



# REPORT

## Level One Inspection and Testing Services

Riverfield Estate Stage 5, Clyde  
Lot's 501 to Lot 549

Prepared for:  
Grosvenor Lodge Pty Ltd

16 May 2022  
Our Ref: 1016363.005.v2

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## Document Control

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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 5 of the Estate during construction.

The project included the preparation and earthwork filling of a dam excavation across the Western edge of the site and general earthwork filling across other areas of the site. This report presents the earthworks supervision methods and density testing results for the residential lot numbers 501 to Lot 549 within the Stage 5 site.

The earthworks were completed between 19 January 2021 and 7 December 2021.

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

### 2.1 Location

The Riverfield Estate is located in Clyde, Stage 5 site is generally located on the Eastern side of the Estate and is North of Stage 4. The stage is being developed as a residential development.

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

### 2.2 Fill specification

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 5 filling operations commenced on 19 January 2021 and was completed on 7 December 2021. 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 Hilt 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 Hilt density testing is presented in Appendix B and the Hilt density test reports are presented in Appendix C.

A total of 238 tests were performed across the Stage 5 and surrounding area during the filling process.

The results show that 21 tests failed to meet the specification requirements for the project. 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 Hilt 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:



Robert Barden  
Project Manager

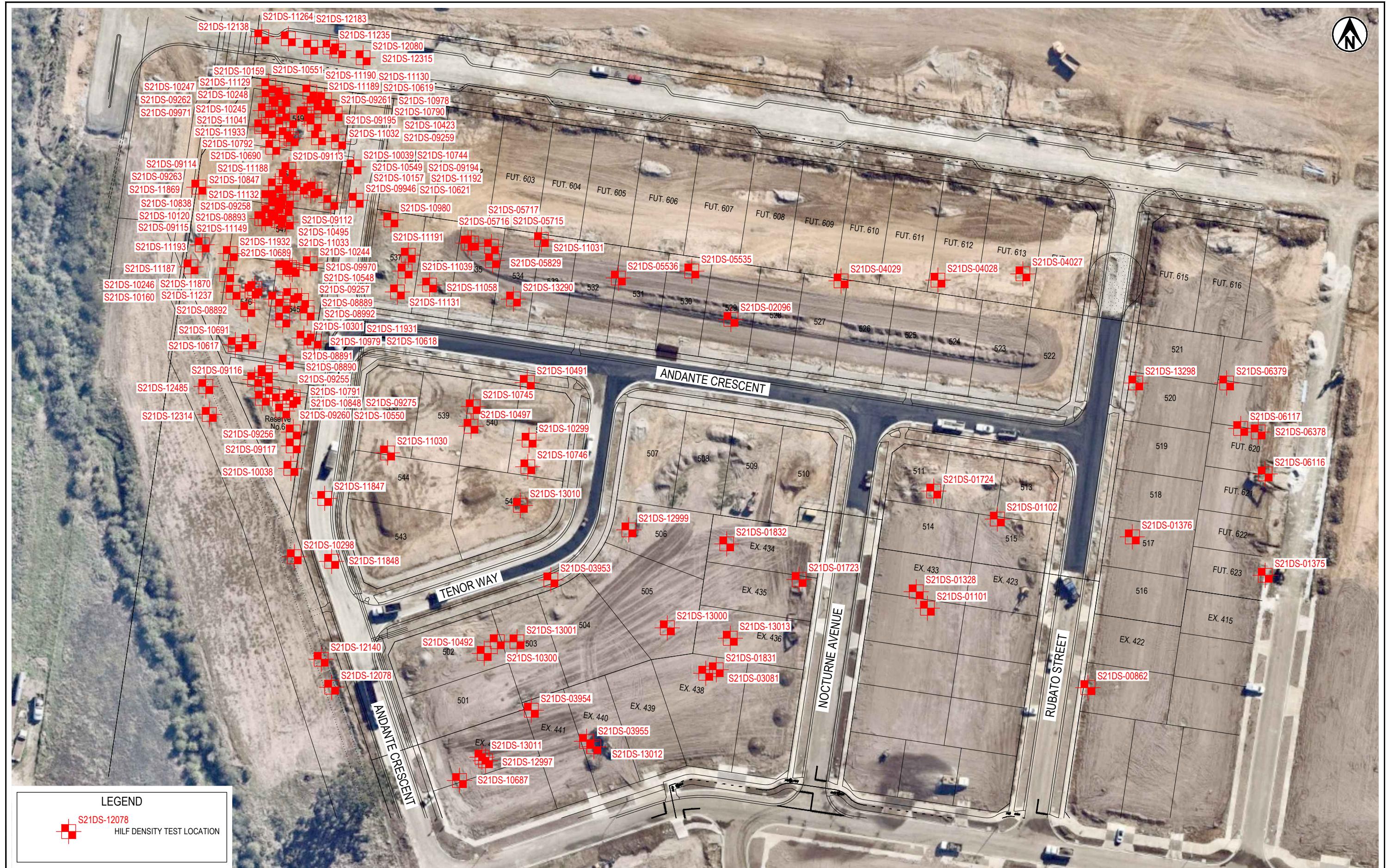
Authorised for Chadwick Geotechnics Pty Ltd by:



Tim Chadwick  
Project Director

17-May-22  
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## Appendix A: Site plan



## Appendix B: Hilf density test summary



## 1016363.5000 - Riverfield Estate Stage 5 - HILF Summary

Tel : (03) 8796 7900  
Fax: (03) 8796 7944

Report No	Sample No	Date	Location [E]	Location [N]	RL	Density Ratio HILF test (≥95%)	Moisture Variation	Pass / Fail	Remarks
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:W21DS00219	S21DS-00924	20/01/2021	356718.1	5777868.4	8.34	100	0.5 wet	Pass	
HDR:W21DS00219	S21DS-00925	20/01/2021	356721	5777883.2	8.67	96	2.5 wet	Pass	
HDR:W21DS00219	S21DS-00926	20/01/2021	356736.1	5777852.4	8.97	96	OMC	Pass	
HDR:W21DS00219	S21DS-00927	20/01/2021	356744.3	5777922.9	8.92	98.5	OMC	Pass	
HDR:W21DS00219	S21DS-00928	20/01/2021	356721.9	5777885.4	8.94	97	2.5 dry	Pass	
HDR:W21DS00219	S21DS-00929	20/01/2021	356718.3	5777867.2	8.75	97.5	0.5 wet	Pass	
HDR:W21DS00219	S21DS-00930	20/01/2021	356798.3	5777787.9	9.69	95	2.0 wet	Pass	
HDR:W21DS00219	S21DS-00931	20/01/2021	356804.6	5777846.4	9.8	100.5	1.0 wet	Pass	
HDR:W21DS00219	S21DS-00932	20/01/2021	356770.5	5777846.1	9.24	98	4.0 wet	Fail	See Retest 01103
HDR:W21DS00219	S21DS-00933	20/01/2021	356772.1	5777930.6	9.31	97.5	2.5 wet	Pass	
HDR:W21DS00219	S21DS-00934	20/01/2021	356768.9	5777865.5	9.66	96	2.5 wet	Pass	

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HDR:W21DS00219	S21DS-00935	20/01/2021	356760.8	5777804.3	9.95	100	2.0 wet	Pass	Retest of 00364
HDR:W21DS00219	S21DS-00936	20/01/2021	356693.9	5777874.5	8.61	97.5	2.0 dry	Pass	
HDR:W21DS00219	S21DS-00937	20/01/2021	356742.3	5777927.5	9.36	96.5	2.0 wet	Pass	
HDR:W21DS00219	S21DS-00938	20/01/2021	356721.3	5777906.1	9.28	98	2.0 wet	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:W21DS00304	S21DS-01328	27/01/2021	356734.2	5777962.3	9.85	100	1.0 wet	Pass	
HDR:W21DS00304	S21DS-01329	27/01/2021	356716.1	5777936.6	9.85	101	0.5 wet	Pass	
HDR:W21DS00304	S21DS-01330	27/01/2021	356699.1	5777870.9	9.72	98	0.5 wet	Pass	
HDR:W21DS00304	S21DS-01331	27/01/2021	356713.8	5777850.4	9.95	97	OMC	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	



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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: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:W21DS00439	S21DS-01831	5/02/2021	356677	5777940	R.L 9.82m	95.5	3.5 wet	Fail	See Retest 03081
HDR:W21DS00439	S21DS-01832	5/02/2021	356680	5777976	R.L 9.92m	97	1.5 wet	Pass	
HDR:W21DS00439	S21DS-01833	5/02/2021	357039	5777636	R.L 7.57m	101	1.0 wet	Pass	
HDR:W21DS00439	S21DS-01834	5/02/2021	357051	5777621	R.L 7.54m	97.5	2.5 wet	Pass	
HDR:W21DS00439	S21DS-01835	5/02/2021	356998	5777567	R.L 7.55m	99	OMC	Pass	
HDR:W21DS00439	S21DS-01836	5/02/2021	357038	5777557	R.L 7.53m	98	OMC	Pass	
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	



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Report No	Sample No	Date	Location [E]	Location [N]	RL	Density Ratio HILF test (≥95%)	Moisture Variation	Pass / Fail	Remarks
HDR:W21DS00504	S21DS-02096	10/02/2021	356681.2	5778040.2	10.27	100	0.5 wet	Pass	
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:W21DS01005	S21DS-03951	18/03/2021	356849.9	5777930.2	9.47	105.5	1.0 dry	Pass	
HDR:W21DS01005	S21DS-03952	18/03/2021	356847.3	5777951.1	9.55	96	OMC	Pass	
HDR:W21DS01005	S21DS-03953	18/03/2021	356629.7	5777965.7	9.68	89.5	2.5 dry	Fail	Earthworks Contractor removed material, No Retest
HDR:W21DS01005	S21DS-03954	18/03/2021	356624.1	5777928.4	9.89	96.5	1.5 dry	Pass	
HDR:W21DS01005	S21DS-03955	18/03/2021	356639.9	5777919.5	9.87	103	OMC	Pass	
HDR:W21DS01005	S21DS-03956	18/03/2021	356652.2	5777901.2	9.41	93.5	OMC	Fail	Earthworks Contractor removed material, No Retest
HDR:W21DS01022	S21DS-04027	19/03/2021	356764.7	5778053.2	10.19	93.5	0.5 wet	Fail	Earthworks Contractor removed material, No Retest
HDR:W21DS01022	S21DS-04028	19/03/2021	356740.4	5778051.4	10.411	94	0.5 wet	Fail	Earthworks Contractor removed material, No Retest
HDR:W21DS01022	S21DS-04029	19/03/2021	356712.7	5778051.2	10.37	93	2.0 wet	Fail	Earthworks Contractor removed material, No Retest
HDR:W21DS01443	S21DS-05532	26/04/2021	356637	5778101	10.07	100	0.5 wet	Pass	

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HDR:W21DS01443	S21DS-05533	26/04/2021	356664	5778093	10.47	101	OMC	Pass	
HDR:W21DS01443	S21DS-05534	26/04/2021	356694	5778078	10.35	99.5	OMC	Pass	
HDR:W21DS01443	S21DS-05535	26/04/2021	356670	5778054	10.28	101	OMC	Pass	
HDR:W21DS01443	S21DS-05536	26/04/2021	356649	5778052	10.22	100.5	0.5 dry	Pass	
HDR:W21DS01496	S21DS-05715	30/04/2021	356607	5778062	8.62	102.5	0.5 wet	Pass	
HDR:W21DS01496	S21DS-05716	30/04/2021	356606	5778062	9.23	101.5	OMC	Pass	
HDR:W21DS01496	S21DS-05717	30/04/2021	356612.7	5778061	9.8	101.5	OMC	Pass	
HDR:W21DS01532	S21DS-05829	3/05/2021	356613	5778057		102.5	0.5 wet	Pass	
HDR:W21DS01619	S21DS-06116	8/05/2021	356834	5777996		97	2.0 wet	Pass	
HDR:W21DS01619	S21DS-06117	8/05/2021	356827	5778009		98.5	2.0 wet	Pass	
HDR:W21DS01619	S21DS-06118	8/05/2021	356845	5778007		98	1.5 wet	Pass	
HDR:W21DS01702	S21DS-06378	10/05/2021	356832	5778008		97	OMC	Pass	
HDR:W21DS01702	S21DS-06379	10/05/2021	356823	5778022		99	OMC	Pass	
HDR:W21DS02408	S21DS-08889	9/07/2021	356553	5778044	5.58	96	2.5 wet	Pass	
HDR:W21DS02408	S21DS-08890	9/07/2021	356548	5778024	5.45	99.5	2.0 wet	Pass	
HDR:W21DS02409	S21DS-08891	10/07/2021	356554	5778028	5.68	97	3.0 wet	Pass	
HDR:W21DS02409	S21DS-08892	10/07/2021	356543	5778043	5.572	103.5	OMC	Pass	
HDR:W21DS02409	S21DS-08893	10/07/2021	356558	5778078	4.532	95.5	4.5 wet	Fail	See Retest 9113
HDR:W21DS02434	S21DS-08992	12/07/2021	356560	5778042	6.08	97	2.0 wet	Pass	

