REPORT

Level One Inspection and Testing Services

Meridian Estate Stage 7
Lots 701 to 752

Prepared for:
Grosvenor Lodge Pty Ltd

December 2017
Our Ref: 3807351.007.v1
## Document Control

**Title:** Level One Inspection and Testing Services

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<tr>
<th>Date</th>
<th>Version</th>
<th>Description</th>
<th>Prepared by</th>
<th>Reviewed by</th>
<th>Authorised by</th>
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**Distribution:**

- Grosvenor Lodge Pty Ltd: pdf
- Chadwick Geotechnics Pty Ltd (FILE): 1 copy
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1 Introduction

Chadwick Geotechnics Pty Ltd (Chadwick Geotechnics) has been engaged by Grosvenor Lodge Pty Ltd, to provide Level 1 Inspection and Testing services for the earthworks (including stripping and associated works) within Lots 701 to 752 at the Meridian Estate in Clyde North.

The inspection and testing of earthworks has been carried out in accordance with AS3798-2007 Table 8.1\(^1\), ‘Guidelines on earthworks for commercial and residential developments’, with a frequency of field density tests as per Type 1 project (large scale operations).

2 Project details

<table>
<thead>
<tr>
<th>Project Name</th>
<th>Meridian Estate Stage 7</th>
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<tr>
<td>Project Location</td>
<td>Clyde North</td>
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<tr>
<td>Municipality</td>
<td>City of Casey</td>
</tr>
<tr>
<td>Client</td>
<td>Grosvenor Lodge Pty Ltd</td>
</tr>
<tr>
<td>Project Manager</td>
<td>Robert Barden – Geotechnical Engineer</td>
</tr>
<tr>
<td>Inspected &amp; Tested by</td>
<td>Janusz Kwiatkowski – Technician and others as required</td>
</tr>
</tbody>
</table>

\(^1\) AS 3798 – 2007 (Incorporating Amendment No. 1), Guidelines on earthworks for commercial and residential developments
The location of the site is shown in Figure 1 below.

![Approximate Site Location](Image sourced from Near Maps)

**Figure 1: Approximate site location**

### 3 Geology

Published information\(^2\) shows that the site is underlain by various geologies listed as follows:

- Quaternary Age Unnamed dune deposits Formation (Qd1) comprising of sand, clay and calcareous sand.
- Quaternary Age Unnamed swamp and lake deposits Formation (Qm1) comprising of silt and clay.
- Palaeozoic Age Murrindindi Supergroup (Sm) comprising of mudstone and sandstone
- Neogeone Age Baxter Sandstone Formation (Nxx) comprising of sandstone, conglomerate, siltstone and ironstone.

### 4 Specification

A summary of the specification see below:

<table>
<thead>
<tr>
<th>Compaction Requirement</th>
<th>95% Standard Compaction</th>
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</thead>
</table>

---

5  

**Inspection and testing**

Prior to any fill being placed at the site the stripped surface of the fill areas were inspected. The stripped surface inspections were performed by experienced Chadwick Geotechnics staff. The inspections were performed in accordance with the Level 1 guidelines presented in AS 3798–2007 Section 5.5. No soft spots were encountered and the areas were firm and free of vegetation and other deleterious material.

Full time Level 1 inspection and testing of the filling operations commenced on the 7th May 2016 and was completed on the 10th November 2017. During this period, the Chadwick Geotechnics field technician observed all works related to the construction including the supply of material, conditioning of material placement and compaction of the fill.

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

Field density and moisture content testing was carried out using a calibrated nuclear density 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. The test locations were recorded using a handheld GPS unit. A site plan showing the field density and moisture content test locations is provided in Appendix A.

The actual testing frequency was governed by Table 8.1 of AS 3798 which provides the required testing frequency for a Type 1 development, as identified in clause 1.2.8. Based on an area of fill that is consistent and "essentially homogeneous". Therefore not every residential lot within the estate was density tested during earthwork filling.

The earthwork filling works was not continuous resulting in breaks in time during construction. The filling process also caused a break in the sequential numbering of the density and moisture content test reports. The summary page and attached NATA reports within this report includes test results that relate to stage 7 and at times other stages of earthworks within the Meridian Estate.

The testing results show that one test failed to meet the specified density limit for the project. The earthworks contractor was advised of the test that failed and the fill relevant to the area was reworked, reconditioned, re-compacted and subsequently retested.

