			
												8.35m: B, PR, CN, SM					PLT	PL(A)=1.8MPa			
												9.50m: B, PR, VNR Clay, SM					PLT	PL(A)=2.4MPa			
																	PLT	PL(A)=2.5MPa			

NOTES: *Soil origin is "probable" unless otherwise stated.

NOTES: *Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 15.25m
REMARKS:

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges
CASING: HWT to 1m

Refer to explanatory notes for symbol and abbreviation definitions

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.2 AHD
COORDINATE: E:311759.4, N:6265628.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH206
PROJECT No: 233937.00
DATE: 07/07/25 - 08/07/25
SHEET: 3 of 3

CONDITIONS ENCOUNTERED														SAMPLE				TESTING			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
	79		[CONT] SILTSTONE: dark grey; with 10-20% pale grey fine grained sandstone. Ashfield Shale.							100	100										
	11.00		SILTSTONE: dark grey; with <5% pale grey fine grained sandstone. Ashfield Shale.										10.90m: B, PR, VNR Clay, SM				11	PLT	PL(A)=2.2MPa		
	12												11.82m: B, PR, VNR Clay, SM				12	PLT	PL(A)=1.9MPa		
	13									100	100						13	PLT	PL(A)=1.2MPa		
	14												13.90m: B, PR, VNR Clay, SM				14	PLT	PL(A)=1.5MPa		
	15							14.80		100	100		14.86m: JT, 45°, PR, VNR Clay, SM 15.00m: JT, 45°, PR, CN, SM 15.20m: B, PR, VNR Clay, SM				15	PLT	PL(A)=0.75MPa		
			Borehole discontinued at 15.25m depth. Target depth reached.																		
	16																				
	17																				
	18																				
	19																				

NOTES: *Soil origin is "probable" unless otherwise stated.

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 15.25m
REMARKS:

OPERATOR: Ground Test (S. Salib)

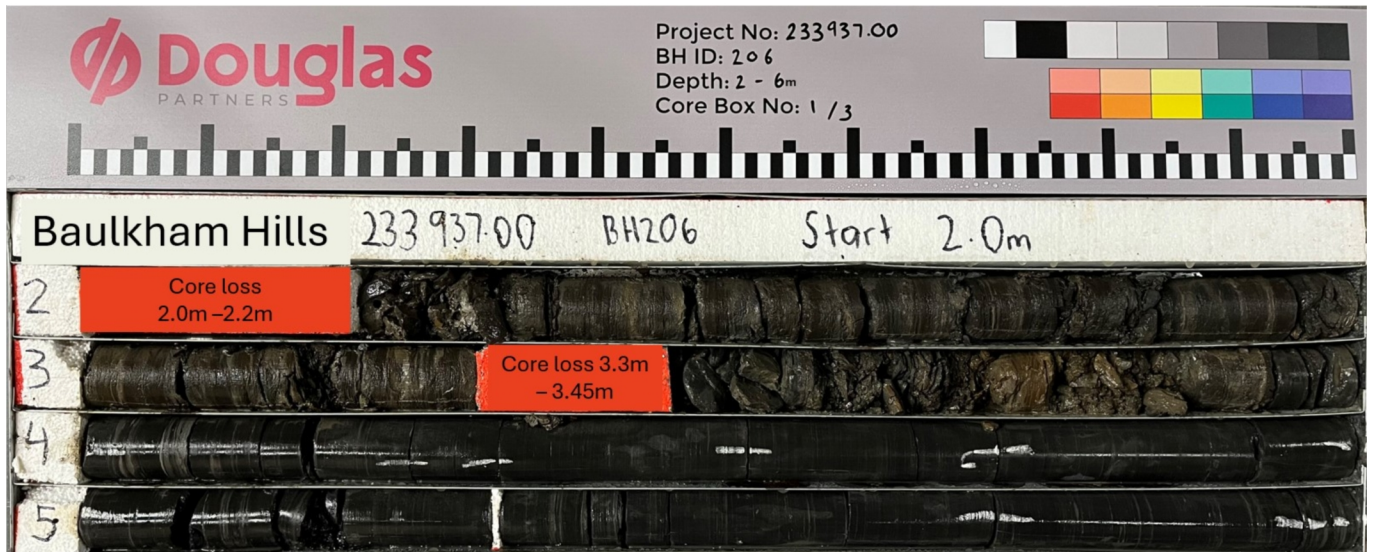
LOGGED: C. Lambert-Bridges
CASING: HWT to 1m

CORE PHOTO LOG

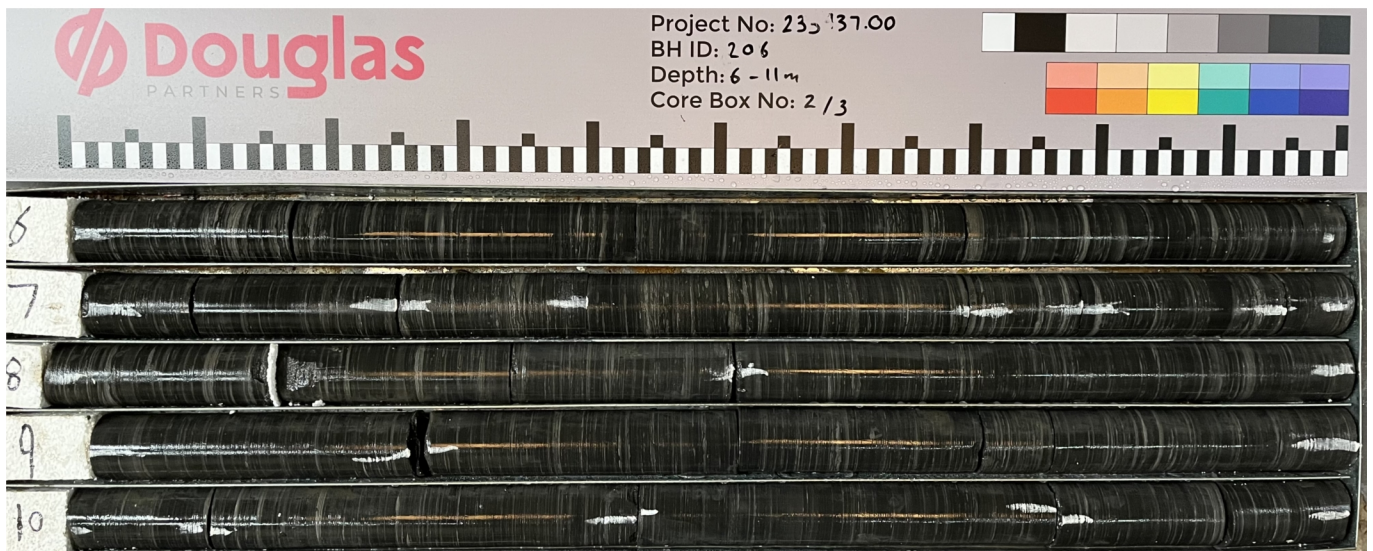
CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.2 AHD
COORDINATE: E:311759.4, N:6265628.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH206
PROJECT No: 233937.00
DATE: 07/07/25 - 08/07/25
SHEET: 1 of 2



2.00-6.00 m depth



6.00-11.00 m depth

CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 89.2 AHD
COORDINATE: E:311759.4, N:6265628.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH206
PROJECT No: 233937.00
DATE: 07/07/25 - 08/07/25
SHEET: 2 of 2



11.00-15.25 m depth

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 90.6 AHD
COORDINATE: E:311795.2, N:6265613.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH207
PROJECT No: 233937.00
DATE: 08/07/25
SHEET: 1 of 3

CONDITIONS ENCOUNTERED						SAMPLE			TESTING AND REMARKS			
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS. ^(*) DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
08/07/25 No Free Groundwater Observed Whilst Augering	0.30	TOPSOIL / Sandy CLAY trace gravel: dark brown; fine, igneous and siltstone gravel; with roots.		TOP / TOP	NA	w=PL		A		0.10	SPT	20,25/100 refusal
	0.70	CLAY (CI-CH) with gravel: brown; medium to high plasticity; weathered siltstone gravel.		RS	(St) to (VSt)			A		0.50		
	1	CLAY (CI) with gravel: pale brown; medium plasticity.						A		1.00		
	1.25		XWM	H	w<PL	SPT			1.25			
	2.00	Continued as rock log								2		
	3									3		
	4									4		
	5									5		
	6									6		
	7									7		
8									8			
9									9			

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: ^(a)Soil origin is "probable" unless otherwise stated. ^(b)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 15.38m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges
CASING: HW to 1m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 90.6 AHD
COORDINATE: E:311795.2, N:6265613.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH207
PROJECT No: 233937.00
DATE: 08/07/25
SHEET: 2 of 3

GROUNDWATER	CONDITIONS ENCOUNTERED													SAMPLE			TESTING					
	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (kN/m ²) SOIL MOISTURE	GRAPHIC	FS XW HW MW SW FR	WEATH. DW	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
08/07/25 No Free Groundwater Observed Whilst Augering	90	1																1				
	89																					
	2	2	Continued from soil log															2				
	2.33		SILTSTONE: dark grey; with clay bands; iron stained. Ashfield Shale.					2.33														
	2.56					XW HW		2.56	SEAM	57	0		SEAM	2.33-2.56m: EW, Clay								
	2.71							2.71	VL					2.71-3.00m: EW, Clay								
	3.00								SEAM				SEAM									
	3.17							3.17					SEAM	3.17-3.54m: EW, Clay								
	3.54							3.54	VL				SEAM	3.66-3.75m: EW, Clay				PLT	PL(A)=0.02MPa			
	3.66							3.66	SEAM				SEAM	3.55-3.95m: IS x7, UN, SN Fe, TI								
	3.75							3.75	L	100	0			4.00-4.18m: EW, Clay								
	4.00							4.00	VL					4.18-4.40m: JT, 60°, PR, SN Fe, SM								
	4.18							4.18	L					4.40-4.70m: EW, Clay								
	4.40							4.40	SEAM					4.85m: B, PR, VNR Clay, SM								
	4.60							4.60						5.00-5.60m: JT x3, 60°, PR, SN Fe, SM								
	5.40							5.40	VL L					5.40-5.50m: EW, Clay 10mm								
	5.60								SEAM													
	5.90		SILTSTONE: dark grey.					5.90		85	39			5.90-5.91m: EW, Clay 10mm				6	PLT	PL(A)=0.58MPa		
	6.22													6.22m: B, PR, VNR Clay, SM					PLT	PL(A)=0.57MPa		
	6.66													6.66m: JT, 60°, IR, SN Fe, SM, 6.62-6.71m								
	6.85		SILTSTONE: dark grey; with 10-20% pale grey fine to medium grained sandstone laminations. Ashfield Shale.											6.88-6.94m: B x2, 0°, PR, SN Fe, SM								
	7.00						SW		7.00					7.00-7.32m: JT x4, 40°, IR, SN Fe, SM				7	PLT	PL(A)=1.0MPa		
	7.37													7.37m: JT, 80°, IR, CN, RF								
	7.96													7.96m: JT, 30°, PR, CN, SM								
8.20													8.20m: JT, 40°, IR, VNR Py, RF, 8.17-8.24m				8	PLT	PL(A)=1.8MPa			
8.35													8.35m: JT, 40°, IR, VNR Clay, SM, 8.33-8.37m									
8.42													8.42m: JT, IR, CN, RF									
8.54													8.54m: JT, 80°, IR, CN, RF, 8.49-8.6m									
8.90													8.90m: JT, 80°, IR, CN, RF, 8.85-8.95m									
9.15													9.15m: JT, 80°, IR, CN, RF, 9.1-9.2m				9	PLT	PL(A)=1.3MPa			
						FR																
										100	82											
										100	100											

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 15.38m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges
CASING: HW to 1m

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 90.6 AHD
COORDINATE: E:311795.2, N:6265613.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH207
PROJECT No: 233937.00
DATE: 08/07/25
SHEET: 3 of 3

CONDITIONS ENCOUNTERED																			SAMPLE			TESTING			
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	SOIL MOISTURE	GRAPHIC	WEATH.			DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE		
			[CONT] SILTSTONE: dark grey; with 10-20% pale grey fine to medium grained sandstone laminations. Ashfield Shale.				RS	VS	MS	DW	MM	SW	FR												
	80														10.10m: JT, 30°, IR, CN, RF										
	11														11.12m: JT, 50°, IR, CN, RF				11	PLT	PL(A)=2.7MPa				
	11.20		SILTSTONE: dark grey; <5% pale grey fine to medium grained sandstone laminations. Ashfield Shale.										100	100	11.53m: JT, 50°, IR, CN, RF										
	79														12.06m: JT, 20°, IR, CN, RF				12	PLT	PL(A)=2.5MPa				
	12																								
	78																								
	13																		13	PLT	PL(A)=1.4MPa				
	77																								
	14																		14	PLT	PL(A)=1.3MPa				
	76																								
	15																		15	PLT	PL(A)=1.0MPa				
	75		Borehole discontinued at 15.38m depth. Target depth reached.																						
	16																								
	74																								
	17																								
	73																								
	18																								
	72																								
	19																								
	71																								

NOTES: ®Soil origin is "probable" unless otherwise stated.

