



REPORT

Level One Inspection and Testing Services

Meridian Estate Stage 20, Lots 2001 to 2033

Prepared for:

Grosvenor Lodge Pty Ltd

September 2020

Our Ref: 3807351.020.v1

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

Document Control

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Grosvenor Lodge Pty Ltd

1 electronic copy

Chadwick Geotechnics Pty Ltd (FILE)

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Table of contents

1	Introduction	1
2	Project details	1
3	Geology	1
4	Specification	2
5	Inspection and testing	2
6	Conclusion	3
7	Applicability	4

Appendix A :	Density Test Location Plan
Appendix B :	Table of field density results
Appendix C	NATA endorsed laboratory reports
Appendix D:	Controlled fill certificates

1 Introduction

Chadwick Geotechnics Pty Ltd (Chadwick Geotechnics) was engaged by Grosvenor Lodge Pty Ltd, to provide Level 1 Geotechnical Inspection and Testing services for the earthworks within Stage 20 of the Meridian Estate in Clyde North.

2 Project details

The project included the preparation and filling of lot's 2001 to 2033. 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.

The location of the site is shown in figure 1 below.

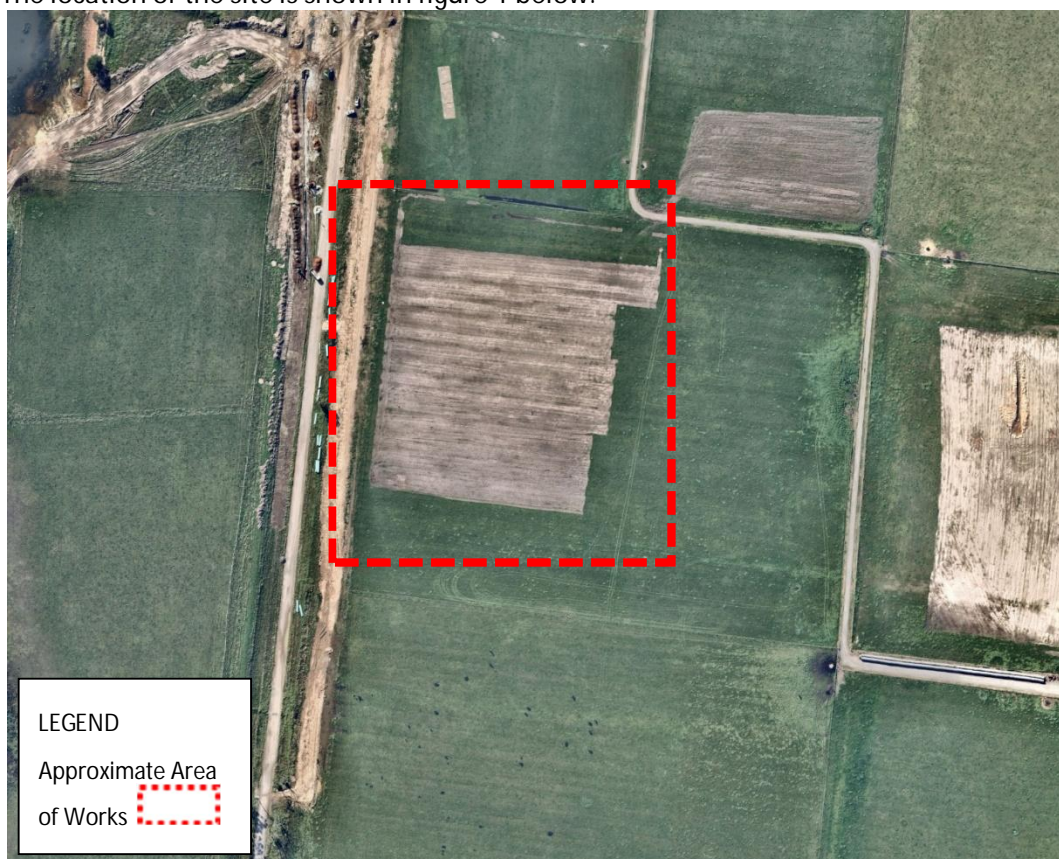


Figure 1: Approximate site location (*Image sourced from Nearmaps*)

3 Geology

Published information¹ shows that the site is primarily underlain by Red Bluff Sandstone (Nbr) (Miocene to Pliocene). Sandstone, conglomerate: pale yellow and brown; fine to coarse-grained, massive to well bedded; cross-bedded; local ironstone.

