



# REPORT

## **Level 1 Geotechnical Testing Authority Inspection Services**

**Riverfield Estate Stage 9, Lots 901 to 948  
Clyde**

**Prepared for:**  
**Grosvenor Lodge Pty Ltd**

**10 October 2022**  
Our Ref: 1016363.009.v1

## 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 9 of the Estate during construction.

The project included the preparation and general earthwork filling of the site. This report presents the earthworks supervision methods and density testing results for residential lot numbers 901 to Lot 948 within the Stage 9 site.

The earthworks were completed between 16 December 2020 and 14 September 2022.

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

## 2 Project details

The Riverfield Estate is located in Clyde. Stage 9 is located to the east of Stage 2. The stage is being developed as a residential development.

A site plan of the working area is attached in Appendix A.

### 2.2 Fill Specifications

A summary of the specification is shown below:

- All filling in excess of 300mm depth shall be constructed to specifications satisfying the requirements of AS 3798-2007 “Guidelines on Earthworks for Commercial and Residential Developments”.
- All filling works shall be undertaken with supervision to the standard detailed as “Level 1 Inspection and Testing” in AS 3798-2007, such that the supervisor will issue a notice detailing that the works comply with the specifications and drawings.
- The fill soils to comply with the ‘Suitable Material’ in accordance with Section 4.4 of the AS3798-2007, and the following:
  - Maximum particle size of 150mm.
  - Particles over 37.5mm diameter not to exceed 20% of the material.
  - Organic soils, topsoil, silts, or soils containing organic matter, wood, plastics, metal or other deleterious materials are not acceptable.
- Subgrade to be proof rolled in presence of the Level 1 Inspector prior to the placement of engineered fill.
- Fill to be compacted in near horizontal layers.
- Compaction to achieve a ratio of at least 95% Standard MDD (maximum dry density).
- Frequency of testing to be in accordance with Table 8.1 of AS3798-2007.

## 2.3 Roles

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

**Table 2.1 Project roles**

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

## 2.4 Source of material

The material used on site was imported from local 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 9 filling operations commenced on 16 December 2020 and was completed on 14 September 2022. During this period Chadwick Geotechnics was on site at all times, (except when there were no earthworks) and observed the earthworks, the placing of fill including the supply of material, conditioning of material (moisture conditioning and oversize removal), placement and compaction of the fill material.

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

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



Photograph 2.7.1:

Material Placement



Photograph 2.7.2:

Material Compaction

## 2.8 Earthwork equipment

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

## 2.9 Geotechnical sampling and testing

Field density and moisture content testing was carried out using a calibrated portable density and moisture gauge in accordance with AS 1289.5.8.1. The Hilf rapid compaction test was used for peak converted wet density determination in accordance with AS 1289.5.7.1. Test locations were recorded using hand held GPS units. A site plan showing the field density test locations is provided in Appendix A. A summary of Hilf density testing is presented in Appendix B and the Hilf density test reports are presented in Appendix C.

A total of 134 tests were performed across the Stage 9 and surrounding area during the filling process.

The results show that 5 tests failed to meet the specification requirements for Stage 9 works. The earthworks contractor was advised of the tests that failed and the fill relevant to the areas were reworked, reconditioned, re-compacted and subsequently retested. The results showed that the re-tests achieved the specification requirements for the project.

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

### **3 Conclusion**

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

- The materials used by the earthworks contractor met the geotechnical property requirements of the specification.
- The fill material placed was tested at a suitable frequency in accordance with AS 3798-2007-Table 8.1 and the results indicate the compacted material achieved the minimum density requirement of the specification.
- Given the consistent construction practices followed by the earthworks contractor, and as witnessed by Chadwick Geotechnics, combined with the satisfactory verification of test results achieved, it is inferred that areas of the site between test locations were performed to the same standard as those areas that have been tested.

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

### **4 Applicability**

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

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

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

Chadwick Geotechnics Pty Ltd

Report prepared by:



Robert Barden  
Project Manager

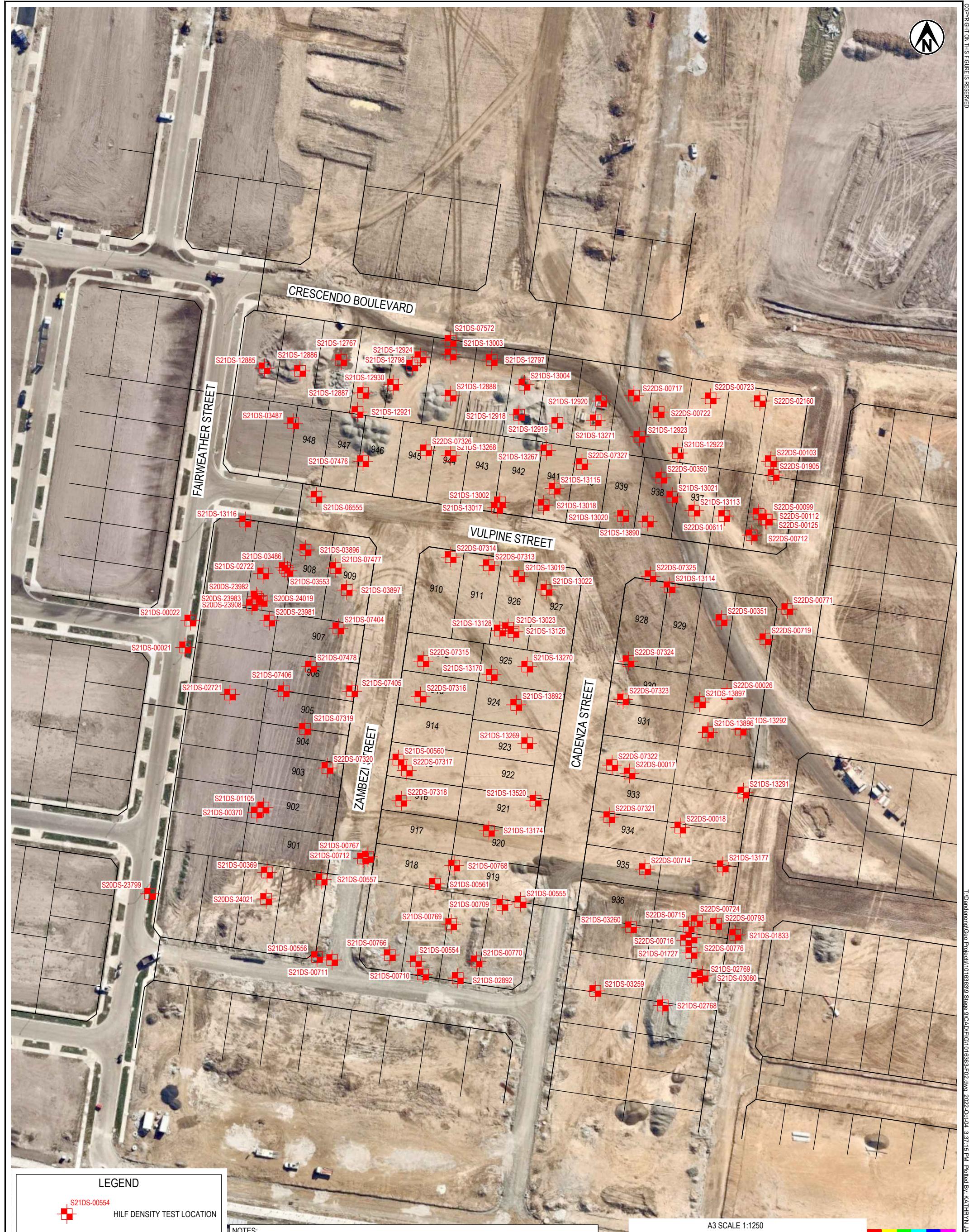
Authorised for Chadwick Geotechnics Pty Ltd by:



Tim Chadwick  
Project Director

## **Appendix A : Location Plan**

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## **Appendix B : Hilf Density Test Summary**

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## Hilf Summary Table

1016363.009- Riverfield Estate Stage 9

Chadwick Geotechnics  
25 Metcalf Street  
Dandenong South VIC 3175  
Tel : ( 03 ) 8796 7900  
Fax: ( 03 ) 8796 7944



Report No	Sample No	Date	Location [E]	Location [N]	Layer RL	Density Ratio HILF test ( $\geq 95\%$ )	Moisture Variation From OMC	Pass / Fail	Remarks
HDR:W20DS06567	S20DS-23799	16/12/2020	356825	5777651	8.51	96	2 wet	Pass	
HDR:W20DS06588	S20DS-23908	17/12/2020	356865	5777759	7.32	92.5	0 wet	Fail	See Retest 24019
HDR:W20DS06610	S20DS-23981	18/12/2020	356869	5777751	8.42	98	3 wet	Pass	
HDR:W20DS06610	S20DS-23982	18/12/2020	356864	5777760	7.93	99	2.5 wet	Pass	
HDR:W20DS06610	S20DS-23983	18/12/2020	356862	5777756	7.68	100.5	0 wet	Pass	
HDR:W20DS06620	S20DS-24019	21/12/2020	356866	5777758	7.3	103.5	0 dry	Pass	Retest of 23908
HDR:W20DS06620	S20DS-24021	21/12/2020	356868	5777649	8.47	100	1 wet	Pass	
HDR:W21DS00004	S21DS-00021	4/01/2021	356838	5777741	8.91	99.5	0.5 wet	Pass	
HDR:W21DS00004	S21DS-00022	4/01/2021	356840	5777751	8.69	101	0 wet	Pass	
HDR:W21DS00086	S21DS-00369	13/01/2021	356868	5777659	8.69	97	2.5 wet	Pass	
HDR:W21DS00086	S21DS-00370	13/01/2021	356864	5777681	9.15	91	2.5 wet	Fail	See Retest 01105
HDR:W21DS00124	S21DS-00554	14/01/2021	356922	5777626	8.1	104	0 dry	Pass	
HDR:W21DS00124	S21DS-00555	14/01/2021	356961	5777648	8.06	98	0 dry	Pass	
HDR:W21DS00124	S21DS-00556	14/01/2021	356886	5777628	8.6	100.5	0 dry	Pass	
HDR:W21DS00124	S21DS-00557	14/01/2021	356888	5777656	8.42	99.5	0 dry	Pass	
HDR:W21DS00124	S21DS-00560	14/01/2021	356916	5777700	8.51	102	1 wet	Pass	
HDR:W21DS00124	S21DS-00561	14/01/2021	356929	5777655	8.1	98.5	1 wet	Pass	
HDR:W21DS00160	S21DS-00709	15/01/2021	356954	5777647	8.21	99.5	2.5 wet	Pass	
HDR:W21DS00160	S21DS-00710	15/01/2021	356925	5777622	8.37	96.5	2.5 wet	Pass	
HDR:W21DS00160	S21DS-00711	15/01/2021	356892	5777627	8.43	98	2 wet	Pass	
HDR:W21DS00160	S21DS-00712	15/01/2021	356903	5777664	8.61	98.5	1 wet	Pass	
HDR:W21DS00176	S21DS-00766	18/01/2021	356913	5777629	8.79	96	0 wet	Pass	
HDR:W21DS00176	S21DS-00767	18/01/2021	356905	5777665	9.09	96.5	0 dry	Pass	
HDR:W21DS00176	S21DS-00768	18/01/2021	356936	5777661	8.82	101.5	0.5 dry	Pass	
HDR:W21DS00176	S21DS-00769	18/01/2021	356935	5777640	8.68	98	0.5 dry	Pass	
HDR:W21DS00176	S21DS-00770	18/01/2021	356945	5777626	8.57	101	0.5 dry	Pass	
HDR:W21DS00262	S21DS-01105	22/01/2021	356867	5777683	9.24	100	0.5 wet	Pass	Retest of 00370



