CHADWICK GEOTECHNICS

REPORT

Level 1 Inspection and Testing Services

Riverfield Estate Stage 3, Clyde
Lots 301 to 341

Prepared for:

Grosvenor Lodge Pty Ltd

16 September 2022

Our Ref: 1016363.003.v1

25 Metcalf Street, Dandenong South, Vic 3175, Melbourne, Australia
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Distribution:

Grosvenor Lodge Pty Ltd	1 electronic copy
Chadwick Geotechnics Pty Ltd (FILE)	1 electronic copy

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1 Introduction

As part of the construction of the Riverfield Estate development in Clyde, Chadwick Geotechnics Pty Ltd (Chadwick Geotechnics), has been engaged by Grosvenor Lodge Pty Ltd to provide Geotechnical Inspection and Testing Authority (GITA), services for the earthworks within Stage 3 of the Estate during construction.

The project included the preparation and general earthwork filling of the site. This report presents the earthworks supervision methods and density testing results for residential lot numbers 301 to Lot 341 within the Stage 3 site.

The earthworks were completed between 6 December 2020 and 12 August 2022.

The specification required the earthworks to be completed under Level 1 Supervision, that is, full-time Inspection and Testing of the earthworks. Chadwick Geotechnics were onsite for the duration of the earthworks program.

2 Project details

The Riverfield Estate is located in Clyde, the Stage 3 site is located South of the Stage 9 site. The stage is being developed as a residential development.

A site plan of the site is included in Appendix A.

2.2 Fill Specifications

A summary of the specification is shown below:

- All filling in excess of 300mm depth shall be constructed to specifications satisfying the requirements of AS 3798-2007 “Guidelines on Earthworks for Commercial and Residential Developments”.
- All filling works shall be undertaken with supervision to the standard detailed as “Level 1 Inspection and Testing” in AS 3798-2007, such that the supervisor will issue a notice detailing that the works comply with the specifications and drawings.
- 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 in presence of the Level 1 Inspector prior to the placement of engineered fill.
- Fill to be compacted in near horizontal layers.
- Compaction to achieve a ratio of at least 95% Standard MDD (maximum dry density).
- Frequency of testing to be in accordance with Table 8.1 of AS3798-2007.

2.3 Roles

The organisations and their roles are presented in Table 2.1 below.

Table 2.1 Project roles

Role	Organisation
Developer	Grosvenor Lodge Pty Ltd
Geotechnical Inspection and Testing Authority (GITA)	Chadwick Geotechnics Pty Ltd
Civil Designer	Charlton Degg Consultants Pty Ltd
Earthworks Contractor	Brown Property Group Pty Ltd

2.4 Source of material

The material used on site was imported from locally sources.

2.5 General

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 a Type 1 project (large scale operation). Compaction control laboratory testing was undertaken within Chadwick Geotechnics NATA accredited laboratories in accordance with AS1289 'Methods of Testing Soils for Engineering Purposes'.

2.6 Subgrade inspection

Prior to fill being placed the subgrade was inspected. The inspections were performed in accordance with the Level 1 guidelines presented in AS 3798–2007 Section 5.5. The stripped surface was stripped to natural clay, and the area was found to be firm and free of vegetation and other deleterious material. All pre-existing uncontrolled fill was removed prior to the placement of engineered fill to achieve the design levels.

2.7 Earthwork supervision

Full time Level 1 inspection and testing of the Stage 3 filling operations commenced on 16 December 2020 and was completed on 12 August 2022. During this period Chadwick Geotechnics was on site at all times, (except when there were no earthworks) and observed the earthworks, the placing of fill including the supply of material, conditioning of material (moisture conditioning and oversize removal), placement and compaction of the fill material.

All fill material was placed in lift sequences and Chadwick Geotechnics verified that the surface of the stripped subgrade and additional lifts were thoroughly scarified, and moisture conditioned prior to placement of additional layers to prevent delamination at the layer interface.

Below are two photographs of typical earthwork operations completed during earthworks, See Photographs 2.7.1 and 2.7.2 below.

Photograph 2.7.1:

Material Placement

Photograph 2.7.2:

Material Compaction

2.8 Earthwork equipment

The fill was placed and compacted using vibrating Pad foot rollers. Water trucks with water cannons attached were used to moisture condition the soil materials. The layer thicknesses were controlled using earthwork machinery with built-in GPS systems.

2.9 Geotechnical sampling and testing

Field density and moisture content testing was carried out 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 determination in accordance with AS 1289.5.7.1. Test locations were recorded using hand held GPS units. A site plan showing the field density test locations is provided in Appendix A. A summary of Hilf density testing is presented in Appendix B and the Hilf density test reports are presented in Appendix C.

A total of 119 tests were performed across the Stage 3 site and surrounding area during the filling process.

The results show that seven 7 tests failed to meet the specification requirements for the stage 3 site. The earthworks contractor was advised of the tests that failed and the fill relevant to the areas were reworked, reconditioned, re-compacted and subsequently retested. The results showed that the re-tests achieved the specification requirements for the project.

A summary of the Hilf density test reports is provided within Appendix B and all the test reports are provided within Appendix C, a controlled fill certificate is provided within Appendix D.

3 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 able to be determined, that:

- The materials used by the earthworks contractor met the geotechnical property requirements of the specification.
- 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 material achieved the minimum density requirement of the specification.
- Given the consistent construction practices followed by the earthworks contractor, and as witnessed by 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.

It is our opinion that the earthworks undertaken have been performed in accordance with the requirements of Section 8.2 of AS3798-2007 - Level 1 Inspection and Testing.

4 Applicability

This report has been prepared for the exclusive use of our client Grosvenor Lodge Pty Ltd , with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Recommendations and opinions in this report are based on data from discrete investigation locations. The nature and continuity of subsoil away from these locations are inferred but it must be appreciated that actual conditions could vary from the assumed model.

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:

Authorised for Chadwick Geotechnics Pty Ltd by:

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Robert Barden
Project Manager

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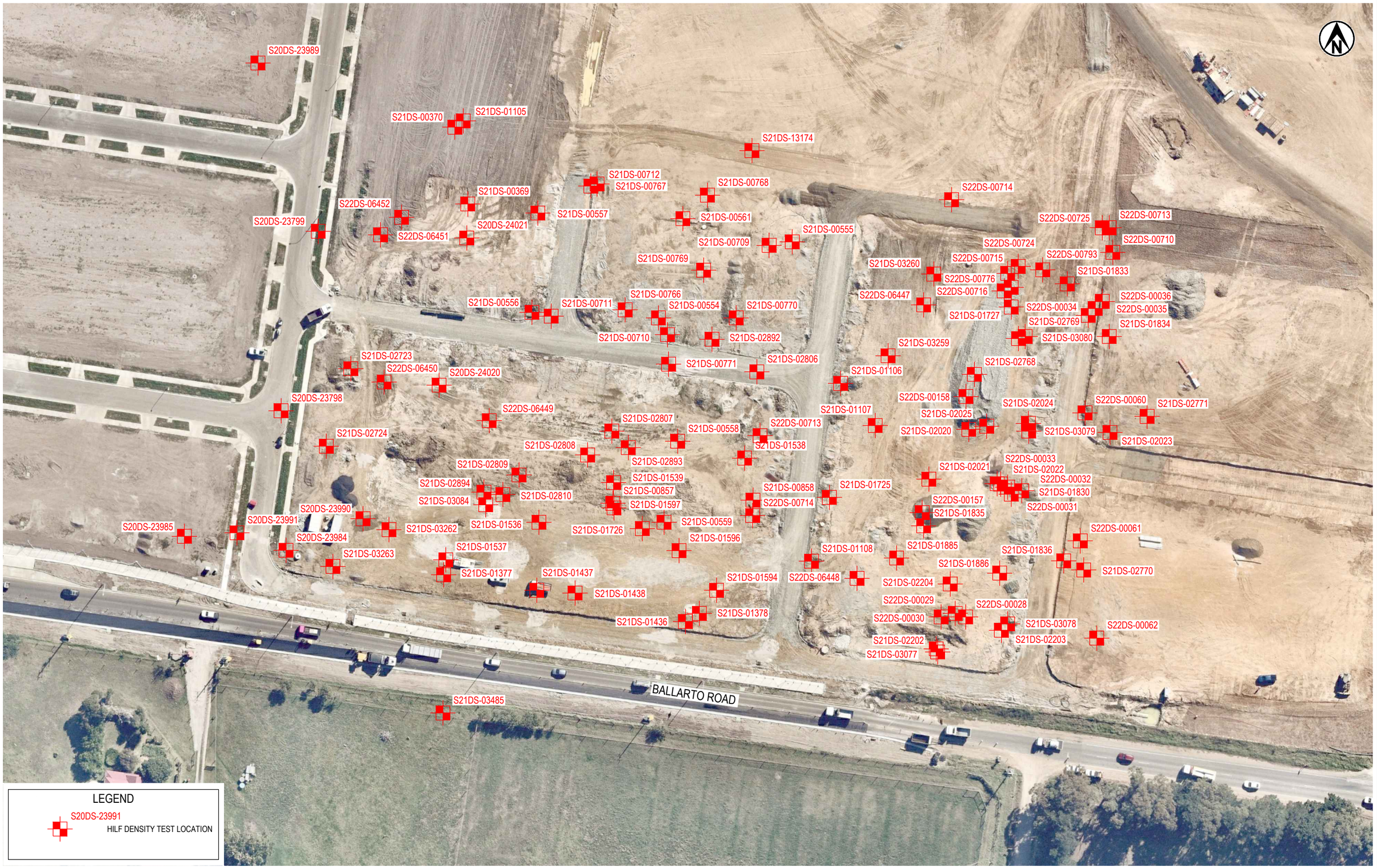
Tim Chadwick
Project Director

Appendix A : Location Plan

T:\Dandenong\Geo Projects\1016363\3 Stage 3\WorkingMaterial\CAD\FIG\1016363-F01.dwg 2022-Aug-17 2:52:53 PM Plotted By: KATHRYN JACKSON



CHADWICK GEOTECHNICS
www.chadwickgeotechnics.com.au

NOTES:
1. AERIAL IMAGE SOURCED FROM NEARMAP. COPYRIGHT NEARMAP PTY LTD IMAGERY DATE: 25/04/2022.
2. BASE PLAN PROVIDED BY CHARLTON DEGG. DRAWING REFERENCE: 1209_3/R04, REV 1. DATE RECEIVED: 10/06/2022.