The final results show the tests achieved the specified minimum density 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 direct supervision 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 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 field technician, 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 on Lots 701 to 752, have been performed in accordance with the requirements of Section 8.2 Level 1 Inspection and testing AS3798-2007.

The Controlled Fill Certificates for the filling works are provided in Appendix D.
7 Applicability

This report has been prepared in good faith and in accordance with the Chadwick Geotechnics quality system for the earthworks filling within Stage 7 of the Meridian Estate in Clyde North.

This report is based on the nature of the project and the conditions present in, or factors affecting the soil as at the time of inspection, namely the 7th May 2016 and was completed on the 10th November 2017. No responsibility or liability will be accepted, and Chadwick Geotechnics is indemnified to the full extent permitted by law in respect of the use of this report where there has been a change in the nature of the project or the conditions on site that may alter or affect the conclusions of this report.

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

Chadwick Geotechnics Pty Ltd

Report prepared by: Robert Barden
Geotechnical Engineer

Authorised for Chadwick Geotechnics Pty Ltd by: Timothy Chadwick
Project Director

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www.chadwickgeotechnics.com.au

p:\3807351\7 stage 7\workingmaterial\level one\3807351.007 r.docx
Appendix A:  Density Test Location Plan
Appendix B:  Table of field density results
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<th>Report No</th>
<th>Sample No</th>
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<th>Test Number</th>
<th>Location [E]</th>
<th>Location [N]</th>
<th>Density Ratio HILF test (%)</th>
<th>Moisture Variation From OMC</th>
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Appendix C: NATA endorsed laboratory reports
# HILF Density Ratio Report

**Customer:** Grosevnor Lodge Pty Ltd  
**Report Number:** 380735 - 16  
**Location:** Clyde North  
**Project:** Meridian Estate  
**Report Date:** 10/05/16  
**Test Method:** AS1289.5.7.1  
**Testing performed and reported at our Dandenong South Laboratory 21712**

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<th>ID No.</th>
<th>Lot No.</th>
<th>Date Sampled</th>
<th>Time Sampled</th>
<th>Date Tested</th>
<th>Material Source</th>
<th>Material Description</th>
<th>To Be Used As</th>
<th>Layer Depth (mm)</th>
<th>Test Depth (mm)</th>
<th>Sampling Procedure</th>
<th>Max Size (mm)</th>
<th>Oversize Wet (%)</th>
<th>Fld. Wet Density (t/m³)</th>
<th>Fld. Moisture Content (%)</th>
<th>PCWD (t/m³)</th>
<th>APCWD (t/m³)</th>
<th>O.M.C (%)</th>
<th>Moisture Ratio (%)</th>
<th>Moisture Variation (of omc)</th>
<th>Adjusted Moisture Variation (of omc)</th>
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<th>HILF Density Ratio (%)</th>
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**Remarks:**  
Approved Signatory: M. Robinson  
Form No.: CG.315.002  
Issue Date: 19/02/2013  
Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
### HILF DENSITY RATIO REPORT

**Customer:** Grosevnor Lodge Pty Ltd  
**Report Number:** 380735 - 20  
**Customer Address:** 48 Healy Road, Dandenong Sth, Vic 3175  
**Project:** Meridian Estate  
**Location:** Clyde North  
**Report Date:** 17/05/16  
**Test Method:** AS1289.5.7.1  
**C.G Order No.:** -  
**Material Source:** Site Derived  
**Material Description:** Clay  
**To Be Used As:** -  
**Sample Location:** -  
**Layer Depth (mm):** 175  
**Test Depth (mm):** 150  
**Sampling Procedure:** AS1289.1.2.1.6.4(b)  
**Max Size (mm):** 19.0  
**Oversize Wet (%):** 0  
**Fld. Wet Density (t/m³):** 2.13  
**Fld. Moisture Content (%) AS1289.2.1.1:** -  
**PCWD (t/m³):** 2.09  
**APCWD (t/m³):** -  
**O.M.C (%) AS1289.5.7.1:** -  
**Moisture Ratio (%) AS1289.5.4.1:** -  
**Moisture Variation (of omc):** 0.5% (wet)  
**Adjusted Moisture Variation (of omc):** -  
**Compactive Effort:** Standard  
**Hilf Density Ratio (%):** 102.0  
**Min Hilf Density Ratio (%):** 95  