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Report No	Sample No	Date	Location [E]	Location [N]	Layer RL	Density Ratio HILF test ( $\geq 95\%$ )	Moisture Variation From OMC	Pass / Fail	Remarks
HDR:W21DS00410	S21DS-01727	4/02/2021	357023	5777629	7.87	99	0.5 dry	Pass	
HDR:W21DS00439	S21DS-01833	5/02/2021	357039	5777636	R.L 7.57m	101	1 wet	Pass	
HDR:W21DS00675	S21DS-02721	19/02/2021	356854	5777724	8.91	99	0 dry	Pass	
HDR:W21DS00675	S21DS-02722	19/02/2021	356867	5777768	8.89	98.5	2 wet	Pass	
HDR:W21DS00687	S21DS-02768	22/02/2021	357013	5777610	7.95	96	2.5 wet	Pass	
HDR:W21DS00687	S21DS-02769	22/02/2021	357025	5777620	7.94	93.5	0.5 dry	Fail	See Retest 03080
HDR:W21DS00720	S21DS-02892	24/02/2021	356938	5777620	8.95	101	3 wet	Pass	
HDR:W21DS00772	S21DS-03080	1/03/2021	357027	5777621	8.06	97	2.5 wet	Pass	Retest of 02769
HDR:W21DS00812	S21DS-03259	3/03/2021	356988	5777616	8.62	100.5	0 dry	Pass	
HDR:W21DS00812	S21DS-03260	3/03/2021	357001	5777639	8.52	99.5	2 wet	Pass	
HDR:W21DS00867	S21DS-03486	5/03/2021	356874	5777770	9.6	94	0.5 wet	Fail	See Retest 3553
HDR:W21DS00867	S21DS-03487	5/03/2021	356878	5777823	9.41	96.5	0.5 wet	Pass	
HDR:W21DS00881	S21DS-03553	9/03/2021	356875	5777769	9.32	102.5	2.5 dry	Pass	Retest of 03486
HDR:W21DS01764	S21DS-06555	14/05/2021	356886	5777796		102	2.5 wet	Pass	
HDR:W21DS02010	S21DS-07404	1/06/2021	356894	5777748	Elv. 8.46	101.5	0.5 wet	Pass	
HDR:W21DS02010	S21DS-07405	1/06/2021	356899	5777725	Elv. 8.27	95	0.5 wet	Pass	
HDR:W21DS02010	S21DS-07406	1/06/2021	356874	5777725	Elv. 9.19	101.5	2 wet	Pass	
HDR:W21DS02035	S21DS-07476	2/06/2021	356903	5777809	8.94	96.5	0.5 dry	Pass	
HDR:W21DS02035	S21DS-07477	2/06/2021	356893	5777770	9.17	95.5	3 wet	Pass	
HDR:W21DS02035	S21DS-07478	2/06/2021	356884	5777734	9.44	95	3 wet	Pass	
HDR:W21DS02063	S21DS-07572	3/06/2021	356935	5777853	8.47	97.5	2.5 wet	Pass	
HDR:W21DS03467	S21DS-12767	23/11/2021	356895	5777846	09.20 / 1	104	2 dry	Pass	
HDR:W21DS03475	S21DS-12797	24/11/2021	356950	5777846	8.675	100.5	0 dry	Pass	
HDR:W21DS03475	S21DS-12798	24/11/2021	356921	5777844	8.704	105.5	0 dry	Pass	
HDR:W21DS03493	S21DS-12885	25/11/2021	356867	5777843	9.285 / 1	96.5	2.5 wet	Pass	
HDR:W21DS03493	S21DS-12886	25/11/2021	356880	5777842	9.260 / 4	104	0.5 dry	Pass	
HDR:W21DS03493	S21DS-12887	25/11/2021	356903	5777834	9.020 / 1	98	0 dry	Pass	



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HDR:W21DS03493	S21DS-12888	25/11/2021	356935	5777833	36 / 1 (FSL-0.45)	99.5	1.5 dry	Pass	
HDR:W21DS03502	S21DS-12918	26/11/2021	356960	5777826	3.415 / FSL-0.8r	99	0.5 wet	Pass	
HDR:W21DS03502	S21DS-12919	26/11/2021	356974	5777823	3.329 / FSL-0.9r	104	0 dry	Pass	
HDR:W21DS03502	S21DS-12920	26/11/2021	356990	5777831	3.365 / FSL-0.7r	100	2.5 dry	Pass	
HDR:W21DS03502	S21DS-12921	26/11/2021	356901	5777827	3.190 / FSL-0.9r	102	2.5 dry	Pass	
HDR:W21DS03502	S21DS-12922	26/11/2021	357018	5777812	8.173 / 2	97.5	2.5 dry	Pass	
HDR:W21DS03502	S21DS-12923	26/11/2021	357004	5777818	8.260 / 2	99	0.5 dry	Pass	
HDR:W21DS03503	S21DS-12924	27/11/2021	356924	5777847	9.02 / 1	96.5	0.5 dry	Pass	
HDR:W21DS03503	S21DS-12930	27/11/2021	356914	5777837	9.21 / 1	103.5	2 dry	Pass	
HDR:W21DS03531	S21DS-13002	29/11/2021	356953	5777794	3.535 / FSL-0.7r	96.5	0.5 wet	Pass	
HDR:W21DS03532	S21DS-13003	29/11/2021	356935	5777848	8.921	99	0 dry	Pass	
HDR:W21DS03532	S21DS-13004	29/11/2021	356962	5777837	8.85	98	0 dry	Pass	
HDR:W21DS03542	S21DS-13017	30/11/2021	356952	5777792	8.417	97	1.5 wet	Pass	
HDR:W21DS03542	S21DS-13018	30/11/2021	356969	5777793	8.16	97.5	1.5 wet	Pass	
HDR:W21DS03542	S21DS-13019	30/11/2021	356960	5777767	8.431	95.5	2 wet	Pass	
HDR:W21DS03542	S21DS-13020	30/11/2021	356998	5777789	8.085	98.5	1.5 wet	Pass	
HDR:W21DS03542	S21DS-13021	30/11/2021	357016	5777796	8.141	96	1.5 wet	Pass	
HDR:W21DS03542	S21DS-13022	30/11/2021	356970	5777762	8.163	100	0 dry	Pass	
HDR:W21DS03542	S21DS-13023	30/11/2021	356956	5777748	8.428	94.5	2 wet	Fail	See Retest 13128
HDR:W21DS03558	S21DS-13113	1/12/2021	357024	5777791	1.76 / FSL-0.93	98.5	0.5 wet	Pass	
HDR:W21DS03558	S21DS-13114	1/12/2021	357015	5777763	250 / FSL-0.665	97.5	0.5 wet	Pass	
HDR:W21DS03558	S21DS-13115	1/12/2021	356973	5777799	3.750 / FSL-0.5r	98	1.5 dry	Pass	
HDR:W21DS03558	S21DS-13116	1/12/2021	356860	5777787	3.550 / FSL-0.6r	98	0.5 wet	Pass	
HDR:W21DS03561	S21DS-13126	2/12/2021	356958	5777747	8.84	100.5	0.5 dry	Pass	
HDR:W21DS03561	S21DS-13128	2/12/2021	356953	5777747	8.661	98.5	0 dry	Pass	Retest of 13023
HDR:W21DS03581	S21DS-13170	4/12/2021	356950	5777731	.900 / FSL-0.64	100	2.5 dry	Pass	
HDR:W21DS03581	S21DS-13174	4/12/2021	356949	5777674	.795 / FSL-0.375	95	2.5 wet	Pass	



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HDR:W21DS03585	S21DS-13177	4/12/2021	357034	5777661	.917 / FSL-0.62	97.5	3 wet	Pass	
HDR:W21DS03600	S21DS-13267	6/12/2021	356970	5777813	845 / FSL-0.550	99	2.5 wet	Pass	
HDR:W21DS03600	S21DS-13268	6/12/2021	356935	5777811	190 / FSL-0.250	101	0 wet	Pass	
HDR:W21DS03600	S21DS-13269	6/12/2021	356963	5777706	755 / FSL-0.504	96.5	2 wet	Pass	
HDR:W21DS03600	S21DS-13270	6/12/2021	356963	5777734	942 / FSL-0.300	95	0 dry	Pass	
HDR:W21DS03601	S21DS-13271	6/12/2021	356988	5777824	499 / FSL-0.560	101.5	0.5 dry	Pass	
HDR:W21DS03609	S21DS-13291	7/12/2021	357042	5777688	131 / FSL-0.850	97	3 wet	Pass	
HDR:W21DS03609	S21DS-13292	7/12/2021	357041	5777711	1.199 / FSL-760	98.5	0.5 wet	Pass	
HDR:W21DS03676	S21DS-13520	14/12/2021	356966	5777685		101	1 dry	Pass	
HDR:W21DS03788	S21DS-13890	22/12/2021	357007	5777787	8.790 / -	102	0.5 wet	Pass	
HDR:W21DS03788	S21DS-13891	22/12/2021	356959	5777720	9.283 / -	96	2 wet	Pass	
HDR:W21DS03788	S21DS-13892	22/12/2021	356959	5777720	9.283 / -	96.5	0 wet	Pass	
HDR:W21DS03790	S21DS-13896	22/12/2021	357029	5777710	8.764 / -	98.5	0 wet	Pass	
HDR:W21DS03790	S21DS-13897	22/12/2021	357026	5777721	8.502 / -	98	1 wet	Pass	
HDR:W22DS00004	S22DS-00017	6/01/2021	357000	5777695	9.15 / -	103	1 dry	Pass	
HDR:W22DS00004	S22DS-00018	6/01/2021	357019	5777675	9.23 / -	98	2.5 dry	Pass	
HDR:W22DS00009	S22DS-00026	7/01/2022	357036	5777724	EL. 8.96	100	1.5 dry	Pass	
HDR:W22DS00031	S22DS-00099	11/01/2022	357048	5777790	EL. 7.63	96.5	0 dry	Pass	
HDR:W22DS00030	S22DS-00103	11/01/2022	357052	5777809	EL. 7.80	98	0 wet	Pass	
HDR:W22DS00038	S22DS-00112	12/01/2022	357050	5777788	EL. 7.85	100	0 dry	Pass	
HDR:W22DS00041	S22DS-00125	13/01/2022	357051	5777788	EL. 8.37	101	0.5 wet	Pass	
HDR:W22DS00098	S22DS-00350	20/01/2022	357012	5777803	9.103	97	2 dry	Pass	
HDR:W22DS00098	S22DS-00351	20/01/2022	357034	5777751	8.779	95	2.5 dry	Pass	
HDR:W22DS00179	S22DS-00611	1/02/2022	357035	5777789	7.87	100	0 wet	Pass	
HDR:W22DS00204	S22DS-00712	3/02/2022	357045	5777782	8.591	96.5	0.5 wet	Pass	
HDR:W22DS00205	S22DS-00714	3/02/2022	357006	5777660	7.871	97	0.5 wet	Pass	
HDR:W22DS00205	S22DS-00715	3/02/2022	357022	5777639	8.926	97.5	3 wet	Pass	