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.0m, NMLC to 15.38m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges
CASING: HW to 1m



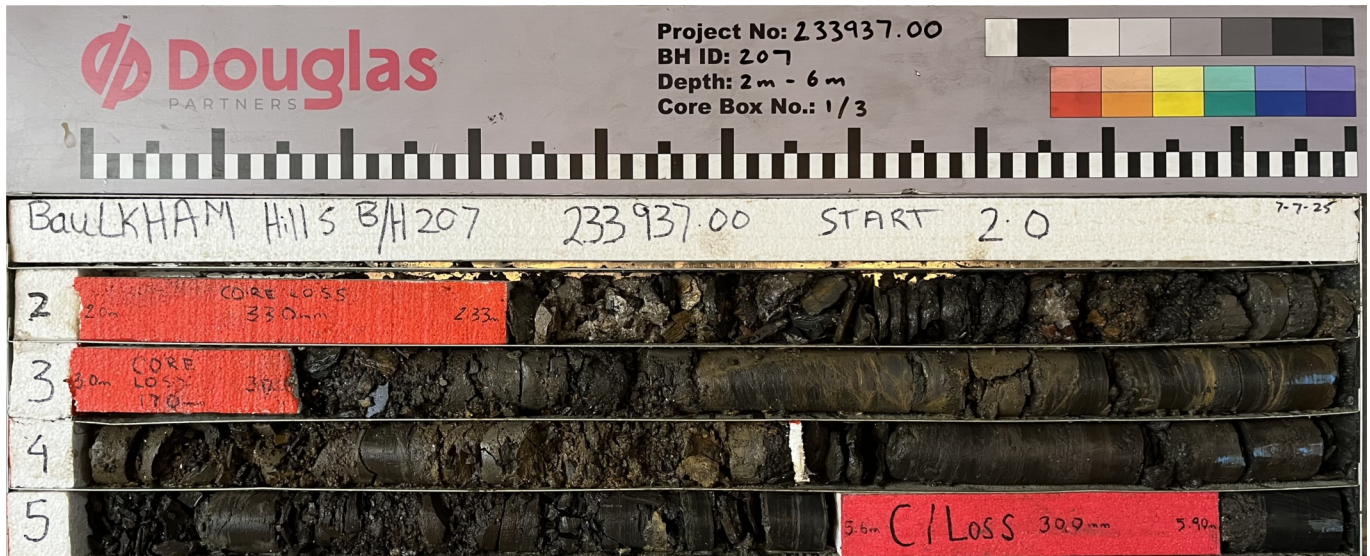
Refer to explanatory notes for symbol and abbreviation definitions

CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 90.6 AHD
COORDINATE: E:311795.2, N:6265613.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH207
PROJECT No: 233937.00
DATE: 08/07/25
SHEET: 1 of 2



2.00-6.00 m depth



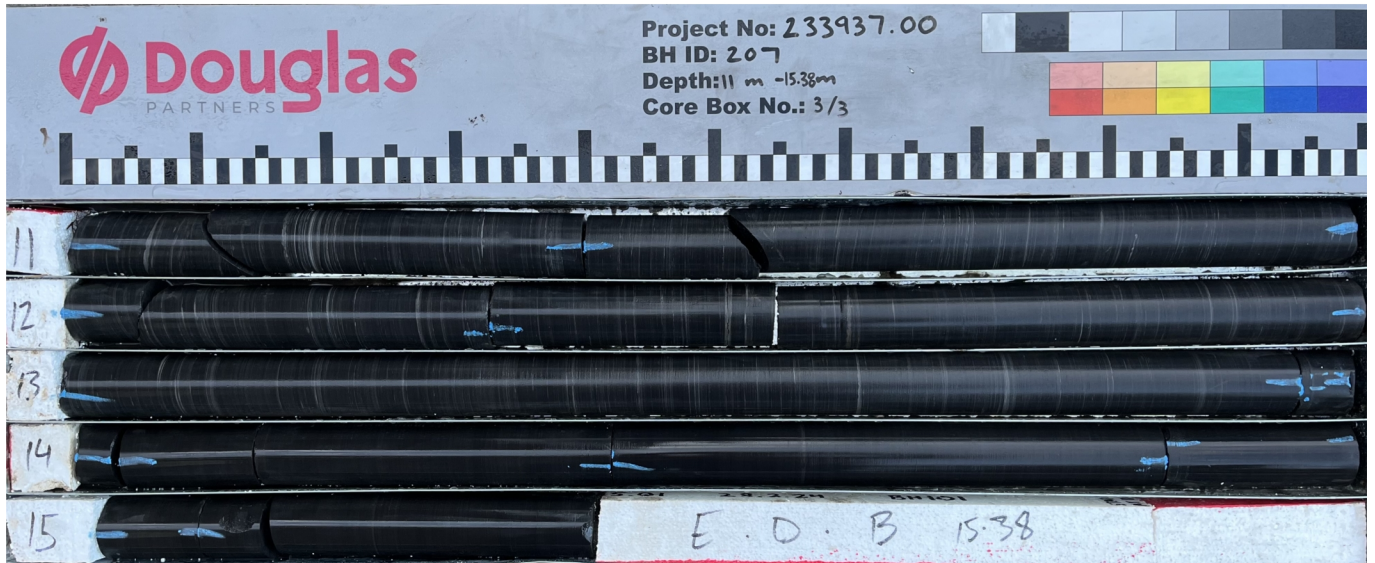
6.00-11.00 m depth

CORE PHOTO LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 90.6 AHD
COORDINATE: E:311795.2, N:6265613.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH207
PROJECT No: 233937.00
DATE: 08/07/25
SHEET: 2 of 2



11.00-15.38 m depth

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 95.5 AHD
COORDINATE: E:311839.2, N:6265615.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH208
PROJECT No: 233937.00
DATE: 09/07/25
SHEET: 1 of 4

CONDITIONS ENCOUNTERED						SAMPLE			TESTING AND REMARKS						
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS. ^(*)	DENSITY. ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	
09/07/25 No Free Groundwater Observed Whilst Augering	0.02		ASPHALTIC CONCRETE.		FILL	ND		D		A		0.10	SPT	9,15,25/100	
	0.35		FILL / Sandy GRAVEL: pale brown; igneous and siltstone gravel.		FILL										
	0.55		FILL / Sandy CLAY trace gravel: dark brown; medium plasticity; coarse, siltstone and sandstone gravel.		RS	VSt		M		A		0.50			
	1		CLAY (CH): orange brown; high plasticity.												
	1.30		CLAY (CH) with gravel: orange-brown; high plasticity.							SPT		1.40			
	2		Continued as rock log		XWM	H		w<PL				2			
	2.10														

NOTES: ^(a)Soil origin is "probable" unless otherwise stated. ^(b)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.10m, NMLC to 20.35m
REMARKS:

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges
CASING: HWT to 1m

Refer to explanatory notes for symbol and abbreviation definitions

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 95.5 AHD
COORDINATE: E:311839.2, N:6265615.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH208
PROJECT No: 233937.00
DATE: 09/07/25
SHEET: 2 of 4

CONDITIONS ENCOUNTERED														SAMPLE		TESTING			
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
09/07/25 No Free Groundwater Observed Whilst Augering	95																		
	1																		
	2	Continued from soil log				2.10	VL												
		SILTSTONE: pale brown to pale grey; frequent clay seams; iron stained. Ashfield Shale.			HW	2.30	VL												
					XW		SEAM	90	0		SEAM								
	3.00																		
	3.17	SILTSTONE: pale brown and dark grey; frequent decomposed seams and clay seams; iron stained. Ashfield Shale.			HW	3.17	VL												
					XW		SEAM												
	4																		
					HW	4.06	L	96	0										
					XW		SEAM												
	5																		
	5.30	SILTSTONE: brown to black; crushed seams potentially from faulting; occasional iron staining. Ashfield Shale.			HW	5.30	VL												
	6																		
					HW	6.10	L												
					SW	6.50	M	100	65										
	7.00	SILTSTONE: dark grey; <5% pale grey fine to medium grained sandstone laminations. Ashfield Shale.			XW	6.83	SEAM												
	8																		
					SW														
	9																		
	9.76				FR														

NOTES: *Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.10m, NMLC to 20.35m
REMARKS:

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges
CASING: HWT to 1m

Refer to explanatory notes for symbol and abbreviation definitions



BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 95.5 AHD
COORDINATE: E:311839.2, N:6265615.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH208
PROJECT No: 233937.00
DATE: 09/07/25
SHEET: 3 of 4

CONDITIONS ENCOUNTERED											SAMPLE			TESTING					
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
	85	[CONT] SILTSTONE: dark grey; <5% pale grey fine to medium grained sandstone laminations. Ashfield Shale.						100	91		SM, 1mm 8.57m: JT, 40°, IR, CN, RF 8.62m: JT, 40°, IR, CN 8.64-8.66m: JT, 50°, IR, CN, RF 9.32m: B, 0°, PR, CT Clay, SM, 1mm								
	11						M				11.10m: JT, 40°, PR, CN, SM				11	PLT	PL(A)=0.66MPa		
	11.65	SILTSTONE: dark grey; with 10-20% pale grey fine to medium grained sandstone laminations. Ashfield Shale.				11.50					11.39m: JT x2, 80°, PR, CN, RF, 11.29-11.5m								
	12							100	100						12	PLT	PL(A)=1.5MPa		
	13														13	PLT	PL(A)=1.3MPa		
	14										14.03m: JT, 40°, PR, CN, SM				14	PLT	PL(A)=1.8MPa		
	15				FR		H				14.83m: JT, 20°, PR, CN, SM				15	PLT	PL(A)=2.9MPa		
	16.00	SILTSTONE: dark grey; with <5% pale grey fine to medium grained sandstone laminations. Ashfield shale.						100	100		15.45m: JT, 40°, PR, CN, RF				16	PLT	PL(A)=1.7MPa		
	17														17	PLT	PL(A)=1.2MPa		
	18										17.70m: JT, 50°, PR, CN, SM				18	PLT	PL(A)=2.1MPa		
	19					18.50		100	100						19	PLT	PL(A)=0.95MPa		
							M									PLT	PL(A)=0.79MPa		

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.10m, NMLC to 20.35m
REMARKS:

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges
CASING: HWT to 1m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 95.5 AHD
COORDINATE: E:311839.2, N:6265615.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH208
PROJECT No: 233937.00
DATE: 09/07/25
SHEET: 4 of 4

CONDITIONS ENCOUNTERED											SAMPLE			TESTING												
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered) SOIL MOISTURE	GRAPHIC	WEATH.			DEPTH (m)	STRENGTH			RECOVERY (%)	RQD	FRACTURE SPACING (m)			DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
						RS LS XW AM DW MW SW FR	VL L M H VH EH	FR		0.05% 0.5% 1% 5.0%	0.05% 0.5% 1% 5.0%	0.05% 0.5% 1% 5.0%														
		75	[CONT] SILTSTONE: dark grey; with <5% pale grey fine to medium grained sandstone laminations. Ashfield shale. Borehole discontinued at 20.35m depth. Target depth reached.			FR				M	100	100														
		21																								
		74																								
		22																								
		73																								
		23																								
		72																								
		24																								
		71																								
		25																								
		70																								
		26																								
		69																								
		27																								
		68																								
		28																								
		67																								
		29																								
		66																								

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.10m, NMLC to 20.35m
REMARKS:

