CHADWICK GEOTECHNICS

REPORT

Level 1 Geotechnical Testing and Inspection Authority Services

Meridian Central Estate Stage 40
Clyde North
Lots 4001 to 4028

Prepared for:

Grosvenor Lodge Pty Ltd.

4 May 2023

Our Ref: 3807351.040.v1

25 Metcalf Street, Dandenong South, Vic 3175, Melbourne, Australia
www.chadwickgeotechnics.com.au

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Document Control

Title:	Level One Inspection and testing Services.				
Date	**Version**	**Description**	**Prepared by:**	**Reviewed by:**	**Authorised by**
4 May 2023	1	3807351.040.V1 Level One Report Stage 40	SP	RHB	TJJC

1 Introduction

Chadwick Geotechnics Pty Ltd (Chadwick Geotechnics), was engaged by Grosvenor Lodge Pty Ltd (Grosvenor Lodge), to provide Level 1 Geotechnical Inspection and Testing Authority (GITA) services for the earthworks conducted within Stage 40 of the Meridian Central Estate in Clyde North, between 22 July 2022 and 24 April 2023.

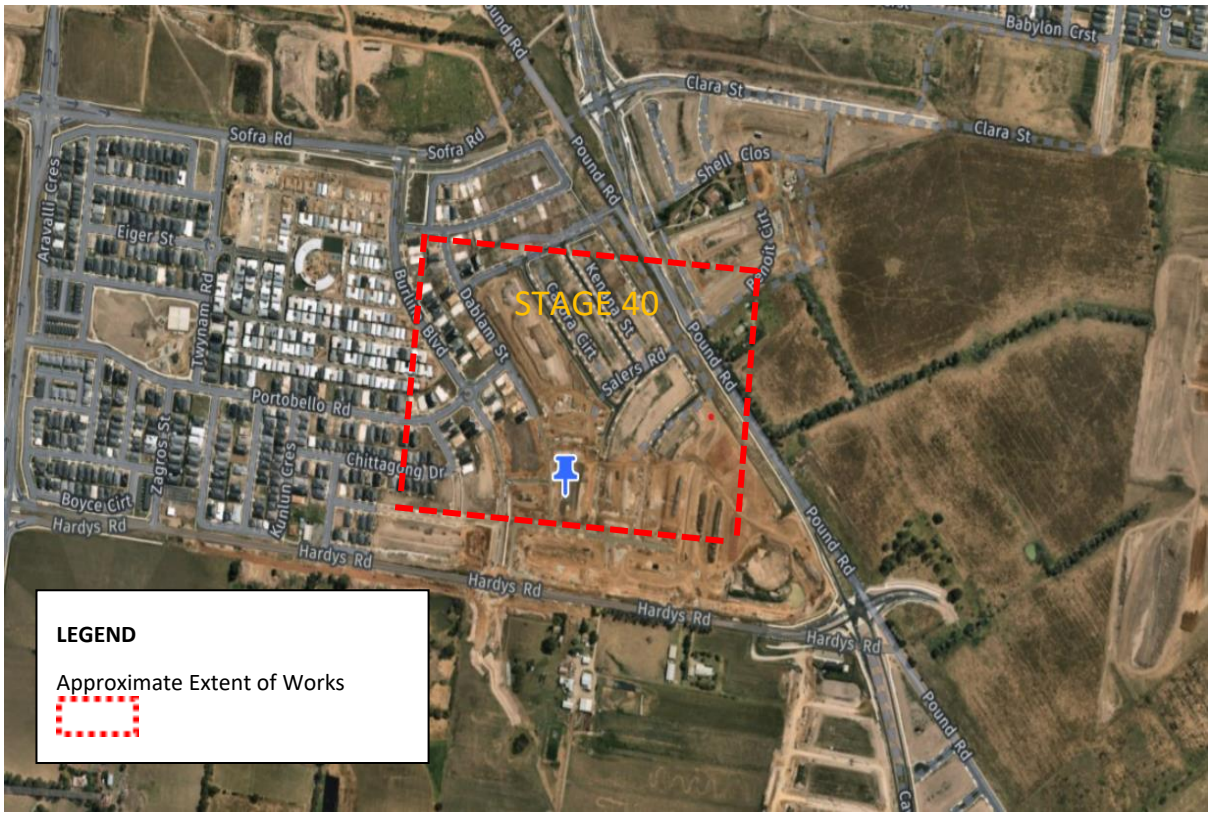
Level 1 GITA services as defined in AS3798-2007 "Guidelines on Earthworks for Commercial and Residential Development," requires full time inspection and field and laboratory testing of earthworks in accordance with AS1289 "Methods of Testing Soils for Engineering Purposes."

2 Project details

The Stage 40 site is located and on Berrenda St and Khillari Circuit in Clyde North. The site is to the East of Stage 39 and South of Stage 37, Stage 41 is located to the East of this general area.

The included works are shown on the Site Plan in **Appendices A**. Figure 2.1 below is an extract from Nearmap taken at the time of writing this report.

Figure 2: extract from Nearmap



2.2 Roles

The organisations and their roles are presented in Table 2.1 below

Table 2: Roles on the Project

Role	Organisation
Developer	Grosvenor Lodge Pty Ltd
Geotechnical Inspection and Testing Authority (GITA)	Chadwick Geotechnics Pty Ltd
Designer / Superintendent	Beveridge Williams Pty Ltd
Earthworks Contractor	Brown Property Group Pty Ltd

Chadwick Geotechnics undertook the field density testing, and the compaction control laboratory testing was conducted in our NATA accredited laboratories.

2.3 Dates on Site

Geotechnical technical and engineering staff from Chadwick Geotechnics were onsite for the duration of the earthworks program on the days shown in Table 2.2 below.

Table 2.2: Level 1 GITA – onsite presence

Month	Dates on site
July2022	22
August 2022	18,9,10,11,12,18,22,29
September 2022	13,14,15,27,28,30
October 2022	3,4
April 2023	24

2.4 Included Areas

This report is applicable to material placed by the contractor on the residential lots within Stage 40, as shown on the Site Plan in **Appendix A,** and with reference to Section 2.6 (Excluded Areas) of this report.

The following Lots were filled (or partially filled) during the Level 1 GITA supervision:

- Lots 4001 to 4028

2.5 Excluded Areas

This report does not include fill outside the general boundary of the filled areas as shown in **Appendix A** of this report. No fill was placed on the lots not mentioned in Section 2.4 of this report.

Backfill of trenches for the underground services, fill on footpaths, driveways and roads, or placement of topsoil, were not part of the scope for the works supervised by Chadwick Geotechnics.

3 Specification

Project specifications were prepared by Beveridge Williams Pty Ltd for the project. The works were to be conducted in general accordance with the 'Guidelines on earthworks for commercial and residential developments' of AS 3798-2007.