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

ORIGINAL IN COLOUR

PROJECT No.	1016363	
DESIGNED	AJK	Jun.22
DRAWN	KMJA	Jun.22
CHECKED		
APPROVED		DATE

CLIENT GREENRIDGE PROPERTIES PTY LTD
PROJECT RIVERFIELD ESTATE STAGE 3
TITLE LEVEL ONE HILF DENSITY TESTING
HILF DENSITY TEST LOCATION PLAN

UNDER REVISION 1

SCALE (A3) 1:1000 FIG No. 1016363-F01 REV 1

Appendix B : Hilf Density Test Summary

Riverfield Estate Stage 3 - 1016363.003

HILF Density Summary Table

Chadwick Geotechnics
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Report No	Sample No	Date	Easting	Northing	Layer	Density Ratio (%)	Moisture Variation From OMC (%)	Pass / Fail	Remarks
HDR:W20DS06567	S20DS-23795	16/12/2020	356765.5	5777607.6	8.86	102.5	0.5 dry	Pass	
HDR:W20DS06567	S20DS-23796	16/12/2020	356770.8	5777642.7	9.2	100	1.0 wet	Pass	
HDR:W20DS06567	S20DS-23797	16/12/2020	356753.4	5777686.1	9.17	98	1.0 wet	Pass	
HDR:W20DS06567	S20DS-23798	16/12/2020	356814.6	5777599.8	8.41	96.5	2.0 wet	Pass	
HDR:W20DS06567	S20DS-23799	16/12/2020	356825.2	5777651	8.51	96	2.0 wet	Pass	
HDR:W20DS06610	S20DS-23981	18/12/2020	356868.8	5777750.8	8.42	98	3.0 wet	Pass	
HDR:W20DS06610	S20DS-23982	18/12/2020	356864.1	5777759.6	7.93	99	2.5 wet	Pass	
HDR:W20DS06610	S20DS-23983	18/12/2020	356862.4	5777756.4	7.68	100.5	OMC	Pass	
HDR:W20DS06610	S20DS-23984	18/12/2020	356816	5777560	7.93	86.5	2.5 wet	Fail	See Retest 23991
HDR:W20DS06610	S20DS-23985	18/12/2020	356787	5777564	7.94	95	2.5 wet	Pass	
HDR:W20DS06610	S20DS-23986	18/12/2020	356745	5777568	7.94	94	4.5 wet	Fail	See Retest 24022
HDR:W20DS06610	S20DS-23987	18/12/2020	356725	5777745	9.21	97.5	0.5 wet	Pass	
HDR:W20DS06610	S20DS-23988	18/12/2020	356761	5777738	9.25	97	2.0 wet	Pass	
HDR:W20DS06610	S20DS-23989	18/12/2020	356808	5777699	8.98	96	3.0 wet	Pass	
HDR:W20DS06611	S20DS-23990	19/12/2020	356838	5777569	8.02	100	0.5 dry	Pass	
HDR:W20DS06611	S20DS-23991	19/12/2020	356802	5777565	8.09	100	2.0 dry	Pass	Retest of 23984
HDR:W20DS06620	S20DS-24018	21/12/2020	356800.6	5777732.5	8.817	102	OMC	Pass	Retest of 23905
HDR:W20DS06620	S20DS-24019	21/12/2020	356866	5777758	7.3	103.5	OMC	Pass	Retest of 23908
HDR:W20DS06620	S20DS-24020	21/12/2020	356859.7	5777607.1	8.19	103	OMC	Pass	
HDR:W20DS06620	S20DS-24021	21/12/2020	356867.6	5777649.1	8.47	100	1.0 wet	Pass	
HDR:W20DS06620	S20DS-24022	21/12/2020	356744	5777566.1	8.24	96.5	0.5 wet	Pass	Retest of 23986
HDR:W21DS00086	S21DS-00363	13/01/2021	356758.9	5777832.2	9.68	97	0.5 wet	Pass	
HDR:W21DS00086	S21DS-00364	13/01/2021	356758.4	5777778.7	9.67	93.5	2.0 wet	Fail	See Retest - 00935

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Report No	Sample No	Date	Easting	Northing	Layer	Density Ratio (%)	Moisture Variation From OMC (%)	Pass / Fail	Remarks
HDR:W21DS00086	S21DS-00365	13/01/2021	356725.9	5777781.7	9.63	98.5	0.5 wet	Pass	
HDR:W21DS00086	S21DS-00366	13/01/2021	356696.6	5777746.1	9.63	98.5	OMC	Pass	
HDR:W21DS00086	S21DS-00367	13/01/2021	356711.4	5777812.8	9.86	96	2.5 wet	Pass	
HDR:W21DS00086	S21DS-00368	13/01/2021	356739.5	5777810.2	9.3	97	1.5 wet	Pass	Retest of 00320
HDR:W21DS00086	S21DS-00369	13/01/2021	356867.9	5777658.8	8.69	97	2.5 wet	Pass	
HDR:W21DS00086	S21DS-00370	13/01/2021	356864.2	5777680.7	9.15	91	2.5 wet	Fail	See Retest 01105
HDR:W21DS00124	S21DS-00554	14/01/2021	356922.3	5777626.3	8.1	104	OMC	Pass	
HDR:W21DS00124	S21DS-00555	14/01/2021	356960.5	5777648	8.06	98	OMC	Pass	
HDR:W21DS00124	S21DS-00556	14/01/2021	356886.2	5777627.9	8.6	100.5	OMC	Pass	
HDR:W21DS00124	S21DS-00557	14/01/2021	356887.9	5777656.2	8.42	99.5	OMC	Pass	
HDR:W21DS00124	S21DS-00558	14/01/2021	356927.8	5777591.1	7.73	102	OMC	Pass	
HDR:W21DS00124	S21DS-00559	14/01/2021	356923.9	5777568	7.66	99.5	OMC	Pass	
HDR:W21DS00124	S21DS-00560	14/01/2021	356915.9	5777700	8.51	102	1.0 wet	Pass	
HDR:W21DS00124	S21DS-00561	14/01/2021	356929.3	5777654.6	8.1	98.5	1.0 wet	Pass	
HDR:W21DS00160	S21DS-00709	15/01/2021	356953.9	5777647	8.21	99.5	2.5 wet	Pass	
HDR:W21DS00160	S21DS-00710	15/01/2021	356924.9	5777621.5	8.37	96.5	2.5 wet	Pass	
HDR:W21DS00160	S21DS-00711	15/01/2021	356891.7	5777626.8	8.43	98	2.0 wet	Pass	
HDR:W21DS00160	S21DS-00712	15/01/2021	356903	5777663.9	8.61	98.5	1.0 wet	Pass	
HDR:W21DS00160	S21DS-00713	15/01/2021	356951.3	5777592.7	8.12	96.5	OMC	Pass	
HDR:W21DS00160	S21DS-00714	15/01/2021	356949.2	5777569.9	8.09	97.5	2.5 wet	Pass	
HDR:W21DS00176	S21DS-00766	18/01/2021	356912.8	5777628.6	8.79	96	OMC	Pass	
HDR:W21DS00176	S21DS-00767	18/01/2021	356904.798	5777664.5	9.09	96.5	OMC	Pass	
HDR:W21DS00176	S21DS-00768	18/01/2021	356936.3	5777661.3	8.82	101.5	0.5 dry	Pass	

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Report No	Sample No	Date	Easting	Northing	Layer	Density Ratio (%)	Moisture Variation From OMC (%)	Pass / Fail	Remarks
HDR:W21DS00176	S21DS-00769	18/01/2021	356935.2	5777639.9	8.68	98	0.5 dry	Pass	
HDR:W21DS00176	S21DS-00770	18/01/2021	356944.5	5777626.3	8.57	101	0.5 dry	Pass	
HDR:W21DS00176	S21DS-00771	18/01/2021	356925.2	5777613.1	8.5	101	0.5 dry	Pass	
HDR:W21DS00199	S21DS-00857	19/01/2021	356909.3	5777573.4	8.25	98	0.5 wet	Pass	
HDR:W21DS00199	S21DS-00858	19/01/2021	356949.3	5777574.3	8.42	99.5	OMC	Pass	
HDR:W21DS00199	S21DS-00859	19/01/2021	356778.3	5777854.1	9.41	97.5	0.5 dry	Pass	
HDR:W21DS00199	S21DS-00860	19/01/2021	356766.6	5777881.4	9.25	103	0.5 dry	Pass	
HDR:W21DS00199	S21DS-00861	19/01/2021	356785.3	5777897.1	9.14	98	0.5 wet	Pass	
HDR:W21DS00199	S21DS-00862	19/01/2021	356783.3	5777934.9	9.29	100.5	0.5 dry	Pass	
HDR:W21DS00262	S21DS-01100	22/01/2021	356730.3	5777922.4	9.54	101	0.5 dry	Pass	
HDR:W21DS00262	S21DS-01101	22/01/2021	356737.4	5777957.6	9.59	97	0.5 wet	Pass	
HDR:W21DS00262	S21DS-01102	22/01/2021	356757.4	5777983.1	9.72	99.5	0.5 wet	Pass	
HDR:W21DS00262	S21DS-01103	22/01/2021	356769.4	5777894.7	9.13	100	0.5 dry	Pass	Retest of 00932, 20-1-2021
HDR:W21DS00262	S21DS-01104	22/01/2021	356680.2	5777880.1	8.29	96	OMC	Pass	
HDR:W21DS00262	S21DS-01105	22/01/2021	356866.6	5777682.5	9.24	100	0.5 wet	Pass	Retest of 00370, 13-2-2021
HDR:W21DS00262	S21DS-01106	22/01/2021	356974.3	5777607.6	8.22	98	OMC	Pass	
HDR:W21DS00262	S21DS-01107	22/01/2021	356984.2	5777595.6	8.09	99.5	0.5 wet	Pass	
HDR:W21DS00262	S21DS-01108	22/01/2021	356966	5777556.9	8.09	98.5	0.5 wet	Pass	
HDR:W21DS00318	S21DS-01375	28/01/2021	356834	5777967	9.37	96	1.0 wet	Pass	
HDR:W21DS00318	S21DS-01376	28/01/2021	356796	5777978	9.59	96.5	0.5 wet	Pass	
HDR:W21DS00318	S21DS-01377	28/01/2021	356861	5777553	6.14	95.5	3.0 wet	Pass	
HDR:W21DS00318	S21DS-01378	28/01/2021	356934	5777542	7.56	96.5	2.0 wet	Pass	
HDR:W21DS00335	S21DS-01436	29/01/2021	356930	5777539.7	7.69	97.5	1.5 wet	Pass	