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HDR:W21DS02434	S21DS-08993	12/07/2021	356551	5777996	5.635	97	3.0 wet	Pass	
HDR:W21DS02456	S21DS-09112	13/07/2021	356554	5778068	5.18	98	0.5 wet	Pass	
HDR:W21DS02456	S21DS-09113	13/07/2021	356561	5778077	4.64	99	0.5 wet	Pass	Retest of 8893
HDR:W21DS02456	S21DS-09114	13/07/2021	356549	5778075	5.29	100	0.5 wet	Pass	
HDR:W21DS02456	S21DS-09115	13/07/2021	356554	5778074	5.54	99	OMC	Pass	
HDR:W21DS02456	S21DS-09116	13/07/2021	356545	5778023	6.15	100.5	0.5 dry	Pass	
HDR:W21DS02456	S21DS-09117	13/07/2021	356556	5778004	6	95.5	4.5 wet	Fail	See Retest 9256
HDR:W21DS02471	S21DS-09194	14/07/2021	356547	5778069	5.8	100.5	OMC	Pass	
HDR:W21DS02471	S21DS-09195	14/07/2021	356555	5778097	5.2	101	0.5 wet	Pass	
HDR:W21DS02486	S21DS-09255	16/07/2021	356548	5778025	6.26	97.5	2.5 wet	Pass	
HDR:W21DS02486	S21DS-09256	16/07/2021	356556	5778008	5.98	99.5	0.5 wet	Pass	Retest of 9117
HDR:W21DS02486	S21DS-09257	16/07/2021	356551	5778046	6.38	98	0.5 wet	Pass	
HDR:W21DS02486	S21DS-09258	16/07/2021	356555	5778079	5.9	97.5	0.5 dry	Pass	
HDR:W21DS02486	S21DS-09259	16/07/2021	356562	5778096	5.3	98	OMC	Pass	
HDR:W21DS02486	S21DS-09260	16/07/2021	356553	5778014	6.258	98	0.5 wet	Pass	
HDR:W21DS02486	S21DS-09261	16/07/2021	356560	5778099	5.6	96.5	2.5 wet	Pass	
HDR:W21DS02486	S21DS-09262	16/07/2021	356551	5778098	5.99	97.5	2.5 wet	Pass	
HDR:W21DS02487	S21DS-09263	17/07/2021	356551	5778075	6.49	97	2.5 wet	Pass	
HDR:W21DS02490	S21DS-09275	19/07/2021	356555	5778017	6.759	98.5	0.5 wet	Pass	

# 1016363.5000 - Riverfield Estate Stage 5 - HILF Summary

Tel : (03) 8796 7900  
 Fax: (03) 8796 7944

Report No	Sample No	Date	Location [E]	Location [N]	RL	Density Ratio HILF test (≥95%)	Moisture Variation	Pass / Fail	Remarks
HDR:W21DS02669	S21DS-09946	9/08/2021	356574.01	5778074.27	7.024	96.5	2.5 wet	Pass	
HDR:W21DS02679	S21DS-09970	10/08/2021	356553	5778055	6.78	97	3.0 wet	Pass	
HDR:W21DS02679	S21DS-09971	10/08/2021	356554	5778093	6.79	99	1.0 wet	Pass	
HDR:W21DS02698	S21DS-10038	14/08/2021	356555.32	5777997.58	7.42	97	2.5 wet	Pass	
HDR:W21DS02699	S21DS-10039	11/08/2021	356573.39	5778083.79	7.41	99	2.0 wet	Pass	
HDR:W21DS02718	S21DS-10120	12/08/2021	356550.95	5778073.55	7.23	96	2.0 wet	Pass	
HDR:W21DS02728	S21DS-10157	13/08/2021	356566.75	5778073.63	7.32	98	2.5 wet	Pass	
HDR:W21DS02728	S21DS-10158	13/08/2021	356552.66	5777992.12	7.17	98	3.0 wet	Pass	
HDR:W21DS02728	S21DS-10159	13/08/2021	356549	5778107	6.413	94.5	2.5 wet	Fail	See Retest 10245
HDR:W21DS02728	S21DS-10160	13/08/2021	356545	5778049	7.242	93	5.0 wet	Fail	See Retest 10246
HDR:W21DS02747	S21DS-10243	16/08/2021	356547.82	5778000.76	7.22	99	2.0 wet	Pass	
HDR:W21DS02747	S21DS-10244	16/08/2021	356560.86	5778056.09	7.25	98	2.5 wet	Pass	
HDR:W21DS02747	S21DS-10245	16/08/2021	356549.1	5778103.83	6.9	98	2.0 wet	Pass	Retest of 10159
HDR:W21DS02747	S21DS-10246	16/08/2021	356544.23	5778048.25	7.21	97.5	2.0 wet	Pass	Retest of 10160
HDR:W21DS02747	S21DS-10247	16/08/2021	356548.01	5778099.85	7.51	99	1.0 wet	Pass	
HDR:W21DS02747	S21DS-10248	16/08/2021	356552.78	5778104.41	7.3	98	2.5 wet	Pass	
HDR:W21DS02759	S21DS-10298	18/08/2021	356556.31	5777972.31	7.98	98.5	2.0 wet	Pass	
HDR:W21DS02759	S21DS-10299	18/08/2021	356623.47	5778005.66	9.79	102.5	0.5 dry	Pass	
HDR:W21DS02759	S21DS-10300	18/08/2021	356614.38	5777948.02	9.49	102.5	0.5 dry	Pass	

# 1016363.5000 - Riverfield Estate Stage 5 - HILF Summary

Tel : (03) 8796 7900  
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Report No	Sample No	Date	Location [E]	Location [N]	RL	Density Ratio HILF test (≥95%)	Moisture Variation	Pass / Fail	Remarks
HDR:W21DS02759	S21DS-10301	18/08/2021	356559.07	5778034.86	7.47	98	2.0 wet	Pass	
HDR:W21DS02781	S21DS-10423	19/08/2021	356563.24	5778092.12	7.8	95.5	0.5 wet	Pass	
HDR:W21DS02798	S21DS-10489	21/08/2021	356751.36	5777549.23	7.65	103.5	OMC	Pass	
HDR:W21DS02799	S21DS-10490	20/08/2021	356688	5777561	7.25	102	2.5 wet	Pass	
HDR:W21DS02799	S21DS-10491	20/08/2021	356622.96	5778022.14	9.83	102	0.5 dry	Pass	
HDR:W21DS02799	S21DS-10492	20/08/2021	356610.62	5777944.68	9.83	101	2.0 wet	Pass	
HDR:W21DS02799	S21DS-10493	20/08/2021	356684.79	5777560.51	7.52	104.5	OMC	Pass	
HDR:W21DS02799	S21DS-10494	20/08/2021	356454.96	5778042.96	7.6	96	OMC	Pass	
HDR:W21DS02799	S21DS-10495	20/08/2021	356551.69	5778068.49	7.85	98.5	0.5 wet	Pass	
HDR:W21DS02799	S21DS-10496	20/08/2021	356685.11	5777560.91	7.77	98.5	OMC	Pass	
HDR:W21DS02799	S21DS-10497	20/08/2021	356606.85	5778009.64	9.76	102.5	OMC	Pass	
HDR:W21DS02799	S21DS-10498	20/08/2021	356703.41	5777555.74	7.65	100.5	0.5 dry	Pass	
HDR:W21DS02820	S21DS-10548	24/08/2021	356555.25	5778047	8.03	103	1.5 wet	Pass	
HDR:W21DS02820	S21DS-10549	24/08/2021	356562.24	5778077.43	8.18	103	0.5 wet	Pass	
HDR:W21DS02820	S21DS-10550	24/08/2021	356547.19	5778017.64	7.76	101.5	1.5 wet	Pass	
HDR:W21DS02820	S21DS-10551	24/08/2021	356560.76	5778105.21	8.22	101.5	0.5 wet	Pass	
HDR:W21DS02838	S21DS-10615	26/08/2021	356606.01	5777896.63	9.45 / -	101	OMC	Pass	
HDR:W21DS02838	S21DS-10616	26/08/2021	356621.88	5777884.87	9.21 / -	98.5	3.0 wet	Pass	



# 1016363.5000 - Riverfield Estate Stage 5 - HILF Summary

Tel : (03) 8796 7900  
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Report No	Sample No	Date	Location [E]	Location [N]	RL	Density Ratio HILF test (≥95%)	Moisture Variation	Pass / Fail	Remarks
HDR:W21DS02838	S21DS-10617	26/08/2021	356539.42	5778032.99	8.26 / -	98.5	3.0 wet	Pass	
HDR:W21DS02838	S21DS-10618	26/08/2021	356558.42	5778045.61	8.41 / -	98	3.0 wet	Pass	
HDR:W21DS02838	S21DS-10619	26/08/2021	356555.4	5778091.87	8.75 / -	98	2.0 wet	Pass	
HDR:W21DS02838	S21DS-10620	26/08/2021	356688.51	5777560.41	8.13 / -	104	OMC	Pass	
HDR:W21DS02838	S21DS-10621	26/08/2021	356550.72	5778069.53	8.28 / -	100	OMC	Pass	
HDR:W21DS02849	S21DS-10687	27/08/2021	356603.56	5777908.33	9.75 / -	98.5	2.5 wet	Pass	
HDR:W21DS02849	S21DS-10688	27/08/2021	356604.31	5777901.26	9.72 / -	98.5	0.5 wet	Pass	
HDR:W21DS02849	S21DS-10689	27/08/2021	356555.72	5778054.45	8.59 / -	99.5	2.0 wet	Pass	
HDR:W21DS02849	S21DS-10690	27/08/2021	356550.13	5778089.37	9.12 / -	97.5	2.0 wet	Pass	
HDR:W21DS02850	S21DS-10691	28/08/2021	356543.31	5778033.82	8.84 / -	98.5	3.0 wet	Pass	
HDR:W21DS02869	S21DS-10744	30/08/2021	356553.67	5778071.84	9.15 / -	97.5	3.5 wet	Fail	See Retest 10790
HDR:W21DS02869	S21DS-10745	30/08/2021	356607.5	5778015.22	10.17 / -	97.5	3.0 wet	Pass	
HDR:W21DS02869	S21DS-10746	30/08/2021	356623.1	5777998.04	10.04 / -	101	1.0 wet	Pass	
HDR:W21DS02879	S21DS-10790	31/08/2021	356568	5778099	9.374 / -	98.5	1.5 wet	Pass	Retest of 10744
HDR:W21DS02879	S21DS-10791	31/08/2021	356556	5778018	9.073 / -	97.5	2.0 wet	Pass	
HDR:W21DS02879	S21DS-10792	31/08/2021	356546.98	5778095.25	9.46 / -	96.5	2.0 wet	Pass	
HDR:W21DS02894	S21DS-10837	2/09/2021	356587	5778093	9.952 / -	99	3.0 wet	Pass	
HDR:W21DS02894	S21DS-10838	2/09/2021	356551.133	5778072.747	9.869 / -	97.5	0.5 wet	Pass	
HDR:W21DS02897	S21DS-10847	1/09/2021	356554	5778081	9.563 / -	102	2.0 wet	Pass	
HDR:W21DS02897	S21DS-10848	1/09/2021	356550.05	5778018.87	9.46 / -	97.5	2.0 wet	Pass	