The following items were adopted as part of the project earthworks specifications:

- All Filling, in excess, of 200mm depth within the residential lots shall be undertaken to specifications satisfying the requirements of AS 3798-2007 "Guidelines on Earthworks for Commercial and Residential Development".
- The fill soils to comply with the 'Suitable Material' in accordance with Section 4.4 of the AS3798-2007, and the following:
    - Maximum particle size of 150mm.
    - Particles over 37.5mm diameter not to exceed 20% of the material.
    - Organic soils, topsoil, silts, or soils containing organic matter, wood, plastics, metal, or other deleterious materials are not acceptable.
- Subgrade to be proof rolled prior to placement of an engineered fill.
- Fill to be compacted in near horizontal layers not exceeding 250mm loose thickness.
- Compaction to achieve a ratio of at least 95% Standard Maximum Dry Density (SMDD).
- Frequency of testing to be in accordance with Table 8.1 of AS3798-2007.
- Finished fill surface to be surveyed prior to placement of topsoil.

4 Inspection and Testing

The inspection and testing of earthworks have been carried out in accordance with AS3798-2007, 'Guidelines on earthworks for commercial and residential developments', with a frequency of field density tests as per Table 8.1 (explained in Section 4.5 of this report). Compaction control laboratory testing was performed in a Chadwick Geotechnics' NATA accredited laboratory in accordance with AS1289 'Methods of Testing Soils for Engineering Purposes'.

4.1 Earthworks

The earthworks for the project comprised of the following phases:

- Stripping of topsoil from the proposed fill areas.
- Assessment, remediation, and proof rolling of subgrade.
- Geotechnical compliance testing of the soils used for fill, and,
- Placement and compaction of engineered fill.

4.2 Fill Material

Material used for the construction of the fill comprised of local gravelly and silty clays won from the road boxing and trench excavations on this and the surrounding sites.

A sample taken from the site comprising local material used for fill was taken for geotechnical compliance testing during the works. The material compliance test results are summarised in Table 3.1 The laboratory test certificates are attached in **Appendix C.**

Table 3.1: Compliance test result summary

Sample #	Particle Size Distribution (PSD)						Liquid Limit %	Plastic Limit %	Plasticity Index %
	37.5 mm	13.2 mm	4.75 mm	1.18 mm	425 µm	0.75 µm			
S22DS-06303/1	100	100	95	90	82	57	58	18	40
S22DS-06322/1	100	100	100	99	79	25	39	13	26

The laboratory test results indicated material is silty /sandy clay of medium to high plasticity.

The material was deemed as being derived from natural soils. The soil is considered as 'Suitable Material' in accordance with Section 4.4 of the AS3798-2007.

The fill material was not tested for classification of 'Fill Material' as defined in EPA Publication IWRG621. Environmental testing is not within the Chadwick Geotechnics scope.

Any observed organic or deleterious matter including any oversize cobbles or boulders were removed from the tested areas during the fill placement.

Below are two photographs of typical materials used during construction.

Figure 3.1: Photographs of the material used on site

Photo 1: Material used (CLAY)	Photo 2: Material used (Silty sandy CLAY)
	

4.3 Subgrade Assessment / Proof Roll

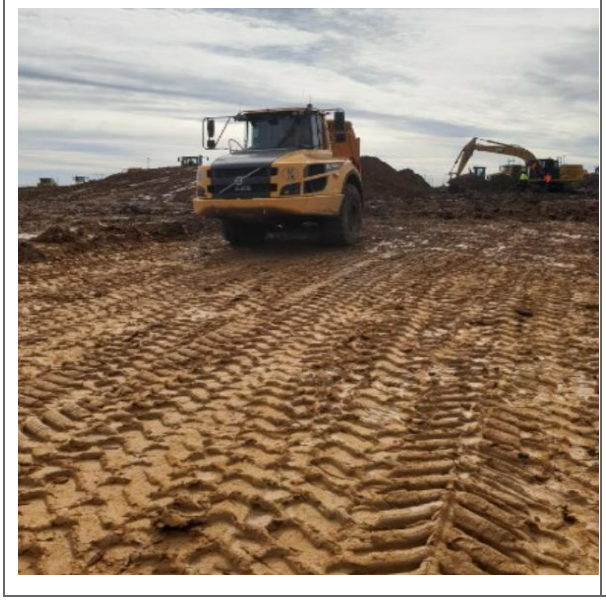
The Subgrade of the site was progressively assessed during the period Chadwick Geotechnics personnel were on site.

Subgrade assessments were conducted following the removal of the topsoil and natural soils that were present on site.

The subgrade inspections were performed in accordance with the Level 1 guidelines presented in AS 3798–2007 Section 5.5. No soft spots or deflections were encountered during the inspections and the area was found to be firm and free of vegetation and other deleterious material.

Below are two photographs of the subgrade assessment phase at the project.

Figure 3.2: Subgrade assessment photographs

Photo 3: Proof Roll with loaded Dump truck	Photo 4: Subgrade Proof Roll
	

4.4 Engineered Fill Construction

All fill material was brought by dump trucks from the local stockpiles, spread with a bulldozer and compacted with a pad foot roller. A water cart was present onsite during the works for moisture conditioning of the materials.

All fill material was placed in lift sequences comprising horizontal layers. Chadwick Geotechnics verified that the surface of the stripped area, and that of additional lifts, was thoroughly scarified and moisture conditioned prior to placement of additional layers to prevent delamination at the layer interface. Once the placed fill was approved, the layer was compacted accordingly.

Chadwick Geotechnics personnel were on site on a fulltime basis during the placement, moisture conditioning, compaction, and testing of the fill on the dates noted in Table 2.2 of this report.

The following machinery was on site during earthworks.

Table 3.1: Earthworks plant On-site

Equipment type	Model
Dozer	**Caterpillar D6 Dozer**
Pad foot roller	**Caterpillar compactor B15K Pad-Foot Roller**
Water cart	**Off-Road Water Cart with spray bars**
Dump Trucks	**Volvo Dump Truck**
Excavator	**Caterpillar**

Below are four photographs of typical machinery on site during construction.

Figure 3.3: General Earthwork machinery and fill construction photographs

Photo 5: Dozer used on site	Photo 6: Pad foot used on compaction
	
Photo 7: CAT Excavator	**Photo 8: Dump truck**
	

4.5 Density testing

Field density and moisture content testing was undertaken progressively during construction on the compacted fill using a calibrated portable density and moisture gauge in accordance with AS 1289.5.8.1. The HILF rapid compaction test was used for peak converted wet density determinations in accordance with AS 1289.5.7.1. Test locations were recorded using a handheld GPS unit. A site plan showing the field density test locations is provided in **Appendix A**.

Testing was undertaken under the frequencies listed below, subject to the area and volume worked on the day of testing:

- 1 test per material type per layer per 2500m² or 1 test per 500m³ distributed reasonably evenly or 3 tests per lot – whichever requires the most tests in accordance with Type 1 Earthworks (large scale operations) as defined in Table 8.1 of the AS 3798-2007;
- Fill to be compacted in near horizontal layers.
- Compaction to achieve a ratio of at least 95% Standard MDD (maximum dry density).