This area is mainly bordered by Quaternary Alluvium (Qa1) Gravel, sand, silt; alluvial floodplain deposits and Palaeozoic Murrindindi Supergroup (Sm) comprising of siltstone, sandstones and limestone, which may incur upon the primary geology.

¹. VicGeo Earth Resources (<https://gsv.vic.gov.au>) Geological Unit (250k)

4 Specification

A summary of the specification is shown below:

Compaction Requirement	95 % Standard Compaction
------------------------	--------------------------

5 Inspection and testing

The inspection and testing of earthworks have been carried out in accordance with AS3798-2007, 'Guidelines on earthworks for commercial and residential developments', with a frequency of field density tests as per a type one project (large scale operation). Compaction control laboratory testing was undertaken in our NATA accredited laboratories in accordance with AS1289 'Methods of Testing Soils for Engineering Purposes'.

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. No soft spots were encountered during the inspections, the area was found to be firm and free of vegetation and other deleterious material.

Full time Level 1 Geotechnical Inspection and Testing of the filling operations commenced on 26 June 2020 and was completed on 24 July 2020. During this period Chadwick Geotechnics observed the earthworks at the times (as the filling works were intermittent) the earthworks contractor was placing fill. This included the supply of material, conditioning of material (moisture conditioning), 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 area, and that of additional lifts, was thoroughly scarified and moisture conditioned prior to placement of additional layers to prevent delamination at the layer interface.

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 determinations in accordance with AS 1289.5.7.1. Test locations were recorded using a handheld GPS unit. A site plan showing the field density test locations is provided in Appendix A.

A total of twenty-seven (27) tests were performed during the filling process.

The results show that three (3) tests failed to meet the specification requirements for the project. The earthworks contractor was advised of the tests that failed and the fill relevant to those areas was reworked, reconditioned, re-compacted and subsequently retested. The final results show the tests achieved the specification requirements for the project.

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

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

It is our opinion that the earthworks undertaken have been performed in accordance with the requirements of Section 8.2 – Level 1 Inspection and Testing - AS3798-2007 Guidelines on Earthworks for Commercial and Residential Developments.

7 Applicability

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

This report is based on the nature of the project and the prevailing conditions between 26 June 2020 to 24 July 2020. No responsibility or liability will be accepted, and Chadwick Geotechnics is indemnified to the full extent permitted by law in respect of the use of this report where there has been a change in the nature of the project or the conditions on site that may alter or affect the conclusions of this report.

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

Chadwick Geotechnics Pty Ltd

Report prepared by:



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Robert Barden

Geotechnical Engineer

Authorised for Chadwick Geotechnics Pty Ltd by:



.....

Timothy Chadwick

Project Director

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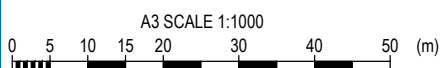
Appendix A: Density Test Location Plan



LEGEND

S20DS-12553
HILF DENSITY TEST LOCATION

NOTES:
 1. AERIAL IMAGE SOURCED FROM NEARMAP. COPYRIGHT NEARMAP PTY LTD IMAGERY DATE: 08/09/2020.
 2. BASE PLAN PROVIDED BY BEVERIDGE WILLIAMS. DRAWING REFERENCE: 1801767-20-011 REV. A. DATE RECEIVED: 08/09/2020.