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HILF Density Summary Table

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Report No	Sample No	Date	Easting	Northing	Layer	Density Ratio (%)	Moisture Variation From OMC (%)	Pass / Fail	Remarks
HDR:W21DS00335	S21DS-01437	29/01/2021	356887.6	5777548.6	6.67	95	3.0 wet	Pass	
HDR:W21DS00335	S21DS-01438	29/01/2021	356898.5	5777547.8	6.81	99	3.0 wet	Pass	
HDR:W21DS00361	S21DS-01536	2/02/2021	356888.2	5777568	8.05	99	OMC	Pass	
HDR:W21DS00361	S21DS-01537	2/02/2021	356861.6	5777557.3	8.05	99	1.5 dry	Pass	
HDR:W21DS00361	S21DS-01538	2/02/2021	356946.9	5777586.3	8.63	95.5	OMC	Pass	
HDR:W21DS00361	S21DS-01539	2/02/2021	356909.5	5777579.3	8.508	99	OMC	Pass	
HDR:W21DS00375	S21DS-01594	3/02/2021	356938.9	5777548.6	8.18	103.5	0.5 dry	Pass	
HDR:W21DS00375	S21DS-01595	3/02/2021	356869.8	5777555.6	8.32	98	2.5 wet	Pass	
HDR:W21DS00375	S21DS-01596	3/02/2021	356928.2	5777559.9	8.62	96	2.5 wet	Pass	
HDR:W21DS00375	S21DS-01597	3/02/2021	356909.6	5777572.1	8.56	105.5	0.5 dry	Pass	
HDR:W21DS00410	S21DS-01723	4/02/2021	356700.7	5777965.8	9.88	95	OMC	Pass	
HDR:W21DS00410	S21DS-01724	4/02/2021	356739.2	5777991.1	9.86	97.5	OMC	Pass	
HDR:W21DS00410	S21DS-01725	4/02/2021	356971.1	5777575.1	8.43	101	0.5 wet	Pass	
HDR:W21DS00410	S21DS-01726	4/02/2021	356917.7	5777566.2	8.91	103	OMC	Pass	
HDR:W21DS00410	S21DS-01727	4/02/2021	357023	5777629.4	7.87	99	0.5 dry	Pass	
HDR:W21DS00438	S21DS-01830	5/02/2021	357026	5777577	7.43	100.5	1.5 wet	Pass	
HDR:W21DS00439	S21DS-01831	5/02/2021	356677	5777940	9.82	95.5	3.5 wet	Fail	See Retest 03081
HDR:W21DS00439	S21DS-01832	5/02/2021	356680	5777976	9.92	97	1.5 wet	Pass	
HDR:W21DS00439	S21DS-01833	5/02/2021	357039	5777636	7.57	101	1.0 wet	Pass	
HDR:W21DS00439	S21DS-01834	5/02/2021	357051	5777621	7.54	97.5	2.5 wet	Pass	
HDR:W21DS00439	S21DS-01835	5/02/2021	356998	5777567	7.55	99	OMC	Pass	
HDR:W21DS00439	S21DS-01836	5/02/2021	357038	5777557	7.53	98	OMC	Pass	
HDR:W21DS00451	S21DS-01885	8/02/2021	356990.3	5777557.8	8.12	98	0.5 wet	Pass	
HDR:W21DS00451	S21DS-01886	8/02/2021	357019.7	5777553.5	8.15	98.5	0.5 wet	Pass	

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Report No	Sample No	Date	Easting	Northing	Layer	Density Ratio (%)	Moisture Variation From OMC (%)	Pass / Fail	Remarks
HDR:W21DS00483	S21DS-02020	9/02/2021	357010.9	5777594.5	8.35	98	2.0 wet	Pass	
HDR:W21DS00483	S21DS-02021	9/02/2021	356999.5	5777580.3	8.57	100.5	2.0 wet	Pass	
HDR:W21DS00483	S21DS-02022	9/02/2021	357020	5777578.9	8.27	95	3.0 wet	Pass	
HDR:W21DS00483	S21DS-02023	9/02/2021	357051.2	5777593.6	8.03	99.5	2.5 wet	Pass	
HDR:W21DS00483	S21DS-02024	9/02/2021	357027.9	5777596.2	8.21	94.5	6.0 wet	Fail	See Retest 03079
HDR:W21DS00483	S21DS-02025	9/02/2021	357016	5777595.4	8.47	99	2.0 wet	Pass	
HDR:W21DS00536	S21DS-02202	11/02/2021	357001.6	5777531.9	7.63	101	5.0 wet	Fail	See Retest 03077
HDR:W21DS00536	S21DS-02203	11/02/2021	357020.2	5777537.2	7.86	112	6.0 wet	Fail	See Retest 03078
HDR:W21DS00536	S21DS-02204	11/02/2021	357005.6	5777550.4	8.19	97.5	OMC	Pass	
HDR:W21DS00536	S21DS-02205	11/02/2021	356853.4	5777885.5	9.02	98	2.0 wet	Pass	
HDR:W21DS00536	S21DS-02206	11/02/2021	356868	5777915.8	8.94	99.5	0.5 wet	Pass	
HDR:W21DS00676	S21DS-02723	20/02/2021	356834.5	5777611.8	9	97	OMC	Pass	
HDR:W21DS00676	S21DS-02724	20/02/2021	356827.5	5777589.7	9	97	2.0 wet	Pass	
HDR:W21DS00687	S21DS-02768	22/02/2021	357012.5	5777610.2	7.95	96	2.5 wet	Pass	
HDR:W21DS00687	S21DS-02769	22/02/2021	357025.1	5777620.4	7.94	93.5	0.5 dry	Fail	See Retest 03080
HDR:W21DS00687	S21DS-02770	22/02/2021	357043.7	5777554.4	8.14	97	OMC	Pass	
HDR:W21DS00687	S21DS-02771	22/02/2021	357061.8	5777598.2	8.17	95.5	OMC	Pass	
HDR:W21DS00700	S21DS-02806	23/02/2021	356950.4	5777610.9	7.86	102	2.0 dry	Pass	
HDR:W21DS00700	S21DS-02807	23/02/2021	356909	5777594	7.99	98.5	1.0 dry	Pass	
HDR:W21DS00700	S21DS-02808	23/02/2021	356902.09	5777587.2	8.07	103.5	2.0 dry	Pass	
HDR:W21DS00700	S21DS-02809	23/02/2021	356882.5	5777581.5	7.72	102	2.5 dry	Pass	
HDR:W21DS00700	S21DS-02810	23/02/2021	356877.9	5777575.9	7.72	100.5	1.0 dry	Pass	
HDR:W21DS00720	S21DS-02892	24/02/2021	356937.6	5777620.2	8.95	101	3.0 wet	Pass	

Riverfield Estate Stage 3 - 1016363.003

HILF Density Summary Table

Chadwick Geotechnics
25 Metcalf Street
Dandenong South VIC 3175
Tel : (03) 8796 7900
Fax: (03) 9706 9431
www.chadwickgeotechnics.com.au

Report No	Sample No	Date	Easting	Northing	Layer	Density Ratio (%)	Moisture Variation From OMC (%)	Pass / Fail	Remarks
HDR:W21DS00720	S21DS-02893	24/02/2021	356913.7	5777589.3	8.71	98	3.0 wet	Pass	
HDR:W21DS00720	S21DS-02894	24/02/2021	356872.5	5777576.6	8.79	93.5	5.0 wet	Fail	See Retest 03084
HDR:W21DS00772	S21DS-03077	1/03/2021	357002	5777531	7.74	97.5	2.5 wet	Pass	Retest of 02202
HDR:W21DS00772	S21DS-03078	1/03/2021	357022	5777539	7.84	100	0.5 wet	Pass	Retest of 02203
HDR:W21DS00772	S21DS-03079	1/03/2021	357028	5777594	8.28	104.5	0.5 wet	Pass	Retest of 02024
HDR:W21DS00772	S21DS-03080	1/03/2021	357027	5777621	8.06	97	2.5 wet	Pass	Retest of 02769
HDR:W21DS00772	S21DS-03081	1/03/2021	356674	5777939	9.83	97.5	2.5 wet	Pass	Retest of 01831
HDR:W21DS00772	S21DS-03082	1/03/2021	356866	5777919	9.43	104	0.5 dry	Pass	Retest of 02586
HDR:W21DS00772	S21DS-03083	1/03/2021	356864	5777937	9.43	100.5	OMC	Pass	Retest of 02585
HDR:W21DS00772	S21DS-03084	1/03/2021	356873	5777573	8.86	99	OMC	Pass	Retest of 02894
HDR:W21DS00812	S21DS-03259	3/03/2021	356987.86	5777615.5	8.62	100.5	OMC	Pass	
HDR:W21DS00812	S21DS-03260	3/03/2021	357000.9	5777638.8	8.52	99.5	2.0 wet	Pass	
HDR:W21DS00812	S21DS-03261	3/03/2021	357197.7	5777598.2	6.21	99.5	0.5 dry	Pass	
HDR:W21DS00812	S21DS-03262	3/03/2021	356845.4	5777565.9	8.87	99.5	OMC	Pass	
HDR:W21DS00812	S21DS-03263	3/03/2021	356829.4	5777555.4	8.49	95.5	2.5 wet	Pass	
HDR:W21DS00812	S21DS-03264	3/03/2021	357197.8	5777556.5	6.12	98.5	OMC	Pass	
HDR:W21DS00867	S21DS-03485	5/03/2021	356860.8	5777513.6	9.499	98.5	0.5 wet	Pass	
HDR:W21DS00867	S21DS-03486	5/03/2021	356874.4	5777770.1	9.6	94	0.5 wet	Fail	See Retest 03553
HDR:W21DS00867	S21DS-03487	5/03/2021	356877.5	5777822.9	9.41	96.5	0.5 wet	Pass	
HDR:W21DS03581	S21DS-13170	4/12/2021	356950	5777731	8.9	100	2.5 dry	Pass	
HDR:W21DS03581	S21DS-13174	4/12/2021	356949	5777674	8.795	95	2.5 wet	Pass	
HDR:W22DS00011	S22DS-00028	8/01/2022	357010	5777541	8.06	103.5	2.0 dry	Pass	
HDR:W22DS00011	S22DS-00029	8/01/2022	357007	5777542	8.26	104.5	2.0 dry	Pass	