Fifty-four (54) tests were performed during the filling process. Five (5) of the tests did not achieve the required density and or moisture ratio initially. The failed areas were reworked and retested accordingly. The retests returned passing density and moisture test results.

A summary table of HILF density tests is provided in **Appendix B** and the laboratory test reports are provided in **Appendix C**.

5 Conclusion

On the basis, of our inspections and after considering all test results relating to the project, it is our opinion, so far as it is to be determined, that:

- The materials, used by the earth-works contractor met the geotechnical property requirements of the specification.
- The sourced fill was, considered to be natural, clean, and suitable for use at the site.
- The fill material placed was tested at a suitable frequency in accordance with AS 3798-2007- Table 8.1 and the results indicate the compacted clay achieved the density requirement of the specification.
- Given the consistent construction practices followed by the earthworks contractor and as witnessed by the Chadwick Geotechnics, combined with the satisfactory verification of test results achieved, it is inferred that areas of the site between test locations were performed to the same standard as those areas that have been tested.
- Based on observations made by Chadwick Geotechnics Level 1 personal and the results of field and laboratory tests, we consider that the engineered fill within the site (noted in Section 2.5), as far as we have been able to reasonably determine, have been placed in general accordance with the intent of the specification.
- It is our opinion that the earthworks undertaken have been performed in accordance with the requirements of Section 8.2 – Level 1 Inspection and Testing - AS3798-2007 Guidelines on Earthworks for Commercial and Residential Developments.

After our last day on site the Contractor is responsible to maintain the engineered fill in satisfactory condition. Should the fill be not maintained or protected with a sacrificial layer of topsoil or other fill, the uppermost layers of the engineered fill may deteriorate from the weather causing shrink/swell cracking and may need to be remediated prior to further construction on the site. Chadwick Geotechnics have not provided supervision since this date and are not responsible for any deterioration that may have occurred.

6 Applicability

This report has been prepared for the exclusive use of our client in good faith and in accordance with the Chadwick Geotechnics quality system for the earthworks filling at the site.

This report is based on the nature of the project and the prevailing conditions between 22 July 2022 and 24 April 2023. No responsibility or liability will be accepted, and Chadwick Geotechnics is indemnified to the full extent permitted by law in respect of the use of this report where there has been a change in the nature of the project or the conditions on site that may alter or affect the conclusions of this report.

Should you require any further information regarding this report, please do not hesitate to contact the undersigned on (03) 8796 7900.

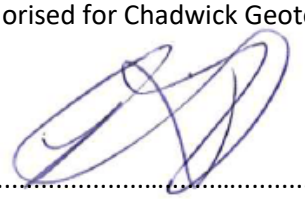
Chadwick Geotechnics Pty Ltd

Report prepared by:

Robert Barden

Project Manager

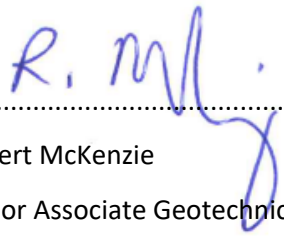
Authorised for Chadwick Geotechnics Pty Ltd by:



Timothy Chadwick

Project Director

Report reviewed by:



Robert McKenzie

Senior Associate Geotechnical Engineer

PE0005222

Appendix A : Location Plan

COPYRIGHT ON THIS FIGURE IS RESERVED

LEGEND

S22DS-05787 HILF DENSITY TEST LOCATION

NOTES:
1. AERIAL IMAGE SOURCED FROM NEARMAP. COPYRIGHT NEARMAP PTY LTD IMAGERY DATE: 15/02/2023.

A3 SCALE 1:1000
0 5 10 15 20 30 40 50 (m)

ORIGINAL IN COLOUR

CHADWICK GEOTECHNICS
www.chadwickgeotechnics.com.au

PROJECT No.	3807351	
DESIGNED	STPA	Apr.23
DRAWN	KMJA	Apr.23
CHECKED		
APPROVED	DATE	

CLIENT **GROSVENOR LODGE PTY LTD**
PROJECT **MERIDIAN ESTATE - STAGE 40**
TITLE LEVEL ONE HILF DENSITY TESTING
HILF DENSITY TEST LOCATION PLAN

UNDER REVISION 1

SCALE (A3) 1:1000 FIG No. 3807351-F01 REV 1

T:\Dandenong\Geo Projects\3807351\40 Stage 40\Working\Material\CAD\FIG\3807351-F01.dwg 2023-Apr-28 12:34:10 PM Plotted By: KATHRYN JACKSON

Appendix B : Hilf Density Test Summary

Meridian Estate Stage 40, HILF Density Testing

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Report No	Sample No	Date	Test Number	Lot No	Easting	Northing	Layer/RL	Density Ratio+	Moisture Variation	Pass / Fail	Comments (Retest No) Compliance test taken ect
HDR:W22DS01520	S22DS-05777	22/07/2022	2	3912	356168	5781103	41.305	99.5	1.5 wet	Pass	
HDR:W22DS01520	S22DS-05778	22/07/2022	3	3910	356191	5781110	41.67	98.0	2.5 wet	Pass	
HDR:W22DS01520	S22DS-05779	22/07/2022	4	3918	356214	5781098	41.77	95.0	2.5 wet	Pass	
HDR:W22DS01523	S22DS-05787	22/07/2022	1	4023	356185	5781074	40.71	99	0 dry	Pass	
HDR:W22DS01523	S22DS-05788	22/07/2022	2	4025	356208	5781064	41.08	99.5	0 dry	Pass	
HDR:W22DS01616	S22DS-06302	8/08/2022	1	4024	356196	5781063	40.99	99.5	0 wet	Pass	
HDR:W22DS01618	S22DS-06304	8/08/2022	1	3909	356203	5781110	41.87	98.5	0 wet	Pass	
HDR:W22DS01618	S22DS-06305	8/08/2022	2	3911	356176	5781120	41.85	99	2 wet	Pass	
HDR:W22DS01618	S22DS-06306	8/08/2022	3	3913	356159	5781093	41.23	97.5	0 dry	Pass	
HDR:W22DS01626	S22DS-06320	9/08/2022	1	4026	356230	5781068	41.29	97.5	2 dry	Pass	
HDR:W22DS01626	S22DS-06321	9/08/2022	2	4021	356249	5781090	41.97	97	0 wet	Pass	
HDR:W22DS01638	S22DS-06359	10/08/2022	1	3903	356236	5781186	43.9	102	0 dry	Pass	
HDR:W22DS01638	S22DS-06360	10/08/2022	2	3905	356224	5781160	43.243	99.5	0.5 wet	Pass	
HDR:W22DS01638	S22DS-06361	10/08/2022	3	3907	356232	5781142	43.09	100.5	0.5 wet	Pass	
HDR:W22DS01638	S22DS-06362	10/08/2022	4	3908	356214	5781110	42.29	97.5	0.5 wet	Pass	
HDR:W22DS01638	S22DS-06363	10/08/2022	5	3910	356188	5781101	41.725	100	0.5 dry	Pass	
HDR:W22DS01638	S22DS-06364	10/08/2022	6	3912	356172	5781103	41.63	98.5	0.5 wet	Pass	
HDR:W22DS01638	S22DS-06365	10/08/2022	7	3914	356152	5781071	40.685	97.5	0 wet	Pass	