# 1016363.5000 - Riverfield Estate Stage 5 - HILF Summary

Tel : (03) 8796 7900  
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Report No	Sample No	Date	Location [E]	Location [N]	RL	Density Ratio HILF test (≥95%)	Moisture Variation	Pass / Fail	Remarks
HDR:W21DS02936	S21DS-10978	7/09/2021	356559.159	5778098.915	10.452 / -	97	2.5 wet	Pass	
HDR:W21DS02936	S21DS-10979	7/09/2021	356562.031	5778033.986	9.793 / -	97	2.0 wet	Pass	
HDR:W21DS02936	S21DS-10980	7/09/2021	356583.937	5778068.63	10.599 / -	97.5	2.0 wet	Pass	
HDR:W21DS02954	S21DS-11030	8/09/2021	356583	5778002	10.166	99.5	0.5 wet	Pass	
HDR:W21DS02954	S21DS-11031	8/09/2021	356627	5778063	10.772	98	0.5 wet	Pass	
HDR:W21DS02954	S21DS-11032	8/09/2021	356569	5778091	10.0837	98.5	OMC	Pass	
HDR:W21DS02954	S21DS-11033	8/09/2021	356555	5778055	10.591	97.5	0.5 wet	Pass	
HDR:W21DS02956	S21DS-11038	9/09/2021	356913.52	5778053.497	9.593 / -	97	OMC	Pass	
HDR:W21DS02956	S21DS-11039	9/09/2021	356588	5778054	10.425 / -	96.5	2.0 wet	Pass	
HDR:W21DS02956	S21DS-11040	9/09/2021	357009	5778040	8.764 / -	99.5	0.5 wet	Pass	
HDR:W21DS02956	S21DS-11041	9/09/2021	356564	5778101	10.736 / -	98	4.5 wet	Fail	See Retest 11129
HDR:W21DS02964	S21DS-11058	10/09/2021	356595	5778050	10.636 / -	99.5	0.5 wet	Pass	
HDR:W21DS02970	S21DS-11069	11/09/2021	357016	5778022	8.836 / -	97.5	3.5 wet	Fail	See Retest 11151
HDR:W21DS02970	S21DS-11070	11/09/2021	357013	5778002	8.777 / -	98	3.0 wet	Pass	
HDR:W21DS02970	S21DS-11071	11/09/2021	357009	5777968	8.578 / -	98	OMC	Pass	
HDR:W21DS02981	S21DS-11129	13/09/2021	356553.051	5778103.073	11.022 / -	96.5	4.5 wet	Fail	Retest of 11041, See Retest 11189
HDR:W21DS02981	S21DS-11130	13/09/2021	356562	5778102	10.56 / -	97	4.5 wet	Fail	See Retest 11190
HDR:W21DS02981	S21DS-11131	13/09/2021	356585.813	5778048.038	10.779 / -	98	4.5 wet	Fail	See Retest 11191
HDR:W21DS02981	S21DS-11132	13/09/2021	356550.893	5778078.367	10.502 / -	100	2.0 wet	Pass	
HDR:W21DS02985	S21DS-11149	14/09/2021	356549.087	5778070.61	10.607	97.5	4.5 wet	Fail	See Retest 11192



## 1016363.5000 - Riverfield Estate Stage 5 - HILF Summary

Tel : (03) 8796 7900  
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Report No	Sample No	Date	Location [E]	Location [N]	RL	Density Ratio HILF test (≥95%)	Moisture Variation	Pass / Fail	Remarks
HDR:W21DS02985	S21DS-11150	14/09/2021	357003	5777913	8.449	99.5	3.0 wet	Pass	
HDR:W21DS02985	S21DS-11151	14/09/2021	357013	5778026	8.833	97.5	2.0 wet	Pass	Retest of 11069
HDR:W21DS03000	S21DS-11186	15/09/2021	356952	5778046	9.109	101	OMC	Pass	
HDR:W21DS03000	S21DS-11187	15/09/2021	356526.76	5778055.193	9.384	97	2.0 wet	Pass	
HDR:W21DS03000	S21DS-11188	15/09/2021	356554.771	5778083.062	10.953	100	2.0 wet	Pass	
HDR:W21DS03000	S21DS-11189	15/09/2021	356551.708	5778101.066	11.171	97	1.5 wet	Pass	Retest of 11129
HDR:W21DS03000	S21DS-11190	15/09/2021	356565	5778103	10.64	96.5	1.5 wet	Pass	Retest of 11130
HDR:W21DS03000	S21DS-11191	15/09/2021	356588.902	5778058.537	10.986	102	1.0 wet	Pass	Retest of 11131
HDR:W21DS03000	S21DS-11192	15/09/2021	356548	5778069	10.61	99.5	1.0 wet	Pass	Retest of 11149
HDR:W21DS03000	S21DS-11193	15/09/2021	356529.975	5778061.505	9.723	99.5	0.5 wet	Pass	
HDR:W21DS03013	S21DS-11235	16/09/2021	356566.525	5778118.053	-	101.5	0.5 wet	Pass	
HDR:W21DS03013	S21DS-11236	16/09/2021	357011.492	5777990.718	-	98	2.0 wet	Pass	
HDR:W21DS03013	S21DS-11237	16/09/2021	356538.766	5778047.93	546	99	2.5 wet	Pass	
HDR:W21DS03028	S21DS-11264	17/09/2021	356554.607	5778120.446	9.511	99.5	2.5 wet	Pass	
HDR:W21DS03028	S21DS-11265	17/09/2021	356969.745	5778041.562	9.422	97.5	2.5 wet	Pass	
HDR:W21DS03211	S21DS-11847	19/10/2021	356565	5777989	9.121 / 1	99.5	2.6 wet	Pass	
HDR:W21DS03211	S21DS-11848	19/10/2021	356567	5777971	9.216 / 2	99.5	OMC	Pass	
HDR:W21DS03222	S21DS-11869	20/10/2021	356529	5778078	10.532 / -	97	1.8 wet	Pass	
HDR:W21DS03222	S21DS-11870	20/10/2021	356537	5778053	10.523 / -	100	2.5 wet	Pass	



## 1016363.5000 - Riverfield Estate Stage 5 - HILF Summary

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Report No	Sample No	Date	Location [E]	Location [N]	RL	Density Ratio HILF test (≥95%)	Moisture Variation	Pass / Fail	Remarks
HDR:W21DS03243	S21DS-11931	22/10/2021	356553	5778040	10.447 / FSL	96.5	3.0 wet	Pass	
HDR:W21DS03243	S21DS-11932	22/10/2021	356538	5778059	10.821 / FSL	96	3.0 wet	Pass	
HDR:W21DS03243	S21DS-11933	22/10/2021	356549	5778094	11.051 / FSL	96.5	3.0 wet	Pass	
HDR:W21DS03290	S21DS-12078	26/10/2021	356567	5777935	9.228	96.5	3.0 wet	Pass	
HDR:W21DS03290	S21DS-12079	26/10/2021	356552	5777988	8.393	96.5	2.5 wet	Pass	
HDR:W21DS03290	S21DS-12080	26/10/2021	356576	5778115	9.662	98	2.5 wet	Pass	
HDR:W21DS03290	S21DS-12081	26/10/2021	356556	5777949	9.546	97.5	2.5 wet	Pass	
HDR:W21DS03298	S21DS-12138	27/10/2021	356547	5778121	9.87	101.5	2.5 wet	Pass	
HDR:W21DS03298	S21DS-12139	27/10/2021	356545	5777986	8.959	97.5	2.5 wet	Pass	
HDR:W21DS03298	S21DS-12140	27/10/2021	356564	5777943	9.762	99	3.0 wet	Pass	
HDR:W21DS03316	S21DS-12183	28/10/2021	356561	5778118	9.965	99	3.0 wet	Pass	
HDR:W21DS03316	S21DS-12184	28/10/2021	356566	5777917	9.895	97.5	3.0 wet	Pass	
HDR:W21DS03349	S21DS-12314	3/11/2021	356532	5778013	9.819	98.5	2.0 wet	Pass	
HDR:W21DS03350	S21DS-12315	3/11/2021	356569	5778117	8.107	99.5	1.5 wet	Pass	
HDR:W21DS03350	S21DS-12316	3/11/2021	356596	5778113	10.223	98.5	3.0 wet	Pass	
HDR:W21DS03392	S21DS-12485	9/11/2021	356531	5778021	10.601	101	2.5 wet	Pass	
HDR:W21DS03392	S21DS-12486	9/11/2021	356547	5777989	10.293	101.5	2.5 wet	Pass	



# 1016363.5000 - Riverfield Estate Stage 5 - HILF Summary

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Report No	Sample No	Date	Location [E]	Location [N]	RL	Density Ratio HILF test (≥95%)	Moisture Variation	Pass / Fail	Remarks
HDR:W21DS03529	S21DS-12997	29/11/2021	356611	5777914	10.176	94	2.5 dry	Fail	See Retest 13011
HDR:W21DS03529	S21DS-12998	29/11/2021	356639	5777912	10.211	98	0.5 dry	Pass	
HDR:W21DS03530	S21DS-12999	29/11/2021	356652	5777980	10.215	97	0.5 wet	Pass	
HDR:W21DS03530	S21DS-13000	29/11/2021	356663	5777952	10.379	102	0.5 wet	Pass	
HDR:W21DS03530	S21DS-13001	29/11/2021	356620	5777948	10.181	101.5	OMC	Pass	
HDR:W21DS03537	S21DS-13010	30/11/2021	356621	5777987	10.112	96	1.0 dry	Pass	
HDR:W21DS03538	S21DS-13011	30/11/2021	356610	5777915	10.231	95	OMC	Pass	Retest of 12997
HDR:W21DS03538	S21DS-13012	30/11/2021	356642	5777918	10.181	95.5	OMC	Pass	
HDR:W21DS03538	S21DS-13013	30/11/2021	356681	5777949	10.261	100	OMC	Pass	
HDR:W21DS03608	S21DS-13290	7/12/2021	356619	5778046	10.48	99	2.0 wet	Pass	
HDR:W21DS03611	S21DS-13294	7/12/2021	356992	5777931	8.723 / -	95	4.0 wet	Fail	See Retest 123628
HDR:W21DS03611	S21DS-13297	7/12/2021	357002	5778017	9.479 / FSL-0.485	96	0.5 wet	Pass	
HDR:W21DS03611	S21DS-13298	7/12/2021	356797	5778022	9.589 / FSL-0.400m	98.5	0.5 wet	Pass	

## Appendix C: Hilf density testing reports



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

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

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

Accreditation No.12712

Approved Signatory: M. Longfield  
(Senior Technician)

Date of Issue: 25/01/2021

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

### Sample Details

**Location:**

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**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
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	19/01/2021	19/01/2021	19/01/2021	19/01/2021	19/01/2021	19/01/2021
<b>E:</b>	356909.3	356949.3	3567678.3	356766.6	356785.3	356783.3
<b>N:</b>	5777573.4	5777574.3	5777854.1	5777881.4	5777897.1	5777934.9
<b>RL:</b>	8.25	8.42	9.41	9.25	9.14	9.29
<b>Lot:</b>	307	310	406	405	418	419

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	175	175
<b>Depth of Layer (mm)</b>	200	200	200	200	200	200
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	19.0	19.0
<b>Oversize Wet (%)</b>	0	0	0	0	0	0
<b>Field Wet Density (t/m³)</b>	1.95	2.04	1.98	1.94	1.95	1.97
<b>Peak Converted Wet Density (t/m³)</b>	1.99	2.05	2.04	1.88	1.99	1.96
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.5 wet	0.0	0.5 dry	0.5 dry	0.5 wet	0.5 dry
<b>Hilf Density Ratio (%)</b>	<b>98.0</b>	<b>99.5</b>	<b>97.5</b>	<b>103.0</b>	<b>98.0</b>	<b>100.5</b>

### Comments



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Report No: HDR:W21DS00219

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.:



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

### 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:** Onsite

**Material:** Clay

### Sample Data

Sample ID	S21DS-00924	S21DS-00925	S21DS-00926	S21DS-00927	S21DS-00928	S21DS-00929
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	20/01/2021	20/01/2021	20/01/2021	20/01/2021	20/01/2021	20/01/2021
<b>E:</b>	356718.1	356721.0	356736.1	356744.3	356721.9	356718.3
<b>N:</b>	5777868.4	5777883.2	5777852.4	5777922.9	5777885.4	5777867.2
<b>EL:</b>	8.34	8.67	8.97	8.92	8.94	8.75
<b>Lot:</b>	401	402	404	425	402	401

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	175	175
<b>Depth of Layer (mm)</b>	200	200	200	200	200	200
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	19.0	19.0
<b>Oversize Wet (%)</b>	0	0	0	0	0	0
<b>Field Wet Density (t/m³)</b>	2.00	1.98	1.97	2.05	1.99	1.98
<b>Peak Converted Wet Density (t/m³)</b>	2.00	2.06	2.05	2.08	2.06	2.04
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.5 wet	2.5 wet	0.0	0.0	2.5 dry	0.5 wet
<b>Hilf Density Ratio (%)</b>	<b>100.0</b>	<b>96.0</b>	<b>96.0</b>	<b>98.5</b>	<b>97.0</b>	<b>97.5</b>

### Comments



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Report No: HDR:W21DS00219

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.:



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Approved Signatory: M. Longfield  
(Senior Technician)

12712

Date of Issue: 25/01/2021

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### Sample Details

**Location:**

**Client Request ID:**

**Specification Requirements:**

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

Sample ID	S21DS-00930	S21DS-00931	S21DS-00932	S21DS-00933	S21DS-00934	S21DS-00935
<b>Field Sample ID</b>	7	8	9	10	11	12
<b>Date Tested</b>	20/01/2021	20/01/2021	20/01/2021	20/01/2021	20/01/2021	20/01/2021
<b>E:</b>	356798.3	356804.6	356770.5	356772.1	356768.9	356760.8
<b>N:</b>	5777787.9	5777846.4	577786.1	5777930.6	57757865.5	5777804.3
<b>EL:</b>	9.69	9.80	9.24	9.31	9.66	9.95
<b>Lot:</b>	227	407	418	423	406	235