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



Report No	Sample No	Date	Location [E]	Location [N]	Layer RL	Density Ratio HILF test ( $\geq 95\%$ )	Moisture Variation From OMC	Pass / Fail	Remarks
HDR:W22DS00205	S22DS-00716	3/02/2022	357021	5777634	9.023	104	2 wet	Pass	
HDR:W22DS00206	S22DS-00717	3/02/2022	357002	5777833	8.691	102	2.5 wet	Pass	
HDR:W22DS00208	S22DS-00719	2/02/2022	357050	5777744	7.902	98	0.5 wet	Pass	
HDR:W22DS00209	S22DS-00722	2/02/2022	357011	5777827	8.266	102.5	0 dry	Pass	
HDR:W22DS00209	S22DS-00723	2/02/2022	357030	5777832	8.58	101	0 dry	Pass	
HDR:W22DS00210	S22DS-00724	2/02/2022	357025	5777641	8.645	104	2 dry	Pass	
HDR:W22DS00222	S22DS-00771	4/02/2022	357058	5777755	8.397	101.5	0.5 dry	Pass	
HDR:W22DS00224	S22DS-00776	4/02/2022	357023	5777635	8.96	101	1 wet	Pass	
HDR:W22DS00230	S22DS-00793	7/02/2022	357032	5777640	8.84	97.5	2 wet	Pass	
HDR:W22DS00587	S22DS-01905	11/03/2022	357053	5777804	9.055	102.5	0.5 dry	Pass	
HDR:W22DS00658	S22DS-02160	21/03/2022	357048	5777831	8.854	100.5	0 wet	Pass	
HDR:W22DS01844	S22DS-07313	14/09/2022	356949	5777771		103	0.5 dry	Pass	
HDR:W22DS01844	S22DS-07314	14/09/2022	356935	5777774		100.5	0.5 wet	Pass	
HDR:W22DS01844	S22DS-07315	14/09/2022	356925	5777736		98.5	2 wet	Pass	
HDR:W22DS01844	S22DS-07316	14/09/2022	356924	5777723		99	0 wet	Pass	
HDR:W22DS01844	S22DS-07317	14/09/2022	356919	5777696		104.5	1.5 wet	Pass	
HDR:W22DS01844	S22DS-07318	14/09/2022	356917	5777685		102.5	0.5 wet	Pass	
HDR:W22DS01844	S22DS-07319	14/09/2022	356882	5777711		97.5	0 wet	Pass	
HDR:W22DS01844	S22DS-07320	14/09/2022	356890	5777697		101.5	2.5 wet	Pass	
HDR:W22DS01844	S22DS-07321	14/09/2022	356993	5777679		96	0 dry	Pass	
HDR:W22DS01844	S22DS-07322	14/09/2022	356994	5777698		99.5	1 dry	Pass	
HDR:W22DS01844	S22DS-07323	14/09/2022	356998	5777722		98.5	0 dry	Pass	
HDR:W22DS01844	S22DS-07324	14/09/2022	357000	5777736		105	2 dry	Pass	
HDR:W22DS01844	S22DS-07325	14/09/2022	357008	5777767		102.5	1.5 dry	Pass	
HDR:W22DS01844	S22DS-07326	14/09/2022	356926	5777813		99	0.5 dry	Pass	
HDR:W22DS01844	S22DS-07327	14/09/2022	356983	5777808		97	0.5 dry	Pass	

## **Appendix C: NATA endorsed laboratory reports**

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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:W20DS06567

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 1

**Project No.:** 1016363.1000

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation No.12712

Approved Signatory: M. Longfield

(Senior Technician)

12712

Date of Issue: 23/12/2020

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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	S20DS-23795	S20DS-23796	S20DS-23797	S20DS-23798	S20DS-23799
<b>Field Sample ID</b>	1	2	3	4	5
<b>Date Tested</b>	16/12/2020	16/12/2020	16/12/2020	16/12/2020	16/12/2020
<b>E:</b>	356765.5	356770.8	356753.4	356814.6	356825.2
<b>N:</b>	5777607.6	5777642.7	5777686.1	5777599.8	5777651
<b>RL:</b>	8.86	9.20	9.17	8.41	8.51
<b>Lot:</b>	110	121	136	Road	Road

### 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>	1.99	2.01	2.03	2.00	1.97
<b>Peak Converted Wet Density (t/m³)</b>	1.94	2.01	2.07	2.07	2.05
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.5 dry	1.0 wet	1.0 wet	2.0 wet	2.0 wet
<b>Hilf Density Ratio (%)</b>	<b>102.5</b>	<b>100.0</b>	<b>98.0</b>	<b>96.5</b>	<b>96.0</b>

### Comments



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:W20DS06588

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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– Testing

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

### Sample Details

**Location:**

**Client Request ID:**

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** Onsite

**Material:** Clay

### Sample Data

Sample ID	S20DS-23903	S20DS-23904	S20DS-23905	S20DS-23906	S20DS-23907	S20DS-23908
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	17/12/2020	17/12/2020	17/12/2020	17/12/2020	17/12/2020	17/12/2020
<b>E:</b>	356716.9	356749.9	356799.3	356772.6	356736	356864.6
<b>N:</b>	5777734	5777708.9	5777719.7	577769	5777719.4	5777758.7
<b>RL:</b>	8.93	9.06	8.79	9.17	9.17	7.32
<b>Lot:</b>	204	136	210	134	204	127

### 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>	1.97	1.93	2.08	2.05	1.95	1.94
<b>Peak Converted Wet Density (t/m³)</b>	1.98	1.95	2.24	2.05	2.02	2.11
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.0	2.0 dry	0.0	0.5 dry	0.5 wet	0.0
<b>Hilf Density Ratio (%)</b>	<b>99.5</b>	<b>99.0</b>	<b>93.0</b>	<b>100.0</b>	<b>96.5</b>	<b>92.5</b>

### Comments



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:W20DS06610

Issue No: 1

## HILF Density Ratio Report

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

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



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Accreditation No.12712

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

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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	S20DS-23981	S20DS-23982	S20DS-23983	S20DS-23984	S20DS-23985	S20DS-23986
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	18/12/2020	18/12/2020	18/12/2020	18/12/2020	18/12/2020	18/12/2020
<b>E:</b>	356868.8	356864.1	3556862.4	356816	356787	356745
<b>N:</b>	5777750.8	5777759.6	5777756.4	5777560	5777564	5777568
<b>RL:</b>	8.42	7.93	7.68	7.93	7.94	7.94

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	225	225	225	225	225	225
<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>	1.99	2.06	2.01	1.74	1.98	1.95
<b>Peak Converted Wet Density (t/m³)</b>	2.04	2.08	2.00	2.02	2.08	2.08
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	3.0 wet	2.5 wet	0.0	2.5 wet	2.5 wet	4.5 wet
<b>Hilf Density Ratio (%)</b>	<b>98.0</b>	<b>99.0</b>	<b>100.5</b>	<b>86.5</b>	<b>95.0</b>	<b>94.0</b>

### Comments



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:W20DS06610**

Issue No: 1

## HILF Density Ratio Report

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

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



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Approved Signatory: M. Longfield  
(Senior Technician)

### Sample Details

#### Location:

#### Client Request ID:

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** Onsite

**Material:** Clay

### Sample Data

Sample ID	S20DS-23987	S20DS-23988	S20DS-23989			
<b>Field Sample ID</b>	7	8	9			
<b>Date Tested</b>	18/12/2020	18/12/2020	18/12/2020			
E:	356725	356761	356808			
N:	5777745	5777738	5777699			
RL:	9.21	9.25	8.98			

### Field and Laboratory Data

<b>Depth of Test (mm)</b>	225	225	225			
<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	2.01	2.01			
<b>Peak Converted Wet Density (t/m³)</b>	2.04	2.07	2.09			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	0.5 wet	2.0 wet	3.0 wet			
<b>Hilf Density Ratio (%)</b>	<b>97.5</b>	<b>97.0</b>	<b>96.0</b>			

### Comments



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:W20DS06620

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 1

**Project No.:** 1016363.1000

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

**TRN:** Lot No.:



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Accreditation No.12712

Approved Signatory: M. Longfield

(Senior Technician)

12712

Date of Issue: 18/01/2021

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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	S20DS-24018	S20DS-24019	S20DS-24020	S20DS-24021	S20DS-24022
<b>Field Sample ID</b>	1	2	3	4	5
<b>Date Tested</b>	21/12/2020	21/12/2020	21/12/2020	21/12/2020	21/12/2020
<b>E:</b>	356800.6	356866	35859.7	356867.6	356744
<b>N:</b>	5777732.5	5777758	5777607.1	5777649.1	5777566.1
<b>RL:</b>	8.817	7.30	8.19	8.47	8.24
<b>Lot:</b>	211		3.16	321	103

### 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>	2.13	2.12	2.08	2.04	1.97
<b>Peak Converted Wet Density (t/m³)</b>	2.08	2.04	2.01	2.04	2.05
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.0	0.0	0.0	1.0 wet	0.5 wet
<b>Hilf Density Ratio (%)</b>	<b>102.0</b>	<b>103.5</b>	<b>103.0</b>	<b>100.0</b>	<b>96.5</b>

### Comments



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:W21DS00004

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 2  
**Project No.:** 1016363.200

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



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12712      Date of Issue: 7/01/2021  
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Approved Signatory: J. Lamont  
(Dandenong Laboratory Manager)

### Sample Details

**Location:** Riverfield Estate Stage 2  
**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-00021	S21DS-00022				
Field Sample ID	1	2				
Date Tested	4/01/2021	4/01/2021				
E	356838.0	356839.9				
N	5777741.0	5777750.8				
RL	8.91	8.69				

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Field Wet Density (t/m³)	2.00	2.06				
Peak Converted Wet Density (t/m³)	2.01	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.0				
Hilf Density Ratio (%)	<b>99.5</b>	<b>101.0</b>				

### Comments



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:W21DS00086

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 2

**Project No.:** 1016363.2000

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

**TRN:** Lot No.:



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– Testing

Accreditation No.12712

Approved Signatory: M. Longfield

(Senior Technician)

12712

Date of Issue: 19/01/2021

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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-00363	S21DS-00364	S21DS-00365	S21DS-00366	S21DS-00367	S21DS-00368
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	13/01/2021	13/01/2021	13/01/2021	13/01/2021	13/01/2021	13/01/2021
<b>E:</b>	356758.9	356758.4	356725.9	356696.6	356711.4	356739.5
<b>N:</b>	5777832.2	5777778.7	5777781.7	5777746.1	5777812.8	5777810.2
<b>RL:</b>	9.68	9.67	9.63	9.63	9.86	9.30
<b>Lot:</b>	233	237	238	203	240	240

### 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>	1.99	1.97	2.00	1.98	1.96	1.99
<b>Peak Converted Wet Density (t/m³)</b>	2.04	2.10	2.03	2.02	2.05	2.05
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.5 wet	2.0 wet	0.5 wet	0.0	2.5 wet	1.5 wet
<b>Hilf Density Ratio (%)</b>	<b>97.0</b>	<b>93.5</b>	<b>98.5</b>	<b>98.5</b>	<b>96.0</b>	<b>97.0</b>

### Comments



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:W21DS00086

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 2

**Project No.:** 1016363.2000

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

**TRN:** Lot No.:



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– Testing

Accreditation No.12712

12712

Approved Signatory: M. Longfield

(Senior Technician)

Date of Issue: 19/01/2021

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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-00369	S21DS-00370				
Field Sample ID	7	8				
Date Tested	13/01/2021	13/01/2021				
E:	356867.9	356864.2				
N:	5777658.8	5777680.7				
RL:	8.69	9.15				
Lot:	321	1002				

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Wet Density (t/m³)	2.00	1.93				
Peak Converted Wet Density (t/m³)	2.07	2.13				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 wet	2.5 wet				
Hilf Density Ratio (%)	<b>97.0</b>	<b>91.0</b>				