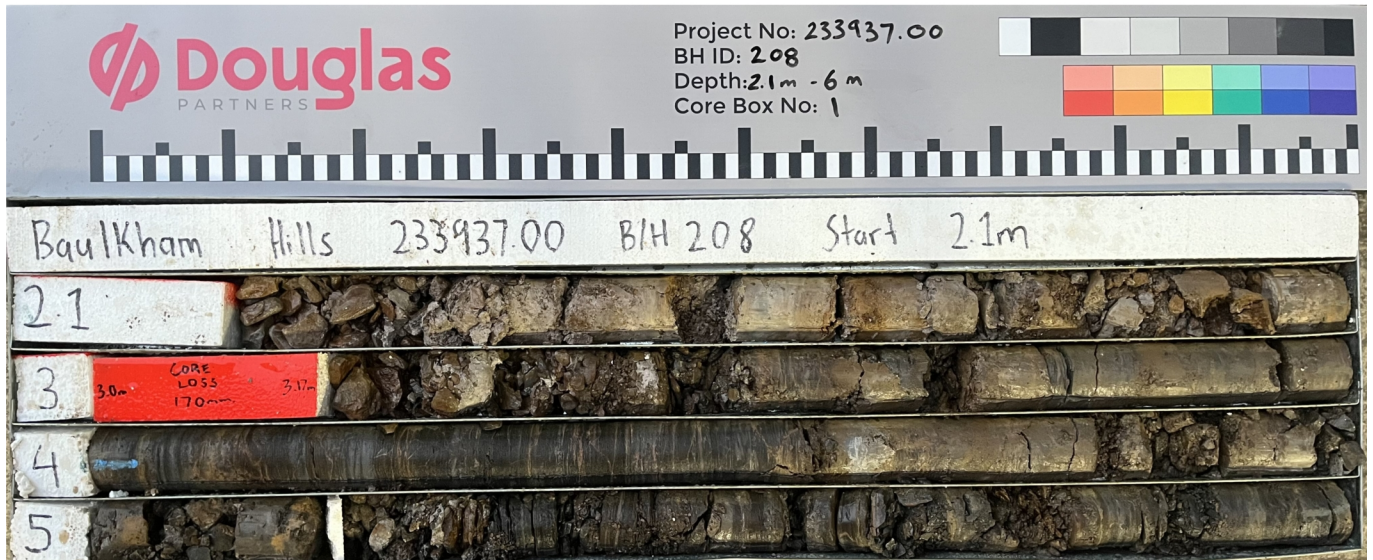
OPERATOR: Ground Test (S. Salib)
LOGGED: C. Lambert-Bridges
CASING: HWT to 1m

CORE PHOTO LOG

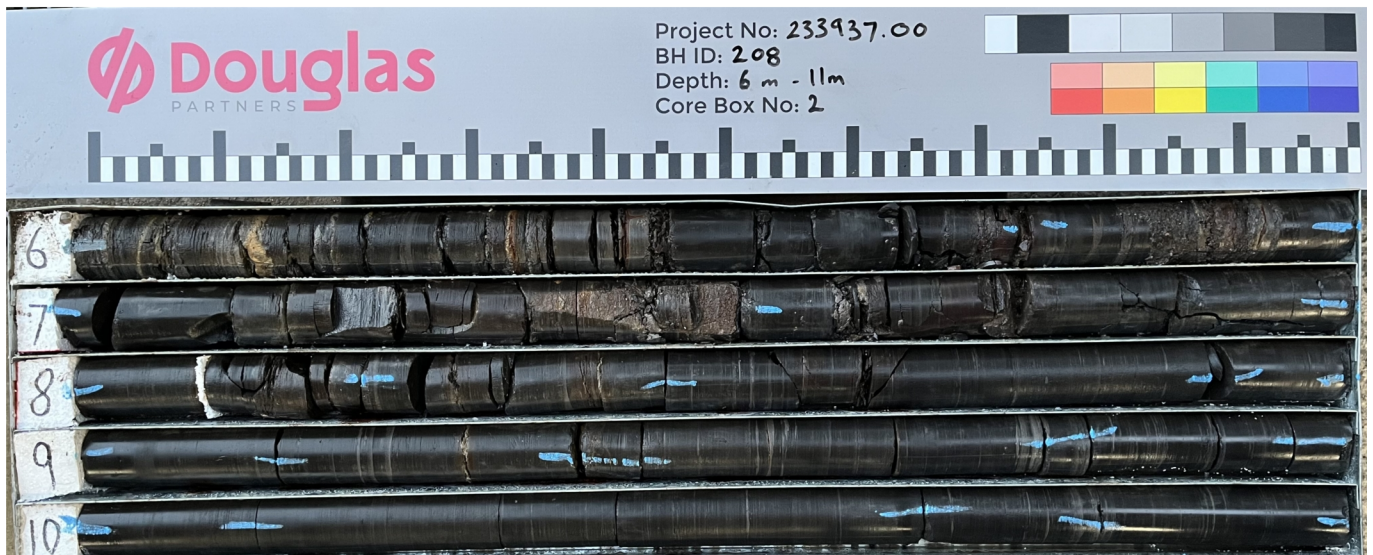
CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 95.5 AHD
COORDINATE: E:311839.2, N:6265615.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH208
PROJECT No: 233937.00
DATE: 09/07/25
SHEET: 1 of 2



2.10-6.00 m depth



6.00-11.00 m depth

CORE PHOTO LOG

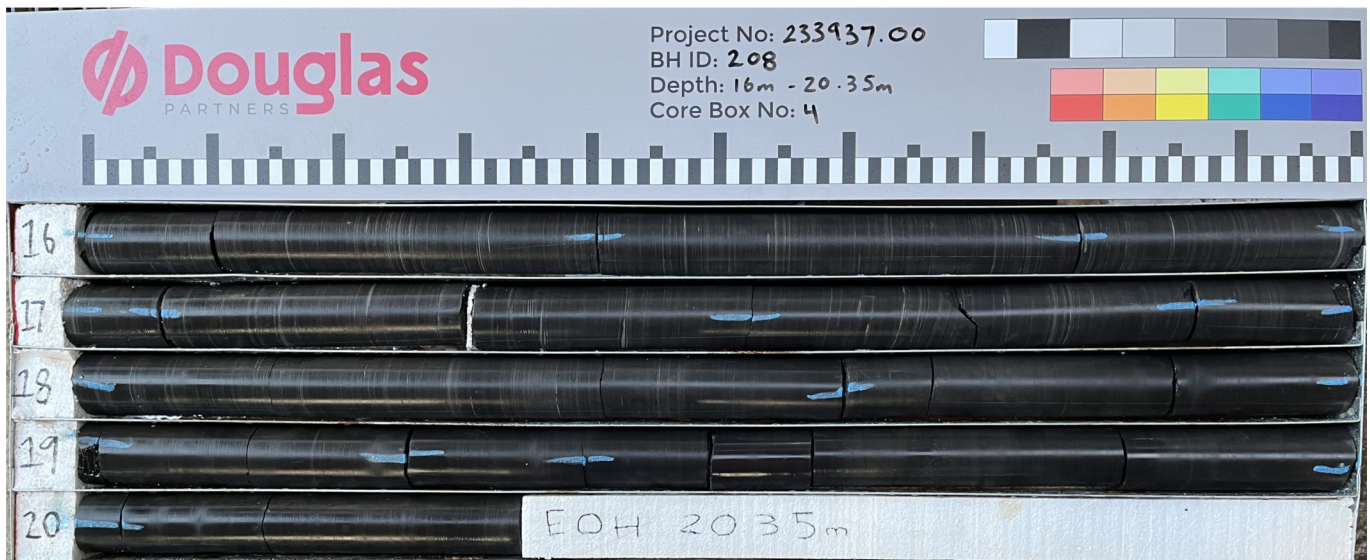
CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 95.5 AHD
COORDINATE: E:311839.2, N:6265615.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH208
PROJECT No: 233937.00
DATE: 09/07/25
SHEET: 2 of 2



11.00-16.00 m depth



16.00-20.35 m depth

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 96.7 AHD
COORDINATE: E:311876.1, N:6265601.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH209
PROJECT No: 233937.00
DATE: 10/07/25
SHEET: 1 of 4

CONDITIONS ENCOUNTERED							SAMPLE			TESTING AND REMARKS				
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(%)	CONSIS. (%) DENSITY, (°)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS		
09/07/25 No Free Groundwater Observed Whilst Augering	0.25	TOPSOIL / CLAY: dark brown; medium plasticity; with rootlets.		TOP / TOP	ND	w=PL	X2	A		0.10	SPT	3,6,11 N=17		
		CLAY (CH): red-brown; high plasticity.											0.30	
		0.65m-1.40m: Orange-brown		RS	St to VSt				SPT	0.50				
									A	0.70				
									B					
									A	1.00				
	1.40	CLAY (CH): pale grey; high plasticity; with pockets of highly weathered very low strength siltstone.												
				XWM	(H)			w<PL						
	2.20	Continued as rock log												

NOTES: ^(a)Soil origin is "probable" unless otherwise stated. ^(b)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.20m, NMLC to 20.25m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges /
CASING: HWT to 1m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 96.7 AHD
COORDINATE: E:311876.1, N:6265601.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH209
PROJECT No: 233937.00
DATE: 10/07/25
SHEET: 2 of 4

GROUNDWATER	CONDITIONS ENCOUNTERED												SAMPLE			TESTING				
	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered) SOIL MOISTURE	GRAPHIC	WEATH. RS RW DW MW SW FR	DEPTH (m) VL L M H VH EH	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
09/07/25 No Free Groundwater Observed Whilst Augering	96	1														1				
		2	Continued from soil log													2				
	2.32		SILTSTONE: grey-brown; 10% clay, Ashfield Shale.				2.32	L												
							2.60	M												
							2.80	VL												
		3					3.00	L	90	0		2.32-3.35m: FG								
							3.35	VL												
	93	4.00	SILTSTONE: pale grey and grey; Ashfield Shale.									3.35-3.55m: B x4, 0-5°, CT Clay, 1-3 mm								
												3.55-3.80m: FG								
												3.80m: EW, 10mm								
												3.88m: JT, 30°, PR, CN, SM					PLT	PL(A)=0.20MPa		
												4.05m: B, PR, VNR Clay, SM								
											4.15m: JT, 30°, PR, CN, SM									
											4.40m: B, PR, VNR Clay, SM					PLT	PL(A)=0.20MPa			
											4.55m: B, 0°, Clay 20mm									
											4.81m: B, PR, VNR Clay, SM									
92	5					HW					5.14m: B, PR, SN Fe, SM									
											5.36m: JT, 45°, PR, CN, SM					PLT	PL(A)=0.17MPa			
											5.60m: JT, 45°, PR, CN, SM									
											5.65m: JT, 80°, PR, CN, SM									
											5.75m: B, PR, VNR Clay, SM									
											5.85m: JT, 80°, TI									
											6.00m: JT, 85°, UN, CN, RF									
											6.25m: JT, 80°, UN, CN, RF					PLT	PL(A)=0.23MPa			
											6.40m: JT, 45°, PR, CN, SM									
											6.55-6.60m: EW, 50mm					PLT	PL(A)=3.5MPa			
90	6.60	SILTSTONE: grey and dark grey; with 5% sandstone laminations, Ashfield Shale.					6.60	M	100	98		7.18m: B, PR, VNR Clay, SM								
							6.75	VH				7.28m: B, PR, CN, SM								
							6.85					7.55m: EW, 20mm					PLT	PL(A)=0.43MPa		

NOTES: *Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.20m, NMLC to 20.25m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges /
CASING: HWT to 1m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 96.7 AHD
COORDINATE: E:311876.1, N:6265601.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH209
PROJECT No: 233937.00
DATE: 10/07/25
SHEET: 3 of 4

CONDITIONS ENCOUNTERED										SAMPLE			TESTING									
GROUNDWATER	FL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered) SOIL MOISTURE	GRAPHIC	FS XW LW HW MW SW FR	WEATH.	DEPTH (m)	STRENGTH VL L M H VH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
			[CONT] SILTSTONE: grey and dark grey; with 5% sandstone laminations, Ashfield Shale.					10.00		100	100								PLT	PL(A)=0.42MPa		
	86	11							M				10.90m: B, 0°, PR, CN, SM				11	PLT	PL(A)=0.64MPa			
	85	12.00	INTERBEDDED SILTSTONE AND SANDSTONE: : 30-70%, pale grey, fine to medium grained sandstone interbedded and interlaminated with grey and dark grey siltstone. Ashfield Shale.					12.00		100	100							12	PLT	PL(A)=2.1MPa		
	84	13											13.15m: JT, 45°, PR, CN, SM				13	PLT	PL(A)=2.1MPa			
	83	14															14					
	82	15					FR		H								15	PLT	PL(A)=1.8MPa			
	81	16.00	SILTSTONE: dark grey; with 5% sandstone laminations, Ashfield Shale.							100	100							16	PLT	PL(A)=2.1MPa		
	80	17											16.80-17.00m: JT, 85°, PR, CN, SM				17	PLT	PL(A)=1.3MPa			
	79	18											17.65m: JT, 45°, PR, CN, SM, TI				18	PLT	PL(A)=1.5MPa			
	78	19							H		100	100					19	PLT	PL(A)=1.5MPa			
	77							19.50	M H													

NOTES: 1)Soil origin is "probable" unless otherwise stated.