**Remarks:**  
Approved Signatory: M. Robinson  
Form No.: CG.315.002  
Issue Date: 19/02/2013

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**Layer Depth (mm):** 175

**Test Depth (mm):** 150

**Sampling Procedure:** AS1289.1.2.1.6.4(b)

**Max Size (mm):** 19.0

**Oversize Wet (%):** 0

**Fld. Wet Density (t/m³):** 2.13

**Fld. Moisture Content (%) AS1289.2.1.1:** -

**PCWD (t/m³):** 2.09

**APCWD (t/m³):** -

**O.M.C (%) AS1289.5.7.1:** -

**Moisture Ratio (%) AS1289.5.4.1:** -

**Moisture Variation (of omc):** 0.5% (wet)

**Adjusted Moisture Variation (of omc):** -

**Compactive Effort:** Standard

**Hilf Density Ratio (%):** 102.0

**Min Hilf Density Ratio (%):** 95

---

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
### HILF DENSITY RATIO REPORT

**Customer:** Grosevnor Lodge Pty Ltd  
**Project:** Meridian Estate  
**Location:** Clyde North  
**Customer Order No.:** -  
**Report Date:** 18/05/16  
**Report Number:** 380735 - 21  

**Sample No.:** 1606391 1606392 1606393 1606394 1606395 1606396

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| Layer Depth (mm): | 175 | 175 | 175 | 175 | 175 | 175 |
| Test Depth (mm): | 150 | 150 | 150 | 150 | 150 | 150 |
| Sampling Procedure: | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) |
| Max Size (mm): | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 |
| Oversize Wet (%): | 0 | 0 | 0 | 0 | 0 | 0 |
| Fld. Wet Density (t/m³): | 2.10 | 2.15 | 2.01 | 2.15 | 2.12 | 2.07 |
| Fld. Moisture Content (%) AS1289.5.8.1: | - | - | - | - | - | - |
| PCWD (t/m³): | 2.08 | 2.04 | 2.03 | 2.06 | 2.01 | 2.01 |
| APCWD (t/m³): | - | - | - | - | - | - |
| O.M.C (%) AS1289.5.7.1: | - | - | - | - | - | - |
| Moisture Ratio (%) AS1289.5.4.1: | - | - | - | - | - | - |
| Moisture Variation (of omc): | omc | 1.5% (dry) | 2% (dry) | 1.5% (dry) | 1.5% (dry) | 2.5% (dry) |
| Adjusted Moisture Variation (of omc): | - | - | - | - | - | - |
| Compactive Effort: | - | - | - | - | - | - |
| Hill Density Ratio (%): | 101.0 | 105.5 | 99.0 | 104.5 | 105.5 | 102.5 |
| Min Hill Density Ratio (%): | 95 | 95 | 95 | 95 | 95 | 95 |

**Remarks:**

Test performed and reported at our Dandenong South Laboratory 21712.
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**Remarks:**

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
### HILF Density Ratio Report

**Customer:** Grosevnor Lodge Pty Ltd  
**Customer Address:** 48 Healy Road, Dandenong South, Vic 3175  
**Project:** Meridian Estate  
**Location:** Clyde North  
**C.G Order No.:** -  
**Test Method:** AS1289.5.7.1  
**Report Number:** 380735  
**Report Date:** 23/05/16

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| Layer Depth (mm): | 150 | 150 | 150 | 150 | 150 |
| Test Depth (mm): | 125 | 125 | 125 | 125 | 125 |
| Sampling Procedure: | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) |
| Max Size (mm): | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 |
| Oversize Wet (%): | 0 | 0 | 0 | 0 | 0 |
| Fld. Wet Density (t/m³): AS 1289.5.8.1: | 2.04 | 2.10 | 2.03 | 2.04 | 1.99 |
| Fld. Moisture Content (%) AS1289.2.1.1: | - | - | - | - | - |
| PCWD (t/m³): | 2.06 | 2.03 | 1.98 | 2.07 | 1.97 |
| APCWD (t/m³): | - | - | - | - | - |
| O.M.C (%) AS1289.5.7.1: | - | - | - | - | - |
| Moisture Ratio (%) AS1289.5.4.1: | - | - | - | - | - |
| Moisture Variation (of omc): | 3% (wet) | 0.5% (wet) | 1% (dry) | 2% (dry) | 2% (dry) |
| Adjusted Moisture Variation (of omc): | - | - | - | - | - |
| Hilf Density Ratio (%): | 99.0 | 103.0 | 102.5 | 98.5 | 101.0 |
| Min Hilf Density Ratio (%): | 95 | 95 | 95 | 95 | 95 |