### Comments



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:W21DS00124

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 3

**Project No.:** 1016363.3000

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation No.12712

12712

Date of Issue: 19/01/2021

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Approved Signatory: M. Longfield  
(Senior Technician)

### Sample Details

**Location:**

**Client Request ID:**

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** Onsite

**Material:** Clay

### Sample Data

Sample ID	S21DS-00554	S21DS-00555	S21DS-00556	S21DS-00557	S21DS-00558	S21DS-00559
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021	14/01/2021
E:	356922.3	356960.5	356886.2	356887.9	356927.8	356923.9
N:	5777626.3	5777648	5777627.9	5777656.2	5777591.1	5777568
RL:	8.10	8.06	8.60	8.42	7.73	7.66
<b>Lot:</b>	324	326	322	322	311	308

### 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>	2.01	1.97	1.97	2.03	2.02	1.98
<b>Peak Converted Wet Density (t/m³)</b>	1.94	2.01	1.96	2.04	1.98	1.99
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.0	0.0	0.0	0.0	0.0	0.0
<b>Hilf Density Ratio (%)</b>	<b>104.0</b>	<b>98.0</b>	<b>100.5</b>	<b>99.5</b>	<b>102.0</b>	<b>99.5</b>

### Comments



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:W21DS00124

Issue No: 1

## HILF Density Ratio Report

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

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



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation No.12712

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

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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-00560	S21DS-00561				
Field Sample ID	7	8				
Date Tested	14/01/2021	14/01/2021				
E:	356915.9	356929.3				
N:	5777700	5777654.6				
RL:	8.51	8.10				
Lot:	1015	1018				

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Wet Density (t/m³)	2.04	2.01				
Peak Converted Wet Density (t/m³)	2.00	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 wet	1.0 wet				
Hilf Density Ratio (%)	<b>102.0</b>	<b>98.5</b>				

### Comments



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:W21DS00160

Issue No: 1

## HILF Density Ratio Report

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

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



Accredited for compliance with ISO/IEC 17025  
– Testing

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

Sample ID	S21DS-00709	S21DS-00710	S21DS-00711	S21DS-00712	S21DS-00713	S21DS-00714
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	15/01/2021	15/01/2021	15/01/2021	15/01/2021	15/01/2021	15/01/2021
<b>E:</b>	356953.9	356924.9	356891.7	356903	356951.3	356949.2
<b>N:</b>	5777647.0	5777621.5	5777626.8	5777663.9	5777593	5777570
<b>RL:</b>	8.21	8.37	8.43	8.61	8.12	8.09
<b>Lot:</b>	226	324	322	1018	310	310

### 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	1.94	1.98	2.05	2.02	2.01
<b>Peak Converted Wet Density (t/m³)</b>	2.01	2.01	2.02	2.08	2.09	2.06
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	2.5 wet	2.5 wet	2.0 wet	1.0 wet	0.0	2.5 wet
<b>Hilf Density Ratio (%)</b>	<b>99.5</b>	<b>96.5</b>	<b>98.0</b>	<b>98.5</b>	<b>96.5</b>	<b>97.5</b>

### Comments



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:W21DS00176

Issue No: 1

## HILF Density Ratio Report

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

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



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation No.12712

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

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### Sample Details

**Location:** Clyde North

**Client Request ID:**

**Specification Requirements:**

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** Onsite

**Material:** CLAY

### Sample Data

Sample ID	S21DS-00766	S21DS-00767	S21DS-00768	S21DS-00769	S21DS-00770	S21DS-00771
Field Sample ID	1	2	3	4	5	6
Date Tested	18/01/2021	18/01/2021	18/01/2021	18/01/2021	18/01/2021	18/01/2021
E:	356912.8	35604.798	356936.3	356935.2	356944.5	356925.2
N:	5777628.6	5777664.5	5777661.3	5777639.9	5777626.3	5777613.1
RL:	8.79	9.09	8.82	8.68	8.57	8.50

### Field and Laboratory Data

Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Wet Density (t/m³)	2.04	2.09	1.99	1.94	1.96	2.01
Peak Converted Wet Density (t/m³)	2.12	2.16	1.96	1.98	1.95	1.99
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.0	0.0	0.5 dry	0.5 dry	0.5 dry	0.5 dry
Hilf Density Ratio (%)	<b>96.0</b>	<b>96.5</b>	<b>101.5</b>	<b>98.0</b>	<b>101.0</b>	<b>101.0</b>

### Comments



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: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.12719

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



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: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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– Testing

Accreditation No.12712

Approved Signatory: M. Longfield

(Senior Technician)

12712

Date of Issue: 29/01/2021

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-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



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:W21DS00410

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 4

**Project No.:** 1016363.4000

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

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



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:W21DS00439

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 4

**Project No.:** 1016363.4000

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number 12719 Approved Signatory: J. A. Smith  
12712 (Senior Technician)

Date of Issue: 3/03/2021

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

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

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

Report No: HDR:W21DS00675

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 2

**Project No.:** 1016363.2000

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number

12719

(Senior Technician)

12712

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-02721	S21DS-02722				
Field Sample ID	1	2				
Date Tested	19/02/2021	19/02/2021				
E:	356854.4	356866.5				
N:	5777723.8	5777768.0				
Elv:	8.91	8.89				

### 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)	2.12	2.06				
Peak Converted Wet Density (t/m³)	2.14	2.09				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	2.0 wet				
<b>Hilf Density Ratio (%)</b>	<b>99.0</b>	<b>98.5</b>				

### Comments



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:W21DS00687

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 3

**Project No.:** 1016363.3000

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number 12719 Approved Signatory: J. A. Smith  
12712 (Senior Technician)

Date of Issue: 3/03/2021

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-02768	S21DS-02769	S21DS-02770	S21DS-02771	
Field Sample ID	1	2	3	4	
Date Tested	22/02/2021	22/02/2021	22/02/2021	22/02/2021	
E:	357012.5	357025.1	357043.7	357061.8	
N:	5777610.2	5777620.4	5777554.4	5777598.2	
Elv:	7.95	7.94	8.14	8.17	

### Field and Laboratory Data

Depth of Test (mm)	175	175	175	175	
Depth of Layer (mm)	200	200	200	200	
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	
Oversize Wet (%)	0	0	0	0	
Field Wet Density (t/m³)	1.95	1.98	2.00	1.96	
Peak Converted Wet Density (t/m³)	2.04	2.12	2.06	2.06	
Compactive Effort	Standard	Standard	Standard	Standard	
Moisture Variation (%)	2.5 wet	0.5 dry	0.0	0.0	
Hilf Density Ratio (%)	<b>96.0</b>	<b>93.5</b>	<b>97.0</b>	<b>95.5</b>	

### Comments



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:W21DS00720

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 3

**Project No.:** 1016363.3000

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number 12719 Approved Signatory: J. A. Smith  
12712 (Senior Technician)

Date of Issue: 3/03/2021

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), RC316.10

**Source:** Onsite

**Material:** CLAY

### Sample Data

Sample ID	S21DS-02892	S21DS-02893	S21DS-02894			
Field Sample ID	1	2	3			
Date Tested	24/02/2021	24/02/2021	24/02/2021			
E:	356937.6	356913.7	356872.5			
N:	5777620.2	5777589.3	5777576.6			
Elv:	8.95	8.71	8.79			

### Field and Laboratory Data

Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Wet Density (t/m³)	2.03	2.00	1.98			
Peak Converted Wet Density (t/m³)	2.01	2.04	2.12			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	3.0 wet	3.0 wet	5.0 wet			
Hilf Density Ratio (%)	<b>101.0</b>	<b>98.0</b>	<b>93.5</b>			

### Comments



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:W21DS00772

Issue No: 1

## HILF Density Ratio Report

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

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



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number 12719 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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ACN 143 009 330  
25 Metcalf Street  
DANDELONG SOUTH, VIC 3175

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

Report No: HDR:W21DS00772

Issue No: 1

## HILF Density Ratio Report

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

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



### 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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25 Metcalf Street  
DANDELONG SOUTH, VIC 3175

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

Report No: HDR:W21DS00812

Issue No: 1

## HILF Density Ratio Report

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

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



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number 12719 Approved Signatory: M. Longfield  
12712 (Senior Technician)  
Date of Issue: 9/03/2021  
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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-03259	S21DS-03260	S21DS-03261	S21DS-03262	S21DS-03263	S21DS-03264
Field Sample ID	1	2	3	4	5	6
Date Tested	3/03/2021	3/03/2021	3/03/2021	3/03/2021	3/03/2021	3/03/2021
E:	356987.86	357600.9	357197.7	356845.4	356829.4	357197.8
N:	5777615.5	5777638.8	5777598.2	5777565.9	5777555.4	5777556.5
Elv:	8.62	8.52	6.21	8.87	8.49	6.12

### Field and Laboratory Data

Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Wet Density (t/m³)	1.99	2.01	1.99	2.03	2.00	1.99
Peak Converted Wet Density (t/m³)	1.98	2.02	2.00	2.04	2.10	2.03
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.0	2.0 wet	0.5 dry	0.0	2.5 wet	0.0
Hilf Density Ratio (%)	<b>100.5</b>	<b>99.5</b>	<b>99.5</b>	<b>99.5</b>	<b>95.5</b>	<b>98.5</b>

### Comments



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

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

Report No: HDR:W21DS00867

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 3

**Project No.:** 1016363.3000

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing



Accreditation Number 12719 Approved Signatory: J. A. Smith  
12712 (Senior Technician)

Date of Issue: 9/03/2021

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### Sample Details

**Location:** Stage 3

**Client Request ID:**

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** Site Won

**Material:** Clay

### Sample Data

Sample ID	S21DS-03485	S21DS-03486	S21DS-03487			
Field Sample ID	1	2	3			
Date Tested	5/03/2021	5/03/2021	5/03/2021			
E	356860.8	356874.4	356877.5			
N	5777513.6	5777770.1	5777822.9			
EL	9.499	9.6	9.41			

### Field and Laboratory Data

Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Field Wet Density (t/m³)	2.01	1.97	2.02			
Peak Converted Wet Density (t/m³)	2.04	2.09	2.09			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 wet	0.5 wet			
Hilf Density Ratio (%)	<b>98.5</b>	<b>94.0</b>	<b>96.5</b>			

### Comments



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:W21DS00881

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.:



### 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-03549	S21DS-03550	S21DS-03551	S21DS-03552	S21DS-03553
Field Sample ID	1	2	3	4	5
Date Tested	9/03/2021	9/03/2021	9/03/2021	9/03/2021	9/03/2021
E:	357192.5	357188.8	357162.0	357165.4	356875.4
N:	5777602.8	5777583.4	5777571.7	5777605.4	5777769.0
Elv:	7.22	7.42	7.09	7.31	9.32
<b>Field and Laboratory Data</b>					
Depth of Test (mm)	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0
Field Wet Density (t/m³)	2.05	2.04	2.02	1.97	2.07
Peak Converted Wet Density (t/m³)	2.02	2.06	2.03	2.04	2.02
Compactive Effort	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	1.0 wet	0.5 wet	0.5 wet	2.0 wet	2.5 dry
Hilf Density Ratio (%)	<b>101.5</b>	<b>99.0</b>	<b>99.5</b>	<b>96.5</b>	<b>102.5</b>

### Comments



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

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

Report No: HDR:W21DS01764

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:** 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-06555	S21DS-06556				
Field Sample ID	1	2				
Date Tested	14/05/2021	14/05/2021				
E:	356886	356884				
N:	5777796	5777948				

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
Field Wet Density (t/m³)	2.05	1.85				
Peak Converted Wet Density (t/m³)	2.02	1.97				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 wet	2.5 wet				
<b>Hilf Density Ratio (%)</b>	<b>102.0</b>	<b>93.5</b>				