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	175	175
<b>Depth of Layer (mm)</b>	200	200	200	200	200	200
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	19.0	19.0
<b>Oversize Wet (%)</b>	0	0	0	0	0	0
<b>Field Wet Density (t/m³)</b>	1.94	2.00	1.97	1.99	1.99	2.05
<b>Peak Converted Wet Density (t/m³)</b>	2.04	1.99	2.02	2.05	2.07	2.05
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	2.0 wet	1.0 wet	4.0 wet	2.5 wet	2.5 wet	2.0 wet
<b>Hilf Density Ratio (%)</b>	<b>95.0</b>	<b>100.5</b>	<b>98.0</b>	<b>97.5</b>	<b>96.0</b>	<b>100.0</b>

### Comments



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Report No: HDR:W21DS00219

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.:



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Accreditation No. 12719

Approved Signatory: M. Longfield  
(Senior Technician)

12712 Date of Issue: 25/01/2021  
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### Sample Details

**Location:**

**Client Request ID:**

**Specification Requirements:**

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

<b>Sample ID</b>	S21DS-00936	S21DS-00937	S21DS-00938			
<b>Field Sample ID</b>	13	14	15			
<b>Date Tested</b>	20/01/2021	20/01/2021	20/01/2021			
<b>E:</b>	356693.9	356742.3	356721.3			
<b>N:</b>	5777874.5	5777927.5	5777906.1			
<b>EL:</b>	8.61	9.36	9.28			
<b>Lot:</b>	402	425	426			

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	2.06	2.00	2.04			
<b>Peak Converted Wet Density (t/m³)</b>	2.10	2.07	2.09			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	2.0 dry	2.0 wet	2.0 wet			
<b>Hilf Density Ratio (%)</b>	<b>97.5</b>	<b>96.5</b>	<b>98.0</b>			

### Comments



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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.:



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Accreditation No.12712

Approved Signatory: M. Longfield

(Senior Technician)

12712

Date of Issue: 29/01/2021

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### 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
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	22/01/2021	22/01/2021	22/01/2021	22/01/2021	22/01/2021	22/01/2021
<b>E:</b>	356730.3	356737.4	356757.4	356769.4	356680.2	356866.6
<b>N:</b>	5777922.4	5777957.6	5777983.1	5777894.7	5777880.1	5777682.5
<b>RL:</b>	9.54	9.59	9.72	9.13	8.29	9.24
<b>Lot:</b>	426	428	513	418	402	1002

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	175	175
<b>Depth of Layer (mm)</b>	200	200	200	200	200	200
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	19.0	19.0
<b>Oversize Wet (%)</b>	0	0	0	0	0	0
<b>Field Wet Density (t/m³)</b>	2.03	1.98	2.04	2.00	2.02	2.02
<b>Peak Converted Wet Density (t/m³)</b>	2.01	2.04	2.05	2.00	2.10	2.02
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.5 dry	0.5 wet	0.5 wet	0.5 dry	0.0	0.5 wet
<b>Hilf Density Ratio (%)</b>	<b>101.0</b>	<b>97.0</b>	<b>99.5</b>	<b>100.0</b>	<b>96.0</b>	<b>100.0</b>

### Comments



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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.:



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Approved Signatory: M. Longfield

(Senior Technician)

12712

Date of Issue: 29/01/2021

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### 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 (%)	<b>98.0</b>	<b>99.5</b>	<b>98.5</b>			

### Comments



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Report No: HDR:W21DS00304

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.:



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M. R.

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12712      Date of Issue: 28/01/2021  
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Approved Signatory: M. Robinson  
(Team Leader)

### 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-01328	S21DS-01329	S21DS-01330	S21DS-01331	
Field Sample ID	1	2	3	4	
Date Tested	27/01/2021	27/01/2021	27/01/2021	27/01/2021	
E:	356734.2	356716.1	356699.1	356713.8	
N:	5777962.3	5777936.6	5777870.9	5777850.4	
Elv:	9.85	9.85	9.72	9.95	

### 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)	2.05	1.97	2.05	2.06	
Peak Converted Wet Density (t/m³)	2.05	1.96	2.09	2.12	
Compactive Effort	Standard	Standard	Standard	Standard	
Moisture Variation (%)	1.0 wet	0.5 wet	0.5 wet	0.0	
Hilf Density Ratio (%)	<b>100.0</b>	<b>101.0</b>	<b>98.0</b>	<b>97.0</b>	

### Comments



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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.:



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M R

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12712 Accreditation No.12712

Approved Signatory: M. Robinson  
(Team Leader)

Date of Issue: 29/01/2021

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### 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 (%)	<b>96.0</b>	<b>96.5</b>	<b>95.5</b>	<b>96.5</b>	

### Comments



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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.:



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M. R.

Accreditation Number 12719 Approved Signatory: M. Robinson  
12712 (Team Leader)  
Date of Issue: 8/02/2021  
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### 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 (%)	<b>95.0</b>	<b>97.5</b>	<b>101.0</b>	<b>103.0</b>	<b>99.0</b>

### Comments



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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.:



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– Testing

Accreditation Number

12719

(Senior Technician)

12712

Date of Issue: 3/03/2021

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### Sample Details

**Location:**

**Client Request ID:**

**Specification Requirements:**

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**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 (%)	<b>95.5</b>	<b>97.0</b>	<b>101.0</b>	<b>97.5</b>	<b>99.0</b>	<b>98.0</b>

### Comments



Dandenong South  
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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

Accreditation Number 12719 Approved Signatory: M. Robinson  
12712 (Team Leader)  
Date of Issue: 10/02/2021  
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### 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
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021	9/02/2021
<b>E:</b>	3567010.9	356999.5	357020.0	357051.2	357027.9	357016.0
<b>N:</b>	5777594.5	5777580.3	5777578.9	5777593.6	5777596.2	5777595.4
<b>Elv:</b>	8.35	8.57	8.27	8.03	8.21	8.47
<b>Field and Laboratory Data</b>						
<b>Depth of Test (mm)</b>	175	175	175	175	175	175
<b>Depth of Layer (mm)</b>	200	200	200	200	200	200
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	19.0	19.0
<b>Field Wet Density (t/m³)</b>	2.01	1.99	1.99	1.95	1.96	1.95
<b>Peak Converted Wet Density (t/m³)</b>	2.05	1.99	2.09	1.96	2.07	1.96
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	2.0 wet	2.0 wet	3.0 wet	2.5 wet	6.0 wet	2.0 wet
<b>Hilf Density Ratio (%)</b>	<b>98.0</b>	<b>100.5</b>	<b>95.0</b>	<b>99.5</b>	<b>94.5</b>	<b>99.0</b>

### Comments



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Report No: HDR:W21DS00504

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.:



### 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-02096					
Field Sample ID	1					
Date Tested	10/02/2021					
E:	356681.2					
N:	5778040.2					
Elv:	10.27					

### 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)	1.94					
Peak Converted Wet Density (t/m³)	1.94					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	<b>100.0</b>					

### Comments



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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.:



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Accreditation Number 12719 Approved Signatory: J. A. Smith  
12712 (Senior Technician)  
Date of Issue: 3/03/2021

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### 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 (%)	<b>97.5</b>	<b>100.0</b>	<b>104.5</b>	<b>97.0</b>	<b>97.5</b>	<b>104.0</b>

### Comments



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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.:



### 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				
<b>Hilf Density Ratio (%)</b>	<b>100.5</b>	<b>99.0</b>				

### Comments



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Report No: HDR:W21DS01005

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.:



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 25/03/2021  
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### 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-03951	S21DS-03952	S21DS-03953	S21DS-03954	S21DS-03955	S21DS-03956
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	18/03/2021	18/03/2021	18/03/2021	18/03/2021	18/03/2021	18/03/2021
<b>E:</b>	356849.9	356847.3	356629.7	356624.1	356639.9	356652.2
<b>N:</b>	5777930.2	5777951.1	57776965.7	5777928.4	5777119.5	5777901.2
<b>EL:</b>	9.47	9.55	9.68	9.89	9.87	9.41
<b>Lot:</b>	413	624	505	502	436	436

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	175	175
<b>Depth of Layer (mm)</b>	200	200	200	200	200	200
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	19.0	19.0
<b>Oversize Wet (%)</b>	0	0	0	0	0	0
<b>Field Wet Density (t/m³)</b>	1.94	1.71	1.74	1.82	1.94	1.86
<b>Peak Converted Wet Density (t/m³)</b>	1.84	1.78	1.95	1.89	1.88	1.99
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	1.0 dry	0.0	2.5 dry	1.5 dry	0.0	0.0
<b>Hilf Density Ratio (%)</b>	<b>105.5</b>	<b>96.0</b>	<b>89.5</b>	<b>96.5</b>	<b>103.0</b>	<b>93.5</b>

### Comments



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Report No: HDR:W21DS01022

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  
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Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 25/03/2021  
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### 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-04027	S21DS-04028	S21DS-04029			
Field Sample ID	1	2	3			
Date Tested	19/03/2021	19/03/2021	19/03/2021			
E:	356764.7	356740.4	356712.7			
N:	5778053.2	5778051.4	5778051.2			
EL:Lot:	10.19	10.411	10.37			
	613	612	525			

### 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)	1.85	1.82	1.88			
Peak Converted Wet Density (t/m³)	1.97	1.93	2.02			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 wet	2.0 wet			
Hilf Density Ratio (%)	<b>93.5</b>	<b>94.0</b>	<b>93.0</b>			

### Comments



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Report No: HDR:W21DS01443

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield - Stage 6  
**Project No.:** 1016363.006

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
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Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 16/06/2021  
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### 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-05532	S21DS-05533	S21DS-05534	S21DS-05535	S21DS-05536
<b>Field Sample ID</b>	1	2	3	4	5
<b>Date Tested</b>	26/04/2021	26/04/2021	26/04/2021	26/04/2021	26/04/2021
E:	356637	356664	356694	356670	356649
N:	5778101	5778093	5778078	5778054	5778052
Elv:	10.07	10.47	10.35	10.28	10.22

Field and Laboratory Data					
<b>Depth of Test (mm)</b>	175	175	175	175	175
<b>Depth of Layer (mm)</b>	200	200	200	200	200
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	19.0
<b>Oversize Wet (%)</b>	0	0	0	0	0
<b>Field Wet Density (t/m³)</b>	1.95	1.95	1.93	2.01	2.05
<b>Peak Converted Wet Density (t/m³)</b>	1.94	1.94	1.95	1.98	2.03
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.5 wet	0.0	0.0	0.0	0.5 dry
<b>HILF Density Ratio (%)</b>	<b>100.0</b>	<b>101.0</b>	<b>99.5</b>	<b>101.0</b>	<b>100.5</b>

### Comments



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Report No: HDR:W21DS01496

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield - Stage 6  
**Project No.:** 1016363.006

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### 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-05715	S21DS-05716	S21DS-05717			
Field Sample ID	1	2	3			
Date Tested	30/04/2021	30/04/2021	30/04/2021			
E:	356607	356606	356612.7			
N:	5778062	5778062	5778061			
EL:	8.62	9.23	9.80			

### Field and Laboratory Data

Depth of Test (mm)	300	300	300			
Depth of Layer (mm)	325	325	325			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Wet Density (t/m³)	2.12	2.21	2.18			
Peak Converted Wet Density (t/m³)	2.06	2.18	2.15			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	0.0			
Hilf Density Ratio (%)	<b>102.5</b>	<b>101.5</b>	<b>101.5</b>			

### Comments



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Report No: HDR:W21DS01532

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield - Stage 6  
**Project No.:** 1016363.006  
**Order No.:** CG Request No.:  
**TRN:** Lot No.:

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Signature  
Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 16/06/2021  
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### 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-05829					
Field Sample ID	1					
Date Tested	3/05/2021					
E:	356613					
N:	5778057					

### 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)	2.19					
Peak Converted Wet Density (t/m³)	2.14					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	<b>102.5</b>					

### Comments



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Report No: HDR:W21DS01619

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131  
AUBURN VIC 3123

**Project:** Riverfield - Stage 6

**Project No.:** 1016363.006

**Order No.:** CG Request No.:

**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 16/06/2021  
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### 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

<b>Sample ID</b>	S21DS-06116	S21DS-06117	S21DS-06118			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	8/05/2021	8/05/2021	8/05/2021			
<b>E:</b>	356834	356827	356845			
<b>N:</b>	5777996	5778009	5778007			

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	2.01	2.03	2.01			
<b>Peak Converted Wet Density (t/m³)</b>	2.07	2.06	2.05			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	2.0 wet	2.0 wet	1.5 wet			
<b>Hilf Density Ratio (%)</b>	<b>97.0</b>	<b>98.5</b>	<b>98.0</b>			

### Comments



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Report No: HDR:W21DS01702

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield - Stage 6  
**Project No.:** 1016363.006  
**Order No.:** CG Request No.:  
**TRN:** Lot No.:

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Signature  
Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 16/06/2021  
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### 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-06378	S21DS-06379				
Field Sample ID	1	2				
Date Tested	10/05/2021	10/05/2021				
E:	356832	356823				
N:	5778008	5778022				

### 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)	1.99	2.09				
Peak Converted Wet Density (t/m³)	2.05	2.11				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	<b>97.0</b>	<b>99.0</b>				