Meridian Estate Stage 40, HILF Density Testing

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Report No	Sample No	Date	Test Number	Lot No	Easting	Northing	Layer/RL	Density Ratio+	Moisture Variation	Pass / Fail	Comments (Retest No) Compliance test taken ect
HDR:W22DS01648	S22DS-06405	1/08/2022	1	4027	356240	5781056	41.575	111.5	1.5 dry	Fail	See Retest 06453
HDR:W22DS01650	S22DS-06410	11/08/2022	1	3901	356217	5781218	44.45	101	0.5 dry	Pass	
HDR:W22DS01656	S22DS-06453	12/08/2022	1	4027	356240	5781056	-	101	0.5 wet	Pass	Retest of S22DS-06405
HDR:W22DS01694	S22DS-06592	18/08/2022	1	4008	356272	5781204	44.386	95	2.5 wet	Pass	
HDR:W22DS01706	S22DS-06657	22/08/2022	1	4005	356266	5781163	43.295	100.5	2.5 wet	Pass	
HDR:W22DS01734	S22DS-06801	29/08/2022	1	4011	356247	5781225	44.96	96.5	2 wet	Pass	
HDR:W22DS01734	S22DS-06802	29/08/2022	2	4009	356275	5781221	44.798	96	0 wet	Pass	
HDR:W22DS01734	S22DS-06803	29/08/2022	3	4007	356272	5781187	44.223	99	0.5 wet	Pass	
HDR:W22DS01734	S22DS-06804	29/08/2022	4	4017	356303	5781193	44.211	98	0.5 dry	Pass	
HDR:W22DS01734	S22DS-06805	29/08/2022	5	4015	356305	5781220	44.805	95	1 wet	Pass	
HDR:W22DS01831	S22DS-07260	13/09/2022	1	4013	356219	5781240	45.077	98	1.5 wet	Pass	
HDR:W22DS01845	S22DS-07311	14/09/2022	1	4017	356315	5781193	-	95.5	2 wet	Pass	
HDR:W22DS01845	S22DS-07312	14/09/2022	2	4019	356305	5781163	43.297	94	2.5 wet	Fail	See Retest 07348
HDR:W22DS01854	S22DS-07346	15/09/2022	1	4001	356246	5781133	42.548	97	3 wet	Pass	
HDR:W22DS01854	S22DS-07347	15/09/2022	2	4003	356265	5781132	42.679	94.5	2.5 wet	Fail	See Retest 07630
HDR:W22DS01854	S22DS-07348	15/09/2022	3	4019	356305	5781163	43.2967	98	2.5 wet	Pass	Retest of 007312
HDR:W22DS01914	S22DS-07625	27/09/2022	1	4020	356260	5781092	42.17	104	1 dry	Pass	

Meridian Estate Stage 40, HILF Density Testing

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Report No	Sample No	Date	Test Number	Lot No	Easting	Northing	Layer/RL	Density Ratio+	Moisture Variation	Pass / Fail	Comments (Retest No) Compliance test taken ect
HDR:W22DS01914	S22DS-07626	27/09/2022	2	4028	356260	5781069	41.9	100.5	2.5 wet	Pass	
HDR:W22DS01914	S22DS-07627	27/09/2022	3	4225	356367	5781057	40.95	93	1.5 wet	Fail	See Retest S22DS-07794
HDR:W22DS01914	S22DS-07628	27/09/2022	4	4019	356298	5781166	43.62	96	2.5 wet	Pass	
HDR:W22DS01914	S22DS-07629	27/09/2022	5	4017	356302	5781194	44.3	105.5	4.5 dry	Fail	See Retest 07829
HDR:W22DS01914	S22DS-07630	27/09/2022	6	4003	356269	5780937	41.805	97.5	0.5 wet	Pass	Retest of 07347
HDR:W22DS01924	S22DS-07671	28/09/2022	1	4021	356245	5781103	42.39	100	0 wet	Pass	
HDR:W22DS01960	S22DS-07791	30/09/2022	1	4014	356317	5781236	45.024	101	0.5 wet	Pass	
HDR:W22DS01960	S22DS-07792	30/09/2022	2	4016	356312	5781206	44.617	98.5	0.5 wet	Pass	
HDR:W22DS01960	S22DS-07793	30/09/2022	3		356318	5781176	44.003	98.5	1.5 wet	Pass	
HDR:W22DS01961	S22DS-07794	30/09/2022	1	4225	356367	5781057		96.5	OMC	Pass	Retest of 07627
HDR:W22DS01961	S22DS-07795	30/09/2022	2	4225	354058	5780842		99	OMC	Pass	
HDR:W22DS01961	S22DS-07796	30/09/2022	3	4226	354041	5780842		98	OMC	Pass	
HDR:W22DS01972	S22DS-07829	3/10/2022	1	4017	356302	5781194	-	98	0 wet	Pass	Retest of S22DS-07629
HDR:W22DS01989	S22DS-07901	4/10/2022	1	4014	356326	5781173	45.358	97.5	0.5 dry	Pass	
HDR:W22DS01989	S22DS-07902	4/10/2022	2	4015	356322	5781221	45.099	99	2 dry	Pass	
HDR:W22DS02364	S22DS-09532	29/11/2022	2	3904 / 2	356230	5781169	43.57	100.5	0.5 dry	Pass	
HDR:W23DS01053	S23DS-03527	24/04/2023	1	4022 / -	356232	5781111		98.5	0.5 dry	Pass	
HDR:W23DS01053	S23DS-03528	24/04/2023	2	4004 / -	356269	5781179		103	0.5 dry	Pass	
HDR:W23DS01053	S23DS-03529	24/04/2023	3	4006 / -	356259	5781159		99	0.5 dry	Pass	

Appendix C : NATA Endorsed Laboratory Reports

CHADWICK GEOTECHNICS

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Ph: + 61 3 8796 7900
Fax: +61 3 9706 9431

Report No: HDR:W22DS01520
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 39
Project No.: 3807351.039
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719 Approved Signatory: M. Robinson
Site Number: 12712 Date of Issue: 29/07/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:	Clyde North
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% (+- 3% of OMC)
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Onsite
Material:	Silty Clay