NOTES: *Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.20m, NMLC to 20.25m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges /
CASING: HWT to 1m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 96.7 AHD
COORDINATE: E:311876.1, N:6265601.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH209
PROJECT No: 233937.00
DATE: 10/07/25
SHEET: 4 of 4

CONDITIONS ENCOUNTERED											SAMPLE			TESTING										
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered)		SOIL MOISTURE		GRAPHIC	WEATH.		DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
				RS	SW	DM	DW		SW	FR	20.00	VL	L	M	H		VH	EH						PLT
			[CONT] SILTSTONE: dark grey; with 5% sandstone laminations, Ashfield Shale.						FR				100	100										
	76	21	Borehole discontinued at 20.25m depth. Target depth reached.																					
	75	22																						
	74	23																						
	73	24																						
	72	25																						
	71	26																						
	70	27																						
	69	28																						
	68	29																						
	67																							

NOTES: ⑥Soil origin is "probable" unless otherwise stated.

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 1.0m, WB to 2.20m, NMLC to 20.25m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: C. Lambert-Bridges /
CASING: HWT to 1m

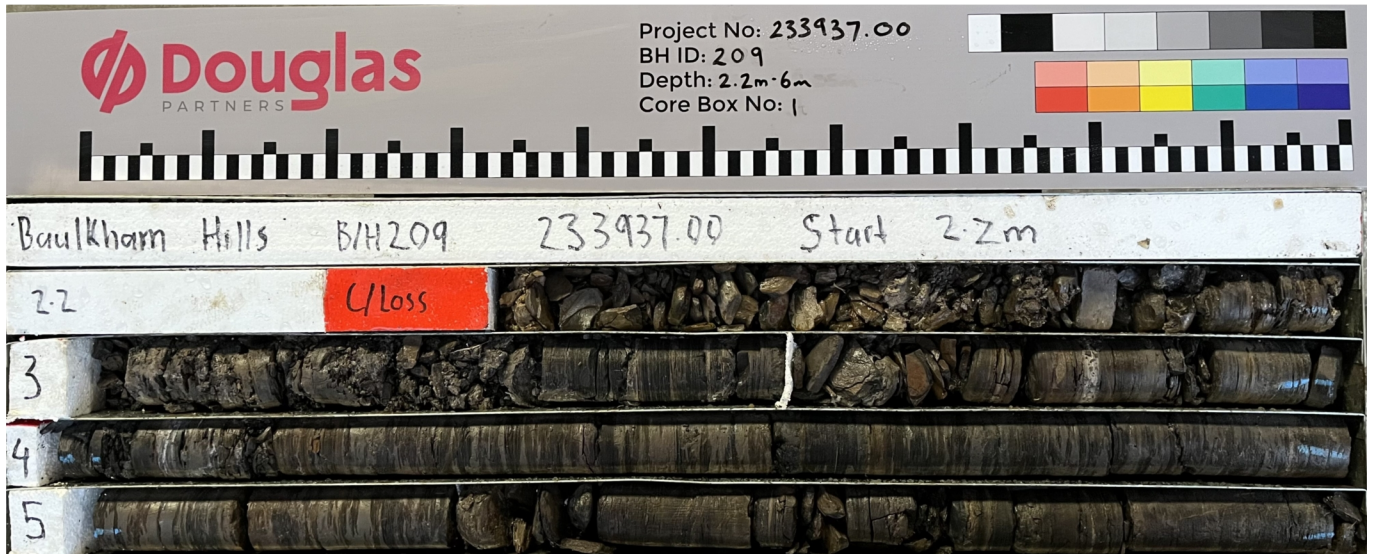


CORE PHOTO LOG

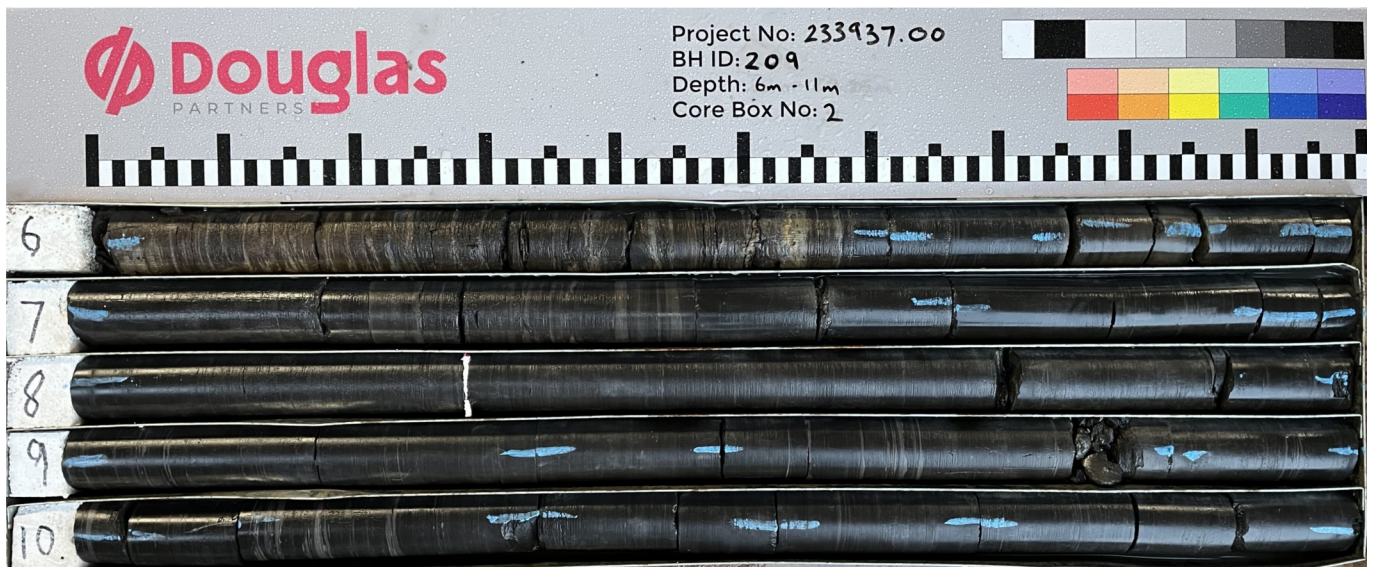
CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 96.7 AHD
COORDINATE: E:311876.1, N:6265601.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH209
PROJECT No: 233937.00
DATE: 10/07/25
SHEET: 1 of 2



2.20-6.00 m depth



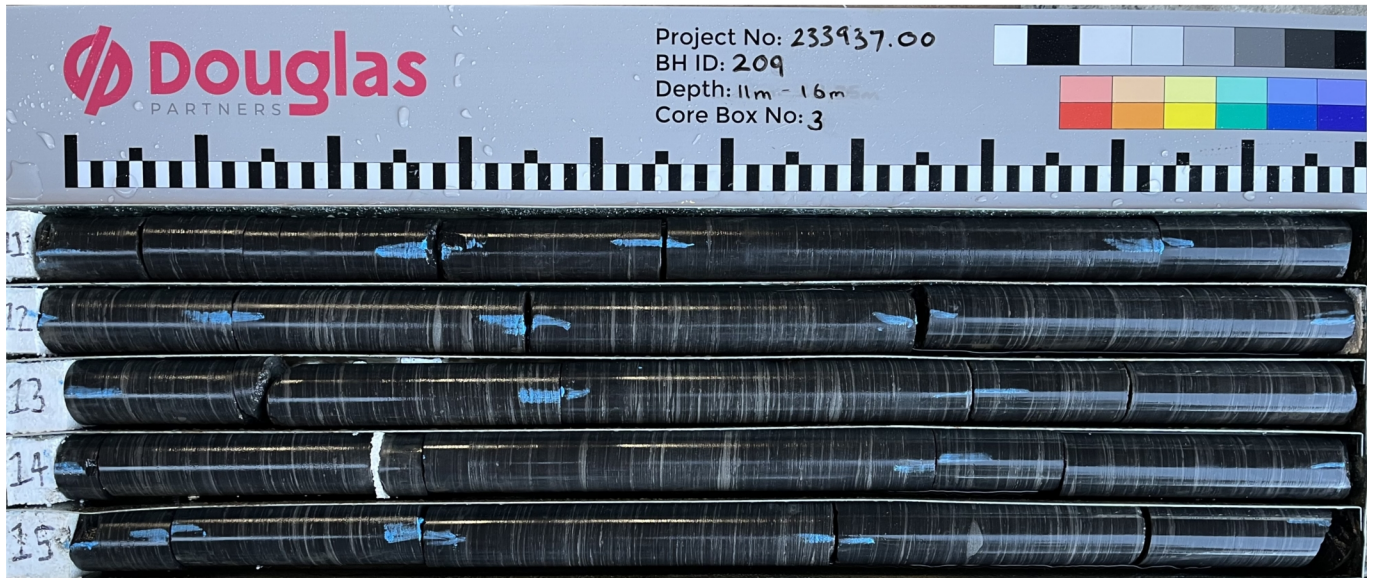
6.00-11.00 m depth

CORE PHOTO LOG

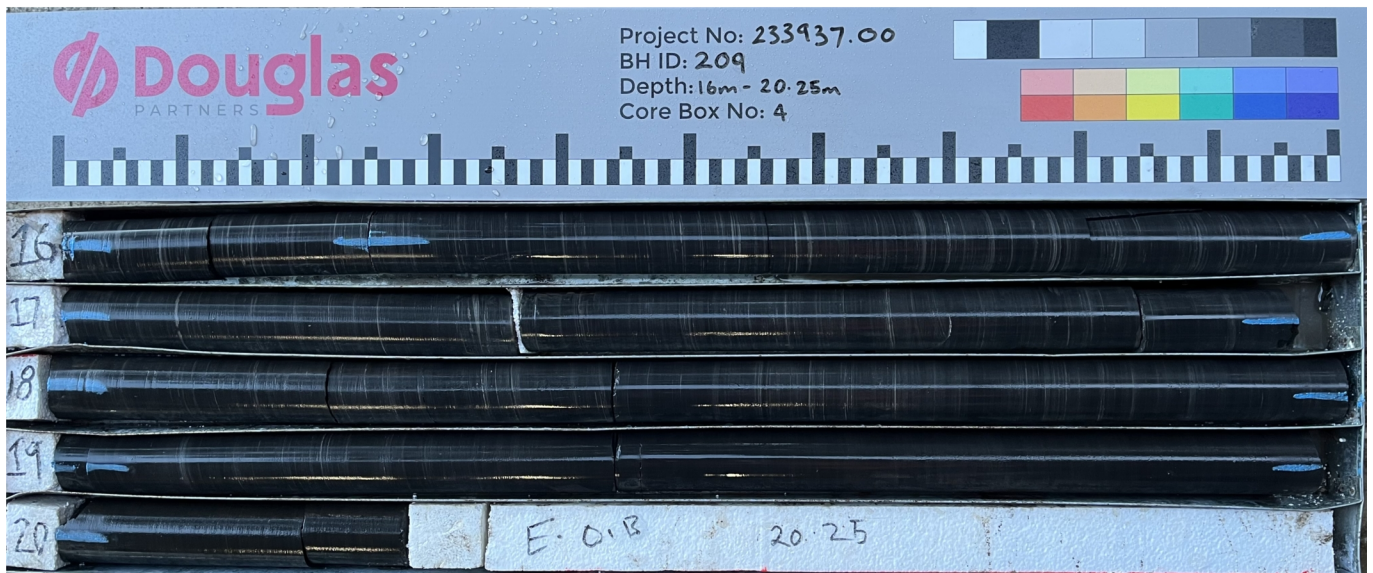
CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 96.7 AHD
COORDINATE: E:311876.1, N:6265601.0
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH209
PROJECT No: 233937.00
DATE: 10/07/25
SHEET: 2 of 2



11.00-16.00 m depth



16.00-20.25 m depth

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 100.7 AHD
COORDINATE: E:311907.6, N:6265619.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH210
PROJECT No: 233937.00
DATE: 18/07/25
SHEET: 1 of 3

CONDITIONS ENCOUNTERED						SAMPLE			TESTING AND REMARKS			
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	ORIGIN(#)	CONSIS. ^(*) DENSITY, ^(*)	MOISTURE	REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS
	0.20	TOPSOIL / Silty CLAY trace grass roots: grey; low plasticity.		TOP FILL	ND	w<PL		A		0.10		SPT 12,15,18 N=33
	1.00	CLAY (CH): grey brown; high plasticity.		RS	(St)	w=PL		A		0.40 0.50		
	1.20	CLAY (CI): brown; medium plasticity.		RS	VSt - H	w<PL		A		0.90 1.00		
								SPT		1.45		
	2.00	Continued as rock log								2		
	3									3		
	4									4		
	5									5		
	6									6		
	7									7		
	8									8		
	9									9		

NOTES: ^(*)Soil origin is "probable" unless otherwise stated. ^(*)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

NOTES: ^(a)Soil origin is "probable" unless otherwise stated. ^(c)Consistency/Relative density shading is for visual reference only - no correlation between cohesive and granular materials is implied.