**Remarks:**

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

**APPROVED SIGNATORY**

M.Robinson  
**Form No.:** CG.315.002  
**Issue Date:** 19/02/2013
# HILF Density Ratio Report

**Customer:** Grosevnor Lodge Pty Ltd  
**Report Number:** 380735  
**Customer Address:** 48 Healy Road, Dandenong Sth, Vic 3175  
**Project:** Meridian Estate  
**Location:** Clyde North

**Report Date:** 02/06/16  
**C.G Order No:** 151750  
**Test Method:** AS1289.5.7.1

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| Layer Depth (mm) | 150 | 150 |
| Test Depth (mm) | 125 | 125 |
| Sampling Procedure | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) |
| Max Size (mm) | 19.0 | 19.0 |
| Oversize Wet (%) | 3 | 6 |
| Field Wet Density (t/m$^3$) | 2.10 | 2.11 |
| Field Moisture Content (%) | - | - |
| PCWD (t/m$^3$) | - | - |
| APCWD (t/m$^3$) | 2.09 | 2.07 |
| O.M.C (%) | - | - |
| Moisture Ratio (%) | - | - |
| Moisture Variation (of omc): | 1% (wet) | 1% (dry) |
| Adjusted Moisture Variation (of omc): | - | - |
| Compactive Effort: | Standard | Standard |
| Hilf Density Ratio (%): | 101.0 | 101.5 |
| Min Hilf Density Ratio (%): | 95 | 95 |

**Remarks:**

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

---

**Approving Signatory:** M. Robinson  
**Form No.:** CG.315.002  
**Issue Date:** 19/03/2013
# HILF Density Ratio Report

**Customer:** Grosevnor Lodge Pty Ltd  
**Report Number:** 380735  
**Customer Address:** 46 Healy Road, Dandenong Sth, Vic 3175  
**Project:** Meridian Estate  
**Location:** Clyde North  
**Customer Order No.:** -  
**Page:** 1 of 1  
**Report Date:** 08/09/16  
**C.G Order No.:** -  
**Test Method:** AS1289.5.7.1  
**Test Method:** AS1289.5.4.1:  
**Material Source:** Site Derived  
**Material Description:** Silty Clay  
**To Be Used As:** Fill  
**Sample Location:** Meridian Estate  
**Sample Location:** E354716  
**Sample Location:** N57828414 Roadway  
**Layer Depth (mm):** 200  
**Test Depth (mm):** 150  
**Sampling Procedure:** AS1289.1.2.1.6.4(b)  
**Max Size (mm):** 19.0  
**Oversize Wet (%):** 0  
**Field Wet Density (t/m³):** 2.03  
**Field Moisture Content (%) AS1289.2.1.1:** -  
**PCWD (t/m³):** 1.95  
**APCWD (t/m³):** -  
**O.M.C (%) AS1289.5.7.1:** -  
**Moisture Ratio (%) AS1289.5.4.1:** -  
**Moisture Variation (of omc):** 2.5% (dry)  
**Adjusted Moisture Variation (of omc):** -  
**Compactive Effort:** Standard  
**Hilf Density Ratio (%):** 104.5  
**Min Hilf Density Ratio (%):** 95  

**Remarks:**

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**Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.**
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<td>E354823 N5782406</td>
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<td>Test Depth (mm):</td>
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<td>AS1289.1.2.1.6.4(b)</td>
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<td>Max Size (mm):</td>
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<td>Fld. Wet Density (t/m³) AS 1289.5.8.1:</td>
<td>2.12</td>
<td>2.03</td>
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<tr>
<td>PCWD (t/m³):</td>
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<td>APCWD (t/m³):</td>
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<td>-</td>
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<tr>
<td>Moisture Ratio (%) AS1289.5.4.1:</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Moisture Variation (of omc):</td>
<td>omc</td>
<td>omc</td>
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<tr>
<td>Adjusted Moisture Variation (of omc):</td>
<td>-</td>
<td>-</td>
</tr>
<tr>
<td>Compactive Effort:</td>
<td>Standard</td>
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<tr>
<td>Hilf Density Ratio (%):</td>
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<td>95.5</td>
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<td>Min Hilf Density Ratio (%):</td>
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Remarks:
HILF DENSITY RATIO REPORT