Sample Data

Sample ID	S22DS-05776	S22DS-05777	S22DS-05778	S22DS-05779		
Field Sample ID	1	2	3	4		
Client Sample ID	20	21	22	23		
Date Tested	22/07/2022	22/07/2022	22/07/2022	22/07/2022		
Time Tested	10:00	10:30	11:00	11:30		
E:	2331.571	2345.020	2368.035	2390.450		
N:	231.105	263.910	271.400	259.406		
R:	40.348	41.305	41.670	41.770		
Lot / Layer:	3914 / 1	3912 / 1	3910 / 1	39108 / 1		
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175		
Depth of Layer (mm)	200	200	200	200		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0	0		
Field Moisture Content (%)	22.4	19.9	19.6	19.1		
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1		
Field Wet Density (t/m³)	2.01	2.05	2.03	2.02		
Field Dry Density (t/m³)	1.64	1.71	1.70	1.69		
Peak Converted Wet Density (t/m³)	2.03	2.06	2.08	2.13		
Optimum Moisture Content (%)	21.0	18.5	17.5	16.5		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Ratio (%)	107.0	108.0	113.5	114.0		
Moisture Variation (%)	1.5 wet	1.5 wet	2.5 wet	2.5 wet		
Hilf Density Ratio (%)	**98.5**	**99.5**	**98.0**	**95.0**		

Comments

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CHADWICK GEOTECHNICS

Dandenong South
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25 Metcalf Street
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Ph: + 61 3 8796 7900
Fax: +61 3 9706 9431

Report No: HDR:W22DS01523
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719 Approved Signatory: M. Robinson
Site Number: 12712 Date of Issue: 29/07/2022

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Sample Details

Location:	Clyde North
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% (+- 3% of OMC)
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Onsite
Material:	Silty Clay

Sample Data

Sample ID	S22DS-05787	S22DS-05788				
Field Sample ID	1	2				
Date Tested	22/07/2022	22/07/2022				
Time Tested	11:45	12:00				
E:	2361.860	2385.200				
N:	234.510	224.888				
RL:	40.710	41.080				
Lot:	4023	4025				

Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	19.4	20.0				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	2.05	2.06				
Field Dry Density (t/m³)	1.71	1.72				
Peak Converted Wet Density (t/m³)	2.07	2.07				
Optimum Moisture Content (%)	19.5	20.0				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	99.5	99.5				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	**99.0**	**99.5**				

Comments

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Report No: HDR:W22DS01616
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 1/05/2023

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Silty Clay

Sample Data

Sample ID	S22DS-06302					
Field Sample ID	1					
Client Sample ID	3					
Date Tested	8/08/2022					
E:	2372.825 (356198)					
N:	223.605 (5781064)					
EL:	40.990					
Lot / Layer:	4024 / 2					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	21.5					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.03					
Field Dry Density (t/m³)	1.67					
Peak Converted Wet Density (t/m³)	2.03					
Optimum Moisture Content (%)	21.5					
Compactive Effort	Standard					
Moisture Ratio (%)	100.0					
Moisture Variation (%)	0.0					
Hilf Density Ratio (%)	**99.5**					

Comments

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Report No: HDR:W22DS01618
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 39
Project No.: 3807351.039
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 12/08/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Silty Clay

Sample Data

Sample ID	S22DS-06304	S22DS-06305	S22DS-06306			
Field Sample ID	1	2	3			
Client Sample ID	30	31	32			
Date Tested	8/08/2022	8/08/2022	8/08/2022			
E:	2376.430 (356203)	2350.800 (356176)	2333.705 (356159)			
N:	269.040 (5781110)	278.170 (5781120)	249.946 (5781093)			
EL:	41.870	41.850	41.230			
Lot / Layer:	3909 / 2	3911 / 2	3913 / 2			
Field and Laboratory Data						
Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	18.2	22.3	20.6			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.06	2.04	1.99			
Field Dry Density (t/m³)	1.74	1.67	1.65			
Peak Converted Wet Density (t/m³)	2.09	2.05	2.05			
Optimum Moisture Content (%)	18.0	20.0	20.5			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	101.0	110.5	99.5			
Moisture Variation (%)	0.0	2.0 wet	0.0			
Hilf Density Ratio (%)	**98.5**	**99.0**	**97.5**			

Comments

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Report No: HDR:W22DS01626
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 12/08/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Sandy/Silty Clay

Sample Data

Sample ID	S22DS-06320	S22DS-06321				
Field Sample ID	1	2				
Client Sample ID	4	5				
Date Tested	9/08/2022	9/08/2022				
Time Tested	12:30	14:45				
E:	2406.740 (356232)	2425.795 (356251)				
N:	228.640 (5781070)	251.145 (5781093)				
EL:	41.290	41.970				
Lot / Layer:	4026 / 1	4021 / 1				
Field and Laboratory Data						
Depth of Test (mm)	175	275				
Depth of Layer (mm)	200	300				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	9.5	13.8				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	2.10	2.06				
Field Dry Density (t/m³)	1.92	1.81				
Peak Converted Wet Density (t/m³)	2.15	2.13				
Optimum Moisture Content (%)	11.5	13.5				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	81.5	100.5				
Moisture Variation (%)	2.0 dry	0.0				
Hilf Density Ratio (%)	**97.5**	**97.0**				

Comments

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Report No: HDR:W22DS01638
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 39
Project No.: 3807351.039
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 12/08/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Sandy Clay/Mudstone

Sample Data

Sample ID	S22DS-06359	S22DS-06360	S22DS-06361	S22DS-06362	S22DS-06363	S22DS-06364
Field Sample ID	1	2	3	4	5	6
Client Sample ID	38	39	40	41	42	43
Date Tested	10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022	10/08/2022
Time Tested	11:55	12:05	12:15	12:25	12:50	15:25
E:	2411.215 (356236)	2399.050 (356224)	2407.520 (356232)	2390.200 (356214)	2364.160 (356188)	2348.370 (356172)
N:	342.550 (5781186)	317.790 (5781160)	299.900 (5781142)	267.860 (5781110)	259.720 (5781101)	260.915 (5781103)
EL:	43.900	43.243	43.090	42.290	41.725	41.630
Lot / Layer:	3903 / 1	3905 / 1	3907 / 1	3908 / 3	3910 / 3	3912 / 3
Field and Laboratory Data						
Depth of Test (mm)	275	275	275	175	175	175
Depth of Layer (mm)	300	300	300	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Moisture Content (%)	13.9	20.2	20.1	18.4	16.3	20.2
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Field Wet Density (t/m³)	2.14	2.05	2.06	2.02	2.06	2.01
Field Dry Density (t/m³)	1.88	1.70	1.71	1.71	1.77	1.67
Peak Converted Wet Density (t/m³)	2.09	2.06	2.04	2.08	2.06	2.04
Optimum Moisture Content (%)	14.0	19.5	20.0	18.0	16.5	20.0
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	98.5	102.5	101.5	102.0	98.0	102.0
Moisture Variation (%)	0.0	0.5 wet	0.5 wet	0.5 wet	0.5 dry	0.5 wet
Hilf Density Ratio (%)	**102.0**	**99.5**	**100.5**	**97.5**	**100.0**	**98.5**

Comments

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Report No: HDR:W22DS01638
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 39
Project No.: 3807351.039
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 12/08/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Sandy Clay/Mudstone

Sample Data

Sample ID	S22DS-06365					
Field Sample ID	7					
Client Sample ID	44					
Date Tested	10/08/2022					
Time Tested	15:37					
E:	2327.640 (356152)					
N:	228.300 (5781071)					
EL:	40.685					
Lot / Layer:	3914 / 3					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	19.9					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.01					
Field Dry Density (t/m³)	1.68					
Peak Converted Wet Density (t/m³)	2.07					
Optimum Moisture Content (%)	20.0					
Compactive Effort	Standard					
Moisture Ratio (%)	100.5					
Moisture Variation (%)	0.0					
Hilf Density Ratio (%)	**97.5**					

Comments

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Report No: HDR:W22DS01648
Issue No: 2
This report replaces all previous issues of report no 'HDR:W22DS01648'.