ORIGINAL IN COLOUR

PROJECT No. 3807351.020		
DESIGNED	ZKO	Sep.20
DRAWN	KMJA	Sep.20
CHECKED		
APPROVED		DATE

CLIENT	GROSVENOR LODGE PTY LTD	
PROJECT	MERIDIAN ESTATE - STAGE 20	
TITLE	LEVEL ONE HILF DENSITY TESTING HILF DENSITY TEST PLAN	
SCALE (A3)	1:1000	FIG No. FIGURE 01
		REV 1

Appendix B: Table of field density results

Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Layer	Density Ratio HILF test (≥95%)	Moisture Variation	Pass / Fail	Remarks
HDR:W20DS03226	S20DS-11833	26/06/2020	1	1610.099	739.48	33.497	94.5	OMC	Fail	See Retest 12320
HDR:W20DS03377	S20DS-12320	1/07/2020	1	1611.537	761.528		98.5	0.5 dry	Pass	Retest of 11833
HDR:W20DS03377	S20DS-12321	1/07/2020	2	1578.551	736.452		100	OMC	Pass	
HDR:W20DS03377	S20DS-12322	1/07/2020	3	1553.767	762.021		98	OMC	Pass	
HDR:W20DS03377	S20DS-12323	1/07/2020	4	1521.746	734.842		97.5	OMC	Pass	
HDR:W20DS03411	S20DS-12438	2/07/2020	1	1627.847	698.797	33.614 (L2)	100.5	OMC	Pass	
HDR:W20DS03411	S20DS-12439	2/07/2020	2	1571.401	708.176	33.29 (L2)	101.5	OMC	Pass	
HDR:W20DS03411	S20DS-12440	2/07/2020	3	1523.826	708.876	32.829 (L2)	95.5	OMC	Pass	
HDR:W20DS03411	S20DS-12441	2/07/2020	4	1630.306	735.784	33.885	99.5	OMC	Pass	
HDR:W20DS03442	S20DS-12551	3/07/2020	1	1614.15	664.754	33.394 (L1)	102.5	OMC	Pass	
HDR:W20DS03442	S20DS-12552	3/07/2020	2	1576.783	660.748	32.913 (L1)	98.5	1.5 dry	Pass	
HDR:W20DS03442	S20DS-12553	3/07/2020	3	1521.68	677.941	32.543 (L1)	94.5	2.0 wet	Fail	See Retest 13408
HDR:W20DS03488	S20DS-12724	9/07/2020	1	1612.834	745.502	33.863 (L3)	94.5	0.5 wet	Fail	See Retest 13410
HDR:W20DS03488	S20DS-12725	9/07/2020	2	1578.14	743.534	33.535 (L2)	96	0.7 wet	Pass	
HDR:W20DS03678	S20DS-13408	18/07/2020	1	1572.36	705.346	33.255	102.5	2.0 wet	Pass	Retest of 12553
HDR:W20DS03678	S20DS-13409	18/07/2020	2	1574.144	691.488	32.42	102.5	0.5 dry	Pass	
HDR:W20DS03678	S20DS-13410	18/07/2020	3	1618.669	701.184	33.644	101	OMC	Pass	Retest of 12724
HDR:W20DS03678	S20DS-13411	18/07/2020	4	1602.356	669.786	33.393	103	1.5 wet	Pass	
HDR:W20DS03704	S20DS-13502	20/07/2020	1	1555.365	742.042	33.526 (L3)	99.5	1.5 wet	Pass	
HDR:W20DS03704	S20DS-13503	20/07/2020	2	1502.59	750.804	33.05 (L2)	102	0.5 dry	Pass	
HDR:W20DS03769	S20DS-13734	22/07/2020	1	1539.509	688.088	32.045 (L3)	97	OMC	Pass	
HDR:W20DS03769	S20DS-13735	22/07/2020	2	1509.625	706.946	32.749 (L3)	102	OMC	Pass	
HDR:W20DS03804	S20DS-13855	23/07/2020	1	1511.235	735.033	33.061 (L3)	99.5	OMC	Pass	
HDR:W20DS03804	S20DS-13856	23/07/2020	2	1540.039	732.696	33.438 (L3)	100.5	OMC	Pass	
HDR:W20DS03845	S20DS-13992	24/07/2020	1	1522.159	687.878	32.988 (L4)	99	2.5 wet	Pass	
HDR:W20DS03845	S20DS-13993	24/07/2020	2	1513.784	718.826	33.039 (L4)	100	OMC	Pass	
HDR:W20DS03845	S20DS-13994	24/07/2020	3	1534.011	741.497	33.417 (L4)	97.5	0.5 dry	Pass	