Riverfield Estate Stage 3 - 1016363.003

HILF Density Summary Table

Chadwick Geotechnics
25 Metcalf Street
Dandenong South VIC 3175
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www.chadwickgeotechnics.com.au

Report No	Sample No	Date	Easting	Northing	Layer	Density Ratio (%)	Moisture Variation From OMC (%)	Pass / Fail	Remarks
HDR:W22DS00011	S22DS-00030	8/01/2022	357003	5777541	8.46	105	2.5 dry	Pass	
HDR:W22DS00011	S22DS-00031	8/01/2022	357023	5777576	8.21	100.5	1.0 wet	Pass	
HDR:W22DS00011	S22DS-00032	8/01/2022	357022	5777578	8.41	104	1.0 dry	Pass	
HDR:W22DS00011	S22DS-00033	8/01/2022	357019	5777579	8.61	100	2.0 dry	Pass	
HDR:W22DS00011	S22DS-00034	8/01/2022	357045	5777627	7.76	98.5	3.0 wet	Pass	
HDR:W22DS00011	S22DS-00035	8/01/2022	357047	5777629	7.96	100	2.0 wet	Pass	
HDR:W22DS00011	S22DS-00036	8/01/2022	357049	5777631	8.16	102.5	2.0 dry	Pass	
HDR:W22DS00020	S22DS-00060	10/01/2022	357044.07	5777599.21	8.64	98.5	0.5 dry	Pass	
HDR:W22DS00020	S22DS-00061	10/01/2022	357042.71	5777562.69	8.64	100	0.5 dry	Pass	
HDR:W22DS00020	S22DS-00062	10/01/2022	357047.42	5777534.96	8.35	98.5	0.5 dry	Pass	
HDR:W22DS00020	S22DS-00063	10/01/2022	357079	5777598	8.27	97.5	1.0 dry	Pass	Retest of S22DS-00009
HDR:W22DS00020	S22DS-00064	10/01/2022	357119.82	5777544.44	8.24	98	OMC	Pass	
HDR:W22DS00020	S22DS-00065	10/01/2022	357105.24	5777584.87	8.23	100.5	0.5 dry	Pass	
HDR:W22DS00020	S22DS-00066	10/01/2022	357127.34	5777600.81	8.38	100.5	0.5 dry	Pass	
HDR:W22DS00020	S22DS-00067	10/01/2022	357114.2	5777649.38	7.43	99	OMC	Pass	
HDR:W22DS00020	S22DS-00068	10/01/2022	357112	5777651	7.6.3	97	OMC	Pass	
HDR:W22DS00020	S22DS-00069	10/01/2022	357081.4	5777596.37	8.26	103	2.5 dry	Pass	
HDR:W22DS00020	S22DS-00070	10/01/2022	357079	5777598	8.46	100.5	2.0 dry	Pass	Retest of S22DS-00010
HDR:W22DS00051	S22DS-00157	14/01/2022	356997.59	5777570.75	8.93	95	2.0 wet	Pass	
HDR:W22DS00051	S22DS-00158	14/01/2022	357010.1	5777603.87	8.94	97	1.5 wet	Pass	
HDR:W22DS00204	S22DS-00709	3/02/2022	357069	5777735	7.975	101	0.5 wet	Pass	
HDR:W22DS00204	S22DS-00710	3/02/2022	357052	5777645	8.185	98.5	0.5 wet	Pass	
HDR:W22DS00204	S22DS-00711	3/02/2022	357079	5777720	8.064	102.5	1.5 wet	Pass	

Riverfield Estate Stage 3 - 1016363.003

HILF Density Summary Table

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www.chadwickgeotechnics.com.au

Report No	Sample No	Date	Easting	Northing	Layer	Density Ratio (%)	Moisture Variation From OMC (%)	Pass / Fail	Remarks
HDR:W22DS00204	S22DS-00712	3/02/2022	357045	5777782	8.591	96.5	0.5 wet	Pass	
HDR:W22DS00204	S22DS-00713	3/02/2022	357051	5777652	8.43	97	OMC	Pass	
HDR:W22DS00205	S22DS-00714	3/02/2022	357006	5777660	7.871	97	0.5 wet	Pass	
HDR:W22DS00205	S22DS-00715	3/02/2022	357022	5777639	8.926	97.5	3.0 wet	Pass	
HDR:W22DS00205	S22DS-00716	3/02/2022	357021	5777634	9.023	104	2.0 wet	Pass	
HDR:W22DS00210	S22DS-00724	2/02/2022	357025	5777641	8.645	104	2.0 dry	Pass	
HDR:W22DS00210	S22DS-00725	2/02/2022	357049	5777652	8.005	99.5	OMC	Pass	
HDR:W22DS00224	S22DS-00776	4/02/2022	357023	5777635	8.96	101	1.0 wet	Pass	
HDR:W22DS00224	S22DS-00777	4/02/2022	357080	5777665	-	98	OMC	Pass	
HDR:W22DS00230	S22DS-00793	7/02/2022	357032	5777640	8.84	97.5	2.0 wet	Pass	
HDR:W22DS00230	S22DS-00794	7/02/2022	357075	5777659	8.397	102	3.0 dry	Pass	
HDR:W22DS00230	S22DS-00795	7/02/2022	357080	5777661	8.369	99.5		Pass	
HDR:W22DS01655	S22DS-06447	12/08/2022	356998	5777630	8.919	95.5	0	Pass	
HDR:W22DS01655	S22DS-06448	12/08/2022	356979	5777552	8.477	98	0.5 wet	Pass	
HDR:W22DS01655	S22DS-06449	12/08/2022	356874	5777597	8.879	96.5	0.5 dry	Pass	
HDR:W22DS01655	S22DS-06450	12/08/2022	356844	5777608	8.879	97.5	2.0 wet	Pass	
HDR:W22DS01655	S22DS-06451	12/08/2022	356843	5777650	8.879	97	0	Pass	
HDR:W22DS01655	S22DS-06452	12/08/2022	356849	5777655	9.163	96.5	2.0 wet	Pass	No further Hilf Testing for Stage 3

Appendix C: NATA endorsed laboratory reports

CHADWICK GEOTECHNICS

Think Act Safe Be

Dandenong South
ACN 143 009 330
25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS06567
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 1
Project No.: 1016363.1000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 23/12/2020

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S20DS-23795	S20DS-23796	S20DS-23797	S20DS-23798	S20DS-23799	
Field Sample ID	1	2	3	4	5	
Date Tested	16/12/2020	16/12/2020	16/12/2020	16/12/2020	16/12/2020	
E:	356765.5	356770.8	356753.4	356814.6	356825.2	
N:	5777607.6	5777642.7	5777686.1	5777599.8	5777651	
RL:	8.86	9.20	9.17	8.41	8.51	
Lot:	110	121	136	Road	Road	
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	
Depth of Layer (mm)	200	200	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	2.01	2.03	2.00	1.97	
Peak Converted Wet Density (t/m³)	1.94	2.01	2.07	2.07	2.05	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Variation (%)	0.5 dry	1.0 wet	1.0 wet	2.0 wet	2.0 wet	
Hilf Density Ratio (%)	**102.5**	**100.0**	**98.0**	**96.5**	**96.0**	

Comments

CHADWICK GEOTECHNICS

Think Act Safe Be

Dandenong South
ACN 143 009 330
25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS06610
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 1
Project No.: 1016363.1000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 23/12/2020

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S20DS-23981	S20DS-23982	S20DS-23983	S20DS-23984	S20DS-23985	S20DS-23986
Field Sample ID	1	2	3	4	5	6
Date Tested	18/12/2020	18/12/2020	18/12/2020	18/12/2020	18/12/2020	18/12/2020
E:	356868.8	356864.1	3556862.4	356816	356787	356745
N:	5777750.8	5777759.6	5777756.4	5777560	5777564	5777568
RL:	8.42	7.93	7.68	7.93	7.94	7.94
Field and Laboratory Data						
Depth of Test (mm)	225	225	225	225	225	225
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 Wet Density (t/m³)	1.99	2.06	2.01	1.74	1.98	1.95
Peak Converted Wet Density (t/m³)	2.04	2.08	2.00	2.02	2.08	2.08
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	3.0 wet	2.5 wet	0.0	2.5 wet	2.5 wet	4.5 wet
Hilf Density Ratio (%)	**98.0**	**99.0**	**100.5**	**86.5**	**95.0**	**94.0**