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 22/08/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Sandy Clay with Traces of Gravel

Sample Data

Sample ID	S22DS-06405					
Field Sample ID	1					
Client Sample ID	6					
Date Tested	1/08/2022					
Time Tested	14:15					
E:	2416.713 (356244)					
N:	217.406 (5781057)					
EL:	41.575					
Lot / Layer:	4027 / 2					

Field and Laboratory Data

Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	22.1					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.14					
Field Dry Density (t/m³)	1.75					
Peak Converted Wet Density (t/m³)	1.92					
Optimum Moisture Content (%)	24.0					
Compactive Effort	Standard					
Moisture Ratio (%)	92.5					
Moisture Variation (%)	1.5 dry					
Hilf Density Ratio (%)	**111.5**					

Comments

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Report No: HDR:W22DS01650
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 39
Project No.: 3807351.039
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 22/08/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Sandy Clay with Traces of Gravel

Sample Data

Sample ID	S22DS-06410					
Field Sample ID	1					
Client Sample ID	45					
Date Tested	11/08/2022					
Time Tested	09:40					
E:	2392.530 (356217)					
N:	375.160 (5781218)					
EL:	44.450					
Lot / Layer:	3901 / 1					

Field and Laboratory Data

Depth of Test (mm)	275					
Depth of Layer (mm)	300					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	14.9					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.07					
Field Dry Density (t/m³)	1.80					
Peak Converted Wet Density (t/m³)	2.05					
Optimum Moisture Content (%)	15.5					
Compactive Effort	Standard					
Moisture Ratio (%)	96.0					
Moisture Variation (%)	0.5 dry					
Hilf Density Ratio (%)	**101.0**					

Comments

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Report No: HDR:W22DS01656
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 22/08/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Sandy Clay with Traces of Gravel

Sample Data

Sample ID	S22DS-06453					
Field Sample ID	1					
Client Sample ID	7					
Date Tested	12/08/2022					
Time Tested	09:40					
E:	-					
N:	-					
EL:	-					
Lot / Layer:	4027 / 2					
	Retest of S22DS-06405					

Field and Laboratory Data

Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	18.6					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.10					
Field Dry Density (t/m³)	1.77					
Peak Converted Wet Density (t/m³)	2.08					
Optimum Moisture Content (%)	18.0					
Compactive Effort	Standard					
Moisture Ratio (%)	103.5					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	**101.0**					

Comments

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Report No: HDR:W22DS01694
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 22/08/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Sandy Clay

Sample Data

Sample ID	S22DS-06592					
Field Sample ID	1					
Client Sample ID	8					
Date Tested	18/08/2022					
Time Tested	14:06					
E:	2448.553 (356269)					
N:	364.806 (5781203)					
EL:	44.386					
Lot / Layer:	4008 / 1					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	21.7					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.02					
Field Dry Density (t/m³)	1.66					
Peak Converted Wet Density (t/m³)	2.13					
Optimum Moisture Content (%)	19.0					
Compactive Effort	Standard					
Moisture Ratio (%)	115.0					
Moisture Variation (%)	2.5 wet					
Hilf Density Ratio (%)	**95.0**					

Comments

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Report No: HDR:W22DS01706
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 29/08/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Silty Clay

Sample Data

Sample ID	S22DS-06657					
Field Sample ID	1					
Client Sample ID	9					
Date Tested	22/08/2022					
Time Tested	10:30					
E:	2442.615 (356266)					
N:	324.222 (5781163)					
EL:	43.295					
Lot / Layer:	4005 / 1					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	23.2					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	1.98					
Field Dry Density (t/m³)	1.61					
Peak Converted Wet Density (t/m³)	1.97					
Optimum Moisture Content (%)	20.5					
Compactive Effort	Standard					
Moisture Ratio (%)	112.0					
Moisture Variation (%)	2.5 wet					
Hilf Density Ratio (%)	**100.5**					

Comments

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Report No: HDR:W22DS01734
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 7/09/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Silty Clay

Sample Data

Sample ID	S22DS-06801	S22DS-06802	S22DS-06803	S22DS-06804	S22DS-06805	
Field Sample ID	1	2	3	4	5	
Client Sample ID	12:45	12:53	12:59	13:02	13:05	
Date Tested	29/08/2022	29/08/2022	29/08/2022	29/08/2022	29/08/2022	
E:	2423.419 (356249)	2451.989 (356279)	2448.409 (356274)	2479.631 (356305)	2481.661 (356303)	
N:	386.354 (5781228)	381.770 (5781223)	348.029 (5781189)	353.964 (5781199)	381.188 (5781225)	
EL:	44.960	44.798	44.223	44.211	44.805	
Lot / Layer:	4011 / 1	4009 / 1	4007 / 2	4017 / 1	4015 / 1	
Field and Laboratory Data						
Depth of Test (mm)	250	250	175	175	175	
Depth of Layer (mm)	275	275	200	200	200	
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	
Oversize Wet (%)	0	0	0	0	0	
Field Wet Density (t/m³)	1.99	2.00	2.04	1.99	1.99	
Peak Converted Wet Density (t/m³)	2.06	2.08	2.07	2.03	2.09	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Variation (%)	2.0 wet	0.0	0.5 wet	0.5 dry	1.0 wet	
Hilf Density Ratio (%)	**96.5**	**96.0**	**99.0**	**98.0**	**95.0**	

Comments

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Report No: HDR:W22DS01831
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 15/09/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements:
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Silty Clay with traces of Gravel

Sample Data

Sample ID	S22DS-07260					
Field Sample ID	1					
Client Sample ID	15					
Date Tested	13/09/2022					
Time Tested	14:54					
E:	2395.315 (356221)					
N:	400.638 (5781246)					
EL:	45.077					
Lot / Layer:	4013 / 1					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Wet Density (t/m³)	2.05					
Peak Converted Wet Density (t/m³)	2.09					
Compactive Effort	Standard					
Moisture Variation (%)	1.5 wet					
Hilf Density Ratio (%)	**98.0**					

Comments

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Report No: HDR:W22DS01845
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 19/09/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S22DS-07311	S22DS-07312				
Field Sample ID	1	2				
Client Sample ID	16	17				
Date Tested	14/09/2022	14/09/2022				
Time Tested	15:10	13:15				
E:	2491.895	2482.092				
N:	353.514	323.636				
RL:	-	43.297				
Lot / Layer:	4017 / 1	4019 / 1				
Field and Laboratory Data						
Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	19.2	16.6				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	1.97	2.00				
Field Dry Density (t/m³)	1.66	1.72				
Peak Converted Wet Density (t/m³)	2.06	2.13				
Optimum Moisture Content (%)	17.0	14.0				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	113.5	117.0				
Moisture Variation (%)	2.0 wet	2.5 wet				
Hilf Density Ratio (%)	**95.5**	**94.0**				