### Comments



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

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

Report No: HDR:W21DS02010

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

Accreditation Number: 12719 Approved Signatory: J. Lamont  
(Dandenong Laboratory Manager)  
Site Number: 12712 Date of Issue: 2/06/2021  
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### Sample Details

**Location:**

**Client Request ID:**

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** Onsite

**Material:** CLAY FILL

### Sample Data

Sample ID	S21DS-07404	S21DS-07405	S21DS-07406			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	1/06/2021	1/06/2021	1/06/2021			
<b>Location</b>	E 356894	E 356899	E 356874			
	N 5777748	N 5777725	N 5777725			
	Elv. 8.46	Elv. 8.27	Elv. 9.19			

### 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>	2.13	1.99	2.08			
<b>Peak Converted Wet Density (t/m³)</b>	2.10	2.10	2.05			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	0.5 wet	0.5 wet	2.0 wet			
<b>Hilf Density Ratio (%)</b>	<b>101.5</b>	<b>95.0</b>	<b>101.5</b>			

### Comments



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

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Report No: HDR:W21DS02035

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 10

**Project No.:** 1016363.010

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
- Testing

Accreditation Number: 12719 Approved Signatory: J. Lamont  
(Dandenong Laboratory Manager)  
Site Number: 12712 Date of Issue: 11/04/2022  
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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

Sample ID	S21DS-07475	S21DS-07476	S21DS-07477	S21DS-07478	
Field Sample ID	1	2	3	4	
Date Tested	2/06/2021	2/06/2021	2/06/2021	2/06/2021	
Sample	1	2	3	4	
E:	356812	356903	356893	356884	
N:	5777850	5777809	5777770	5777734	
EL:	8.79	8.94	9.17	9.44	

### 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)	2.07	2.09	2.07	2.05	
Peak Converted Wet Density (t/m³)	2.18	2.16	2.17	2.16	
Compactive Effort	Standard	Standard	Standard	Standard	
Moisture Variation (%)	0.0	0.5 dry	3.0 wet	3.0 wet	
Hilf Density Ratio (%)	<b>95.0</b>	<b>96.5</b>	<b>95.5</b>	<b>95.0</b>	

### Comments



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

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

Report No: HDR:W21DS02063

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 10

**Project No.:** 1016363.010

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

**TRN:** Lot No.:



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-07569	S21DS-07570	S21DS-07571	S21DS-07572	
<b>Field Sample ID</b>	1	2	3	4	
<b>Date Tested</b>	3/06/2021	3/06/2021	3/06/2021	3/06/2021	
<b>E:</b>	356932	356926	356912	356935	
<b>N:</b>	5777996	5777944	5777886	5777853	
<b>EL:</b>	9.14	8.88	8.99	8.47	

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>	2.08	2.05	2.09	2.03	
<b>Peak Converted Wet Density (t/m³)</b>	2.10	2.16	2.05	2.08	
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	
<b>Moisture Variation (%)</b>	0.5 wet	0.5 wet	5.5 wet	2.5 wet	
<b>Hilf Density Ratio (%)</b>	<b>99.0</b>	<b>95.0</b>	<b>102.0</b>	<b>97.5</b>	

### Comments



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25 Metcalf Street  
DANDELONG SOUTH, VIC 3175

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

Report No: HDR:W21DS03467

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 11  
**Project No.:** 1016363.011

**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-12767					
Field Sample ID	1					
Date Tested	23/11/2021					
E:	356895					
N:	5777846					
RL / Layer:	09.20 / 1					
Lot:	1103					

### Field and Laboratory Data

Depth of Test (mm)	125					
Depth of Layer (mm)	150					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Wet Density (t/m³)	2.22					
Peak Converted Wet Density (t/m³)	2.13					
Compactive Effort	Standard					
Moisture Variation (%)	2.0 dry					
Hilf Density Ratio (%)	104.0					

### Comments



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:W21DS03475

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 11  
**Project No.:** 1016363.011

**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:** Imported  
**Material:** Silty Sandy Clay

### Sample Data

Sample ID	S21DS-12797	S21DS-12798				
Field Sample ID	1	2				
Date Tested	24/11/2021	24/11/2021				
E:	356950	356921				
N:	5777846	5777844				
RL:	8.675	8.704				
Lot:	1107	1105				

### Field and Laboratory Data

Depth of Test (mm)	125	125				
Depth of Layer (mm)	150	150				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Wet Density (t/m³)	2.17	2.23				
Peak Converted Wet Density (t/m³)	2.15	2.12				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	<b>100.5</b>	<b>105.5</b>				

### Comments



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:W21DS03493

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 11  
**Project No.:** 1016363.011

**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: 1/12/2021  
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:** Silty Clay

### Sample Data

Sample ID	S21DS-12885	S21DS-12886	S21DS-12887	S21DS-12888	
Field Sample ID	1	2	3	4	
Date Tested	25/11/2021	25/11/2021	25/11/2021	25/11/2021	
E:	356867	356880	356903	356935	
N:	5777843	5777842	5777834	5777833	
RL / Layer:	9.285 / 1	9.260 / 4	9.020 / 1	8.636 / 1 (FSL-0.45m)	
Lot:	1101	1102	1104	1106	

### Field and Laboratory Data

Depth of Test (mm)	125	150	150	175	
Depth of Layer (mm)	150	175	175	200	
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	
Oversize Wet (%)	0	0	0	0	
Field Wet Density (t/m³)	2.07	2.18	2.06	2.12	
Peak Converted Wet Density (t/m³)	2.15	2.10	2.10	2.12	
Compactive Effort	Standard	Standard	Standard	Standard	
Moisture Variation (%)	2.5 wet	0.5 dry	0.0	1.5 dry	
Hilf Density Ratio (%)	<b>96.5</b>	<b>104.0</b>	<b>98.0</b>	<b>99.5</b>	

### Comments



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:W21DS03502

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 11  
**Project No.:** 1016363.011

**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: 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-12918	S21DS-12919	S21DS-12920	S21DS-12921	S21DS-12922	S21DS-12923
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	26/11/2021	26/11/2021	26/11/2021	26/11/2021	26/11/2021	26/11/2021
E:	356960	356974	356990	356001	357018	57004
N:	5777826	5777823	5777831	5777827	5777812	5777818
<b>RL / Layer:</b>	8.415 / FSL-0.8m	8.329 / FSL-0.9m	8.365 / FSL-0.7m	8.190 / FSL-0.9m	8.173 / 2	8.260 / 2
<b>Lot:</b>	1108	1109	1111	1113	1113	1112

### 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>	2.06	2.06	2.06	2.08	2.06	2.12
<b>Peak Converted Wet Density (t/m³)</b>	2.08	1.98	2.06	2.04	2.11	2.14
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.5 wet	0.0	2.5 dry	2.5 dry	2.5 dry	0.5 dry
<b>Hilf Density Ratio (%)</b>	<b>99.0</b>	<b>104.0</b>	<b>100.0</b>	<b>102.0</b>	<b>97.5</b>	<b>99.0</b>

### Comments



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:W21DS03503

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 11  
**Project No.:** 1016363.011

**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-12924	S21DS-12930				
Field Sample ID	1	7				
Date Tested	27/11/2021	27/11/2021				
E:	356924	356914				
N:	577847	577837				
RL / Layer:	9.02 / 1	9.21 / 1				
Lot:	1105	1104				

### Field and Laboratory Data

Depth of Test (mm)	125	125				
Depth of Layer (mm)	150	150				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Wet Density (t/m³)	2.03	2.04				
Peak Converted Wet Density (t/m³)	2.10	1.97				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	2.0 dry				
Hilf Density Ratio (%)	<b>96.5</b>	<b>103.5</b>				

### Comments



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

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Fax: +61 3 9706 9431

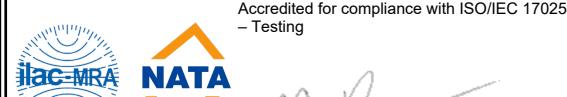
Report No: HDR:W21DS03531

Issue No: 1

## HILF Density Ratio Report

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

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



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 Sandy Clay

### Sample Data

Sample ID	S21DS-13002					
Field Sample ID	1					
Date Tested	29/11/2021					
E:	356953					
N:	5777794					
RL / Layer:	8.535 / FSL-0.7m					
Lot:	1042					

### 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)	2.09					
Peak Converted Wet Density (t/m³)	2.17					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	96.5					

### Comments



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

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

Report No: HDR:W21DS03532

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 11  
**Project No.:** 1016363.011

**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:** Imported  
**Material:** Silty Sandy Clay

### Sample Data

Sample ID	S21DS-13003	S21DS-13004				
Field Sample ID	1	2				
Date Tested	29/11/2021	29/11/2021				
E:	356935	356962				
N:	5777848	5777837				
RL:	8.921	8.850				
Lot:	1106	1108				

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Wet Density (t/m³)	2.11	2.09				
Peak Converted Wet Density (t/m³)	2.13	2.13				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	<b>99.0</b>	<b>98.0</b>				

### Comments



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

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

Report No: HDR:W21DS03542

Issue No: 1

## HILF Density Ratio Report

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

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



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Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 3/12/2021  
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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/Sandy Clay

### Sample Data

Sample ID	S21DS-13017	S21DS-13018	S21DS-13019	S21DS-13020	S21DS-13021	S21DS-13022
Field Sample ID	1	2	3	4	5	6
Date Tested	30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021	30/11/2021
E:	356952	356969	356960	356998	357016	356970
N:	5777792	5777793	5777767	5777789	5777796	5777762
RL:	8.417	8.160	8.431	8.085	8.141	8.163
Lot:	1041	1043	1026	1039	1037	1027

### 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)	2.11	2.11	2.08	2.13	2.08	2.18
Peak Converted Wet Density (t/m³)	2.18	2.17	2.17	2.16	2.16	2.18
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	1.5 wet	1.5 wet	2.0 wet	1.5 wet	1.5 wet	0.0
Hilf Density Ratio (%)	<b>97.0</b>	<b>97.5</b>	<b>95.5</b>	<b>98.5</b>	<b>96.0</b>	<b>100.0</b>

### Comments



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

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

Report No: HDR:W21DS03542

Issue No: 1

## HILF Density Ratio Report

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

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



### 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/Sandy Clay

### Sample Data

Sample ID	S21DS-13023					
Field Sample ID	7					
Date Tested	30/11/2021					
E:	356956					
N:	5777748					
RL:	8.428					
Lot:	1026					

### 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)	2.04					
Peak Converted Wet Density (t/m³)	2.16					
Compactive Effort	Standard					
Moisture Variation (%)	2.0 wet					
Hilf Density Ratio (%)	94.5					

### Comments

## HILF Density Ratio Report

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

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



### 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:** Sandy Clay

### Sample Data

Sample ID	S21DS-13113	S21DS-13114	S21DS-13115	S21DS-13116	
Field Sample ID	1	2	3	4	
Date Tested	1/12/2021	1/12/2021	1/12/2021	1/12/2021	
E:	357024	357015	356973	35686	
N:	5777791	5777763	5777799	5777787	
RL / Layer:	8.176 / FSL-0.93m	8.250 / FSL-0.665m	8.750 / FSL-0.5m	8.550 / FSL-0.6m	
Lot:	1034	1029	1041	1039	

### 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)	2.14	2.12	2.10	2.13	
Peak Converted Wet Density (t/m³)	2.18	2.17	2.15	2.16	
Compactive Effort	Standard	Standard	Standard	Standard	
Moisture Variation (%)	0.5 wet	0.5 wet	1.5 dry	0.5 wet	
Hilf Density Ratio (%)	<b>98.5</b>	<b>97.5</b>	<b>98.0</b>	<b>98.0</b>	