Sample No.: 1704746
ID No.: 1
Lot No.: -
Date Sampled: 18/03/2017
Time Sampled: am/pm
Date Tested: 20/03/2017
Material Source: Site Derived
Material Description: Clay
To Be Used As: Fill
Sample Location:
- E354806
- N5782381
Stage 7
Layer 1

Layer Depth (mm): 200
Test Depth (mm): 150
Sampling Procedure: AS1289.1.2.1.6.4(b)
Max Size (mm): 19.0
Oversize Wet (%): 0
Fld. Wet Density (t/m³) AS 1289.5.8.1: 1.95
Fld. Moisture Content (%) AS1289.2.1.1: -
PCWD (t/m³): 1.83
APCWD (t/m³): -
O.M.C (%) AS1289.5.7.1: -
Moisture Ratio (%) AS1289.5.4.1: -
Moisture Variation (of omc): 3.5% (dry)
Adjusted Moisture Variation (of omc): -
Compactive Effort: Standard
Hilf Density Ratio (%): 107.0
Min Hilf Density Ratio (%): 95

Remarks:

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

APPROVED SIGNATORY

M.Robinson
Customer: Grosevnor Lodge Pty Ltd
Customer Address: 48 Healy Road, Dandenong Sth, Vic 3175
Project: Meridian Estate - Stage 7
Location: Clyde North
Customer Order No.: -

<table>
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<th>Sample No.</th>
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<tr>
<td>Lot No.</td>
<td>-</td>
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<tr>
<td>Date Sampled</td>
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<tr>
<td>Time Sampled</td>
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<td>Date Tested</td>
<td>30/03/2017</td>
<td>30/03/2017</td>
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<td>Material Source</td>
<td>Site Derived</td>
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<td>Material Description</td>
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<td>Clay</td>
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<tr>
<td>To Be Used As</td>
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Sample Location:
- E354786
- E354870
- N5782316
- N5782324

Layer Depth (mm): 200 200
Test Depth (mm): 150 150
Sampling Procedure: AS1289.1.2.1.6.4(b) AS1289.1.2.1.6.4(b)
Max Size (mm): 19.0 19.0
Oversize Wet (%): 0 0
Fld. Wet Density (t/m³) AS 1289.5.8.1: 2.02 2.00
Fld. Moisture Content (%) AS1289.2.1.1: - -
PCWD (t/m³): 1.95 1.99
APCWD (t/m³): - -
O.M.C (%) AS1289.5.7.1: - -
Moisture Ratio (%) AS1289.5.4.1: - -
Moisture Variation (of omc): 1.5% (dry) omc
Adjusted Moisture Variation (of omc): - -
Compactive Effort: Standard Standard
Hilf Density Ratio (%): 103.5 100.5
Min Hilf Density Ratio (%): 95 95

Remarks:

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
## HILF Density Ratio Report

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

**Project:** Meridian Estate  
**Project No.:** 3807351

### Sample Details

<table>
<thead>
<tr>
<th>Location</th>
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<td>Client Request ID</td>
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<tr>
<td><strong>Specification Requirements</strong></td>
<td>Minimum HILF Density Ratio of 95% Standard Compaction</td>
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<tr>
<td><strong>Field Test procedures:</strong></td>
<td>AS 1289.5.8.1</td>
</tr>
<tr>
<td><strong>Laboratory Test procedures:</strong></td>
<td>AS 1289.5.7.1</td>
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<tr>
<td><strong>Sampling Method:</strong></td>
<td>AS1289.1.2.1 Clause 6.4 (b)</td>
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<tr>
<td>Source</td>
<td>Onsite</td>
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<td>Material</td>
<td>General Fill</td>
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### Sample Data

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<td>3</td>
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<td><strong>Date Tested</strong></td>
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<td><strong>E</strong></td>
<td>354861</td>
<td>354861</td>
<td>354774</td>
<td>354816</td>
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<td><strong>N</strong></td>
<td>5782283</td>
<td>5782273</td>
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### Field and Laboratory Data