No Further Testing

Appendix C NATA endorsed laboratory reports



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Report No: HDR:W20DS03226



Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 20
Project No.: 3807351.020
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing

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

Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 9/07/2020

12712

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 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-11833				
Field Sample ID	1				
Date Tested	26/06/2020				
E:	1610.099				
N:	739.480				
RL:	33.497				

Field and Laboratory Data

Depth of Test (mm)	150				
Depth of Layer (mm)	200				
AS Sieve Size (mm)	19.0				
Oversize Wet (%)	0				
Field Wet Density (t/m³)	1.93				
Peak Converted Wet Density (t/m³)	2.04				
Compactive Effort	Standard				
Moisture Variation (%)	0.0				
Hilf Density Ratio (%)	94.5				

Comments



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Report No: HDR:W20DS03377

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 20
Project No.: 3807351.020
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing

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

Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 9/07/2020
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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 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-12320	S20DS-12321	S20DS-12322	S20DS-12323
Field Sample ID	1	2	3	4
Date Tested	1/07/2020	1/07/2020	1/07/2020	1/07/2020
E:	1611.537	1578.551	1553.767	1521.746
N:	761.528	736.452	762.021	734.842
RL:	33.720	33.326	33.343	32.8161

Field and Laboratory Data

Depth of Test (mm)	125	125	125	125
Depth of Layer (mm)	150	150	150	150
AS Sieve Size (mm)	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0
Field Wet Density (t/m ³)	2.02	2.14	2.04	1.98
Peak Converted Wet Density (t/m ³)	2.06	2.15	2.09	2.03
Compactive Effort	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.5 dry	0.0	0.0	0.0
Hilf Density Ratio (%)	98.5	100.0	98.0	97.5

Comments



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Report No: HDR:W20DS03411


Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 20
Project No.: 3807351.020
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing



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Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 9/07/2020
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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 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-12438	S20DS-12439	S20DS-12440	S20DS-12441
Field Sample ID	1	2	3	4
Date Tested	2/07/2020	2/07/2020	2/07/2020	2/07/2020
E:	1627.847	1571.401	1523.826	1630.306
N:	698.797	708.176	708.876	735.784
RL:	33.614	33.290	32.829	33.885
Layer:	2	2	2	

Field and Laboratory Data

Depth of Test (mm)	150	150	150	150
Depth of Layer (mm)	150	150	150	150
AS Sieve Size (mm)	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0
Field Wet Density (t/m³)	2.09	2.07	2.04	1.97
Peak Converted Wet Density (t/m³)	2.08	2.04	2.14	1.98
Compactive Effort	Standard	Standard	Standard	Standard
Moisture Variation (%)	0.0	0.0	0.0	0.0
Hilf Density Ratio (%)	100.5	101.5	95.5	99.5

Comments



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Report No: HDR:W20DS03442

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 20
Project No.: 3807351.020
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing

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Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 9/07/2020
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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 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-12551	S20DS-12552	S20DS-12553		
Field Sample ID	1	2	3		
Date Tested	3/07/2020	3/07/2020	3/07/2020		
E:	1614.150	1576.783	1521.680		
N:	664.754	660.748	677.941		
RL:	33.394	32.913	32.543		
Layer:	1	1	1		

Field and Laboratory Data

Depth of Test (mm)	125	125	125		
Depth of Layer (mm)	150	150	150		
AS Sieve Size (mm)	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0		
Field Wet Density (t/m³)	2.16	2.00	1.99		
Peak Converted Wet Density (t/m³)	2.10	2.04	2.10		
Compactive Effort	Standard	Standard	Standard		
Moisture Variation (%)	0.0	1.5 dry	2.0 wet		
Hilf Density Ratio (%)	102.5	98.5	94.5		