Comments

CHADWICK GEOTECHNICS

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Dandenong South
ACN 143 009 330
25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS06610
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 1
Project No.: 1016363.1000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 23/12/2020

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S20DS-23987	S20DS-23988	S20DS-23989			
Field Sample ID	7	8	9			
Date Tested	18/12/2020	18/12/2020	18/12/2020			
E:	356725	356761	356808			
N:	5777745	5777738	5777699			
RL:	9.21	9.25	8.98			
Field and Laboratory Data						
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Wet Density (t/m³)	1.99	2.01	2.01			
Peak Converted Wet Density (t/m³)	2.04	2.07	2.09			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	2.0 wet	3.0 wet			
Hilf Density Ratio (%)	**97.5**	**97.0**	**96.0**			

Comments

CHADWICK GEOTECHNICS

Think Act Safe Be

Dandenong South
ACN 143 009 330
25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS06611
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 1
Project No.: 1016363.1000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 23/12/2020

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S20DS-23990	S20DS-23991				
Field Sample ID	1	2				
Date Tested	19/12/2020	19/12/2020				
E:	356838	356802				
N:	5777569	5777565				
RL:	8.02	8.09				
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 Wet Density (t/m³)	2.05	1.98				
Peak Converted Wet Density (t/m³)	2.06	1.98				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	2.0 dry				
Hilf Density Ratio (%)	**100.0**	**100.0**				

Comments

CHADWICK GEOTECHNICS

Think Act Safe Be

Dandenong South
ACN 143 009 330
25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W20DS06620
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 1
Project No.: 1016363.1000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 18/01/2021

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S20DS-24018	S20DS-24019	S20DS-24020	S20DS-24021	S20DS-24022	
Field Sample ID	1	2	3	4	5	
Date Tested	21/12/2020	21/12/2020	21/12/2020	21/12/2020	21/12/2020	
E:	356800.6	356866	35859.7	356867.6	356744	
N:	5777732.5	5777758	5777607.1	5777649.1	5777566.1	
RL:	8.817	7.30	8.19	8.47	8.24	
Lot:	211		3.16	321	103	
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	
Depth of Layer (mm)	200	200	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)	2.13	2.12	2.08	2.04	1.97	
Peak Converted Wet Density (t/m³)	2.08	2.04	2.01	2.04	2.05	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Variation (%)	0.0	0.0	0.0	1.0 wet	0.5 wet	
Hilf Density Ratio (%)	**102.0**	**103.5**	**103.0**	**100.0**	**96.5**	

Comments

CHADWICK GEOTECHNICS

Dandenong South
ACN 143 009 330
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Report No: HDR:W21DS00086
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 2
Project No.: 1016363.2000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 19/01/2021

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S21DS-00363	S21DS-00364	S21DS-00365	S21DS-00366	S21DS-00367	S21DS-00368
Field Sample ID	1	2	3	4	5	6
Date Tested	13/01/2021	13/01/2021	13/01/2021	13/01/2021	13/01/2021	13/01/2021
E:	356758.9	356758.4	356725.9	356696.6	356711.4	356739.5
N:	5777832.2	5777778.7	5777781.7	5777746.1	5777812.8	5777810.2
RL:	9.68	9.67	9.63	9.63	9.86	9.30
Lot:	233	237	238	203	240	240
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 Wet Density (t/m³)	1.99	1.97	2.00	1.98	1.96	1.99
Peak Converted Wet Density (t/m³)	2.04	2.10	2.03	2.02	2.05	2.05
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.5 wet	2.0 wet	0.5 wet	0.0	2.5 wet	1.5 wet
Hilf Density Ratio (%)	**97.0**	**93.5**	**98.5**	**98.5**	**96.0**	**97.0**

Comments

CHADWICK GEOTECHNICS

Dandenong South
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Report No: HDR:W21DS00086
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 2
Project No.: 1016363.2000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 19/01/2021

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S21DS-00369	S21DS-00370				
Field Sample ID	7	8				
Date Tested	13/01/2021	13/01/2021				
E:	356867.9	356864.2				
N:	5777658.8	5777680.7				
RL:	8.69	9.15				
Lot:	321	1002				
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 Wet Density (t/m³)	2.00	1.93				
Peak Converted Wet Density (t/m³)	2.07	2.13				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 wet	2.5 wet				
Hilf Density Ratio (%)	**97.0**	**91.0**				

Comments

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Report No: HDR:W21DS00124
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 19/01/2021

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S21DS-00554	S21DS-00555	S21DS-00556	S21DS-00557	S21DS-00558	S21DS-00559
Field Sample ID	1	2	3	4	5	6
Date Tested	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
E:	356922.3	356960.5	356886.2	356887.9	356927.8	356923.9
N:	5777626.3	5777648	5777627.9	5777656.2	5777591.1	5777568
RL:	8.10	8.06	8.60	8.42	7.73	7.66
Lot:	324	326	322	322	311	308
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 Wet Density (t/m³)	2.01	1.97	1.97	2.03	2.02	1.98
Peak Converted Wet Density (t/m³)	1.94	2.01	1.96	2.04	1.98	1.99
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.0	0.0	0.0	0.0	0.0	0.0
Hilf Density Ratio (%)	**104.0**	**98.0**	**100.5**	**99.5**	**102.0**	**99.5**

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00124
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 19/01/2021

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S21DS-00560	S21DS-00561				
Field Sample ID	7	8				
Date Tested	14/01/2021	14/01/2021				
E:	356915.9	356929.3				
N:	5777700	5777654.6				
RL:	8.51	8.10				
Lot:	1015	1018				
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 Wet Density (t/m³)	2.04	2.01				
Peak Converted Wet Density (t/m³)	2.00	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 wet	1.0 wet				
Hilf Density Ratio (%)	**102.0**	**98.5**				

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00160
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. Lamont (Dandenong Laboratory Manager)
Date of Issue: 27/05/2022

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S21DS-00709	S21DS-00710	S21DS-00711	S21DS-00712	S21DS-00713	S21DS-00714
Field Sample ID	1	2	3	4	5	6
Date Tested	15/01/2021	15/01/2021	15/01/2021	15/01/2021	15/01/2021	15/01/2021
E:	356953.9	356924.9	356891.7	356903	356951.3	356949.2
N:	5777647.0	5777621.5	5777626.8	5777663.9	5777593	5777570
RL:	8.21	8.37	8.43	8.61	8.12	8.09
Lot:	226	324	322	1018	310	310
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 Wet Density (t/m³)	2.00	1.94	1.98	2.05	2.02	2.01
Peak Converted Wet Density (t/m³)	2.01	2.01	2.02	2.08	2.09	2.06
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	2.5 wet	2.5 wet	2.0 wet	1.0 wet	0.0	2.5 wet
Hilf Density Ratio (%)	**99.5**	**96.5**	**98.0**	**98.5**	**96.5**	**97.5**

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00176
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 19/01/2021

Sample Details

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

Sample Data

Sample ID	S21DS-00766	S21DS-00767	S21DS-00768	S21DS-00769	S21DS-00770	S21DS-00771
Field Sample ID	1	2	3	4	5	6
Date Tested	18/01/2021	18/01/2021	18/01/2021	18/01/2021	18/01/2021	18/01/2021
E:	356912.8	35604.798	356936.3	356935.2	356944.5	356925.2
N:	5777628.6	5777664.5	5777661.3	5777639.9	5777626.3	5777613.1
RL:	8.79	9.09	8.82	8.68	8.57	8.50
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 Wet Density (t/m³)	2.04	2.09	1.99	1.94	1.96	2.01
Peak Converted Wet Density (t/m³)	2.12	2.16	1.96	1.98	1.95	1.99
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.0	0.0	0.5 dry	0.5 dry	0.5 dry	0.5 dry
Hilf Density Ratio (%)	**96.0**	**96.5**	**101.5**	**98.0**	**101.0**	**101.0**

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00199
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 25/01/2021

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S21DS-00857	S21DS-00858	S21DS-00859	S21DS-00860	S21DS-00861	S21DS-00862
Field Sample ID	1	2	3	4	5	6
Date Tested	19/01/2021	19/01/2021	19/01/2021	19/01/2021	19/01/2021	19/01/2021
E:	356909.3	356949.3	3567678.3	356766.6	356785.3	356783.3
N:	5777573.4	5777574.3	5777854.1	5777881.4	5777897.1	5777934.9
RL:	8.25	8.42	9.41	9.25	9.14	9.29
Lot:	307	310	406	405	418	419
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 Wet Density (t/m³)	1.95	2.04	1.98	1.94	1.95	1.97
Peak Converted Wet Density (t/m³)	1.99	2.05	2.04	1.88	1.99	1.96
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.5 wet	0.0	0.5 dry	0.5 dry	0.5 wet	0.5 dry
Hilf Density Ratio (%)	**98.0**	**99.5**	**97.5**	**103.0**	**98.0**	**100.5**

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00262
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 1
Project No.: 1016363.1000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 29/01/2021

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S21DS-01100	S21DS-01101	S21DS-01102	S21DS-01103	S21DS-01104	S21DS-01105
Field Sample ID	1	2	3	4	5	6
Date Tested	22/01/2021	22/01/2021	22/01/2021	22/01/2021	22/01/2021	22/01/2021
E:	356730.3	356737.4	356757.4	356769.4	356680.2	356866.6
N:	5777922.4	5777957.6	5777983.1	5777894.7	5777880.1	5777682.5
RL:	9.54	9.59	9.72	9.13	8.29	9.24
Lot:	426	428	513	418	402	1002
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 Wet Density (t/m³)	2.03	1.98	2.04	2.00	2.02	2.02
Peak Converted Wet Density (t/m³)	2.01	2.04	2.05	2.00	2.10	2.02
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.5 dry	0.5 wet	0.5 wet	0.5 dry	0.0	0.5 wet
Hilf Density Ratio (%)	**101.0**	**97.0**	**99.5**	**100.0**	**96.0**	**100.0**