### Comments



Dandenong South  
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Report No: HDR:W21DS02408

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.5000

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### 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-08889	S21DS-08890				
Field Sample ID	1	2				
Date Tested	9/07/2021	9/07/2021				
E:	356553	356548				
N:	5778044	5778024				
RL:	5.58	5.45				

### 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)	1.99	2.06				
Peak Converted Wet Density (t/m³)	2.08	2.07				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 wet	2.0 wet				
Hilf Density Ratio (%)	<b>96.0</b>	<b>99.5</b>				

### Comments



Dandenong South  
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Report No: HDR:W21DS02409

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.5000

**Order No.:** CG Request No.:

**TRN:** Lot No.:

Accredited for compliance with ISO/IEC 17025  
– Testing



Accreditation Number: 12719 Approved Signatory: J. Lamont  
(Dandenong Laboratory Manager)  
Site Number: 12712 Date of Issue: 12/07/2021  
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### 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-08891	S21DS-08892	S21DS-08893			
Field Sample ID	1	2	3			
Date Tested	10/07/2021	10/07/2021	10/07/2021			
Lot No:	543	544	N/A			
E:	356554	356543	356558			
N:	5778028	5778043	5778078			
RL:	5.680	5.572	4.532			

### 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)	2.01	2.07	2.01			
Peak Converted Wet Density (t/m³)	2.08	2.00	2.10			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	3.0 wet	0.0	4.5 wet			
Hilf Density Ratio (%)	<b>97.0</b>	<b>103.5</b>	<b>95.5</b>			

### Comments



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Report No: HDR:W21DS02434

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.5000

**Order No.:** CG Request No.:

**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 14/07/2021  
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95%

**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-08992	S21DS-08993				
Field Sample ID	1	2				
Date Tested	12/07/2021	12/07/2021				
Lot No:	543	-				
E:	356560	356551				
N:	5778042	5777996				
RL:	6.08	5.635				

### 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	2.00				
Peak Converted Wet Density (t/m³)	2.02	2.07				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 wet	3.0 wet				
Hilf Density Ratio (%)	<b>97.0</b>	<b>97.0</b>				

### Comments



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Report No: HDR:W21DS02456

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.5000

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### 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-09112	S21DS-09113	S21DS-09114	S21DS-09115	S21DS-09116	S21DS-09117
Field Sample ID	1	2	3	4	5	6
Date Tested	13/07/2021	13/07/2021	13/07/2021	13/07/2021	13/07/2021	13/07/2021
E:	356554	356561	356549	356554	356545	356556
N:	5778068	5778077	5778075	5778074	5778023	5778004
RL:	5.18	4.64	5.29	5.54	6.15	6.00
	Lot 545	Retest	Lot 546			

### 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	2.02	1.99	2.01	2.14	1.98
Peak Converted Wet Density (t/m³)	2.05	2.04	1.99	2.03	2.14	2.08
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.5 wet	0.5 wet	0.5 wet	0.0	0.5 dry	4.5 wet
Hilf Density Ratio (%)	<b>98.0</b>	<b>99.0</b>	<b>100.0</b>	<b>99.0</b>	<b>100.5</b>	<b>95.5</b>

### Comments



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Report No: HDR:W21DS02471

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.5000

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### 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-09194	S21DS-09195				
Field Sample ID	1	2				
Date Tested	14/07/2021	14/07/2021				
E:	356547	356555				
N:	5778069	5778097				
RL:	5.80	5.20				
Lot:	545	547				

### 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)	2.14	2.02				
Peak Converted Wet Density (t/m³)	2.13	2.00				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 wet				
Hilf Density Ratio (%)	<b>100.5</b>	<b>101.0</b>				

### Comments



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Report No: HDR:W21DS02486

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.5000

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### 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-09255	S21DS-09256	S21DS-09257	S21DS-09258	S21DS-09259	S21DS-09260
Field Sample ID	1	2	3	4	5	6
Date Tested	16/07/2021	16/07/2021	16/07/2021	16/07/2021	16/07/2021	16/07/2021
E:	356548	356556	356551	356555	356562	356553
N:	5778625	5778008	5778046	5778079	5778096	5778014
EL:	6.26	5.98	6.38	5.90	5.30	6.258
		Retest		Retest		

### Field and Laboratory Data

Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Wet Density (t/m³)	1.99	2.07	2.08	2.02	2.01	2.00
Peak Converted Wet Density (t/m³)	2.03	2.08	2.12	2.06	2.05	2.04
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	2.5 wet	0.5 wet	0.5 wet	0.5 dry	0.0	0.5 wet
Hilf Density Ratio (%)	<b>97.5</b>	<b>99.5</b>	<b>98.0</b>	<b>97.5</b>	<b>98.0</b>	<b>98.0</b>

### Comments



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Report No: HDR:W21DS02486

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.5000

**Order No.:** CG Request No.:

**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 20/07/2021  
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### 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-09261	S21DS-09262				
Field Sample ID	7	8				
Date Tested	16/07/2021	16/07/2021				
E:	356560	356551				
N:	5778099	5778098				
EL:	5.60	5.99				

### 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	1.98				
Peak Converted Wet Density (t/m³)	2.07	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 wet	2.5 wet				
Hilf Density Ratio (%)	<b>96.5</b>	<b>97.5</b>				

### Comments



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Report No: HDR:W21DS02487

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.5000

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### 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-09263					
Field Sample ID	1					
Date Tested	17/07/2021					
E:	356551					
N:	5778075					
RL:	6.49					
Lot:	546					

### 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)	2.07					
Compactive Effort	Standard					
Moisture Variation (%)	2.5 wet					
Hilf Density Ratio (%)	97.0					

### Comments



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Report No: HDR:W21DS02490

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.5000

**Order No.:** CG Request No.:

**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 20/07/2021  
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### 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-09275					
Field Sample ID	1					
Date Tested	19/07/2021					
E:	356555					
N:	5778017					
RL:	6.759					

### 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)	1.98					
Peak Converted Wet Density (t/m³)	2.01					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	98.5					

### Comments



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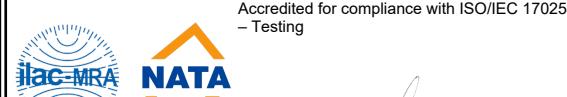
Report No: HDR:W21DS02669

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.005

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 10/08/2021  
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### 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-09946					
Field Sample ID	1					
Date Tested	9/08/2021					
E:	356574.01					
N:	5778074.27					
EL:	7.024					

### 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)	1.99					
Peak Converted Wet Density (t/m³)	2.06					
Compactive Effort	Standard					
Moisture Variation (%)	2.5 wet					
Hilf Density Ratio (%)	96.5					

### Comments



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Report No: HDR:W21DS02679

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:** CG Request No.:

**TRN:** Lot No.:



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M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 16/08/2021  
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### 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-09970	S21DS-09971				
Field Sample ID	1	2				
Date Tested	10/08/2021	10/08/2021				
E:	356553	356554				
N:	5778055	5778093				
Elv:	6.78	6.79				

### 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	2.04				
Peak Converted Wet Density (t/m³)	2.06	2.06				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	3.0 wet	1.0 wet				
HILF Density Ratio (%)	<b>97.0</b>	<b>99.0</b>				

### Comments



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Report No: HDR:W21DS02698

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:** CG Request No.:

**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 17/08/2021  
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### 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-10038					
Field Sample ID	1					
Date Tested	14/08/2021					
E:	356555.32					
N:	5777997.58					
RL:	7.42					

### 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)	2.01					
Peak Converted Wet Density (t/m³)	2.07					
Compactive Effort	Standard					
Moisture Variation (%)	2.5 wet					
Hilf Density Ratio (%)	97.0					

### Comments



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Report No: HDR:W21DS02699

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



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M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 16/08/2021  
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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum HILF Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

<b>Sample ID</b>	S21DS-10039					
<b>Field Sample ID</b>	1					
<b>Date Tested</b>	11/08/2021					
<b>E:</b>	356573.39					
<b>N:</b>	577808.379					
<b>EL:</b>	7.41					

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175					
<b>Depth of Layer (mm)</b>	200					
<b>AS Sieve Size (mm)</b>	19.0					
<b>Oversize Wet (%)</b>	0					
<b>Field Wet Density (t/m³)</b>	2.03					
<b>Peak Converted Wet Density (t/m³)</b>	2.05					
<b>Compactive Effort</b>	Standard					
<b>Moisture Variation (%)</b>	2.0 wet					
<b>Hilf Density Ratio (%)</b>	<b>99.0</b>					

### Comments



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Report No: HDR:W21DS02718

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



Accredited for compliance with ISO/IEC 17025  
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M R

Accreditation Number:  
12719

Site Number: 12712

Approved Signatory: M. Robinson  
(Team Leader)

Date of Issue: 16/08/2021

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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum HILF Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Site Won

**Material:** Clay

### Sample Data

<b>Sample ID</b>	S21DS-10120					
<b>Field Sample ID</b>	1					
<b>Date Tested</b>	12/08/2021					
<b>E:</b>	356550.95					
<b>N:</b>	5778073.55					
<b>RL:</b>	7.23					

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175					
<b>Depth of Layer (mm)</b>	200					
<b>AS Sieve Size (mm)</b>	19.0					
<b>Oversize Wet (%)</b>	0					
<b>Field Wet Density (t/m³)</b>	2.01					
<b>Peak Converted Wet Density (t/m³)</b>	2.10					
<b>Compactive Effort</b>	Standard					
<b>Moisture Variation (%)</b>	2.0 wet					
<b>HILF Density Ratio (%)</b>	<b>96.0</b>					

### Comments



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Fax: +61 3 9706 9431

Report No: HDR:W21DS02728

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**

Accredited for compliance with ISO/IEC 17025  
– Testing



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 17/08/2021  
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### 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-10157	S21DS-10158	S21DS-10159	S21DS-10160	
<b>Field Sample ID</b>	1	2	3	4	
<b>Date Tested</b>	13/08/2021	13/08/2021	13/08/2021	13/08/2021	
E:	356566.75	356552.66	356549	356545	
N:	5778073.63	5777992.12	5778107	5778049	
EL:	7.32	7.17	6.413	7.242	
<b>Lot:</b>	546				

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	
<b>Depth of Layer (mm)</b>	200	200	200	200	
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	
<b>Oversize Wet (%)</b>	0	0	0	0	
<b>Field Wet Density (t/m³)</b>	2.06	2.03	1.97	1.97	
<b>Peak Converted Wet Density (t/m³)</b>	2.09	2.07	2.09	2.12	
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	
<b>Moisture Variation (%)</b>	2.5 wet	3.0 wet	2.5 wet	5.0 wet	
<b>Hilf Density Ratio (%)</b>	<b>98.0</b>	<b>98.0</b>	<b>94.5</b>	<b>93.0</b>	

### Comments

# HILF Density Ratio Report

Client:	Greenridge Properties Pty Ltd	Accredited for compliance with ISO/IEC 17025 – Testing
Address:	PO Box 3131 AUBURN VIC 3123	
Project:	Riverfield Estate - Stage 5	
Project No.:	1016363.005	
Order No.:	CG Request No.:	
TRN:	Lot No.:	



M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
Site Number: 12712 (Team Leader) Date of Issue: 6/09/2021  
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## Sample Details

Location: Clyde North

Client Request ID:

Specification Requirements: Minimum HILF Density Ratio of 95% (+/- 3% of OMC)

Field Test procedures: AS 1289.5.8.1

Laboratory Test procedures: AS 1289.5.7.1

Sampling Method: AS1289.1.2.1 Clause 6.4 (b)

Source: Onsite

Material: Clay

## Sample Data

Sample ID	S21DS-10243	S21DS-10244	S21DS-10245	S21DS-10246	S21DS-10247	S21DS-10248
Field Sample ID	1	2	3	4	5	6
Date Tested	16/08/2021	16/08/2021	16/08/2021	16/08/2021	16/08/2021	16/08/2021
E:	356547.82	356560.86	356549.10	356544.23	356548.01	356552.78
N:	5778000.76	5778056.09	5778103.83	5778048.25	5778099.85	5778104.41
EL:	7.22	7.25	6.90	7.21	7.51	7.30
Lot:		545	547	544	547	547
				Retest		

## Field and Laboratory Data

Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Wet Density (t/m³)	2.04	1.98	2.00	2.01	2.04	2.02
Peak Converted Wet Density (t/m³)	2.06	2.02	2.05	2.07	2.06	2.06
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	2.0 wet	2.5 wet	2.0 wet	2.0 wet	1.0 wet	2.5 wet
Hilf Density Ratio (%)	<b>99.0</b>	<b>98.0</b>	<b>98.0</b>	<b>97.5</b>	<b>99.0</b>	<b>98.0</b>

## Comments



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Report No: HDR:W21DS02759

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:** CG Request No.:

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
- Testing

M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 6/09/2021  
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