### Comments



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

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

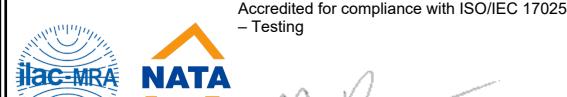
Report No: HDR:W21DS03561

Issue No: 1

## HILF Density Ratio Report

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

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



Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 3/12/2021  
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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

Sample ID	S21DS-13126	S21DS-13128				
Field Sample ID	1	3				
Date Tested	2/12/2021	2/12/2021				
E:	3569.580	3569.53				
N:	5777746.740	5777747.153				
RL / Layer:	8.840	8.661				
Lot:	1026	1026				
Other:		Retest of S21DS-13023				

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Wet Density (t/m³)	2.11	2.17				
Peak Converted Wet Density (t/m³)	2.10	2.20				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.0				
Hilf Density Ratio (%)	<b>100.5</b>	<b>98.5</b>				

### Comments



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:W21DS03581

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 10

**Project No.:** 1016363.010

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



Accredited for compliance with ISO/IEC 17025  
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Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 6/12/2021  
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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-13170	S21DS-13174				
<b>Field Sample ID</b>	1	2				
<b>Date Tested</b>	4/12/2021	4/12/2021				
<b>E:</b>	356950	356949				
<b>N:</b>	777731	5777674				
<b>RL / Layer:</b>	8.900 / FSL-0.64m	8.795 / FSL-0.375m				
<b>Lot:</b>	1025	1020				

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

### Comments



Dandenong South  
ACN 143 009 330  
25 Metcalf Street  
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Ph: +61 3 8796 7900  
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Report No: HDR:W21DS03585

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

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

**Project:** Riverfield - Stage 7

**Project No.:** 1016363.007

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

**TRN:** Lot No.:



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

**Material:** Sandy Clay

### Sample Data

<b>Sample ID</b>	S21DS-13177					
<b>Field Sample ID</b>	1					
<b>Date Tested</b>	4/12/2021					
<b>E:</b>	357034.45					
<b>N:</b>	5777661					
<b>RL / Layer:</b>	7.917 / FSL-0.62m					
<b>Lot:</b>	731					
<b>Other:</b>	Sample: 1					

### Field and Laboratory Data

<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>	2.08					
<b>Peak Converted Wet Density (t/m³)</b>	2.13					
<b>Compactive Effort</b>	Standard					
<b>Moisture Variation (%)</b>	3.0 wet					
<b>Hilf Density Ratio (%)</b>	<b>97.5</b>					

### Comments



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:W21DS03600

Issue No: 1

## HILF Density Ratio Report

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

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



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Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 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

Sample ID	S21DS-13267	S21DS-13268	S21DS-13269	S21DS-13270	
Field Sample ID	1	2	3	4	
Date Tested	6/12/2021	6/12/2021	6/12/2021	6/12/2021	
E:	356970	356935	356963	356963	
N:	5777813	5777811	5777706	5777734	
RL / Layer:	8.845 / FSL-0.550m	9.190 / FSL-0.250m	8.755 / FSL-0.504m	8.942 / FSL-0.300m	
Lot:	1041	1044	-	-	

### 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)	2.15	2.16	2.09	2.09	
Peak Converted Wet Density (t/m³)	2.17	2.15	2.16	2.20	
Compactive Effort	Standard	Standard	Standard	Standard	
Moisture Variation (%)	2.5 wet	0.0	2.0 wet	0.0	
Hilf Density Ratio (%)	<b>99.0</b>	<b>101.0</b>	<b>96.5</b>	<b>95.0</b>	

### Comments



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

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Fax: +61 3 9706 9431

Report No: HDR:W21DS03601

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 11  
**Project No.:** 1016363.011

**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-13271					
Field Sample ID	1					
Date Tested	6/12/2021					
E:	356988					
N:	5777824					
RL / Layer:	8.499 / FSL-0.560m					
Lot:	1110					

### 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)	2.14					
Peak Converted Wet Density (t/m³)	2.10					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
Hilf Density Ratio (%)	101.5					

### Comments



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Report No: HDR:W21DS03609

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

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

**Project:** Riverfield - Stage 7

**Project No.:** 1016363.007

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

**TRN:** Lot No.:



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M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 14/12/2021  
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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-13291	S21DS-13292				
<b>Field Sample ID</b>	1	2				
<b>Date Tested</b>	7/12/2021	7/12/2021				
<b>E:</b>	357042	357041				
<b>N:</b>	5777688	5777711				
<b>RL / Layer:</b>	8.131 / FSL-0.850m	8.199 / FSL-760m				
<b>Other:</b>	Sample 2	Sample 3				

### 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>	2.10	2.11				
<b>Peak Converted Wet Density (t/m³)</b>	2.17	2.14				
<b>Compactive Effort</b>	Standard	Standard				
<b>Moisture Variation (%)</b>	3.0 wet	0.5 wet				
<b>Hilf Density Ratio (%)</b>	<b>97.0</b>	<b>98.5</b>				

### Comments



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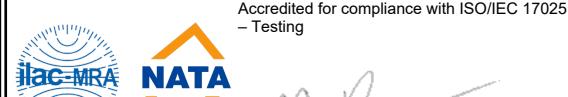
Report No: HDR:W21DS03676

Issue No: 1

## HILF Density Ratio Report

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

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



Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 15/12/2021  
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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:** Imported  
**Material:** Sandy Clay

### Sample Data

Sample ID	S21DS-13520					
Field Sample ID	1					
Date Tested	14/12/2021					
E:	356966					
N:	5777685					

### 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)	2.15					
Peak Converted Wet Density (t/m³)	2.12					
Compactive Effort	Standard					
Moisture Variation (%)	1.0 dry					
Hilf Density Ratio (%)	<b>101.0</b>					

### Comments



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25 Metcalf Street  
DANDELONG SOUTH, VIC 3175

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Fax: +61 3 9706 9431

Report No: HDR:W21DS03788

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

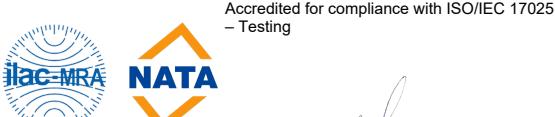
AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 10

**Project No.:** 1016363.010

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

**TRN:** Lot No.:



Accreditation Number: 12719 Approved Signatory: M. Longfield (Senior Technician)  
Site Number: 12712 Date of Issue: 11/01/2022  
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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:** Imported

**Material:** Sandy Clay

### Sample Data

<b>Sample ID</b>	S21DS-13890	S21DS-13891	S21DS-13892			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	22/12/2021	22/12/2021	22/12/2021			
<b>E:</b>	357007	356959	356959			
<b>N:</b>	5777787	5777720	5777720			
<b>RL / Layer:</b>	8.790 / -	9.283 / -	9.283 / -			
<b>Lot:</b>	1038	1027	1024			
<b>Other:</b>	Sample 37	Sample 38	Sample 39			

### 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	37.5	19.0			
<b>Oversize Wet (%)</b>	0	4	0			
<b>Field Wet Density (t/m³)</b>	2.21	2.11	2.10			
<b>Peak Converted Wet Density (t/m³)</b>	2.17	2.20	2.17			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	0.5 wet	2.0 wet	0.0			
<b>Hilf Density Ratio (%)</b>	<b>102.0</b>	<b>96.0</b>	<b>96.5</b>			

### Comments



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

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Fax: +61 3 9706 9431

Report No: HDR:W21DS03790

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 9

**Project No.:** 1016363.009

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**

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– Testing



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 11/01/2022  
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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:** Imported

**Material:** Sandy Clay

### Sample Data

<b>Sample ID</b>	S21DS-13896	S21DS-13897				
<b>Field Sample ID</b>	1	2				
<b>Date Tested</b>	22/12/2021	22/12/2021				
<b>E:</b>	357029	357026				
<b>N:</b>	5777710	5777721				
<b>RL / Layer:</b>	8.764 / -	8.502 / -				
<b>Lot:</b>	908	909				
<b>Other:</b>	Sample 1	Sample 2				

### Field and Laboratory Data

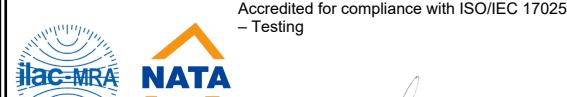
<b>Depth of Test (mm)</b>	175	175				
<b>Depth of Layer (mm)</b>	200	200				
<b>AS Sieve Size (mm)</b>	19.0	19.0				
<b>Oversize Wet (%)</b>	0	0				
<b>Field Wet Density (t/m³)</b>	2.12	2.11				
<b>Peak Converted Wet Density (t/m³)</b>	2.15	2.16				
<b>Compactive Effort</b>	Standard	Standard				
<b>Moisture Variation (%)</b>	0.0	1.0 wet				
<b>HILF Density Ratio (%)</b>	<b>98.5</b>	<b>98.0</b>				

### Comments

# HILF Density Ratio Report

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

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



Accreditation Number: 12719 Approved Signatory: M. Longfield  
 Site Number: 12712 (Senior Technician)  
 Date of Issue: 11/01/2022  
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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:** Imported

**Material:** Sandy Clay

## Sample Data

Sample ID	S22DS-00017	S22DS-00018			
Field Sample ID	1	2			
Date Tested	6/01/2021	6/01/2021			
E:	357000.37	357018.90			
N:	5777694.96	5777675.20			
RL / Layer:	9.15 / -	9.23 / -			
Lot:	-	-			
Other:	Sample 40	Sample 41			

## 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	2.01			
Peak Converted Wet Density (t/m³)	2.08	2.06			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	1.0 dry	2.5 dry			
<b>Hilf Density Ratio (%)</b>	<b>103.0</b>	<b>98.0</b>			

## Comments



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:W22DS00009

Issue No: 1

## HILF Density Ratio Report

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

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



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Approved Signatory: J. A. Smith  
(Senior Technician)

Site Number: 12712 Date of Issue: 11/01/2022

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### Sample Details

**Location:**

**Client Request ID:**

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** imported

**Material:** Silty CLAY

### Sample Data

<b>Sample ID</b>	S22DS-00026					
<b>Field Sample ID</b>	42					
<b>Date Tested</b>	7/01/2022					
<b>Location</b>	E 357036					
	N 5777724					
	EL. 8.96					

### 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>	2.04					
<b>Peak Converted Wet Density (t/m³)</b>	2.04					
<b>Compactive Effort</b>	Standard					
<b>Moisture Variation (%)</b>	1.5 dry					
<b>Hilf Density Ratio (%)</b>	<b>100.0</b>					

### Comments



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

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

Report No: HDR:W22DS00030

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 10

**Project No.:** 1016363.010

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

**TRN:** Lot No.:

Accredited for compliance with ISO/IEC 17025  
– Testing



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 14/01/2022  
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### Sample Details

**Location:**

**Client Request ID:**

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** Imported

**Material:** Sandy CLAY

### Sample Data

Sample ID	S22DS-00100	S22DS-00101	S22DS-00102	S22DS-00103	
<b>Field Sample ID</b>	1	2	3	4	
<b>Date Tested</b>	11/01/2022	11/01/2022	11/01/2022	11/01/2022	
<b>Location</b>	E 357080	E 357021	E 357027	E 357052	
	N 5777824	N 5778027	N 577796	N 5777809	
	EL. 7.63	EL. 9.504	EL. 9.574	EL. 7.80	
	Lot 1022	Lot 1001	Lot 1003	Lot 1021	
	Retest of S22DS-00071				