PLANT: Explorer
METHOD: AD/T to 2.0m, NMLC to 10.20m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 2m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 100.7 AHD
COORDINATE: E:311907.6, N:6265619.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH210
PROJECT No: 233937.00
DATE: 18/07/25
SHEET: 2 of 3

CONDITIONS ENCOUNTERED														SAMPLE			TESTING			
GROUNDWATER	DEPTH (m)	DESCRIPTION OF STRATA	SOIL STRENGTH (where encountered) SOIL MOISTURE	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE	
	100																			
	1																			
	2	Continued from soil log																		
	2.55	SILTSTONE: grey-brown. Ashfield Shale.																		
	3				MW		M				2.55-3.10m: FG, SN Fe									
	3.25			XW		SEAM					3.25-3.55m: DS, Clay									
	3.55			HW		VL		83	32											
	3.75			MW		L											PLT	PL(A)=0.22MPa		
	4.00	SILTSTONE: grey-brown; 10-20% clay. Ashfield Shale.									3.80-4.20m: FG									
	4.80					VL					4.40-4.55m: FG, Clay									
	5					VL					4.80-4.85m: CS									
	5.15			XW		VL					5.15-5.20m: CS									
	5.50			HW		SEAM					5.50-5.65m: DS									
	5.65					VL					5.85-5.95m: CS									
	5.85					SEAM														
	6.00					SEAM					6.00-6.70m: DS									
	6.70	SILTSTONE: grey and brown. Ashfield Shale.						100	42		6.70-6.90m: FG, SN Fe						PLT	PL(A)=0.30MPa		
	7				MW		L				7.25m: JT, 45°, PR, RF, FG									
	7.50						M				7.50-7.70m: FG, Clay						PLT	PL(A)=0.80MPa		
	7.65										7.70m: JT, 85°, PR, SN Fe, RF						PLT	PL(A)=0.52MPa		
	7.85										7.80m: JT, 30°, PR, SN Fe, RF									
	8										7.85m: JT, 45°, PR, CN, SM						PLT	PL(A)=0.54MPa		
	8.10										8.10m: JT, 80°, UN, CN, RF									
	8.35										8.35m: JT, 35°, UN, Fe, RF									
	8.60										8.60m: JT, 45°, PR, CN, SM									
	8.92										8.92m: JT, 85°, PR, CN, SM									
	9.00	SILTSTONE: grey; 1% fine grained sandstone laminations. Ashfield Shale.			FR		H	100	100		9.10m: JT, 80°, UN, CN, RF						PLT	PL(A)=1.2MPa		
	9.10																PLT	PL(A)=1.2MPa		

NOTES: *Soil origin is "probable" unless otherwise stated.

NOTES: *Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 2.0m, NMLC to 10.20m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 2m

BOREHOLE LOG

CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 100.7 AHD
COORDINATE: E:311907.6, N:6265619.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH210
PROJECT No: 233937.00
DATE: 18/07/25
SHEET: 3 of 3

CONDITIONS ENCOUNTERED											SAMPLE			TESTING					
GROUNDWATER	RL (m)	DEPTH (m)	DESCRIPTION OF STRATA	GRAPHIC	WEATH.	DEPTH (m)	STRENGTH	RECOVERY (%)	RQD	FRACTURE SPACING (m)	DEFECTS & REMARKS	SAMPLE REMARKS	TYPE	INTERVAL	DEPTH (m)	TEST TYPE	RESULTS AND REMARKS	BACKFILL	WELL PIPE
			[CONT] SILTSTONE: grey; 1% fine grained sandstone laminations. Ashfield Shale.		FR			100	100		10.20m: JT, 45°, PR, CN, SM								
	90	11	Borehole discontinued at 10.20m depth. Target depth reached.																
	89	12																	
	88	13																	
	87	14																	
	86	15																	
	85	16																	
	84	17																	
	83	18																	
	82	19																	
	81																		

NOTES: [®]Soil origin is "probable" unless otherwise stated.

NOTES: #Soil origin is "probable" unless otherwise stated.

PLANT: Explorer
METHOD: AD/T to 2.0m, NMLC to 10.20m
REMARKS: Grass cover at surface

OPERATOR: Ground Test (S. Salib)

LOGGED: S. Islam
CASING: HW to 2m



CORE PHOTO LOG

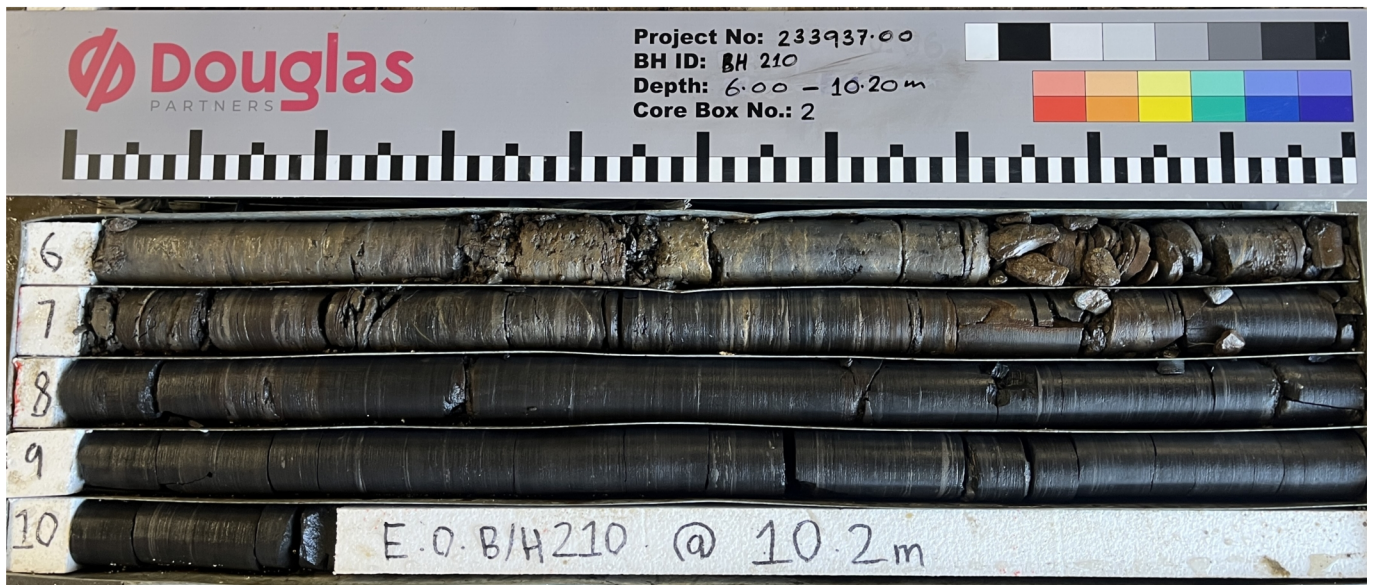
CLIENT: GreenSquareDC Pty Ltd
PROJECT: Green Square DC SYDGPU1
LOCATION: 3 Brookhollow Avenue, Baulkham Hills, NSW 2153

SURFACE LEVEL: 100.7 AHD
COORDINATE: E:311907.6, N:6265619.2
DATUM/GRID: MGA2020 Zone 56
DIP/AZIMUTH: 90°/---°

LOCATION ID: BH210
PROJECT No: 233937.00
DATE: 18/07/25
SHEET: 1 of 1



2.00-6.00 m depth



6.00-10.20 m depth

Appendix D

Laboratory Test Results

Material Test Report

Report Number: 233937.00-1
Issue Number: 1
Date Issued: 20/06/2025
Client: GreenSquareDC Pty Ltd
Level 5, 66 Hunter Street, Sydney NSW
Contact: Simon van Rooyen
Project Number: 233937.00
Project Name: Green Square DC SYDGPU1
Project Location: 3 Brookhollow Avenue, Baulkham Hills NSW
Work Request: 12360
Sample Number: SY-12360A
Date Sampled: 23/05/2025
Dates Tested: 28/05/2025 - 17/06/2025
Sampling Method: Sampled by Engineering Department
The results apply to the sample as received
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: BH105 (1.6-3.2m)
Material: CLAY: pale grey

Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	45		
Plastic Limit (%)	22		
Plasticity Index (%)	23		
Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	11.0		
Cracking Crumbling Curling	None		
Moisture Content (AS 1289 2.1.1)		Min	Max
Moisture Content (%)	21.6		



Douglas Partners Pty Ltd

Sydney Laboratory

96 Hermitage Road West Ryde NSW 2114

Phone: (02) 9809 0666

Email: andrew.hutchings@douglaspartners.com.au

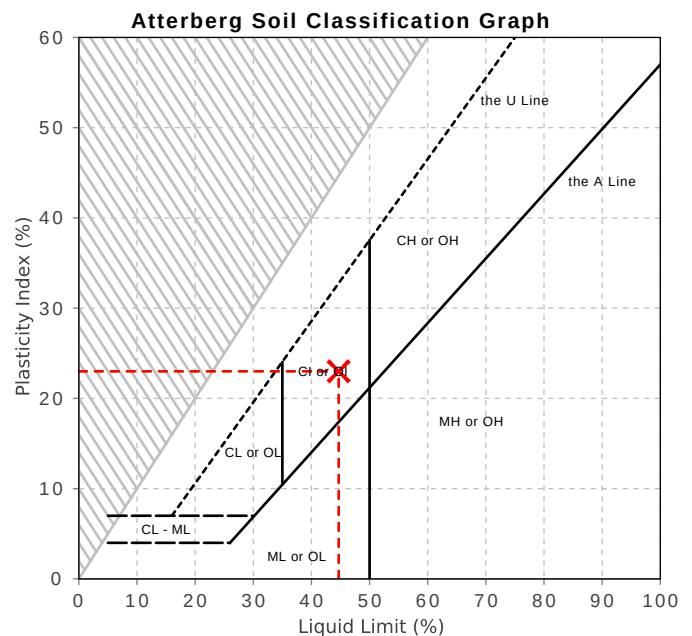
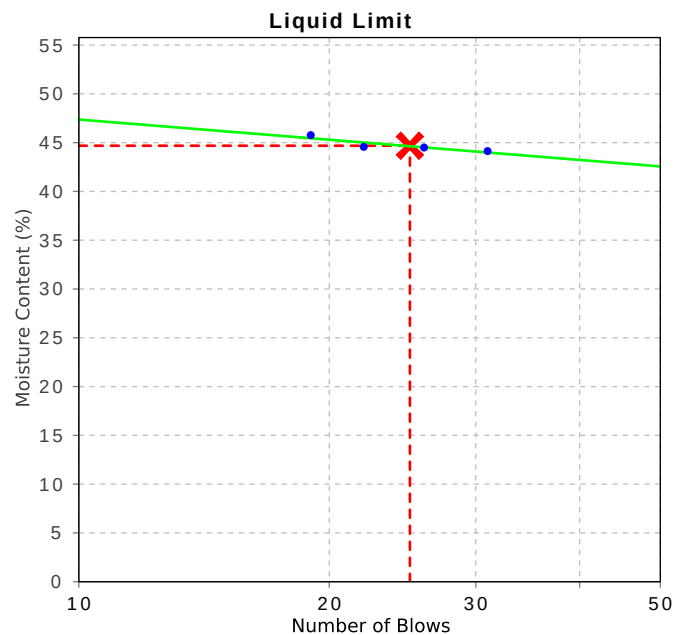


Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Andrew Hutchings

Associate / Laboratory Manager

Laboratory Accreditation Number: 828



Material Test Report

Report Number: 233937.00-1
Issue Number: 1
Date Issued: 20/06/2025
Client: GreenSquareDC Pty Ltd
Level 5, 66 Hunter Street, Sydney NSW
Contact: Simon van Rooyen
Project Number: 233937.00
Project Name: Green Square DC SYDGPU1
Project Location: 3 Brookhollow Avenue, Baulkham Hills NSW
Work Request: 12360
Sample Number: SY-12360B
Date Sampled: 23/05/2025
Dates Tested: 28/05/2025 - 20/06/2025
Sampling Method: Sampled by Engineering Department
The results apply to the sample as received
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: BH105 (1.6-3.2m)
Material: CLAY: pale grey