Sample ID	S21DS-10298	S21DS-10299	S21DS-10300	S21DS-10301	
<b>Field Sample ID</b>	1	2	3	4	
<b>Date Tested</b>	18/08/2021	18/08/2021	18/08/2021	18/08/2021	
<b>E:</b>	356556.31	356623.47	356614.38	356559.07	
<b>N:</b>	5777972.31	5778005.66	5777948.02	5778034.86	
<b>EL:</b>	7.98	9.79	9.49	7.47	
<b>Lot:</b>		539	502	543	

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	
<b>Depth of Layer (mm)</b>	200	200	200	200	
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	
<b>Oversize Wet (%)</b>	0	0	0	0	
<b>Field Wet Density (t/m³)</b>	2.02	2.10	2.12	2.02	
<b>Peak Converted Wet Density (t/m³)</b>	2.04	2.04	2.07	2.05	
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	
<b>Moisture Variation (%)</b>	2.0 wet	0.5 dry	0.5 dry	2.0 wet	
<b>Hilf Density Ratio (%)</b>	<b>98.5</b>	<b>102.5</b>	<b>102.5</b>	<b>98.0</b>	

### Comments



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Report No: HDR:W21DS02781

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.005

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### 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-10423					
Field Sample ID	1					
Date Tested	19/08/2021					
E:	356563.24					
N:	5778092.12					
EL:	7.80					
Lot:	547					

### Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Wet Density (t/m³)	2.05					
Peak Converted Wet Density (t/m³)	2.14					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	<b>95.5</b>					

### Comments



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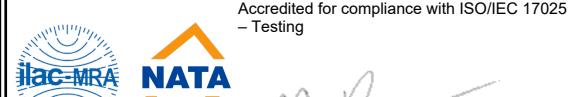
Report No: HDR:W21DS02798

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.005

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 6/09/2021  
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### Sample Details

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

### Sample Data

Sample ID	S21DS-10489					
Field Sample ID	1					
Date Tested	21/08/2021					
E:	356751.36					
N:	5777549.23					
EL:	7.65					

### Field and Laboratory Data

Depth of Test (mm)	300					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Wet Density (t/m³)	2.11					
Peak Converted Wet Density (t/m³)	2.04					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
Hilf Density Ratio (%)	<b>103.5</b>					

### Comments



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Report No: HDR:W21DS02799

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**

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M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 6/09/2021  
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum HILF Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

Sample ID	S21DS-10490	S21DS-10491	S21DS-10492	S21DS-10493	S21DS-10494	S21DS-10495
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021	20/08/2021
<b>E:</b>	356688	356622.96	356610.62	356684.79	356454.96	356551.69
<b>N:</b>	5777561	5778022.14	577744.68	5777560.51	5778042.96	5778068.49
<b>EL:</b>	7.25	9.83	9.83	7.52	7.60	7.85
<b>Lot:</b>	Inter Section	539	502	-	544	545
	Stage 1	Stage 5	Stage 5	Stage 1	Dam 5	Dam 6

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	300	175	175	300	175	175
<b>Depth of Layer (mm)</b>	200	200	200	200	200	200
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	19.0	19.0
<b>Oversize Wet (%)</b>	0	0	0	0	0	0
<b>Field Wet Density (t/m³)</b>	2.02	2.04	2.04	2.14	1.98	2.00
<b>Peak Converted Wet Density (t/m³)</b>	1.98	2.01	2.02	2.06	2.06	2.02
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	2.5 wet	0.5 dry	2.0 wet	0.0	0.0	0.5 wet
<b>HILF Density Ratio (%)</b>	<b>102.0</b>	<b>102.0</b>	<b>101.0</b>	<b>104.5</b>	<b>96.0</b>	<b>98.5</b>

### Comments



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Report No: HDR:W21DS02799

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



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- Testing

M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 6/09/2021  
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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum HILF Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

<b>Sample ID</b>	S21DS-10496	S21DS-10497	S21DS-10498			
<b>Field Sample ID</b>	7	8	9			
<b>Date Tested</b>	20/08/2021	20/08/2021	20/08/2021			
<b>E:</b>	356685.11	356606.85	356703.41			
<b>N:</b>	5777560.91	5778009.64	5777555.74			
<b>EL:</b>	7.77	9.76	7.65			
<b>Lot:</b>	-	538	300			
	Stage 1					

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	300	175	300			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	2.02	2.01	2.03			
<b>Peak Converted Wet Density (t/m³)</b>	2.05	1.96	2.02			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	0.0	0.0	0.5 dry			
<b>Hilf Density Ratio (%)</b>	<b>98.5</b>	<b>102.5</b>	<b>100.5</b>			

### Comments



Dandenong South  
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Report No: HDR:W21DS02820

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

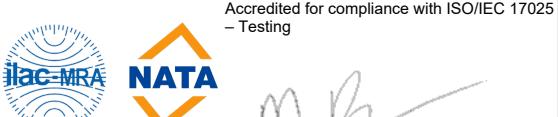
**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



Accredited for compliance with ISO/IEC 17025  
- Testing

M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 6/09/2021  
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

Sample ID	S21DS-10548	S21DS-10549	S21DS-10550	S21DS-10551	
<b>Field Sample ID</b>	1	2	3	4	
<b>Date Tested</b>	24/08/2021	24/08/2021	24/08/2021	24/08/2021	
E:	356555.25	356562.24	356547.19	356560.76	
N:	577804813	5778077.43	5778017.64	5778105.21	
RL:	8.03	8.18	7.76	8.22	
<b>Lot</b>	543	546	-	547	

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	
<b>Depth of Layer (mm)</b>	200	200	200	200	
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	
<b>Oversize Wet (%)</b>	0	0	0	0	
<b>Field Wet Density (t/m³)</b>	1.99	2.05	2.00	2.04	
<b>Peak Converted Wet Density (t/m³)</b>	1.93	1.99	1.97	2.01	
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	
<b>Moisture Variation (%)</b>	1.5 wet	0.5 wet	1.5 wet	0.5 wet	
<b>Hilf Density Ratio (%)</b>	<b>103.0</b>	<b>103.0</b>	<b>101.5</b>	<b>101.5</b>	

### Comments

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.005

**Order No.:** CG Request No.:  
**TRN:** Lot No.:

Accredited for compliance with ISO/IEC 17025  
 – Testing



M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
 Site Number: 12712 (Team Leader) Date of Issue: 6/09/2021  
 THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

## Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

## Sample Data

Sample ID	S21DS-10615	S21DS-10616	S21DS-10617	S21DS-10618	S21DS-10619	S21DS-10620
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	26/08/2021	26/08/2021	26/08/2021	26/08/2021	26/08/2021	26/08/2021
<b>E:</b>	356606.01	356621.88	356539.42	356558.42	356555.40	356688.51
<b>N:</b>	5777896.63	5777884.87	5778032.99	5778045.61	5778091.87	5777560.41
<b>RL / Layer:</b>	9.45 / -	9.21 / -	8.26 / -	8.41 / -	8.75 / -	8.13 / -
<b>Lot:</b>	438	438	544	543	547	-
<b>Other:</b>	Sample: 39	Sample 40	Sample: 42	Sample: 43	Sample: 44	Sample: 45

## Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	175	300
<b>Depth of Layer (mm)</b>	200	200	200	200	200	200
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	19.0	19.0
<b>Oversize Wet (%)</b>	0	0	0	0	0	0
<b>Field Wet Density (t/m³)</b>	2.06	1.97	1.96	1.97	1.98	2.13
<b>Peak Converted Wet Density (t/m³)</b>	2.03	2.00	2.00	2.01	2.03	2.04
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.0	3.0 wet	3.0 wet	2.5 wet	2.0 wet	0.0
<b>Hilf Density Ratio (%)</b>	<b>101.0</b>	<b>98.5</b>	<b>98.5</b>	<b>98.0</b>	<b>98.0</b>	<b>104.0</b>

## Comments

# HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.005

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



## 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-10621				
Field Sample ID	7				
Date Tested	26/08/2021				
E:	356550.72				
N:	5778069.53				
RL / Layer:	8.28 / -				
Lot:	-				
Other:	Sample: 46				

## 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)	2.02				
Peak Converted Wet Density (t/m³)	2.02				
Compactive Effort	Standard				
Moisture Variation (%)	0.0				
<b>Hilf Density Ratio (%)</b>	<b>100.0</b>				

## Comments



Dandenong South  
ACN 143 009 330  
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Report No: HDR:W21DS02849

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:** CG Request No.:

**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 30/08/2021  
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### 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-10687	S21DS-10688	S21DS-10689	S21DS-10690	
<b>Field Sample ID</b>	1	2	3	4	
<b>Date Tested</b>	27/08/2021	27/08/2021	27/08/2021	27/08/2021	
<b>E:</b>	356603.56	356604.31	356555.72	356550.13	
<b>N:</b>	5777908.33	5777901.26	5778054.45	5778089.37	
<b>RL / Layer:</b>	9.75 / -	9.72 / -	8.59 / -	9.12 / -	
<b>Lot:</b>	437	438	543	547	
<b>Other:</b>	Sample: 47	Sample: 48	Sample: 49	Sample: 50	

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	
<b>Depth of Layer (mm)</b>	200	200	200	200	
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	
<b>Oversize Wet (%)</b>	0	0	0	0	
<b>Field Wet Density (t/m³)</b>	1.98	1.99	2.04	1.99	
<b>Peak Converted Wet Density (t/m³)</b>	2.02	2.03	2.05	2.03	
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	
<b>Moisture Variation (%)</b>	2.5 wet	0.5 wet	2.0 wet	2.0 wet	
<b>Hilf Density Ratio (%)</b>	<b>98.5</b>	<b>98.5</b>	<b>99.5</b>	<b>97.5</b>	

### Comments



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Report No: HDR:W21DS02850

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.005

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 6/09/2021  
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### Sample Details

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

### Sample Data

Sample ID	S21DS-10691					
Field Sample ID	1					
Date Tested	28/08/2021					
E:	356543.31					
N:	5778033.82					
RL / Layer:	8.84 / -					
Lot:	544					
Other:	Sample: 51					

### 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)	1.99					
Peak Converted Wet Density (t/m³)	2.02					
Compactive Effort	Standard					
Moisture Variation (%)	3.0 wet					
Hilf Density Ratio (%)	<b>98.5</b>					

### Comments



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Report No: HDR:W21DS02869

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**

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M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 6/09/2021  
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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

<b>Sample ID</b>	S21DS-10744	S21DS-10745	S21DS-10746			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	30/08/2021	30/08/2021	30/08/2021			
<b>E:</b>	356553.67	356607.50	356623.10			
<b>N:</b>	5778071.84	5778015.22	5777998.04			
<b>RL / Layer:</b>	9.15 / -	10.17 / -	10.04 / -			
<b>Lot:</b>	545	538	539			

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	1.99	2.00	2.05			
<b>Peak Converted Wet Density (t/m³)</b>	2.04	2.05	2.03			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	3.5 wet	3.0 wet	1.0 wet			
<b>Hilf Density Ratio (%)</b>	<b>97.5</b>	<b>97.5</b>	<b>101.0</b>			

### Comments



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**Report No: HDR:W21DS02879**

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



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Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 6/09/2021  
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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

Sample ID	S21DS-10790	S21DS-10791	S21DS-10792			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	31/08/2021	31/08/2021	31/08/2021			
<b>E:</b>	356568	356556	356546.98			
<b>N:</b>	5778099	5778018	5778095.25			
<b>RL / Layer:</b>	9.374 / -	9.073 / -	9.46 / -			
<b>Lot:</b>	547	-	547			

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	2.01	2.00	1.97			
<b>Peak Converted Wet Density (t/m³)</b>	2.03	2.05	2.04			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	1.5 wet	2.0 wet	2.0 wet			
<b>Hilf Density Ratio (%)</b>	<b>98.5</b>	<b>97.5</b>	<b>96.5</b>			

### Comments



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Report No: HDR:W21DS02894

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



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M. Robinson

Accreditation Number:  
12719

Approved Signatory: M. Robinson  
(Team Leader)

Site Number: 12712

Date of Issue: 6/09/2021

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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

<b>Sample ID</b>	S21DS-10837	S21DS-10838				
<b>Field Sample ID</b>	1	2				
<b>Date Tested</b>	2/09/2021	2/09/2021				
<b>E:</b>	356587	356551.133				
<b>N:</b>	5778093	5778072.747				
<b>RL / Layer:</b>	9.952 / -	9.869 / -				
<b>Lot:</b>	543	545				

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175				
<b>Depth of Layer (mm)</b>	200	200				
<b>AS Sieve Size (mm)</b>	19.0	19.0				
<b>Oversize Wet (%)</b>	0	0				
<b>Field Wet Density (t/m³)</b>	2.00	2.02				
<b>Peak Converted Wet Density (t/m³)</b>	2.02	2.07				
<b>Compactive Effort</b>	Standard	Standard				
<b>Moisture Variation (%)</b>	3.0 wet	0.5 wet				
<b>Hilf Density Ratio (%)</b>	<b>99.0</b>	<b>97.5</b>				