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00262
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 1
Project No.: 1016363.1000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Longfield
(Senior Technician)
12712 Date of Issue: 29/01/2021

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S21DS-01106	S21DS-01107	S21DS-01108			
Field Sample ID	7	8	9			
Date Tested	22/01/2021	22/01/2021	22/01/2021			
E:	356974.3	356984.2	356966			
N:	5777607.6	5777595.6	5777556.9			
RL:	8.22	8.09	8.09			
Lot:	329	330	333			
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 Wet Density (t/m³)	2.03	2.00	2.03			
Peak Converted Wet Density (t/m³)	2.07	2.01	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 wet	0.5 wet			
Hilf Density Ratio (%)	**98.0**	**99.5**	**98.5**			

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00318
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 1
Project No.: 1016363.1000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Robinson
(Team Leader)
12712 Date of Issue: 29/01/2021

Sample Details

Location:	Riverfield Stage 6
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 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Site Won
Material:	Clay Fill

Sample Data

Sample ID	S21DS-01375	S21DS-01376	S21DS-01377	S21DS-01378		
Field Sample ID	1	2	3	4		
Date Tested	28/01/2021	28/01/2021	28/01/2021	28/01/2021		
E	356834	356796	356861	356934		
N	5777967	5777978	5777553	5777542		
RL	9.37	9.59	6.14	7.56		
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175		
Depth of Layer (mm)	200	200	200	200		
Field Wet Density (t/m³)	1.96	1.99	1.98	2.00		
Peak Converted Wet Density (t/m³)	2.04	2.06	2.07	2.07		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	1.0 wet	0.5 wet	3.0 wet	2.0 wet		
Hilf Density Ratio (%)	**96.0**	**96.5**	**95.5**	**96.5**		

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00335
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 1
Project No.: 1016363.1000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Robinson
(Team Leader)
12712 Date of Issue: 1/02/2021

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 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Onsite
Material:	CLAY

Sample Data

Sample ID	S21DS-01436	S21DS-01437	S21DS-01438			
Field Sample ID	1	2	3			
Date Tested	29/01/2021	29/01/2021	29/01/2021			
E:	356930.0	356887.6	356898.5			
N:	5777539.7	5777548.6	5777547.8			
Elv:	7.69	6.67	6.81			
Field and Laboratory Data						
Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
Field Wet Density (t/m³)	2.04	1.99	2.02			
Peak Converted Wet Density (t/m³)	2.09	2.10	2.04			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 wet	3.0 wet	3.0 wet			
Hilf Density Ratio (%)	**97.5**	**95.0**	**99.0**			

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00361
Issue No: 2
This report replaces all previous issues of report no 'HDR:W21DS00361'.

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
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: 14/09/2022

Sample Details

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

Sample Data

Sample ID	S21DS-01536	S21DS-01537	S21DS-01538	S21DS-01539		
Field Sample ID	1	2	3	4		
Date Tested	2/02/2021	2/02/2021	2/02/2021	2/02/2021		
E:	356888.2	356861.6	356946.9	356909.5		
N:	5777568.0	5777557.3	5777586.3	5777579.3		
Elv:	8.05	8.05	8.63	8.508		
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175		
Depth of Layer (mm)	200	200	200	200		
Field Wet Density (t/m³)	2.03	1.97	1.95	2.05		
Peak Converted Wet Density (t/m³)	2.05	1.99	2.04	2.06		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	0.0	1.5 dry	0.0	0.0		
Hilf Density Ratio (%)	**99.0**	**99.0**	**95.5**	**99.0**		

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00375
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: M. Robinson (Team Leader)
12712 Date of Issue: 4/02/2021

Sample Details

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

Sample Data

Sample ID	S21DS-01594	S21DS-01595	S21DS-01596	S21DS-01597		
Field Sample ID	1	2	3	4		
Date Tested	3/02/2021	3/02/2021	3/02/2021	3/02/2021		
E:	356938.9	3568.59.8	356928.2	356909.6		
N:	5777548.6	5777355.6	577759.9	5777572.1		
Elv:	8.18	8.32	8.62	8.56		
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175		
Depth of Layer (mm)	200	200	200	200		
Field Wet Density (t/m³)	2.10	2.09	2.04	2.05		
Peak Converted Wet Density (t/m³)	2.03	2.14	2.13	1.94		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	0.5 dry	2.5 wet	2.5 wet	0.5 dry		
Hilf Density Ratio (%)	**103.5**	**98.0**	**96.0**	**105.5**		

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00410
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 4
Project No.: 1016363.4000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

Accreditation Number 12719
12712

Approved Signatory: M. Robinson (Team Leader)
Date of Issue: 8/02/2021

Sample Details

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

Sample Data

Sample ID	S21DS-01723	S21DS-01724	S21DS-01725	S21DS-01726	S21DS-01727	
Field Sample ID	1	2	3	4	5	
Date Tested	4/02/2021	4/02/2021	4/02/2021	4/02/2021	4/02/2021	
E:	356700.7	356739.2	356971.1	356917.7	357023.0	
N:	5777965.8	5777991.1	5777575.1	5777566.2	5777629.4	
Elv:	9.88	9.86	8.43	8.91	7.87	
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	
Depth of Layer (mm)	200	200	200	200	200	
Field Wet Density (t/m³)	1.96	2.00	2.12	2.12	2.07	
Peak Converted Wet Density (t/m³)	2.07	2.05	2.09	2.06	2.09	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Variation (%)	0.0	0.0	0.5 wet	0.0	0.5 dry	
Hilf Density Ratio (%)	**95.0**	**97.5**	**101.0**	**103.0**	**99.0**	

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00438
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 1
Project No.: 1016363.1000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number 12719
12712

Approved Signatory: J. A. Smith
(Senior Technician)
Date of Issue: 3/03/2021

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Won
Material: CLAY FIII

Sample Data

Sample ID	S21DS-01830					
Field Sample ID	1					
Date Tested	5/02/2021					
Location	E 357026					
	N 5777577					
	EL 7.43m					
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)	2.00					
Peak Converted Wet Density (t/m³)	1.99					
Compactive Effort	Standard					
Moisture Variation (%)	1.5 wet					
Hilf Density Ratio (%)	**100.5**					

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00439
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 4
Project No.: 1016363.4000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number 12719
12712

Approved Signatory: J. A. Smith
(Senior Technician)
Date of Issue: 3/03/2021

Sample Details

Location:
Client Request ID:
Specification Requirements:
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Won
Material: CLAY Fill

Sample Data

Sample ID	S21DS-01831	S21DS-01832	S21DS-01833	S21DS-01834	S21DS-01835	S21DS-01836
Field Sample ID	1	2	3	4	5	6
Date Tested	5/02/2021	5/02/2021	5/02/2021	5/02/2021	5/02/2021	5/02/2021
Location	E 356677	E 356680	E 357039	E 357051	E 356998	E 357038
	N 5777940	N 5777976	N 5777636	N 5777621	N 5777567	N 5777557
	R.L 9.82m	R.L 9.92m	R.L 7.57m	R.L 7.54m	R.L 7.55m	R.L 7.53m
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 Wet Density (t/m³)	1.96	1.97	2.07	2.02	2.04	1.96
Peak Converted Wet Density (t/m³)	2.06	2.02	2.05	2.07	2.06	2.01
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	3.5 wet	1.5 wet	1.0 wet	2.5 wet	0.0	0.0
Hilf Density Ratio (%)	**95.5**	**97.0**	**101.0**	**97.5**	**99.0**	**98.0**

Comments

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Report No: HDR:W21DS00451
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

Accreditation Number 12719
12712

Approved Signatory: J. A. Smith
(Senior Technician)
Date of Issue: 3/03/2021

Sample Details

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

Sample Data

Sample ID	S21DS-01885	S21DS-01886				
Field Sample ID	1	2				
Date Tested	8/02/2021	8/02/2021				
E:	356990.3	3567019.7				
N:	5777557.8	5777553.5				
Elv:	8.12	8.15				
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 Wet Density (t/m³)	2.01	2.02				
Peak Converted Wet Density (t/m³)	2.05	2.05				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.5 wet				
Hilf Density Ratio (%)	**98.0**	**98.5**				

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00483
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

Accreditation Number 12719
12712

Approved Signatory: M. Robinson (Team Leader)
Date of Issue: 10/02/2021

Sample Details

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

Sample Data

Sample ID	S21DS-02020	S21DS-02021	S21DS-02022	S21DS-02023	S21DS-02024	S21DS-02025
Field Sample ID	1	2	3	4	5	6
Date Tested	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021
E:	3567010.9	356999.5	357020.0	357051.2	357027.9	357016.0
N:	5777594.5	5777580.3	5777578.9	5777593.6	5777596.2	5777595.4
Elv:	8.35	8.57	8.27	8.03	8.21	8.47
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
Field Wet Density (t/m³)	2.01	1.99	1.99	1.95	1.96	1.95
Peak Converted Wet Density (t/m³)	2.05	1.99	2.09	1.96	2.07	1.96
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	2.0 wet	2.0 wet	3.0 wet	2.5 wet	6.0 wet	2.0 wet
Hilf Density Ratio (%)	**98.0**	**100.5**	**95.0**	**99.5**	**94.5**	**99.0**

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00536
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number 12719
12712

Approved Signatory: J. A. Smith
(Senior Technician)
Date of Issue: 3/03/2021

Sample Details

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

Sample Data

Sample ID	S21DS-02202	S21DS-02203	S21DS-02204	S21DS-02205	S21DS-02206	
Field Sample ID	1	2	3	4	5	
Date Tested	11/02/2021	11/02/2021	11/02/2021	11/02/2021	11/02/2021	
E:	357001.6	357020.2	357005.6	356853.4	356868.0	
N:	5777531.9	5777537.2	5777550.4	5777885.5	5777915.8	
Elv:	7.63	7.86	8.19	9.02	8.94	
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	
Depth of Layer (mm)	200	200	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)	2.04	2.19	2.11	1.97	2.10	
Peak Converted Wet Density (t/m³)	2.02	1.96	2.16	2.02	2.11	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Variation (%)	5.0 wet	6.0 wet	0.0	2.0 wet	0.5 wet	
Hilf Density Ratio (%)	**101.0**	**112.0**	**97.5**	**98.0**	**99.5**	