Douglas Partners Pty Ltd

Sydney Laboratory

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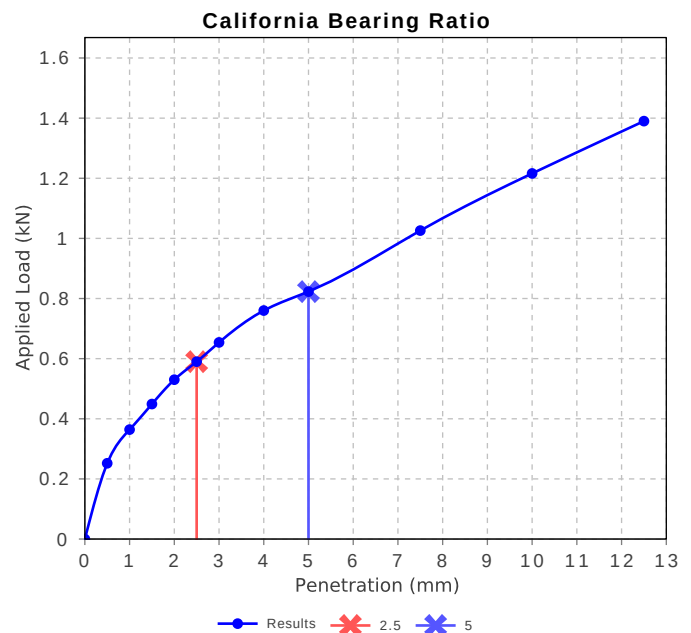
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Andrew Hutchings

Associate / Laboratory Manager

Laboratory Accreditation Number: 828

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	2.5 mm		
CBR %	4.5		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m ³)	1.78		
Optimum Moisture Content (%)	18.0		
Laboratory Density Ratio (%)	100.5		
Laboratory Moisture Ratio (%)	98.5		
Dry Density after Soaking (t/m ³)	1.76		
Field Moisture Content (%)	20.4		
Moisture Content at Placement (%)	17.8		
Moisture Content Top 30mm (%)	19.4		
Moisture Content Rest of Sample (%)	19.0		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours (h)	290		
Swell (%)	2.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.0		



Material Test Report

Report Number: 233937.00-2
Issue Number: 1
Date Issued: 19/08/2025
Client: GreenSquareDC Pty Ltd
Level 5, 66 Hunter Street, Sydney NSW
Contact: Simon van Rooyen
Project Number: 233937.00
Project Name: Green Square DC SYDGPU1
Project Location: 3 Brookhollow Avenue, Baulkham Hills NSW
Work Request: 12484
Sample Number: SY-12484A
Date Sampled: 17/07/2025
Dates Tested: 29/07/2025 - 11/08/2025
Sampling Method: Sampled by Engineering Department
The results apply to the sample as received
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: BH202 (0.40 - 1.0m)
Material: SILTSTONE: grey-brown



Douglas Partners Pty Ltd

Sydney Laboratory

96 Hermitage Road West Ryde NSW 2114

Phone: (02) 9809 0666

Email: andrew.hutchings@douglaspartners.com.au



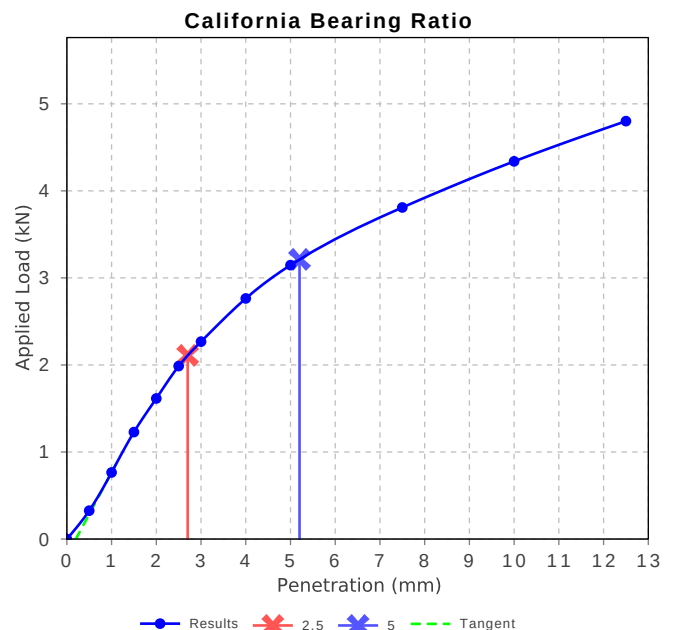
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Andrew Hutchings

Associate / Laboratory Manager

Laboratory Accreditation Number: 828

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	5 mm		
CBR %	16		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m ³)	1.88		
Optimum Moisture Content (%)	15.5		
Laboratory Density Ratio (%)	100.0		
Laboratory Moisture Ratio (%)	100.0		
Dry Density after Soaking (t/m ³)	1.88		
Field Moisture Content (%)	14.6		
Moisture Content at Placement (%)	15.3		
Moisture Content Top 30mm (%)	17.8		
Moisture Content Rest of Sample (%)	16.5		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours (h)	72.1		
Swell (%)	0.0		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	11.2		



Material Test Report

Report Number: 233937.00-2
Issue Number: 1
Date Issued: 19/08/2025
Client: GreenSquareDC Pty Ltd
Level 5, 66 Hunter Street, Sydney NSW
Contact: Simon van Rooyen
Project Number: 233937.00
Project Name: Green Square DC SYDGPU1
Project Location: 3 Brookhollow Avenue, Baulkham Hills NSW
Work Request: 12484
Sample Number: SY-12484A
Date Sampled: 17/07/2025
Dates Tested: 29/07/2025 - 18/08/2025
Sampling Method: Sampled by Engineering Department
The results apply to the sample as received
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: BH202 (0.40 - 1.0m)
Material: SILTSTONE: grey-brown

Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	40		
Plastic Limit (%)	23		
Plasticity Index (%)	17		



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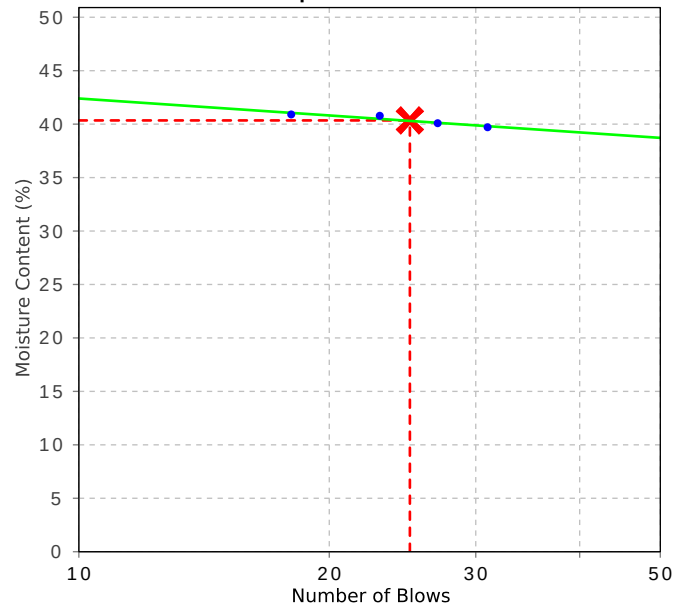
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Andrew Hutchings

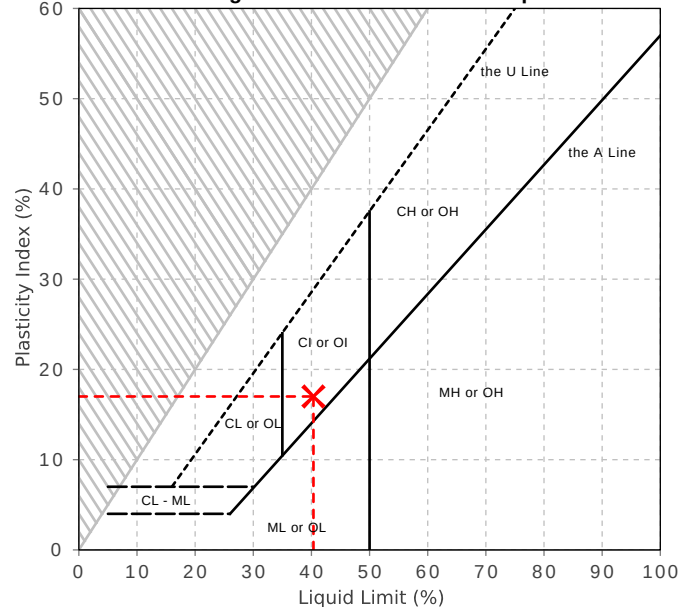
Associate / Laboratory Manager

Laboratory Accreditation Number: 828

Liquid Limit



Atterberg Soil Classification Graph



Material Test Report

Report Number: 233937.00-2
Issue Number: 1
Date Issued: 19/08/2025
Client: GreenSquareDC Pty Ltd
Level 5, 66 Hunter Street, Sydney NSW
Contact: Simon van Rooyen
Project Number: 233937.00
Project Name: Green Square DC SYDGPU1
Project Location: 3 Brookhollow Avenue, Baulkham Hills NSW
Work Request: 12484
Sample Number: SY-12484B
Date Sampled: 10/07/2025
Dates Tested: 29/07/2025 - 15/08/2025
Sampling Method: Sampled by Engineering Department
The results apply to the sample as received
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: BH209 (0.3 - 1.0m)
Material: CLAY: red-brown, trace gravel



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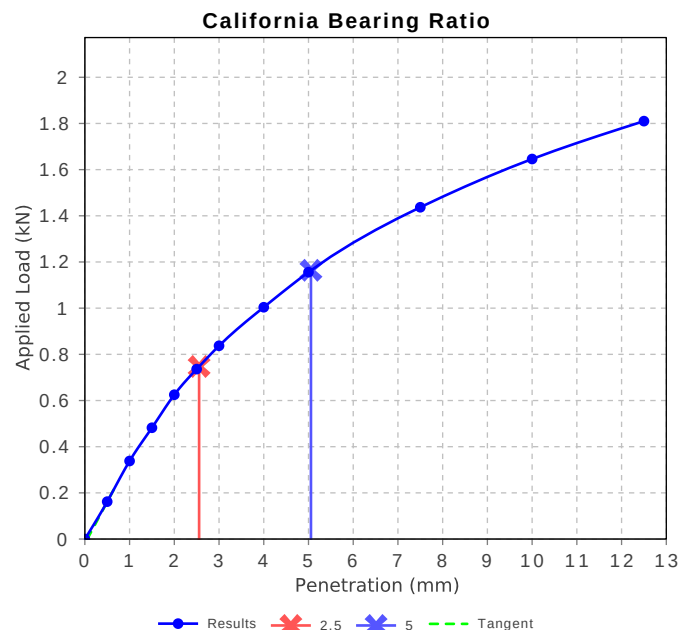
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Andrew Hutchings

Associate / Laboratory Manager

Laboratory Accreditation Number: 828

California Bearing Ratio (AS 1289 6.1.1 & 2.1.1)		Min	Max
CBR taken at	5 mm		
CBR %	6		
Method of Compactive Effort	Standard		
Method used to Determine MDD	AS 1289 5.1.1 & 2.1.1		
Method used to Determine Plasticity	Visual Assessment		
Maximum Dry Density (t/m ³)	1.47		
Optimum Moisture Content (%)	29.0		
Laboratory Density Ratio (%)	99.5		
Laboratory Moisture Ratio (%)	103.0		
Dry Density after Soaking (t/m ³)	1.45		
Field Moisture Content (%)	30.2		
Moisture Content at Placement (%)	29.7		
Moisture Content Top 30mm (%)	31.7		
Moisture Content Rest of Sample (%)	30.2		
Mass Surcharge (kg)	4.5		
Soaking Period (days)	4		
Curing Hours (h)	146.6		
Swell (%)	0.5		
Oversize Material (mm)	19		
Oversize Material Included	Excluded		
Oversize Material (%)	0.6		
Sample moulded 0.9% wet of optimum moisture content			



Material Test Report

Report Number: 233937.00-2
Issue Number: 1
Date Issued: 19/08/2025
Client: GreenSquareDC Pty Ltd
Level 5, 66 Hunter Street, Sydney NSW
Contact: Simon van Rooyen
Project Number: 233937.00
Project Name: Green Square DC SYDGPU1
Project Location: 3 Brookhollow Avenue, Baulkham Hills NSW
Work Request: 12484
Sample Number: SY-12484B
Date Sampled: 10/07/2025
Dates Tested: 29/07/2025 - 11/08/2025
Sampling Method: Sampled by Engineering Department
The results apply to the sample as received
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: BH209 (0.3 - 1.0m)
Material: CLAY: red-brown, trace gravel

Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	56		
Plastic Limit (%)	29		
Plasticity Index (%)	27		



Douglas Partners Pty Ltd

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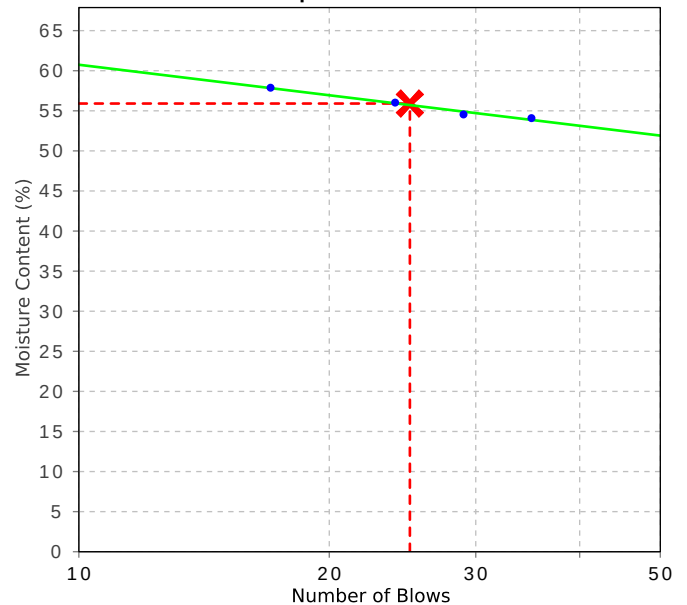
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Andrew Hutchings

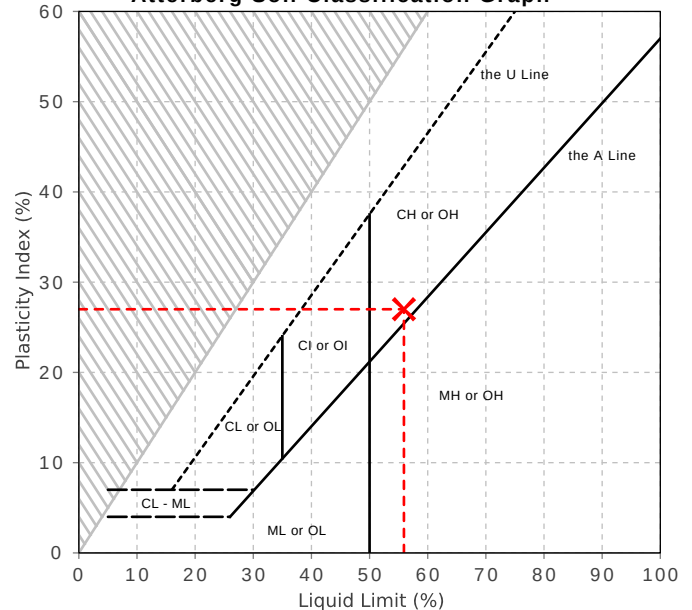
Associate / Laboratory Manager

Laboratory Accreditation Number: 828

Liquid Limit



Atterberg Soil Classification Graph



Material Test Report

Report Number: 233937.00-2
Issue Number: 1
Date Issued: 19/08/2025
Client: GreenSquareDC Pty Ltd
Level 5, 66 Hunter Street, Sydney NSW
Contact: Simon van Rooyen
Project Number: 233937.00
Project Name: Green Square DC SYDGPU1
Project Location: 3 Brookhollow Avenue, Baulkham Hills NSW
Work Request: 12484
Sample Number: SY-12484C
Date Sampled: 11/07/2025
Dates Tested: 29/07/2025 - 15/08/2025
Sampling Method: Sampled by Engineering Department
The results apply to the sample as received
Preparation Method: AS 1289.1.1 - Sampling and Preparation of Soils
Sample Location: BH201 (1.0 - 1.42m)
Material: CLAY: pale grey-brown

Atterberg Limit (AS1289 3.1.1 & 3.2.1 & 3.3.1)		Min	Max
Sample History	Oven Dried		
Preparation Method	Dry Sieve		
Liquid Limit (%)	34		
Plastic Limit (%)	21		
Plasticity Index (%)	13		
Linear Shrinkage (AS1289 3.4.1)		Min	Max
Moisture Condition Determined By	AS 1289.3.1.1		
Linear Shrinkage (%)	8.5		
Cracking Crumbling Curling	None		



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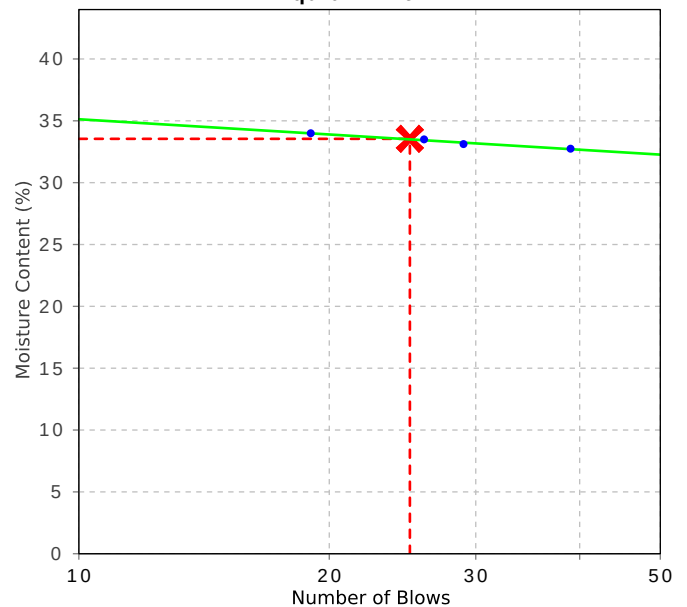
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Andrew Hutchings

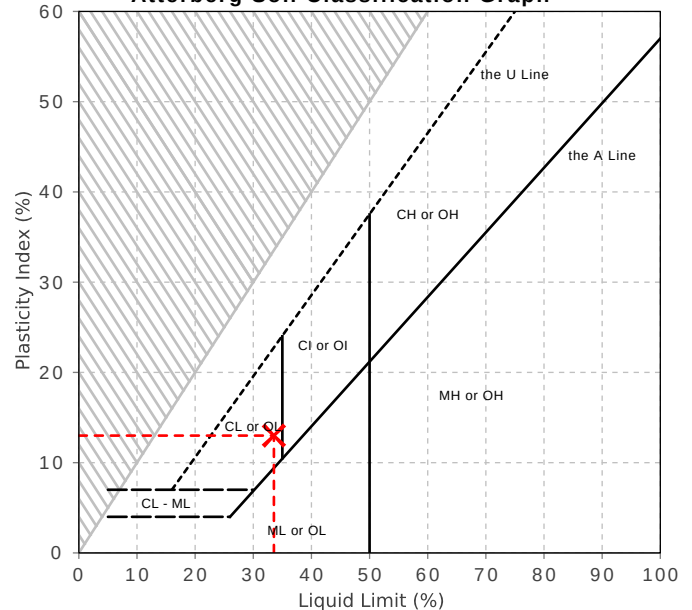
Associate / Laboratory Manager

Laboratory Accreditation Number: 828

Liquid Limit



Atterberg Soil Classification Graph



CERTIFICATE OF ANALYSIS 381866

Client Details

Client	Douglas Partners Pty Ltd
Attention	Adam Teoh
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	<u>233937.00 Baulkham Hills</u>
Number of Samples	4 Soil
Date samples received	28/05/2025
Date completed instructions received	28/05/2025

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Please refer to the last page of this report for any comments relating to the results.

Report Details

Date results requested by	04/06/2025
Date of Issue	04/06/2025
NATA Accreditation Number 2901. This document shall not be reproduced except in full.	
Accredited for compliance with ISO/IEC 17025 - Testing. Tests not covered by NATA are denoted with *	

Results Approved By

Diego Bigolin, Inorganics Supervisor
 Tabitha Roberts, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

Soil Aggressivity					
Our Reference		381866-1	381866-2	381866-3	381866-4
Your Reference	UNITS	BH107	BH109	BH110	BH110
Depth		4.1-4.45	1-1.45	4.5-4.95	6-6.45
Date Sampled		21/05/2025	21/05/2025	20/05/2025	20/05/2025
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	30/05/2025	30/05/2025	30/05/2025	30/05/2025
Date analysed	-	30/05/2025	30/05/2025	30/05/2025	30/05/2025
pH 1:5 soil:water	pH Units	5.6	5.2	5.3	5.3
Electrical Conductivity 1:5 soil:water	µS/cm	34	90	[NA]	[NA]
Chloride, Cl 1:5 soil:water	mg/kg	<10	66	10	43
Sulphate, SO4 1:5 soil:water	mg/kg	20	45	27	64

Texture and Salinity*			
Our Reference		381866-3	381866-4
Your Reference	UNITS	BH110	BH110
Depth		4.5-4.95	6-6.45
Date Sampled		20/05/2025	20/05/2025
Type of sample		Soil	Soil
Date prepared	-	29/05/2025	29/05/2025
Date analysed	-	29/05/2025	29/05/2025
Electrical Conductivity 1:5 soil:water	µS/cm	57	87
Texture Value	-	7.0	7.0
Texture	-	MEDIUM CLAY	MEDIUM CLAY
ECe	dS/m	<2	<2
Class	-	NON SALINE	NON SALINE

ESP/CEC			
Our Reference		381866-3	381866-4
Your Reference	UNITS	BH110	BH110
Depth		4.5-4.95	6-6.45
Date Sampled		20/05/2025	20/05/2025
Type of sample		Soil	Soil
Date prepared	-	04/06/2025	04/06/2025
Date analysed	-	04/06/2025	04/06/2025
Exchangeable Ca	meq/100g	0.3	0.1
Exchangeable K	meq/100g	0.2	0.3
Exchangeable Mg	meq/100g	2.0	3.6
Exchangeable Na	meq/100g	0.6	1.0
Cation Exchange Capacity	meq/100g	3.1	5.0
ESP	%	19	20

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
INORG-123	Determined using a "Texture by Feel" method.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.

QUALITY CONTROL: Soil Aggressivity					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			30/05/2025	1	30/05/2025	30/05/2025		30/05/2025	[NT]
Date analysed	-			30/05/2025	1	30/05/2025	30/05/2025		30/05/2025	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	1	5.6	5.5	2	100	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	1	34	33	3	103	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	1	<10	<10	0	103	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	1	20	10	67	97	[NT]

QUALITY CONTROL: Texture and Salinity*					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			29/05/2025	[NT]	[NT]	[NT]	[NT]	29/05/2025	[NT]
Date analysed	-			29/05/2025	[NT]	[NT]	[NT]	[NT]	29/05/2025	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	[NT]	[NT]	[NT]	[NT]	103	[NT]

QUALITY CONTROL: ESP/CEC					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			04/06/2025	[NT]	[NT]	[NT]	[NT]	04/06/2025	[NT]
Date analysed	-			04/06/2025	[NT]	[NT]	[NT]	[NT]	04/06/2025	[NT]
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	108	[NT]
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	98	[NT]
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	95	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

Air volumes are typically provided by customers (often as flow rate(s) and sampling time(s) and/or simply volumes) sampled or exposure times (determines 'volume' passive badges are exposed to)). Hence in such circumstances the volume measurement is inevitably not covered by Envirolab's NATA accreditation. An exception may occur where Envirolab Newcastle does the sampling where accreditation exists for certain types of sampling and hence volume determination(s). Note air volumes are often used to determine concentrations for dust and/or analyses on filters, sorbents and in impingers. For canister sampling, the air volume is covered by Envirolab's NATA accreditation.

Urine Analysis - The BEI values listed are taken from the 2022 edition of "TLVs and BEIs Threshold Limits" by ACGIH.

Report Comments

Samples received in good order: Holding time exceedance

CERTIFICATE OF ANALYSIS 387047

Client Details

Client	Douglas Partners Pty Ltd
Attention	Adam Teoh
Address	96 Hermitage Rd, West Ryde, NSW, 2114

Sample Details

Your Reference	<u>233937.00 Baulkham Hills</u>
Number of Samples	14 Soil
Date samples received	29/07/2025
Date completed instructions received	29/07/2025

Analysis Details

Please refer to the following pages for results, methodology summary and quality control data.

Samples were analysed as received from the client unless as indicated below in the method summaries. Results relate specifically to the samples as received.

Results are reported on a dry weight basis for solids and on an as received basis for other matrices.