Comments



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Report No: HDR:W20DS03488



Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 20
Project No.: 3807351.020
Order No.:
TRN:

CG Request No.:
Lot No.:

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 - Testing

Accreditation No. 12719

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Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 13/07/2020

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction
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-12724	S20DS-12725			
Field Sample ID	1	2			
Date Tested	9/07/2020	9/07/2020			
E:	1612.834	1578.140			
N:	745.502	743.534			
EL:	33.863	33.535			
Layer:	3	2			

Field and Laboratory Data

Depth of Test (mm)	175	175			
Depth of Layer (mm)	200	200			
AS Sieve Size (mm)	19.0	19.0			
Oversize Wet (%)	0	0			
Field Wet Density (t/m³)	1.93	1.95			
Peak Converted Wet Density (t/m³)	2.03	2.04			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 wet			
Hilf Density Ratio (%)	94.5	96.0			

Comments



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Report No: HDR:W20DS03678

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 20
Project No.: 3807351.020
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025
 - Testing

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Approved Signatory: J. Lamont
 (Dandenong Laboratory Manager)
 Date of Issue: 8/09/2020

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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	S20DS-13408	S20DS-13409	S20DS-13410	S20DS-13411
Field Sample ID	1	2	3	4
Date Tested	18/07/2020	18/07/2020	18/07/2020	18/07/2020
Lot No	2029	2029	2026	2032
E	1572.360	1574.144	1618.669	1602.356
N	705.346	691.488	701.184	669.786
RL	33.255	32.420	33.644	33.393
	Retest	Retest	Retest	Retest

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)	2.02	2.13	2.10	2.12
Peak Converted Wet Density (t/m³)	1.97	2.08	2.08	2.06
Compactive Effort	Standard	Standard	Standard	Standard
Moisture Variation (%)	2.0 wet	0.5 dry	0.0	1.5 wet
Hilf Density Ratio (%)	102.5	102.5	101.0	103.0

Comments



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Report No: HDR:W20DS03704



Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 20
Project No.: 3807351.020
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing

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

Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 5/08/2020

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Sample Details

Location: Aravalli Crescent & Heatherstone Circuit
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-13502	S20DS-13503			
Field Sample ID	1	2			
Date Tested	20/07/2020	20/07/2020			
E:	1555.365	1502.590			
N:	742.042	750.804			
EL:	33.526	33.050			
Lot:	2017	2			
Layer:	3				

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/m ³)	2.09	2.15			
Peak Converted Wet Density (t/m ³)	2.10	2.10			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	1.5 wet	0.5 dry			
Hilf Density Ratio (%)	99.5	102.0			

Comments



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

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

Report No: HDR:W20DS03769



Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 20
Project No.: 3807351.020
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing

Accreditation No. 12719

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

Approved Signatory: M. Longfield
 (Senior Technician)
 12712 Date of Issue: 5/08/2020
 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	S20DS-13734	S20DS-13735			
Field Sample ID	1	2			
Date Tested	22/07/2020	22/07/2020			
E:	1539.509	1509.625			
N:	688.088	706.946			
EL:	32.045	32.749			
Lot:	2013	2005			
Layer:	3	3			

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/m ³)	2.09	2.07			
Peak Converted Wet Density (t/m ³)	2.16	2.04			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.0	0.0			
Hilf Density Ratio (%)	97.0	102.0			

Comments



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

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

Report No: HDR:W20DS03804



Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 20
Project No.: 3807351.020
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing

Accreditation No. 12719

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

Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 5/08/2020

12712

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	S20DS-13855	S20DS-13856			
Field Sample ID	1	2			
Date Tested	23/07/2020	23/07/2020			
E:	1511.235	1540.039			
N:	735.033	732.696			
EL:	33.061	33.438			
Lot:	2003	2016			
Layer:	3	3			

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	2.12			
Peak Converted Wet Density (t/m³)	2.05	2.12			
Compactive Effort	Standard	Standard			
Moisture Variation (%)	0.0	0.0			
Hilf Density Ratio (%)	99.5	100.5			