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00676
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number 12719
12712

Approved Signatory: J. A. Smith
(Senior Technician)
Date of Issue: 3/03/2021

Sample Details

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

Sample Data

Sample ID	S21DS-02723	S21DS-02724				
Field Sample ID	1	2				
Date Tested	20/02/2021	20/02/2021				
E:	356834.5	356827.5				
N:	5777611.8	5777589.7				
Elv:	9.00	9.00				
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 Wet Density (t/m³)	1.96	2.01				
Peak Converted Wet Density (t/m³)	2.02	2.07				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	2.0 wet				
Hilf Density Ratio (%)	**97.0**	**97.0**				

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00687
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number 12719
12712

Approved Signatory: J. A. Smith
(Senior Technician)
Date of Issue: 3/03/2021

Sample Details

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

Sample Data

Sample ID	S21DS-02768	S21DS-02769	S21DS-02770	S21DS-02771		
Field Sample ID	1	2	3	4		
Date Tested	22/02/2021	22/02/2021	22/02/2021	22/02/2021		
E:	357012.5	357025.1	357043.7	357061.8		
N:	5777610.2	5777620.4	5777554.4	5777598.2		
Elv:	7.95	7.94	8.14	8.17		
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		
Field Wet Density (t/m³)	1.95	1.98	2.00	1.96		
Peak Converted Wet Density (t/m³)	2.04	2.12	2.06	2.06		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	2.5 wet	0.5 dry	0.0	0.0		
Hilf Density Ratio (%)	**96.0**	**93.5**	**97.0**	**95.5**		

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00700
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number 12719
12712

Approved Signatory: J. A. Smith
(Senior Technician)
Date of Issue: 3/03/2021

Sample Details

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

Sample Data

Sample ID	S21DS-02806	S21DS-02807	S21DS-02808	S21DS-02809	S21DS-02810	
Field Sample ID	1	2	3	4	5	
Date Tested	23/02/2021	23/02/2021	23/02/2021	23/02/2021	23/02/2021	
E:	356950.4	356909.0	356902.09	356882.5	356877.9	
N:	5777610.9	5777594.0	5777587.2	5777581.5	5777575.9	
Elv:	7.86	7.99	8.07	7.72	7.72	
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	
Depth of Layer (mm)	200	200	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)	1.98	2.01	2.02	2.04	1.99	
Peak Converted Wet Density (t/m³)	1.95	2.04	1.95	2.00	1.98	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Variation (%)	2.0 dry	1.0 dry	2.0 dry	2.5 dry	1.0 dry	
Hilf Density Ratio (%)	**102.0**	**98.5**	**103.5**	**102.0**	**100.5**	

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00720
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number 12719
12712

Approved Signatory: J. A. Smith
(Senior Technician)
Date of Issue: 3/03/2021

Sample Details

Location:	Clyde North
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95%
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b), RC316.10
Source:	Onsite
Material:	CLAY

Sample Data

Sample ID	S21DS-02892	S21DS-02893	S21DS-02894			
Field Sample ID	1	2	3			
Date Tested	24/02/2021	24/02/2021	24/02/2021			
E:	356937.6	356913.7	356872.5			
N:	5777620.2	5777589.3	5777576.6			
Elv:	8.95	8.71	8.79			
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 Wet Density (t/m³)	2.03	2.00	1.98			
Peak Converted Wet Density (t/m³)	2.01	2.04	2.12			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	3.0 wet	3.0 wet	5.0 wet			
Hilf Density Ratio (%)	**101.0**	**98.0**	**93.5**			

Comments

CHADWICK GEOTECHNICS

Dandenong South
ACN 143 009 330
25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W21DS00772
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number 12719
12712

Approved Signatory: J. A. Smith
(Senior Technician)
Date of Issue: 3/03/2021

Sample Details

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

Sample Data

Sample ID	S21DS-03077	S21DS-03078	S21DS-03079	S21DS-03080	S21DS-03081	S21DS-03082
Field Sample ID	1	2	3	4	5	6
Date Tested	1/03/2021	1/03/2021	1/03/2021	1/03/2021	1/03/2021	1/03/2021
E:	357002	357022	357028	357027	356674	3556866
N:	5777531	5777539	5777594	5777621	5777939	5777919
Elv:	7.74	7.84	8.28	8.06	9.83	9.43
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 Wet Density (t/m³)	1.96	1.96	2.07	1.96	1.97	2.06
Peak Converted Wet Density (t/m³)	2.01	1.96	1.98	2.01	2.02	1.99
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	2.5 wet	0.5 wet	0.5 wet	2.5 wet	2.5 wet	0.5 dry
Hilf Density Ratio (%)	**97.5**	**100.0**	**104.5**	**97.0**	**97.5**	**104.0**

Comments

CHADWICK GEOTECHNICS

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Fax: +61 3 9706 9431

Report No: HDR:W21DS00772
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number 12719
12712

Approved Signatory: J. A. Smith
(Senior Technician)
Date of Issue: 3/03/2021

Sample Details

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

Sample Data

Sample ID	S21DS-03083	S21DS-03084				
Field Sample ID	7	8				
Date Tested	1/03/2021	1/03/2021				
E:	356864	356873				
N:	5777937	5777573				
Elv:	9.43	8.86				
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 Wet Density (t/m³)	1.98	2.00				
Peak Converted Wet Density (t/m³)	1.98	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	**100.5**	**99.0**				

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00812
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA Accreditation No.12719

Accreditation Number 12719
12712

Approved Signatory: M. Longfield (Senior Technician)
Date of Issue: 9/03/2021

Sample Details

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

Sample Data

Sample ID	S21DS-03259	S21DS-03260	S21DS-03261	S21DS-03262	S21DS-03263	S21DS-03264
Field Sample ID	1	2	3	4	5	6
Date Tested	3/03/2021	3/03/2021	3/03/2021	3/03/2021	3/03/2021	3/03/2021
E:	356987.86	357600.9	357197.7	356845.4	356829.4	357197.8
N:	5777615.5	5777638.8	5777598.2	5777565.9	5777555.4	5777556.5
Elv:	8.62	8.52	6.21	8.87	8.49	6.12
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 Wet Density (t/m³)	1.99	2.01	1.99	2.03	2.00	1.99
Peak Converted Wet Density (t/m³)	1.98	2.02	2.00	2.04	2.10	2.03
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.0	2.0 wet	0.5 dry	0.0	2.5 wet	0.0
Hilf Density Ratio (%)	**100.5**	**99.5**	**99.5**	**99.5**	**95.5**	**98.5**

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS00867
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number 12719
12712

Approved Signatory: J. A. Smith
(Senior Technician)
Date of Issue: 9/03/2021

Sample Details

Location:	Stage 3
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 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Site Won
Material:	Clay

Sample Data

Sample ID	S21DS-03485	S21DS-03486	S21DS-03487			
Field Sample ID	1	2	3			
Date Tested	5/03/2021	5/03/2021	5/03/2021			
E	356860.8	356874.4	356877.5			
N	5777513.6	5777770.1	5777822.9			
EL	9.499	9.6	9.41			
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			
Field Wet Density (t/m³)	2.01	1.97	2.02			
Peak Converted Wet Density (t/m³)	2.04	2.09	2.09			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 wet	0.5 wet			
Hilf Density Ratio (%)	**98.5**	**94.0**	**96.5**			

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W21DS03581
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 10
Project No.: 1016363.010
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

ilac-MRA NATA

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Robinson (Team Leader)
Date of Issue: 6/12/2021

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 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Sandy Clay

Sample Data

Sample ID	S21DS-13170	S21DS-13174				
Field Sample ID	1	2				
Date Tested	4/12/2021	4/12/2021				
E:	356950	356949				
N:	777731	5777674				
RL / Layer:	8.900 / FSL-0.64m	8.795 / FSL-0.375m				
Lot:	1025	1020				

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 Wet Density (t/m³)	2.11	2.03				
Peak Converted Wet Density (t/m³)	2.11	2.13				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 dry	2.5 wet				
Hilf Density Ratio (%)	**100.0**	**95.0**				

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W22DS00011
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield - Stage 7
Project No.: 1016363.007
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. A. Smith (Senior Technician)
Date of Issue: 11/01/2022

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Sandy CLAY

Sample Data

Sample ID	S22DS-00028	S22DS-00029	S22DS-00030	S22DS-00031	S22DS-00032	S22DS-00033
Field Sample ID	37	38	39	40	41	42
Date Tested	8/01/2022	8/01/2022	8/01/2022	8/01/2022	8/01/2022	8/01/2022
Location	E 357010	E 357007	E 357003	E 357023	E 357022	E 357019
	N 5777541	N 5777542	N 5777541	N 5777576	N 5777578	N 5777579
	EL. 8.06	EL. 8.26	EL. 8.46	EL. 8.21	EL. 8.41	EL. 8.61
	Layer 1	Layer 2	Layer 3	Layer 1	Layer 2	Layer 3
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
Field Wet Density (t/m³)	2.05	2.14	2.11	2.04	2.12	2.08
Peak Converted Wet Density (t/m³)	1.99	2.05	2.01	2.03	2.04	2.09
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	2.0 dry	2.0 dry	2.5 dry	1.0 wet	1.0 dry	2.0 dry
Hilf Density Ratio (%)	**103.5**	**104.5**	**105.0**	**100.5**	**104.0**	**100.0**

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W22DS00011
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield - Stage 7
Project No.: 1016363.007
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. A. Smith (Senior Technician)
Date of Issue: 11/01/2022