Report Details

Date results requested by	05/08/2025
Date of Issue	05/08/2025

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Results Approved By

Diego Bigolin, Inorganics Supervisor
Loren Bardwell, Development Chemist
Priya Samarawickrama, Senior Chemist

Authorised By

Nancy Zhang, Laboratory Manager

Misc Inorg - Soil

Our Reference		387047-1	387047-2	387047-3	387047-4	387047-5
Your Reference	UNITS	BH203	BH201	BH206	BH203	BH202
Depth		1.00-1.45	0.90-1.00	0.90-1.00	2.50-2.78	0.40-0.50
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025
Date analysed	-	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025
pH 1:5 soil:water	pH Units	5.2	5.6	6.2	5.3	6.5
Electrical Conductivity 1:5 soil:water	µS/cm	45	26	170	46	[NA]
Chloride, Cl 1:5 soil:water	mg/kg	<10	<10	36	<10	<10
Sulphate, SO4 1:5 soil:water	mg/kg	44	10	130	44	170

Misc Inorg - Soil

Our Reference		387047-6	387047-7	387047-8	387047-9	387047-10
Your Reference	UNITS	BH207	BH207	BH210	BH210	BH204
Depth		0.50-0.60	0.90-1.00	1.00-1.45	0.40-0.50	1.00-1.45
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025
Date analysed	-	31/07/2025	31/07/2025	31/07/2025	31/07/2025	31/07/2025
pH 1:5 soil:water	pH Units	5.4	5.4	5.6	5.4	5.7
Chloride, Cl 1:5 soil:water	mg/kg	<10	20	<10	<10	<10
Sulphate, SO4 1:5 soil:water	mg/kg	85	88	30	20	10

Misc Inorg - Soil

Our Reference		387047-11	387047-12	387047-13	387047-14
Your Reference	UNITS	BH204	BH206	BH205	BH208
Depth		2.5-2.95	1.00-1.45	0.40-0.50	0.90-1.00
Type of sample		Soil	Soil	Soil	Soil
Date prepared	-	31/07/2025	31/07/2025	31/07/2025	31/07/2025
Date analysed	-	31/07/2025	31/07/2025	31/07/2025	31/07/2025
pH 1:5 soil:water	pH Units	5.6	5.6	5.4	5.1
Chloride, Cl 1:5 soil:water	mg/kg	<10	60	<10	<10
Sulphate, SO4 1:5 soil:water	mg/kg	10	110	20	190

ESP/CEC						
Our Reference		387047-5	387047-6	387047-7	387047-8	387047-9
Your Reference	UNITS	BH202	BH207	BH207	BH210	BH210
Depth		0.40-0.50	0.50-0.60	0.90-1.00	1.00-1.45	0.40-0.50
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025
Date analysed	-	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025
Exchangeable Ca	meq/100g	17	3.4	0.3	1.2	1
Exchangeable K	meq/100g	0.4	0.2	0.3	0.4	0.5
Exchangeable Mg	meq/100g	1.4	3.3	3.1	3.7	2.6
Exchangeable Na	meq/100g	<0.1	0.5	1.0	0.2	<0.1
Cation Exchange Capacity	meq/100g	19	7.5	4.7	5.6	4.2
ESP	%	<1	6	22	4	<1

ESP/CEC						
Our Reference		387047-10	387047-11	387047-12	387047-13	387047-14
Your Reference	UNITS	BH204	BH204	BH206	BH205	BH208
Depth		1.00-1.45	2.5-2.95	1.00-1.45	0.40-0.50	0.90-1.00
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025
Date analysed	-	04/08/2025	04/08/2025	04/08/2025	04/08/2025	04/08/2025
Exchangeable Ca	meq/100g	<0.1	<0.1	1.1	0.4	1.0
Exchangeable K	meq/100g	0.1	0.3	0.3	0.1	0.1
Exchangeable Mg	meq/100g	1.3	1.4	4.0	2.1	1.4
Exchangeable Na	meq/100g	0.2	0.6	1.3	0.2	0.2
Cation Exchange Capacity	meq/100g	1.7	2.3	6.7	2.8	2.8
ESP	%	11	26	20	6	7

Texture and Salinity*						
Our Reference	UNITS	387047-5	387047-6	387047-7	387047-8	387047-9
Your Reference		BH202	BH207	BH207	BH210	BH210
Depth		0.40-0.50	0.50-0.60	0.90-1.00	1.00-1.45	0.40-0.50
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025
Date analysed	-	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025
Electrical Conductivity 1:5 soil:water	µS/cm	190	74	86	31	30
Texture Value	-	9.0	9.0	10	6.0	7.0
Texture	-	CLAY LOAM	CLAY LOAM	LOAM	HEAVY CLAY	MEDIUM CLAY
ECe	dS/m	<2	<2	<2	<2	<2
Class	-	NON SALINE	NON SALINE	NON SALINE	NON SALINE	NON SALINE

Texture and Salinity*						
Our Reference	UNITS	387047-10	387047-11	387047-12	387047-13	387047-14
Your Reference		BH204	BH204	BH206	BH205	BH208
Depth		1.00-1.45	2.5-2.95	1.00-1.45	0.40-0.50	0.90-1.00
Type of sample		Soil	Soil	Soil	Soil	Soil
Date prepared	-	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025
Date analysed	-	30/07/2025	30/07/2025	30/07/2025	30/07/2025	30/07/2025
Electrical Conductivity 1:5 soil:water	µS/cm	19	28	150	28	140
Texture Value	-	6.0	10	9.0	7.0	7.0
Texture	-	HEAVY CLAY	LOAM	CLAY LOAM	MEDIUM CLAY	MEDIUM CLAY
ECe	dS/m	<2	<2	<2	<2	<2
Class	-	NON SALINE	NON SALINE	NON SALINE	NON SALINE	NON SALINE

Method ID	Methodology Summary
Inorg-001	pH - Measured using pH meter and electrode. Please note that the results for water analyses are indicative only, as analysis outside of the APHA storage times.
Inorg-002	Conductivity and Salinity - measured using a conductivity cell.
Inorg-081	Anions - a range of Anions are determined by Ion Chromatography, in accordance with APHA latest edition, 4110-B. Waters samples are filtered on receipt prior to analysis. Alternatively determined by colourimetry/turbidity using Discrete Analyser.
INORG-123	Determined using a "Texture by Feel" method.
Metals-020	Determination of exchangeable cations and cation exchange capacity in soils using 1M Ammonium Chloride exchange and ICP-OES analytical finish.

QUALITY CONTROL: Misc Inorg - Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			31/07/2025	1	31/07/2025	31/07/2025		31/07/2025	[NT]
Date analysed	-			31/07/2025	1	31/07/2025	31/07/2025		31/07/2025	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	1	5.2	5.2	0	100	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	1	45	49	9	99	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	<10	1	<10	<10	0	91	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	<10	1	44	47	7	99	[NT]

QUALITY CONTROL: Misc Inorg - Soil					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	[NT]	[NT]
Date prepared	-			[NT]	11	31/07/2025	31/07/2025		[NT]	[NT]
Date analysed	-			[NT]	11	31/07/2025	31/07/2025		[NT]	[NT]
pH 1:5 soil:water	pH Units		Inorg-001	[NT]	11	5.6	5.6	0	[NT]	[NT]
Chloride, Cl 1:5 soil:water	mg/kg	10	Inorg-081	[NT]	11	<10	<10	0	[NT]	[NT]
Sulphate, SO4 1:5 soil:water	mg/kg	10	Inorg-081	[NT]	11	10	10	0	[NT]	[NT]

QUALITY CONTROL: ESP/CEC					Duplicate				Spike Recovery %	
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	387047-8
Date prepared	-			04/08/2025	[NT]	[NT]	[NT]	[NT]	04/08/2025	04/08/2025
Date analysed	-			04/08/2025	[NT]	[NT]	[NT]	[NT]	04/08/2025	04/08/2025
Exchangeable Ca	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	96	97
Exchangeable K	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	94	89
Exchangeable Mg	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	93	95
Exchangeable Na	meq/100g	0.1	Metals-020	<0.1	[NT]	[NT]	[NT]	[NT]	86	82

QUALITY CONTROL: Texture and Salinity*					Duplicate			Spike Recovery %		
Test Description	Units	PQL	Method	Blank	#	Base	Dup.	RPD	LCS-1	[NT]
Date prepared	-			30/07/2025	[NT]	[NT]	[NT]	[NT]	30/07/2025	[NT]
Date analysed	-			30/07/2025	[NT]	[NT]	[NT]	[NT]	30/07/2025	[NT]
Electrical Conductivity 1:5 soil:water	µS/cm	1	Inorg-002	<1	[NT]	[NT]	[NT]	[NT]	99	[NT]

Result Definitions

NT	Not tested
NA	Test not required
INS	Insufficient sample for this test
PQL	Practical Quantitation Limit
<	Less than
>	Greater than
RPD	Relative Percent Difference
LCS	Laboratory Control Sample
NS	Not specified
NEPM	National Environmental Protection Measure
NR	Not Reported

Quality Control Definitions

Blank	This is the component of the analytical signal which is not derived from the sample but from reagents, glassware etc, can be determined by processing solvents and reagents in exactly the same manner as for samples.
Duplicate	This is the complete duplicate analysis of a sample from the process batch. If possible, the sample selected should be one where the analyte concentration is easily measurable.
Matrix Spike	A portion of the sample is spiked with a known concentration of target analyte. The purpose of the matrix spike is to monitor the performance of the analytical method used and to determine whether matrix interferences exist.
LCS (Laboratory Control Sample)	This comprises either a standard reference material or a control matrix (such as a blank sand or water) fortified with analytes representative of the analyte class. It is simply a check sample.
Surrogate Spike	Surrogates are known additions to each sample, blank, matrix spike and LCS in a batch, of compounds which are similar to the analyte of interest, however are not expected to be found in real samples.

Laboratory Acceptance Criteria

Duplicate sample and matrix spike recoveries may not be reported on smaller jobs, however, were analysed at a frequency to meet or exceed NEPM requirements. All samples are tested in batches of 20. The duplicate sample RPD and matrix spike recoveries for the batch were within the laboratory acceptance criteria.

Filters, swabs, wipes, tubes and badges will not have duplicate data as the whole sample is generally extracted during sample extraction.

Spikes for Physical and Aggregate Tests are not applicable.

For VOCs in water samples, three vials are required for duplicate or spike analysis.

Duplicates: >10xPQL - RPD acceptance criteria will vary depending on the analytes and the analytical techniques but is typically in the range 20%-50% – see ELN-P05 QA/QC tables for details; <10xPQL - RPD are higher as the results approach PQL and the estimated measurement uncertainty will statistically increase.

Air volumes are typically provided by customers (often as flow rate(s) and sampling time(s) and/or simply volumes) sampled or exposure times (determines 'volume' passive badges are exposed to)). Hence in such circumstances the volume measurement is inevitably not covered by Envirolab's NATA accreditation. An exception may occur where Envirolab Newcastle does the sampling where accreditation exists for certain types of sampling and hence volume determination(s). Note air volumes are often used to determine concentrations for dust and/or analyses on filters, sorbents and in impingers. For canister sampling, the air volume is covered by Envirolab's NATA accreditation.

Matrix Spikes, LCS and Surrogate recoveries: Generally 70-130% for inorganics/metals (not SPOCAS); 60-140% for organics/SPOCAS (+/-50% surrogates) and 10-140% for labile SVOCs (including labile surrogates), ultra trace organics and speciated phenols is acceptable.

In circumstances where no duplicate and/or sample spike has been reported at 1 in 10 and/or 1 in 20 samples respectively, the sample volume submitted was insufficient in order to satisfy laboratory QA/QC protocols.

When samples are received where certain analytes are outside of recommended technical holding times (THTs), the analysis has proceeded. Where analytes are on the verge of breaching THTs, every effort will be made to analyse within the THT or as soon as practicable.

Where sampling dates are not provided, Envirolab are not in a position to comment on the validity of the analysis where recommended technical holding times may have been breached.

Measurement Uncertainty estimates are available for most tests upon request.

Analysis of aqueous samples typically involves the extraction/digestion and/or analysis of the liquid phase only (i.e. NOT any settled sediment phase but inclusive of suspended particles if present), unless stipulated on the Envirolab COC and/or by correspondence. Notable exceptions include certain Physical Tests (pH/EC/BOD/COD/Apparent Colour etc.), Solids testing, total recoverable metals and PFAS where solids are included by default.

For Dust Deposit Gauge (DDG) analysis the sampling, sampling period and funnel exposure area do not fall under Envirolab's NATA accreditation (unless the Newcastle laboratory where responsible for the sampling), hence the annotation on the DDG units of reporting.

Urine Analysis - The BEI values listed are taken from the 2022 edition of "TLVs and BEIs Threshold Limits" by ACGIH.