Comments

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Report No: HDR:W22DS01854
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 19/09/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S22DS-07346	S22DS-07347	S22DS-07348			
Field Sample ID	1	2	3			
Client Sample ID	18	19	20			
Date Tested	15/09/2022	15/09/2022	15/09/2022			
Time Tested	14:45	14:55	15:30			
E:	2422.401	2441.455	2482.092			
N:	294.0753	293.099	323.636			
RL:	42.548	42.679	43.2967			
Lot / Layer:	4001 / -	4003 / -	4019 / -			
			Retest of S#17			
Field and Laboratory Data						
Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	50.5	17.7	18.6			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.03	2.01	2.07			
Field Dry Density (t/m³)	1.35	1.71	1.75			
Peak Converted Wet Density (t/m³)	2.10	2.14	2.11			
Optimum Moisture Content (%)	47.0	15.0	16.0			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	107.5	116.0	117.5			
Moisture Variation (%)	3.0 wet	2.5 wet	2.5 wet			
Hilf Density Ratio (%)	**97.0**	**94.5**	**98.0**			

Comments

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Report No: HDR:W22DS01914
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 20/10/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (OMC to 3% Wet)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Silty Clay

Sample Data

Sample ID	S22DS-07625	S22DS-07626	S22DS-07627	S22DS-07628	S22DS-07629	S22DS-07630
Field Sample ID	1	2	3	4	5	6
Client Sample ID	24	25	26	27	28	29
Date Tested	27/09/2022	27/09/2022	27/09/2022	27/09/2022	27/09/2022	27/09/2022
Time Tested		11:30	12:15			
E:	2436.500	2437.110	2543.870	2475.164	2478.784	2446.110
N:	253.130	229.760	217.730	327.344	354.7317	290720
EL:	42.17	41.90	40.95	43.62	44.30	41.805
Lot / Layer:	4020 / 2	4028 / 2	4225 - 2	4019 / -	40.17 / -	4003
						Retest
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Moisture Content (%)	16.7	24.5	19.4	23.4	17.5	19.6
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Field Wet Density (t/m³)	2.08	2.01	1.99	1.98	2.02	2.03
Field Dry Density (t/m³)	1.78	1.61	1.67	1.60	1.72	1.70
Peak Converted Wet Density (t/m³)	2.00	1.99	2.14	2.06	1.91	2.09
Optimum Moisture Content (%)	17.5	22.0	17.5	20.5	22.5	19.0
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	95.0	111.0	110.0	113.5	78.0	103.0
Moisture Variation (%)	1.0 dry	2.5 wet	1.5 wet	2.5 wet	4.5 dry	0.5 wet
Hilf Density Ratio (%)	**104.0**	**100.5**	**93.0**	**96.0**	**105.5**	**97.5**

Comments

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Report No: HDR:W22DS01924
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 20/10/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements:
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S22DS-07671					
Field Sample ID	1					
Client Sample ID	30					
Date Tested	28/09/2022					
E:	2422.13					
N:	263.85					
RL:	42.39					
Lot / Layer:	4021 - FSL					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	18.3					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.09					
Field Dry Density (t/m³)	1.77					
Peak Converted Wet Density (t/m³)	2.09					
Optimum Moisture Content (%)	18.5					
Compactive Effort	Standard					
Moisture Ratio (%)	100.0					
Moisture Variation (%)	0.0					
Hilf Density Ratio (%)	**100.0**					

Comments

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Report No: HDR:W22DS01960
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 20/10/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements:
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Clay

Sample Data

Sample ID	S22DS-07791	S22DS-07792	S22DS-07793			
Field Sample ID	1	2	3			
Client Sample ID	31	2	33			
Date Tested	30/09/2022	30/09/2022	30/09/2022			
E:	2494.2247	2488.6869	2494.525			
N:	396.615	366.643	336.600			
RL:	45.024	44.617	44.003			
Lot / Layer:	4014 / 1	4016 / FSL	FSL			

Field and Laboratory Data

Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	18.5	18.5	18.7			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.11	2.06	2.05			
Field Dry Density (t/m³)	1.78	1.74	1.73			
Peak Converted Wet Density (t/m³)	2.09	2.09	2.08			
Optimum Moisture Content (%)	18.0	18.0	17.0			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	101.5	102.0	109.5			
Moisture Variation (%)	0.5 wet	0.5 wet	1.5 wet			
Hilf Density Ratio (%)	**101.0**	**98.5**	**98.5**			

Comments

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Report No: HDR:W22DS01961
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate, Stage 42
Project No.: 3807351.042
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 20/10/2022

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Sample Details

Location:
Client Request ID:
Specification Requirements:
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Clay

Sample Data

Sample ID	S22DS-07794	S22DS-07795	S22DS-07796			
Field Sample ID	1	2	3			
Client Sample ID	9	10	11			
Date Tested	30/09/2022	30/09/2022	30/09/2022			
E:	2543.89	2465.65	2493.23			
N:	217.72	234.52	217.77			
RL:	40.98	42.32	42.32			
Lot / Layer:	4225 / 2	4225 / 3	4226 / 3			
	Retest of S22DS-07627					
Field and Laboratory Data						
Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	16.7	18.3	28.4			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.06	2.06	2.09			
Field Dry Density (t/m³)	1.77	1.74	1.62			
Peak Converted Wet Density (t/m³)	2.14	2.08	2.13			
Optimum Moisture Content (%)	16.5	18.5	28.5			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	100.5	100.5	100.0			
Moisture Variation (%)	0.0	0.0	0.0			
Hilf Density Ratio (%)	**96.5**	**99.0**	**98.0**			

Comments

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Report No: HDR:W22DS01972
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 20/10/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 3% of OMC)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Silty Clay

Sample Data

Sample ID	S22DS-07829					
Field Sample ID	1					
Client Sample ID	34					
Date Tested	3/10/2022					
Time Tested	10:00					
E:	-					
N:	-					
EL:	-					
Lot / Layer:	4017 / 2					
	Retest of S22DS-07629					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	17.8					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.04					
Field Dry Density (t/m³)	1.73					
Peak Converted Wet Density (t/m³)	2.08					
Optimum Moisture Content (%)	18.0					
Compactive Effort	Standard					
Moisture Ratio (%)	100.0					
Moisture Variation (%)	0.0					
Hilf Density Ratio (%)	**98.0**					

Comments

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Report No: HDR:W22DS01989
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 20/10/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 3% of OMC)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Silty Clay

Sample Data

Sample ID	S22DS-07901	S22DS-07902				
Field Sample ID	1	2				
Client Sample ID	35	36				
Date Tested	4/10/2022	4/10/2022				
Time Tested	09:45	10:00				
E:	2503.107 (356328)	2499.062 (356323)				
N:	333.560 (5781236)	381.837 (5781225)				
EL:	45.358	45.099				
Lot / Layer:	4014 / 2	4015 / 2				

Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	15.0	15.0				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	2.03	2.05				
Field Dry Density (t/m³)	1.77	1.78				
Peak Converted Wet Density (t/m³)	2.08	2.06				
Optimum Moisture Content (%)	15.5	17.0				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	95.5	89.0				
Moisture Variation (%)	0.5 dry	2.0 dry				
Hilf Density Ratio (%)	**97.5**	**99.0**				

Comments

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CHADWICK GEOTECHNICS

Dandenong South
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25 Metcalf Street
DANDENONG SOUTH, VIC 3175

Ph: + 61 3 8796 7900
Fax: +61 3 9706 9431

Report No: HDR:W22DS02364
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 39
Project No.: 3807351.039
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 2/12/2022

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 3% of OMC)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay with traces of Gravel

Sample Data

Sample ID	S22DS-09531	S22DS-09532				
Field Sample ID	1	2				
Client Sample ID	46	47				
Date Tested	29/11/2022	29/11/2022				
Time Tested	14:17	14:24				
E:	2409.36 (356220)	2407.60 (356230)				
N:	356.65 (35781201)	328.07 (5781169)				
EL:	44.14	43.57				
Lot / Layer:	3902 / 2	3904 / 2				
Field and Laboratory Data						
Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	18.2	18.6				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	1.99	2.04				
Field Dry Density (t/m³)	1.68	1.72				
Peak Converted Wet Density (t/m³)	2.07	2.03				
Optimum Moisture Content (%)	18.5	19.0				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	98.0	97.0				
Moisture Variation (%)	0.5 dry	0.5 dry				
Hilf Density Ratio (%)	**96.0**	**100.5**				

Comments

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Report No: HDR:W23DS01053
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 27/04/2023

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% (+- 3% of OMC)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Silty Clay

Sample Data

Sample ID	S23DS-03527	S23DS-03528	S23DS-03529			
Field Sample ID	1	2	3			
Date Tested	24/04/2023	24/04/2023	24/04/2023			
E:	356232	356269	356259			
N:	5781111	5781179	5781159			
EL:	-	-	-			
Lot / Layer:	4022 / -	4504 / -	4006 / -			
	Retest	Retest	Retest			

Field and Laboratory Data

Depth of Test (mm)	275	275	275			
Depth of Layer (mm)	300	300	300			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	14.4	15.0	14.2			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.12	2.12	2.10			
Field Dry Density (t/m³)	1.86	1.85	1.84			
Peak Converted Wet Density (t/m³)	2.15	2.06	2.12			
Optimum Moisture Content (%)	15.0	15.5	14.5			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	97.5	97.0	97.0			
Moisture Variation (%)	0.5 dry	0.5 dry	0.5 dry			
Hilf Density Ratio (%)	**98.5**	**103.0**	**99.0**			

Comments

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Report No: MAT:S22DS-06303/1
Issue No: 1

Material Test Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 22/08/2022

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Sample Details

Sample Location	
Field Sample ID	1
Date Sampled	8/08/2022
Source	Onsite
Material	Silty Clay
Specification	AS Grading
Sampling Method	AS1289.1.2.1 Clause 6.4 (b)
Sample ID	S22DS-06303

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	21.1	
Sample History	AS 1289.1.1	Oven-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	16.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	58	
Plastic Limit (%)	AS 1289.3.2.1	18	
Plasticity Index (%)	AS 1289.3.3.1	40	
Date Tested		17/08/2022	

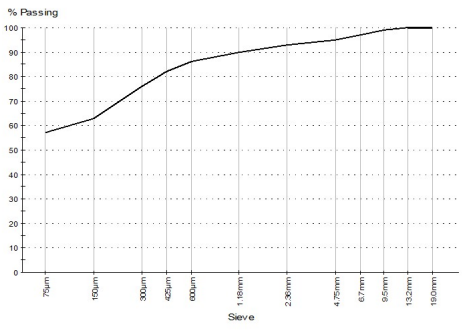
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 18/08/2022

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
13.2mm	100	
9.5mm	99	
6.7mm	97	
4.75mm	95	
2.36mm	93	
1.18mm	90	
600µm	86	
425µm	82	
300µm	76	
150µm	63	
75µm	57	

Chart



Comments

N/A

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Report No: MAT:S22DS-06322/1
Issue No: 1

Material Test Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Meridian Estate - Stage 40
Project No.: 3807351.040
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 26/08/2022

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Sample Details

Sample Location	2406.740 (356232), 228.640 (5781070), 41.290, 4026 / 1
Field Sample ID	1
Date Sampled	9/08/2022
Time Sampled	12:30
Source	Onsite
Material	Sandy/Silty Clay
Specification	AS Grading
Sampling Method	AS1289.1.2.1 Clause 6.4 (b)
Sample ID	S22DS-06322

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	9.6	
Sample History	AS 1289.1.1	Oven-dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	9.5	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	39	
Plastic Limit (%)	AS 1289.3.2.1	13	
Plasticity Index (%)	AS 1289.3.3.1	26	
Date Tested		18/08/2022	

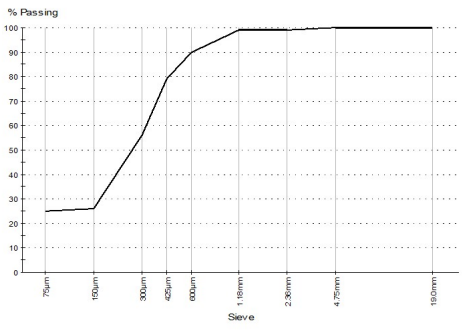
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 16/08/2022

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
4.75mm	100	
2.36mm	99	
1.18mm	99	
600µm	90	
425µm	79	
300µm	56	
150µm	26	
75µm	25	

Chart



Comments

N/A

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Appendix D : Controlled Fill Certificate

CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Meridian Central Estate Stage 40
Lots 4001 to 4028

Chadwick Geotechnics REF: 3807351.040v1

CLIENT : Grosvenor Lodge Property
PO Box 4136
Dandenong South VIC 3164

DATE: 4 May 2023

SUMMARY

Chadwick Geotechnics Pty Ltd conducted, Level 1 inspection and testing, in accordance with Section 8.2 Level 1 inspection and Testing *AS3798-2007, Guidelines on earthworks for commercial and residential developments,* during the filling of the site.

So far as can be determined, the fill was placed in accordance with the Specification that required a minimum density ratio of 95% of HILF Density (AS1289.5.7.1) to be achieved.

LIMITATIONS

This Certificate has been commissioned for the filling of the area mentioned above. No responsibility or liability will be accepted for the use of this report for any purpose other than that for which Chadwick Geotechnics Pty Ltd was engaged, specifically for Level 1 Inspection and Testing of the structural fill (excluding topsoil).

This report is based on the conditions present and factors affecting the soil at the time of inspection (22 July 2022 and was completed on 24 April 2023). No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Project Manager

Timothy Chadwick
Project Director

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