Comments



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

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

Report No: HDR:W20DS03845

Issue No: 1

HILF Density Ratio Report

Client: Greenridge Properties Pty Ltd
Address: PO Box 3131
 AUBURN VIC 3123
Project: Meridian Estate - Stage 20
Project No.: 3807351.020
Order No.:
TRN:

CG Request No.:
Lot No.:

Accredited for compliance with ISO/IEC 17025
 - Testing

Approved Signatory: M. Longfield
 (Senior Technician)
 Date of Issue: 5/08/2020
 12712
 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	S20DS-13992	S20DS-13993	S20DS-13994
Field Sample ID	1	2	3
Date Tested	24/07/2020	24/07/2020	24/07/2020
E:	1522.159	1513.784	1534.011
N:	687.878	718.826	741.497
EL:	32.988	33.039	33.417
Lot:	2007	2004	2002
Layer:	4	4	4

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)	2.02	2.10	2.07
Peak Converted Wet Density (t/m³)	2.03	2.10	2.12
Compactive Effort	Standard	Standard	Standard
Moisture Variation (%)	2.5 wet	0.0	0.5 dry
Hilf Density Ratio (%)	99.0	100.0	97.5

Comments

Appendix D: Controlled fill certificates



CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2001 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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 (26 June 2020 to 24 July 2020). No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

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

Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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www.chadwickgeotechnics.com.au



CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2002 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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 (26 June 2020 to 24 July 2020). 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

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Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2003
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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 (26 June 2020 to 24 July 2020). 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

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Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2004 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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 (26 June 2020 to 24 July 2020). No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

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

Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2005 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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 (26 June 2020 to 24 July 2020). 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

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Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2006 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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 (26 June 2020 to 24 July 2020). 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

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Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2007
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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 (26 June 2020 to 24 July 2020). No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

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

Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2008 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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 (26 June 2020 to 24 July 2020). No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

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

Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2009 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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 (26 June 2020 to 24 July 2020). 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 Bender'.

Geotechnical Engineer

A handwritten signature in blue ink, appearing to be 'A. D.' or similar, enclosed in a blue oval.

Project Director

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www.chadwickgeotechnics.com.au



CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2010 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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 (26 June 2020 to 24 July 2020). No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

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

Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2011
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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 (26 June 2020 to 24 July 2020). No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

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

Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2012
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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 (26 June 2020 to 24 July 2020). 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

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Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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www.chadwickgeotechnics.com.au



CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2013
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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 (26 June 2020 to 24 July 2020). No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

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

Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2014
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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.

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2015
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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.

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2016
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2017
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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.

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2018
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2019 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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.

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CHADWICK GEOTECHNICS PTY LTD

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2020 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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.

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CHADWICK GEOTECHNICS PTY LTD

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2021 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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.

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CHADWICK GEOTECHNICS PTY LTD

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2022
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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.

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LIMITATIONS

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CHADWICK GEOTECHNICS PTY LTD

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2023 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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.

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2024
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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.

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2025
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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.

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CHADWICK GEOTECHNICS PTY LTD

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2026
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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.

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Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2027 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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.

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CHADWICK GEOTECHNICS PTY LTD

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Robert Barden
Geotechnical Engineer

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Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2028
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

SUMMARY

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CHADWICK GEOTECHNICS PTY LTD

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

Robert Barden
Geotechnical Engineer

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

Timothy Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2029
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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 (26 June 2020 to 24 July 2020). 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.

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2030 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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

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Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2031 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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

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Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2032
Meridian Estate Stage 20
Chadwick Geotechnics REF: 3807351.020.v1

CLIENT : Grosvenor Lodge Pty Ltd
PO Box 4136
DANDENONG SOUTH VIC 3164
DATE : September 2020

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.

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot No: 2033 Chadwick Geotechnics REF: 3807351.020.v1
Meridian Estate Stage 20

CLIENT : Grosvenor Lodge Pty Ltd DATE : September 2020
PO Box 4136
DANDENONG SOUTH VIC 3164

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.

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