### 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>Field Wet Density (t/m³)</b>	2.05	2.06	2.03	2.09	
<b>Peak Converted Wet Density (t/m³)</b>	2.10	2.07	2.08	2.14	
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	
<b>Moisture Variation (%)</b>	0.0	0.0	0.5 wet	0.0	
<b>Hilf Density Ratio (%)</b>	<b>98.0</b>	<b>99.0</b>	<b>97.5</b>	<b>98.0</b>	

### Comments



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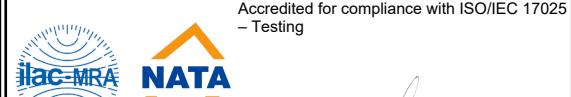
Report No: HDR:W22DS00031

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 8  
**Project No.:** 1016363.008

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



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 7/10/2022  
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### Sample Details

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

### Sample Data

Sample ID	S22DS-00099					
Field Sample ID	1					
Date Tested	11/01/2022					
Location	E 357047.55					
	N 5777789.77					
	EL. 7.63					
	Lot 850					

### Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
Field Wet Density (t/m³)	2.08					
Peak Converted Wet Density (t/m³)	2.16					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
Hilf Density Ratio (%)	96.5					

### Comments



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:W22DS00038

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 8

**Project No.:** 1016363.008

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**

Accredited for compliance with ISO/IEC 17025  
– Testing



Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 14/01/2022  
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### Sample Details

**Location:**

**Client Request ID:**

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** Imported

**Material:** Sandy CLAY

### Sample Data

<b>Sample ID</b>	S22DS-00112	S22DS-00113	S22DS-00114			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	12/01/2022	12/01/2022	12/01/2022			
<b>Location</b>	E 357050.10	E 357077.94	E 357081.37			
	N 5777787.82	N 5777789.83	N 5777772.35			
	EL. 7.85	EL. 7.82	EL. 7.80			
	Lot 850	Lot 844	Lot 845			

### 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>	2.11	1.99	2.08			
<b>Peak Converted Wet Density (t/m³)</b>	2.11	2.08	2.13			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	0.0	1.5 dry	0.0			
<b>Hilf Density Ratio (%)</b>	<b>100.0</b>	<b>96.0</b>	<b>98.0</b>			

### Comments



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:W22DS00041

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 8  
**Project No.:** 1016363.008

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



### 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:** Imported  
**Material:** Sandy CLAY

### Sample Data

Sample ID	S22DS-00124	S22DS-00125				
Field Sample ID	1	2				
Date Tested	13/01/2022	13/01/2022				
Location	E 357080.22	E 357050.54				
	N 5777766.30	N 5777787.66				
	EL. 8.05	EL. 8.37				
	Lot 846	Lot 850				

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
Field Wet Density (t/m³)	2.06	2.11				
Peak Converted Wet Density (t/m³)	2.11	2.09				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.5 wet				
Hilf Density Ratio (%)	<b>97.5</b>	<b>101.0</b>				

### Comments



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:W22DS00098

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Retirement Village  
**Project No.:** 1016363.RV  
**Order No.:** CG Request No.:  
**TRN:** Lot No.:

Accredited for compliance with ISO/IEC 17025  
– Testing  
   
Signature:   
Accreditation Number: 12719 Approved Signatory: J. Lamont  
(Dandenong Laboratory Manager)  
Site Number: 12712 Date of Issue: 29/07/2022  
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### Sample Details

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

### Sample Data

Sample ID	S22DS-00347	S22DS-00348	S22DS-00349	S22DS-00350	S22DS-00351	S22DS-00352
Field Sample ID	1	2	3	4	5	6
Date Tested	20/01/2022	20/01/2022	20/01/2022	20/01/2022	20/01/2022	20/01/2022
E:	357093	357107	357116	357012	357034	356551
N:	5777718	5777730	5777689	5777803	5777751	5778184
Elv:	7.845	8.277	7.612	9.103	8.779	

### Field and Laboratory Data

Depth of Test (mm)	125	125	125	125	125	175
Depth of Layer (mm)	150	150	150	150	150	200
Field Wet Density (t/m³)	2.05	2.08	2.11	2.09	2.00	2.05
Peak Converted Wet Density (t/m³)	2.13	2.09	2.12	2.15	2.11	2.04
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.5 dry	0.5 dry	0.0	2.0 dry	2.5 dry	0.0
Hilf Density Ratio (%)	<b>96.0</b>	<b>99.5</b>	<b>99.5</b>	<b>97.0</b>	<b>95.0</b>	<b>100.5</b>

### Comments



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:W22DS00098

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Retirement Village  
**Project No.:** 1016363.RV  
**Order No.:** CG Request No.:  
**TRN:** Lot No.:

Accredited for compliance with ISO/IEC 17025  
– Testing  
   
Signature of Approved Signatory: J. Lamont  
Accreditation Number: 12719 Approved Signatory: J. Lamont  
(Dandenong Laboratory Manager)  
Site Number: 12712 Date of Issue: 29/07/2022  
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

### Sample Details

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

### Sample Data

Sample ID	S22DS-00353	S22DS-00354	S22DS-00355			
Field Sample ID	7	8	9			
Date Tested	20/01/2022	20/01/2022	20/01/2022			
E:	356559	356583	356633			
N:	5778197	5778268	5778260			

### Field and Laboratory Data

Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
Field Wet Density (t/m³)	2.03	1.98	2.04			
Peak Converted Wet Density (t/m³)	2.04	2.01	1.97			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 wet	0.5 wet	0.5 wet			
Hilf Density Ratio (%)	<b>99.5</b>	<b>98.5</b>	<b>103.5</b>			

### Comments



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:W22DS00179

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 8  
**Project No.:** 1016363.008

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



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 3/02/2022  
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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:** Clay

### Sample Data

Sample ID	S22DS-00606	S22DS-00607	S22DS-00608	S22DS-00609	S22DS-00610	S22DS-00611
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	1/02/2022	1/02/2022	1/02/2022	1/02/2022	1/02/2022	1/02/2022
<b>E:</b>	357080	357089	357101	357145	357135	357035
<b>N:</b>	5777752	5777785	5777806	5777784	5777745	5777789
<b>RL / Layer:</b>	8.719	8.60	9.001	8.569	8.309	7.870
<b>Lot:</b>	847	844	1023	832	835	851

### 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>	2.18	2.11	2.08	2.17	2.11	2.09
<b>Peak Converted Wet Density (t/m³)</b>	2.11	2.13	2.13	2.06	2.11	2.09
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.0	0.0	0.5 dry	2.0 dry	0.0	0.0
<b>Hilf Density Ratio (%)</b>	<b>103.0</b>	<b>99.0</b>	<b>97.5</b>	<b>105.5</b>	<b>100.0</b>	<b>100.0</b>

### Comments



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:W22DS00204

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 8

**Project No.:** 1016363.008

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 8/02/2022  
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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	S22DS-00709	S22DS-00710	S22DS-00711	S22DS-00712	S22DS-00713
<b>Field Sample ID</b>	1	2	3	4	5
<b>Date Tested</b>	3/02/2022	3/02/2022	3/02/2022	3/02/2022	3/02/2022
<b>Lot No:</b>	848	Roadway	849	850	Roadway
<b>E:</b>	357069	357052	357079	357045	357051
<b>N:</b>	5777735	5777645	5777720	5777782	5777652
<b>Elv:</b>	7.975	8.185	8.064	8.591	8.430

### 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>	2.09	2.05	2.09	2.01	2.02
<b>Peak Converted Wet Density (t/m³)</b>	2.06	2.08	2.04	2.08	2.07
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard
<b>Moisture Variation (%)</b>	0.5 wet	0.5 wet	1.5 wet	0.5 wet	0.0
<b>Hilf Density Ratio (%)</b>	<b>101.0</b>	<b>98.5</b>	<b>102.5</b>	<b>96.5</b>	<b>97.0</b>

### Comments



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:W22DS00205

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

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

**Project:** Riverfield - Stage 7

**Project No.:** 1016363.007

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

**TRN:** Lot No.:



Accreditation Number: 12719  
Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 8/02/2022  
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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	S22DS-00714	S22DS-00715	S22DS-00716			
Field Sample ID	1	2	3			
Date Tested	3/02/2022	3/02/2022	3/02/2022			
Lot No:	734	730	729			
E:	357006	357022	357021			
N:	5777660	5777639	5777634			
Elv:	7.871	8.926	9.023			

### Field and Laboratory Data

Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Wet Density (t/m³)	2.05	2.02	2.11			
Peak Converted Wet Density (t/m³)	2.11	2.07	2.03			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	3.0 wet	2.0 wet			
Hilf Density Ratio (%)	<b>97.0</b>	<b>97.5</b>	<b>104.0</b>			

### Comments



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:W22DS00206

Issue No: 1

## HILF Density Ratio Report

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

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



Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 8/02/2022  
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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	S22DS-00717					
Field Sample ID	1					
Date Tested	3/02/2022					
Lot No:	1017					
E:	357002					
N:	5777833					
Elv:	8.691					

### 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)	2.09					
Peak Converted Wet Density (t/m³)	2.05					
Compactive Effort	Standard					
Moisture Variation (%)	2.5 wet					
Hilf Density Ratio (%)	<b>102.0</b>					

### Comments



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:W22DS00208

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 8

**Project No.:** 1016363.008

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**

Accredited for compliance with ISO/IEC 17025  
– Testing



M R

Accreditation Number:

12719

Approved Signatory: M. Robinson  
(Team Leader)

Site Number: 12712

Date of Issue: 4/02/2022

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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>	S22DS-00719	S22DS-00720	S22DS-00721			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	2/02/2022	2/02/2022	2/02/2022			
<b>Lot No:</b>	852	801	803			
<b>E:</b>	357050	357094.576	357081.762			
<b>N:</b>	5777744	5777685.305	5777698.086			
<b>Elv:</b>	7.902	7.463	7.369			

### 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>	2.01	2.16	2.08			
<b>Peak Converted Wet Density (t/m³)</b>	2.04	2.09	2.05			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	0.5 wet	2.0 dry	0.0			
<b>Hilf Density Ratio (%)</b>	<b>98.0</b>	<b>103.5</b>	<b>101.5</b>			

### Comments



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:W22DS00209

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 10

**Project No.:** 1016363.010

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 4/02/2022  
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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	S22DS-00722	S22DS-00723				
Field Sample ID	1	2				
Date Tested	2/02/2022	2/02/2022				
Lot No:	1018	1019				
E:	357011	357030				
N:	5777827	5777832				
Elv:	8.266	8.580				

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
Field Wet Density (t/m³)	2.17	2.07				
Peak Converted Wet Density (t/m³)	2.12	2.05				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	<b>102.5</b>	<b>101.0</b>				

### Comments



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

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

Report No: HDR:W22DS00210

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

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

**Project:** Riverfield - Stage 7

**Project No.:** 1016363.007

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
- Testing

M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 4/02/2022  
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

### Sample Details

**Location:** Clyde North

**Client Request ID:**

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** Onsite

**Material:** CLAY

### Sample Data

Sample ID	S22DS-00724	S22DS-00725				
Field Sample ID	1	2				
Date Tested	2/02/2022	2/02/2022				
Lot No:	730	Roadway				
E:	357025	357049				
N:	5777641	5777652				
Elv:	8.645	8.005				

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
Field Wet Density (t/m³)	2.13	2.08				
Peak Converted Wet Density (t/m³)	2.04	2.09				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.0				
Hilf Density Ratio (%)	<b>104.0</b>	<b>99.5</b>				

### Comments



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:W22DS00222

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 8  
**Project No.:** 1016363.008

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



### Sample Details

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

### Sample Data

Sample ID	S22DS-00771					
Field Sample ID	1					
Date Tested	4/02/2022					
Lot No:	Road Way					
E:	357058					
N:	5777755					
Elv:	8.397					

### 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)	2.13					
Peak Converted Wet Density (t/m³)	2.10					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
Hilf Density Ratio (%)	<b>101.5</b>					

### Comments



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

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Fax: +61 3 9706 9431

Report No: HDR:W22DS00224

Issue No: 2

This report replaces all previous issues of report no 'HDR:W22DS00224'.