### Comments



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Report No: HDR:W21DS02897

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



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Accreditation Number:  
12719

Site Number: 12712

Approved Signatory: M. Robinson  
(Team Leader)

Date of Issue: 6/09/2021

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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

<b>Sample ID</b>	S21DS-10847	S21DS-10848				
<b>Field Sample ID</b>	1	2				
<b>Date Tested</b>	1/09/2021	1/09/2021				
<b>E:</b>	356554	356550.05				
<b>N:</b>	5778081	5778018.87				
<b>RL / Layer:</b>	9.563 / -	9.46 / -				
<b>Lot:</b>	546	-				

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175				
<b>Depth of Layer (mm)</b>	200	200				
<b>AS Sieve Size (mm)</b>	19.0	19.0				
<b>Oversize Wet (%)</b>	0	0				
<b>Field Wet Density (t/m³)</b>	2.07	2.00				
<b>Peak Converted Wet Density (t/m³)</b>	2.04	2.05				
<b>Compactive Effort</b>	Standard	Standard				
<b>Moisture Variation (%)</b>	2.0 wet	2.0 wet				
<b>Hilf Density Ratio (%)</b>	<b>102.0</b>	<b>97.5</b>				

### Comments



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Report No: HDR:W21DS02936

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:** CG Request No.:

**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 9/09/2021  
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### 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

<b>Sample ID</b>	S21DS-10978	S21DS-10979	S21DS-10980			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	7/09/2021	7/09/2021	7/09/2021			
<b>E:</b>	356559.159	356562.031	356583.937			
<b>N:</b>	5778098.915	5778033.986	5778068.630			
<b>RL / Layer:</b>	10.452 / -	9.793 / -	10.599 / -			
<b>Lot:</b>	547	-	537			
<b>Other:</b>	-	-	-			

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	1.98	2.00	2.01			
<b>Peak Converted Wet Density (t/m³)</b>	2.05	2.07	2.06			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	2.5 wet	2.0 wet	2.0 wet			
<b>Hilf Density Ratio (%)</b>	<b>97.0</b>	<b>97.0</b>	<b>97.5</b>			

### Comments



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Report No: HDR:W21DS02954

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



Accredited for compliance with ISO/IEC 17025  
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Accreditation Number:  
12719

Approved Signatory: M. Robinson  
(Team Leader)

Site Number: 12712

Date of Issue: 9/09/2021

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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

Sample ID	S21DS-11030	S21DS-11031	S21DS-11032	S21DS-11033	
<b>Field Sample ID</b>	1	2	3	4	
<b>Date Tested</b>	8/09/2021	8/09/2021	8/09/2021	8/09/2021	
<b>E:</b>	356583	356627	356569	356555	
<b>N:</b>	5778002	5778063	5778091	5778055	
<b>RL:</b>	10.166	10.772	10.0837	10.591	
<b>Lot:</b>	548	533	548	545	

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	
<b>Depth of Layer (mm)</b>	200	200	200	200	
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	
<b>Oversize Wet (%)</b>	0	0	0	0	
<b>Field Wet Density (t/m³)</b>	2.04	2.04	2.10	2.03	
<b>Peak Converted Wet Density (t/m³)</b>	2.06	2.08	2.13	2.08	
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	
<b>Moisture Variation (%)</b>	0.5 wet	0.5 wet	0.0	0.5 wet	
<b>Hilf Density Ratio (%)</b>	<b>99.5</b>	<b>98.0</b>	<b>98.5</b>	<b>97.5</b>	

### Comments



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Report No: HDR:W21DS02956

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield - Stage 6  
**Project No.:** 1016363.006  
**Order No.:** CG Request No.:  
**TRN:** Lot No.:

Accredited for compliance with ISO/IEC 17025  
– Testing  
  
Signature  
Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 13/09/2021  
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### 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-11038	S21DS-11039	S21DS-11040	S21DS-11041	
Field Sample ID	1	2	3	4	
Date Tested	9/09/2021	9/09/2021	9/09/2021	9/09/2021	
E:	356913.520	356588	357009	356564	
N:	5778053.497	5778054	5778040	5778101	
RL / Layer:	9.593 / -	10.425 / -	8.764 / -	10.736 / -	
Lot:	634	537	-	549	
Other:	-	-	-	-	

### Field and Laboratory Data

Depth of Test (mm)	175	175	175	175	
Depth of Layer (mm)	200	200	200	200	
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	
Oversize Wet (%)	0	0	0	0	
Field Wet Density (t/m³)	2.12	1.97	2.03	1.98	
Peak Converted Wet Density (t/m³)	2.18	2.04	2.04	2.02	
Compactive Effort	Standard	Standard	Standard	Standard	
Moisture Variation (%)	0.0	2.0 wet	0.5 wet	4.5 wet	
Hilf Density Ratio (%)	<b>97.0</b>	<b>96.5</b>	<b>99.5</b>	<b>98.0</b>	

### Comments



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Report No: HDR:W21DS02964

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.005

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### 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-11058					
Field Sample ID	1					
Date Tested	10/09/2021					
E:	356595					
N:	5778050					
RL / Layer:	10.636 / -					
Lot:	536					
Other:	0					

### 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)	2.08					
Peak Converted Wet Density (t/m³)	2.09					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	<b>99.5</b>					

### Comments



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Report No: HDR:W21DS02970

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 12

**Project No.:** 1016363.012

**Order No.:** CG Request No.:

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number: 12719 Approved Signatory: J. Lamont  
(Dandenong Laboratory Manager)  
Site Number: 12712 Date of Issue: 16/05/2022  
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### 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

<b>Sample ID</b>	S21DS-11069	S21DS-11070	S21DS-11071			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	11/09/2021	11/09/2021	11/09/2021			
<b>E:</b>	357016	357013	357009			
<b>N:</b>	5778022	5778002	5777968			
<b>RL / Layer:</b>	8.836 / -	8.777 / -	8.578 / -			
<b>Lot:</b>	1232 - 650mm	760	1227- 950			
<b>Other:</b>	-					

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	1.98	2.00	1.98			
<b>Peak Converted Wet Density (t/m³)</b>	2.03	2.04	2.02			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	3.5 wet	3.0 wet	0.0			
<b>Hilf Density Ratio (%)</b>	<b>97.5</b>	<b>98.0</b>	<b>98.0</b>			

### Comments



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Report No: HDR:W21DS02981

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:** CG Request No.:

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 14/09/2021  
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

### Sample Details

**Location:**

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 98% (+- 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-11129	S21DS-11130	S21DS-11131	S21DS-11132	
<b>Field Sample ID</b>	1	2	3	4	
<b>Date Tested</b>	13/09/2021	13/09/2021	13/09/2021	13/09/2021	
<b>E:</b>	356553.051	356562	356585.813	356550.893	
<b>N:</b>	5778103.073	5778102	5778048.038	5778078.367	
<b>RL / Layer:</b>	11.022 / -	10.56 / -	10.779 / -	10.502 / -	
<b>Lot:</b>	549	-	537	548	
<b>Other:</b>	-	Retest	-	-	

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175	175	
<b>Depth of Layer (mm)</b>	200	200	200	200	
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0	19.0	
<b>Oversize Wet (%)</b>	0	0	0	0	
<b>Field Wet Density (t/m³)</b>	1.98	2.01	1.99	2.01	
<b>Peak Converted Wet Density (t/m³)</b>	2.05	2.07	2.03	2.01	
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	
<b>Moisture Variation (%)</b>	4.5 wet	4.5 wet	4.5 wet	2.0 wet	
<b>Hilf Density Ratio (%)</b>	<b>96.5</b>	<b>97.0</b>	<b>98.0</b>	<b>100.0</b>	

### Comments



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Report No: HDR:W21DS02985

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



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M R

Accreditation Number:  
12719

Site Number: 12712

Approved Signatory: M. Robinson  
(Team Leader)

Date of Issue: 16/09/2021

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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Clay

### Sample Data

<b>Sample ID</b>	S21DS-11149	S21DS-11150	S21DS-11151			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	14/09/2021	14/09/2021	14/09/2021			
<b>E:</b>	356549.087	357003	357013			
<b>N:</b>	5778070.610	5777913	5778026			
<b>RL / Layer:</b>	10.607	8.449	8.833			
<b>Lot:</b>	547	-	1233			

### Field and Laboratory Data

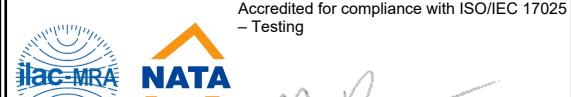
<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	2.00	2.02	2.02			
<b>Peak Converted Wet Density (t/m³)</b>	2.06	2.03	2.07			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	4.5 wet	3.0 wet	2.0 wet			
<b>Hilf Density Ratio (%)</b>	<b>97.5</b>	<b>99.5</b>	<b>97.5</b>			

### Comments

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
 AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 12  
**Project No.:** 1016363.012

**Order No.:** CG Request No.:  
**TRN:** Lot No.:




Accreditation Number: 12719 Approved Signatory: M. Robinson  
 Site Number: 12712 (Team Leader) Date of Issue: 16/09/2021  
 THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

### Sample Details

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

### Sample Data

Sample ID	S21DS-11186	S21DS-11187	S21DS-11188	S21DS-11189	S21DS-11190	S21DS-11191
Field Sample ID	1	2	3	4	5	6
Date Tested	15/09/2021	15/09/2021	15/09/2021	15/09/2021	15/09/2021	15/09/2021
E:	356952	356526.760	356554.771	356551.708	356565	356588.902
N:	5778046	5778055.193	5778083.062	5778101.066	5778103	5778058.537
RL / Layer:	9.109	9.384	10.953	11.171	10.64	10.986
Lot:	502	-	548	-	-	537

### 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	2.02	1.99	1.97	2.00
Peak Converted Wet Density (t/m³)	2.01	2.04	2.02	2.05	2.04	1.96
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.0	2.0 wet	2.0 wet	1.5 wet	1.5 wet	1.0 wet
Hilf Density Ratio (%)	<b>101.0</b>	<b>97.0</b>	<b>100.0</b>	<b>97.0</b>	<b>96.5</b>	<b>102.0</b>

### Comments



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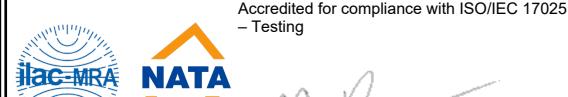
Report No: HDR:W21DS03000

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 12  
**Project No.:** 1016363.012

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 16/09/2021  
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### Sample Details

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

### Sample Data

Sample ID	S21DS-11192	S21DS-11193				
Field Sample ID	7	8				
Date Tested	15/09/2021	15/09/2021				
E:	356548	356529.975				
N:	5778069	5778061.505				
RL / Layer:	10.61	9.723				
Lot:	547	-				

### 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	2.00				
Peak Converted Wet Density (t/m³)	2.02	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 wet	0.5 wet				
Hilf Density Ratio (%)	<b>99.5</b>	<b>99.5</b>				

### Comments



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Report No: HDR:W21DS03013

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



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M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 17/09/2021  
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### 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

<b>Sample ID</b>	S21DS-11235	S21DS-11236	S21DS-11237			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	16/09/2021	16/09/2021	16/09/2021			
<b>E:</b>	356566.525	357011.492	356538.766			
<b>N:</b>	5778118.053	5777990.718	5778047.930			
<b>Lot:</b>	-	-	546			
<b>Elv:</b>	9.257	9.114	9.917			

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>Field Wet Density (t/m³)</b>	2.02	1.98	2.01			
<b>Peak Converted Wet Density (t/m³)</b>	1.99	2.02	2.03			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	0.5 wet	2.0 wet	2.5 wet			
<b>Hilf Density Ratio (%)</b>	<b>101.5</b>	<b>98.0</b>	<b>99.0</b>			

### Comments



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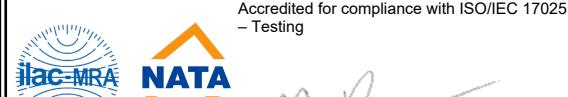
Report No: HDR:W21DS03028

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 12  
**Project No.:** 1016363.012

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 23/09/2021  
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### Sample Details

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

### Sample Data

Sample ID	S21DS-11264	S21DS-11265				
Field Sample ID	1	2				
Date Tested	17/09/2021	17/09/2021				
E:	356554.607	356969.745				
N:	5778120.446	5778041.562				
RL / Layer:	9.511	9.422				

### 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	1.98				
Peak Converted Wet Density (t/m³)	2.02	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 wet	2.5 wet				
Hilf Density Ratio (%)	<b>99.5</b>	<b>97.5</b>				

### Comments



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Report No: HDR:W21DS03211

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:** CG Request No.:

**TRN:** Lot No.:



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M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 4/11/2021  
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### 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:** Silty Clay

### Sample Data

Sample ID	S21DS-11847	S21DS-11848				
Field Sample ID	1	2				
Date Tested	19/10/2021	19/10/2021				
E:	356565	356567				
N:	5777989	5777971				
RL / Layer:	9.121 / 1	9.216 / 2				