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Sandy CLAY

Sample Data

Sample ID	S22DS-00034	S22DS-00035	S22DS-00036			
Field Sample ID	43	44	45			
Date Tested	8/01/2022	8/01/2022	8/01/2022			
Location	E 357045	E 357047	E 357049			
	N 5777627	N 5777629	N 5777631			
	EL. 7.76	EL. 7.96	EL. 8.16			
	Layer 1	Layer 2	Layer 3			
Field and Laboratory Data						
Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
Field Wet Density (t/m³)	2.05	2.04	2.08			
Peak Converted Wet Density (t/m³)	2.08	2.03	2.04			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	3.0 wet	2.0 wet	2.0 dry			
Hilf Density Ratio (%)	**98.5**	**100.0**	**102.5**			

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W22DS00020
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield - Stage 7
Project No.: 1016363.007
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: 14/01/2022

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b), RC316.10
Source: Imported
Material: Sandy Clay

Sample Data

Sample ID	S22DS-00060	S22DS-00061	S22DS-00062	S22DS-00063	S22DS-00064	S22DS-00065
Field Sample ID	46	47	48	49	50	51
Date Tested	10/01/2022	10/01/2022	10/01/2022	10/01/2022	10/01/2022	10/01/2022
E:	357044.07	357042.71	357047.42	357079.93	357119.82	357105.24
N:	5777599.21	5777562.69	5777534.96	57775831.15	5777544.44	5777584.87
RL / Layer:	8.64 / 4	8.64 / 4	8.35 / 4	8.27 / 8	8.24 / 8	8.23 / 8
Lot:	-	-	-	-	-	-

Field and Laboratory Data

Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
Field Wet Density (t/m³)	2.12	2.13	2.09	2.08	2.10	2.17
Peak Converted Wet Density (t/m³)	2.15	2.13	2.11	2.13	2.15	2.16
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.5 dry	0.5 dry	0.5 dry	1.0 dry	0.0	0.5 dry
Hilf Density Ratio (%)	**98.5**	**100.0**	**98.5**	**97.5**	**98.0**	**100.5**

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W22DS00020
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield - Stage 7
Project No.: 1016363.007
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: 14/01/2022

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 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b), RC316.10
Source: Imported
Material: Sandy Clay

Sample Data

Sample ID	S22DS-00066	S22DS-00067	S22DS-00068	S22DS-00069	S22DS-00070	
Field Sample ID	52	53	54	55	56	
Date Tested	10/01/2022	10/01/2022	10/01/2022	10/01/2022	10/01/2022	
E:	357127.34	357114.20	357112	357081.40	357079	
N:	5777600.81	5777649.38	5777651	5777596.37	5777598	
RL / Layer:	8.38 / 8	7.43 / 1	7.6.3 / 2	8.26 / 6	8.46 / 7	
Lot:	-	-	-	717	-	
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	
Depth of Layer (mm)	200	200	200	200	200	
Field Wet Density (t/m³)	2.19	2.11	2.07	2.14	2.06	
Peak Converted Wet Density (t/m³)	2.18	2.13	2.13	2.07	2.05	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Variation (%)	0.5 dry	0.0	0.0	2.5 dry	2.0 dry	
Hilf Density Ratio (%)	**100.5**	**99.0**	**97.0**	**103.0**	**100.5**	

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W22DS00051
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
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. Robinson (Team Leader)
Date of Issue: 20/01/2022

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 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Sandy Clay

Sample Data

Sample ID	S22DS-00157	S22DS-00158				
Field Sample ID	1	2				
Date Tested	14/01/2022	14/01/2022				
Lot No:	332	340				
E:	356997.59	357010.10				
N:	5777570.75	5777603.87				
Elv:	8.93	8.94				
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 Wet Density (t/m³)	2.03	2.09				
Peak Converted Wet Density (t/m³)	2.14	2.16				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 wet	1.5 wet				
Hilf Density Ratio (%)	**95.0**	**97.0**				

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W22DS00204
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 8
Project No.: 1016363.008
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. Robinson (Team Leader)
Date of Issue: 8/02/2022

Sample Details

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

Sample Data

Sample ID	S22DS-00709	S22DS-00710	S22DS-00711	S22DS-00712	S22DS-00713	
Field Sample ID	1	2	3	4	5	
Date Tested	3/02/2022	3/02/2022	3/02/2022	3/02/2022	3/02/2022	
Lot No:	848	Roadway	849	850	Roadway	
E:	357069	357052	357079	357045	357051	
N:	5777735	5777645	5777720	5777782	5777652	
Elv:	7.975	8.185	8.064	8.591	8.430	
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	
Depth of Layer (mm)	200	200	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)	2.09	2.05	2.09	2.01	2.02	
Peak Converted Wet Density (t/m³)	2.06	2.08	2.04	2.08	2.07	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Variation (%)	0.5 wet	0.5 wet	1.5 wet	0.5 wet	0.0	
Hilf Density Ratio (%)	**101.0**	**98.5**	**102.5**	**96.5**	**97.0**	

Comments

CHADWICK GEOTECHNICS

Dandenong South
ACN 143 009 330
25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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

Report No: HDR:W22DS00205
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield - Stage 7
Project No.: 1016363.007
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. Robinson (Team Leader)
Date of Issue: 8/02/2022

Sample Details

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

Sample Data

Sample ID	S22DS-00714	S22DS-00715	S22DS-00716			
Field Sample ID	1	2	3			
Date Tested	3/02/2022	3/02/2022	3/02/2022			
Lot No:	734	730	729			
E:	357006	357022	357021			
N:	5777660	5777639	5777634			
Elv:	7.871	8.926	9.023			
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 Wet Density (t/m³)	2.05	2.02	2.11			
Peak Converted Wet Density (t/m³)	2.11	2.07	2.03			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	3.0 wet	2.0 wet			
Hilf Density Ratio (%)	**97.0**	**97.5**	**104.0**			

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W22DS00210
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield - Stage 7
Project No.: 1016363.007
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. Robinson (Team Leader)
Date of Issue: 4/02/2022

Sample Details

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

Sample Data

Sample ID	S22DS-00724	S22DS-00725				
Field Sample ID	1	2				
Date Tested	2/02/2022	2/02/2022				
Lot No:	730	Roadway				
E:	357025	357049				
N:	5777641	5777652				
Elv:	8.645	8.005				
Field and Laboratory Data						
Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
Field Wet Density (t/m³)	2.13	2.08				
Peak Converted Wet Density (t/m³)	2.04	2.09				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.0				
Hilf Density Ratio (%)	**104.0**	**99.5**				

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W22DS00224
Issue No: 2
This report replaces all previous issues of report no 'HDR:W22DS00224'.

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield - Stage 7
Project No.: 1016363.007
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: 14/09/2022

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 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Onsite
Material:	Clay

Sample Data

Sample ID	S22DS-00776	S22DS-00777				
Field Sample ID	1	2				
Date Tested	4/02/2022	4/02/2022				
Lot No:	729	734				
E:	357023	357080				
N:	5777635	5777665				
Elv:	8.96	-				

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 Wet Density (t/m³)	2.06	2.05				
Peak Converted Wet Density (t/m³)	2.04	2.09				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 wet	0.0				
Hilf Density Ratio (%)	**101.0**	**98.0**				

Comments

CHADWICK GEOTECHNICS

Dandenong South
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Report No: HDR:W22DS00230
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield - Stage 7
Project No.: 1016363.007
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: 3/08/2022

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 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Onsite
Material:	Clay

Sample Data

Sample ID	S22DS-00793	S22DS-00794	S22DS-00795			
Field Sample ID	1	2	3			
Date Tested	7/02/2022	7/02/2022	7/02/2022			
Lot No:	729	734	734			
E:	357032	357075	357080			
N:	5777640	5777659	5777661			
Elv:	8.840	8.397	8.369			
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 Wet Density (t/m³)	2.06	2.08	2.06			
Peak Converted Wet Density (t/m³)	2.11	2.04	2.07			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 wet	3.0 dry	0.5 dry			
Hilf Density Ratio (%)	**97.5**	**102.0**	**99.5**			

Comments

CHADWICK GEOTECHNICS

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Report No: HDR:W22DS01655
Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
AUBURN VIC 3123
Project: Riverfield Estate - Stage 3
Project No.: 1016363.3000
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. Lamont (Dandenong Laboratory Manager)
Date of Issue: 16/08/2022

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-06447	S22DS-06448	S22DS-06449	S22DS-06450	S22DS-06451	S22DS-06452
Field Sample ID	1	2	3	4	5	6
Client Sample ID	10:20	11:00	11:20	11:40	12:10	12:25
Date Tested	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022	12/08/2022
E:	356998	356979	356874	356844	356843	356849
N:	5777630	5777552	5777597	5777608	5777650	5777655
EL:	8.919	8.477	8.879	8.879	8.879	9.163
Lot / Layer:	328 / 1	333 / -	315 / -	317 / -	317 / -	320 / 1
Field and Laboratory Data						
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 (%)	13.7	15.8	11.1	20.2	18.5	21.0
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)	2.05	2.03	2.11	2.06	2.04	2.02
Field Dry Density (t/m³)	1.81	1.75	1.90	1.71	1.72	1.67
Peak Converted Wet Density (t/m³)	2.14	2.07	2.19	2.11	2.10	2.10
Optimum Moisture Content (%)	14.0	15.5	11.5	18.5	18.0	18.5
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	98.0	102.0	96.5	110.0	101.5	112.5
Moisture Variation (%)	0.0	0.5 wet	0.5 dry	2.0 wet	0.0	2.0 wet
Hilf Density Ratio (%)	**95.5**	**98.0**	**96.5**	**97.5**	**97.0**	**96.5**

Comments

Appendix D: Controlled Fill Certificate

CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No's: 301 to Lot 341
Riverfield Estate, Stage 3

Chadwick Geotechnics REF: 1016363.003.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164

DATE: 16 September 2022

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 it is able to 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 (16 December 2020 to the 12 August 2022). 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

CHADWICK
GEOTECHNICS