## HILF Density Ratio Report

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

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



Accredited for compliance with ISO/IEC 17025  
– Testing

Accreditation Number: 12719 Approved Signatory: M. Longfield  
(Senior Technician)  
Site Number: 12712 Date of Issue: 14/09/2022  
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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:** Clay

### Sample Data

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

### Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Wet Density (t/m³)	2.06	2.05				
Peak Converted Wet Density (t/m³)	2.04	2.09				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 wet	0.0				
Hilf Density Ratio (%)	<b>101.0</b>	<b>98.0</b>				

### Comments



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:W22DS00230

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

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

**Project:** Riverfield - Stage 7

**Project No.:** 1016363.007

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
- Testing

M R

Accreditation Number: Approved Signatory: M. Robinson  
12719  
Site Number: 12712 Date of Issue: 3/08/2022  
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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:** Clay

### Sample Data

Sample ID	S22DS-00793	S22DS-00794	S22DS-00795			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	7/02/2022	7/02/2022	7/02/2022			
<b>Lot No:</b>	729	734	734			
<b>E:</b>	357032	357075	357080			
<b>N:</b>	5777640	5777659	5777661			
<b>Elv:</b>	8.840	8.397	8.369			

### Field and Laboratory Data

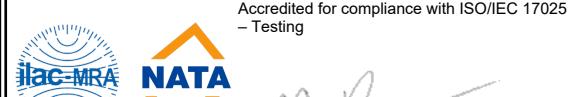
<b>Depth of Test (mm)</b>	175	175	175			
<b>Depth of Layer (mm)</b>	200	200	200			
<b>AS Sieve Size (mm)</b>	19.0	19.0	19.0			
<b>Oversize Wet (%)</b>	0	0	0			
<b>Field Wet Density (t/m³)</b>	2.06	2.08	2.06			
<b>Peak Converted Wet Density (t/m³)</b>	2.11	2.04	2.07			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	2.0 wet	3.0 dry	0.5 dry			
<b>Hilf Density Ratio (%)</b>	<b>97.5</b>	<b>102.0</b>	<b>99.5</b>			

### Comments

# HILF Density Ratio Report

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

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



Accredited for compliance with ISO/IEC 17025  
- Testing



M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
 Site Number: 12712 (Team Leader) Date of Issue: 21/03/2022  
 THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

## Sample Details

### Location:

### Client Request ID:

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** Imported

**Material:** Mudstone + Clay

## Sample Data

Sample ID	S22DS-01905	S22DS-01906			
Field Sample ID	1	2			
Date Tested	11/03/2022	11/03/2022			
E:	357053	3573253			
N:	5777804	5777802			
RL:	9.055	7.621			
Lot:	-	-			
Other:	-	-			

## 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)	2.15	2.07			
Peak Converted Wet Density (t/m³)	2.10	2.07			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.5 dry	1.5 dry			
<b>Hilf Density Ratio (%)</b>	<b>102.5</b>	<b>100.0</b>			

## Comments



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:W22DS00658

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 10

**Project No.:** 1016363.010

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

**TRN:** Lot No.:



Accredited for compliance with ISO/IEC 17025  
– Testing

M R

Accreditation Number: 12719 Approved Signatory: M. Robinson  
(Team Leader)  
Site Number: 12712 Date of Issue: 22/03/2022  
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

### Sample Details

**Location:** Clyde North

**Client Request ID:**

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.5.7.1

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

**Source:** Onsite

**Material:** CLAY

### Sample Data

Sample ID	S22DS-02160	S22DS-02161	S22DS-02162			
<b>Field Sample ID</b>	1	2	3			
<b>Date Tested</b>	21/03/2022	21/03/2022	21/03/2022			
<b>Lot No:</b>	1020	1022	1026			
<b>E:</b>	357048	357090	357158			
<b>N:</b>	5777831	5777824	5777810			
<b>RL</b>	8.854	8.888	8.645			

### 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>	2.08	2.09	2.20			
<b>Peak Converted Wet Density (t/m³)</b>	2.07	2.05	2.07			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Variation (%)</b>	0.0	1.5 dry	1.5 dry			
<b>Hilf Density Ratio (%)</b>	<b>100.5</b>	<b>102.5</b>	<b>106.0</b>			

### Comments



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

Report No: HDR:W22DS01844

Issue No: 1

## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd  
**Address:** PO Box 3131  
AUBURN VIC 3123  
**Project:** Riverfield Estate - Stage 9  
**Project No.:** 1016363.009

**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: 16/09/2022  
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### Sample Details

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

### Sample Data

Sample ID	S22DS-07313	S22DS-07314	S22DS-07315	S22DS-07316	S22DS-07317	S22DS-07318
<b>Field Sample ID</b>	1	2	3	4	5	6
<b>Date Tested</b>	14/09/2022	14/09/2022	14/09/2022	14/09/2022	14/09/2022	14/09/2022
<b>Time Tested</b>	12:40	12:50	13:00	13:10	13:20	13:30
<b>E:</b>	356949	356935	356925	356924	356919	356917
<b>N:</b>	5777771	5777774	5777736	5777723	5777696	5777685
<b>Lot:</b>	911	910	913	914	916	917
	FSL	FSL	FSL	FSL	FSL	FSL

### 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 Moisture Content (%)</b>	12.4	12.7	18.1	15.1	16.8	14.0
<b>Field Moisture Content Method</b>	AS 1289.2.1.1					
<b>Field Wet Density (t/m³)</b>	2.17	2.12	2.10	2.12	2.20	2.23
<b>Field Dry Density (t/m³)</b>	1.93	1.88	1.78	1.84	1.88	1.96
<b>Peak Converted Wet Density (t/m³)</b>	2.11	2.11	2.12	2.14	2.10	2.18
<b>Optimum Moisture Content (%)</b>	13.0	12.0	16.0	15.0	15.5	13.5
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Ratio (%)</b>	96.0	104.0	113.0	100.5	110.0	103.0
<b>Moisture Variation (%)</b>	0.5 dry	0.5 wet	2.0 wet	0.0	1.5 wet	0.5 wet
<b>Hilf Density Ratio (%)</b>	<b>103.0</b>	<b>100.5</b>	<b>98.5</b>	<b>99.0</b>	<b>104.5</b>	<b>102.5</b>

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## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 9

**Project No.:** 1016363.009

**Order No.:**

**CG Request No.:**

**TRN:**

**Lot No.:**



Accreditation Number: 12719 Approved Signatory: M. Longfield (Senior Technician)  
Site Number: 12712 Date of Issue: 16/09/2022  
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### Sample Details

**Location:** Clyde Nth

**Client Request ID:**

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.2.1.1, AS 1289.5.7.1

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

**Source:** Onsite Clay

**Material:**

### Sample Data

Sample ID	S22DS-07319	S22DS-07320	S22DS-07321	S22DS-07322	S22DS-07323	S22DS-07324
<b>Field Sample ID</b>	7	8	9	10	11	12
<b>Date Tested</b>	14/09/2022	14/09/2022	14/09/2022	14/09/2022	14/09/2022	14/09/2022
<b>Time Tested</b>	13:40	13:50	14:00	14:10	14:20	14:30
<b>E:</b>	356890	356890	356993	356994	356998	357000
<b>N:</b>	5777798	5777697	5777679	5777698	5777722	5777736
<b>Lot:</b>	904	903	934	933	931	930
	FSL	FSL	FSL	FSL	FSL	FSL

### 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 Moisture Content (%)</b>	15.3	18.4	13.1	13.3	13.7	12.8
<b>Field Moisture Content Method</b>	AS 1289.2.1.1					
<b>Field Wet Density (t/m³)</b>	2.09	2.10	2.06	2.09	2.10	2.17
<b>Field Dry Density (t/m³)</b>	1.81	1.77	1.82	1.85	1.85	1.92
<b>Peak Converted Wet Density (t/m³)</b>	2.15	2.07	2.15	2.11	2.14	2.07
<b>Optimum Moisture Content (%)</b>	15.0	16.0	13.0	14.0	14.0	15.0
<b>Compactive Effort</b>	Standard	Standard	Standard	Standard	Standard	Standard
<b>Moisture Ratio (%)</b>	101.0	115.5	100.0	93.5	99.5	85.0
<b>Moisture Variation (%)</b>	0.0	2.5 wet	0.0	1.0 dry	0.0	2.0 dry
<b>Hilf Density Ratio (%)</b>	<b>97.5</b>	<b>101.5</b>	<b>96.0</b>	<b>99.5</b>	<b>98.5</b>	<b>105.0</b>

### Comments



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## HILF Density Ratio Report

**Client:** Greenridge Properties Pty Ltd

**Address:** PO Box 3131

AUBURN VIC 3123

**Project:** Riverfield Estate - Stage 9

**Project No.:** 1016363.009

**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: 16/09/2022

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### Sample Details

**Location:** Clyde Nth

**Client Request ID:**

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

**Field Test procedures:** AS 1289.5.8.1

**Laboratory Test procedures:** AS 1289.2.1.1, AS 1289.5.7.1

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

**Source:** Onsite Clay

**Material:**

### Sample Data

Sample ID	S22DS-07325	S22DS-07326	S22DS-07327			
<b>Field Sample ID</b>	13	14	15			
<b>Date Tested</b>	14/09/2022	14/09/2022	14/09/2022			
<b>Time Tested</b>	14:40	14:50	15:00			
<b>E:</b>	357008	356926	356983			
<b>N:</b>	5777767	5777813	5777808			
<b>Lot:</b>	928	945	940			
	FSL	FSL	FSL			

### 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 Moisture Content (%)</b>	14.3	14.7	10.2			
<b>Field Moisture Content Method</b>	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
<b>Field Wet Density (t/m³)</b>	2.15	2.09	2.09			
<b>Field Dry Density (t/m³)</b>	1.88	1.82	1.90			
<b>Peak Converted Wet Density (t/m³)</b>	2.10	2.10	2.16			
<b>Optimum Moisture Content (%)</b>	16.0	15.0	10.5			
<b>Compactive Effort</b>	Standard	Standard	Standard			
<b>Moisture Ratio (%)</b>	89.0	98.0	96.5			
<b>Moisture Variation (%)</b>	1.5 dry	0.5 dry	0.5 dry			
<b>Hilf Density Ratio (%)</b>	<b>102.5</b>	<b>99.0</b>	<b>97.0</b>			

### Comments

## **Appendix D: Controlled Fill Certificate**

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## CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

**PROJECT** : Lot No's: 901 to Lot 948  
Riverfield Estate, Stage 9 **Chadwick Geotechnics REF:** 1016363.009.v1

**CLIENT** : Grosvenor Lodge Pty Ltd  
PO Box 4136  
DANDENONG SOUTH VIC 3164 **DATE:** 10 October 2022

### SUMMARY

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

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

### LIMITATIONS

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

This report is based on the conditions present and factors affecting the soil at the time of inspection (16 December 2020 to the 14 September 2022). No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

### CHADWICK GEOTECHNICS PTY LTD

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

A handwritten signature in blue ink that appears to read "TD".

**Robert Barden**  
**Project Manager**

**Timothy Chadwick**  
**Project Director**

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