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Wet Density (t/m³)	1.99	2.00				
Peak Converted Wet Density (t/m³)	2.00	2.02				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 wet	0.0				
HILF Density Ratio (%)	<b>99.5</b>	<b>99.5</b>				

### Comments



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Report No: HDR:W21DS03222

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 21/10/2021  
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### 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:** Silty Clay

### Sample Data

<b>Sample ID</b>	S21DS-11869	S21DS-11870			
<b>Field Sample ID</b>	1	2			
<b>Date Tested</b>	20/10/2021	20/10/2021			
<b>E:</b>	356529	356537			
<b>N:</b>	577807	5778053			
<b>RL / Layer:</b>	10.532 / -	10.523 / -			
<b>Lot:</b>	Reserve	544			
<b>Other:</b>	-	-			

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175			
<b>Depth of Layer (mm)</b>	200	200			
<b>Field Wet Density (t/m³)</b>	1.99	2.10			
<b>Peak Converted Wet Density (t/m³)</b>	2.05	2.10			
<b>Compactive Effort</b>	Standard	Standard			
<b>Moisture Variation (%)</b>	2.0 wet	2.5 wet			
<b>HILF Density Ratio (%)</b>	<b>97.0</b>	<b>100.0</b>			

### Comments



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Report No: HDR:W21DS03243

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**

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M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 25/10/2021  
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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Silty Clay

### Sample Data

Sample ID	S21DS-11931	S21DS-11932	S21DS-11933			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	22/10/2021	22/10/2021	22/10/2021			
<b>E:</b>	356553	356538	356549			
<b>N:</b>	5778040	5778059	5778094			
<b>RL / Layer:</b>	10.447 / FSL	10.821 / FSL	11.051 / FSL			
<b>Lot:</b>	543	545	546			

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	2.02	2.01	2.04			
<b>Peak Converted Wet Density (t/m³)</b>	2.10	2.10	2.11			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	3.0 wet	3.0 wet	3.0 wet			
<b>Hilf Density Ratio (%)</b>	<b>96.5</b>	<b>96.0</b>	<b>96.5</b>			

### Comments



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Report No: HDR:W21DS03290

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - All Stages  
**Project No.:** 1016363

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 4/11/2021  
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### Sample Details

**Location:** Wetland and Road Reserves  
**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-12078	S21DS-12079	S21DS-12080	S21DS-12081	
Field Sample ID	1	2	3	4	
Date Tested	26/10/2021	26/10/2021	26/10/2021	26/10/2021	
E:	356567	356552	356576	356556	
N:	5777935	5777988	5778115	5777949	
RL:	9.228	8.393	9.662	9.546	
	Wetland Reserve	Wetland Reserve	Road Reserve	Wetland Reserve	

### Field and Laboratory Data

Depth of Test (mm)	225	225	225	225	
Depth of Layer (mm)	250	250	250	250	
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	
Oversize Wet (%)	0	0	0	0	
Field Wet Density (t/m³)	1.99	2.12	2.00	2.04	
Peak Converted Wet Density (t/m³)	2.06	2.19	2.03	2.09	
Compactive Effort	Standard	Standard	Standard	Standard	
Moisture Variation (%)	3.0 wet	2.5 wet	2.5 wet	2.5 wet	
Hilf Density Ratio (%)	<b>96.5</b>	<b>96.5</b>	<b>98.0</b>	<b>97.5</b>	

### Comments



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Report No: HDR:W21DS03298

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - All Stages  
**Project No.:** 1016363

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### Sample Details

**Location:** Wetland and Road Reverves  
**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-12138	S21DS-12139	S21DS-12140			
Field Sample ID	1	2	3			
Date Tested	27/10/2021	27/10/2021	27/10/2021			
E:	356547	356545	356564			
N:	5778121	5777986	5777943			
RL:	9.870	8.959	9.762			
	Road Reserve	Wetland Reserve	Wetland Reserve			

### Field and Laboratory Data

Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
Field Wet Density (t/m³)	2.05	2.00	2.01			
Peak Converted Wet Density (t/m³)	2.02	2.06	2.03			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.5 wet	2.5 wet	3.0 wet			
Hilf Density Ratio (%)	<b>101.5</b>	<b>97.5</b>	<b>99.0</b>			

### Comments



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**Report No: HDR:W21DS03316**

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - All Stages  
**Project No.:** 1016363

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### Sample Details

**Location:** Wetland and Road Reserve  
**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-12183	S21DS-12184				
Field Sample ID	1	2				
Date Tested	28/10/2021	28/10/2021				
E:	356561	356566				
N:	5778118	5777917				
RL:	9.965	9.895				
	Road Reserve	Conservation Reserve				

### Field and Laboratory Data

Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Wet Density (t/m³)	2.02	2.01				
Peak Converted Wet Density (t/m³)	2.04	2.07				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	3.0 wet	3.0 wet				
Hilf Density Ratio (%)	<b>99.0</b>	<b>97.5</b>				

### Comments



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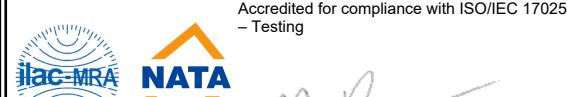
Report No: HDR:W21DS03349

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.005

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 4/11/2021  
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### 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:** Silty Clay

### Sample Data

Sample ID	S21DS-12314					
Field Sample ID	1					
Date Tested	3/11/2021					
E:	5778013					
N:	356532					
RL / Layer:	9.819					
Lot:	Reserve					

### 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)	2.07					
Peak Converted Wet Density (t/m³)	2.09					
Compactive Effort	Standard					
Moisture Variation (%)	2.0 wet					
Hilf Density Ratio (%)	98.5					

### Comments



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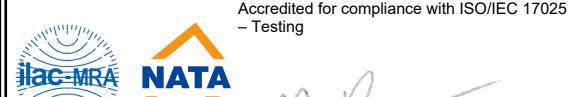
Report No: HDR:W21DS03350

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield - Stage 6  
**Project No.:** 1016363.006

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 4/11/2021  
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### 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:** Silty Clay

### Sample Data

Sample ID	S21DS-12315	S21DS-12316				
Field Sample ID	1	2				
Date Tested	3/11/2021	3/11/2021				
E:	356569	356596				
N:	5778117	5778113				
RL / Layer:	8.107	10.223				

### 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)	2.07	2.03				
Peak Converted Wet Density (t/m³)	2.08	2.06				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 wet	3.0 wet				
Hilf Density Ratio (%)	<b>99.5</b>	<b>98.5</b>				

### Comments



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Report No: HDR:W21DS03392

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.005

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### 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 Clay  
**Material:**

### Sample Data

Sample ID	S21DS-12485	S21DS-12486				
Field Sample ID	1	2				
Date Tested	9/11/2021	9/11/2021				
E:	5778021	5777989				
N:	356531	356547				
RL:	10.601	10.293				
	Reserve	Reserve				
	FSL	FSL				

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
Field Wet Density (t/m³)	1.98	1.97				
Peak Converted Wet Density (t/m³)	1.96	1.94				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 wet	2.5 wet				
HILF Density Ratio (%)	<b>101.0</b>	<b>101.5</b>				

### Comments



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Report No: HDR:W21DS03529

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate Clyde - Stage 4

**Project No.:** 1016363.004

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

M. Robinson

Accreditation Number: 12719 Approved Signatory: M. Robinson  
Site Number: 12712 (Team Leader) Date of Issue: 1/12/2021  
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### Sample Details

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

### Sample Data

Sample ID	S21DS-12997	S21DS-12998				
Field Sample ID	1	2				
Date Tested	29/11/2021	29/11/2021				
E:	356611	356639				
N:	5777914	5777912				
RL:	10.176	10.211				
Lot:	443	441				

### 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)	1.94	2.04				
Peak Converted Wet Density (t/m³)	2.06	2.07				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 dry	0.5 dry				
Hilf Density Ratio (%)	<b>94.0</b>	<b>98.0</b>				

### Comments



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Report No: HDR:W21DS03530

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 5

**Project No.:** 1016363.005

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



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– Testing

Accreditation Number:  
12719

Approved Signatory: M. Robinson  
(Team Leader)

Site Number: 12712

Date of Issue: 1/12/2021

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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum Hilf Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Silty Clay

### Sample Data

Sample ID	S21DS-12999	S21DS-13000	S21DS-13001			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	29/11/2021	29/11/2021	29/11/2021			
<b>E:</b>	356652	356663	356620			
<b>N:</b>	5777980	5777952	5777948			
<b>RL:</b>	10.215	10.379	10.181			
<b>Lot:</b>	506	505	503			

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	2.02	2.06	2.04			
<b>Peak Converted Wet Density (t/m³)</b>	2.08	2.02	2.01			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	0.5 wet	0.5 wet	0.0			
<b>Hilf Density Ratio (%)</b>	<b>97.0</b>	<b>102.0</b>	<b>101.5</b>			

### Comments



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Report No: HDR:W21DS03537

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.005

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### 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:** Silty Clay

### Sample Data

Sample ID	S21DS-13010					
Field Sample ID	1					
Date Tested	30/11/2021					
E:	356621					
N:	5777987					
RL:	10.112					
Lot:	542					

### 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)	2.03					
Peak Converted Wet Density (t/m³)	2.12					
Compactive Effort	Standard					
Moisture Variation (%)	1.0 dry					
Hilf Density Ratio (%)	96.0					

### Comments



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Report No: HDR:W21DS03538

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate Clyde - Stage 4

**Project No.:** 1016363.004

**Order No.:** CG Request No.:

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number: 12719 Approved Signatory: J. Lamont  
(Dandenong Laboratory Manager)  
Site Number: 12712 Date of Issue: 14/04/2022  
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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum HILF Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Onsite

**Material:** Silty Clay

### Sample Data

Sample ID	S21DS-13011	S21DS-13012	S21DS-13013			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	30/11/2021	30/11/2021	30/11/2021			
E:	356610	356642	356681			
N:	5777915	5777918	5777949			
RL:	10.231	10.181	10.261			
Lot:	443	439	436			
Other:	Retest					

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	1.86	1.94	2.13			
<b>Peak Converted Wet Density (t/m³)</b>	1.96	2.03	2.13			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	0.0	0.0	0.0			
<b>HILF Density Ratio (%)</b>	<b>95.0</b>	<b>95.5</b>	<b>100.0</b>			

### Comments



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Report No: HDR:W21DS03608

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 5  
**Project No.:** 1016363.005

**Order No.:** CG Request No.:  
**TRN:** Lot No.:



### 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-13290					
Field Sample ID	1					
Date Tested	7/12/2021					
E:	356619					
N:	5778046					
RL	10.479					
Lot:	534					

### 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)	2.10					
Peak Converted Wet Density (t/m³)	2.12					
Compactive Effort	Standard					
Moisture Variation (%)	2.0 wet					
Hilf Density Ratio (%)	99.0					

### Comments



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Report No: HDR:W21DS03611

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 12

**Project No.:** 1016363.012

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



Accredited for compliance with ISO/IEC 17025  
– Testing

M R

Accreditation Number:  
12719

Site Number: 12712

Approved Signatory: M. Robinson  
(Team Leader)

Date of Issue: 9/12/2021

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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:** Minimum HILF Density Ratio of 95% (+/- 3% of OMC)

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

**Sampling Method:** AS1289.1.2.1 Clause 6.4 (b)

**Source:** Imported

**Material:** Sandy Clay

### Sample Data

<b>Sample ID</b>	S21DS-13294	S21DS-13297	S21DS-13298			
<b>Field Sample ID</b>	1	4	5			
<b>Date Tested</b>	7/12/2021	7/12/2021	7/12/2021			
<b>E:</b>	356991.906	3507002	356797			
<b>N:</b>	5777931.323	5778017	5778022			
<b>RL / Layer:</b>	8.723 / -	9.479 / FSL-0.485	9.589 / FSL-0.400m			
<b>Lot:</b>	1217	-	-			

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	2.00	2.02	2.08			
<b>Peak Converted Wet Density (t/m³)</b>	2.10	2.10	2.11			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	4.0 wet	0.5 wet	0.5 wet			
<b>HILF Density Ratio (%)</b>	<b>95.0</b>	<b>96.0</b>	<b>98.5</b>			

### Comments

## Appendix D: Controlled Fill certificate



## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT	: Lot No's: 501 to 549 Riverfield Estate, Stage 5	Chadwick Geotechnics REF: 1016363.005.v2
CLIENT	: Grosvenor Lodge Pty Ltd PO Box 4136 DANDENONG SOUTH VIC 3164	DATE : 16 May 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 top soil).

This report is based on the conditions present and factors affecting the soil at the time of inspection (19 January 2021 to the 7 December 2021). 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

A handwritten signature in black ink that reads "Robert Barden".

Robert Barden  
Project Manager

A handwritten signature in blue ink that reads "Timothy Chadwick".

Timothy Chadwick  
Project Director

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