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<th>Clay</th>
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<tr>
<td><strong>Depth of Test (mm)</strong></td>
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<td>150</td>
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<td><strong>Depth of Layer (mm)</strong></td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
<td>200</td>
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<tr>
<td><strong>Oversize Wet (%)</strong></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td><strong>Field Wet Density (t/m³)</strong></td>
<td>2.17</td>
<td>2.10</td>
<td>2.18</td>
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<td>2.01</td>
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<td><strong>Peak Converted Wet Density (t/m³)</strong></td>
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<td>2.12</td>
<td>2.05</td>
<td>2.11</td>
<td>2.10</td>
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<tr>
<td><strong>Compactive Effort</strong></td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
<td>Standard</td>
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<tr>
<td><strong>Moisture Variation (%)</strong></td>
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<td>0.5 wet</td>
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<td>0.5 wet</td>
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<td><strong>HILF Density Ratio (%)</strong></td>
<td>108.5</td>
<td>99.5</td>
<td>106.5</td>
<td>94.0</td>
<td>95.5</td>
</tr>
</tbody>
</table>

### Comments

---

© 2000-2016 QESTLab by SpectraQEST.com
**HILF DENSITY RATIO REPORT**

**Customer:** Grosevnor Lodge Pty Ltd  
**Customer Address:** 48 Healy Road, Dandenong Sth, Vic 3175  
**Project:** Meridian Estate  
**Location:** Clyde North  
**Report Number:** 380735  
**Report Date:** 17/05/16  
**C.G Order No:** 151741  
**Test Method:** AS1289.5.7.1  
**Testing performed and reported at our Dandenong South Laboratory 21712**  

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<td>4</td>
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<tr>
<td>Lot No.:</td>
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<td>-</td>
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<td>To Be Used As:</td>
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<td>N 5782223</td>
<td>N 5782296</td>
<td>N 5782264</td>
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<td>Layer 1</td>
<td>Layer 1</td>
<td>Layer 1</td>
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| Layer Depth (mm): | 175 | 175 | 175 | 175 |
| Test Depth (mm): | 150 | 150 | 150 | 150 |
| Sampling Procedure: | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) | AS1289.1.2.1.6.4(b) |
| Max Size (mm): | 19.0 | 19.0 | 19.0 | 19.0 |
| Oversize Wet (%): | 0 | 0 | 0 | 0 |
| Fld. Wet Density (t/m³): | 2.07 | 1.99 | 2.04 | 1.96 |
| Fld. Moisture Content (%) AS1289.5.8.1: | - | - | - | - |
| PCWD (t/m³): | 2.02 | 1.92 | 2.06 | 2.00 |
| APCWD (t/m³): | - | - | - | - |
| O.M.C (%) AS1289.5.7.1: | - | - | - | - |
| Moisture Ratio (%) AS1289.5.4.1: | - | - | - | - |
| Moisture Variation (of omc): | 1% (dry) | 2% (dry) | 0.5% (wet) | omc |
| Adjusted Moisture Variation (of omc): | - | - | - | - |
| Compactive Effort: | Standard | Standard | Standard | Standard |
| Hilf Density Ratio (%): | 102.0 | 103.5 | 99.0 | 97.5 |
| Min Hilf Density Ratio (%): | 95 | 95 | 95 | 95 |

**Remarks:**

Accredited for compliance with ISO/IEC 17025. The results of tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

**Form No.:** CG.315.002  
**Issue Date:** 19/02/2013  
**NATA Accreditation No:** NC002132  
**M. Robinson**
# HILF Density Ratio Report

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<td>Client Request ID:</td>
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<tr>
<td>Specification Requirements: Minimum HILF Density Ratio of 95% Standard Compaction</td>
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<tr>
<td>Field Test procedures: AS 1289.5.8.1</td>
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<tr>
<td>Laboratory Test procedures: AS 1289.5.7.1</td>
</tr>
<tr>
<td>Sampling Method: AS1289.1.2.1 Clause 6.4 (b)</td>
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<tr>
<td>Source: Onsite</td>
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<td>Material: General Fill</td>
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<td>E: 354820</td>
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<td>N: 5782321</td>
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<td>Depth of Test (mm): 150</td>
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<td>Field Wet Density (t/m³): 2.02</td>
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<td>Peak Converted Wet Density (t/m³): 1.95</td>
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<tr>
<td>Compactive Effort: Standard</td>
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<tr>
<td>Moisture Variation (%): 3.0 dry</td>
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<tr>
<td>HILF Density Ratio (%): 103.5</td>
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## Comments
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 Meridian Estate Stage 07 in Clyde North.

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).

LIMITATIONS

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

This report is based on the conditions present and factors affecting the soil at the time of inspection, up to 10th November 2017. 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.
CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 702 Meridian Estate - Stage 07 Clyde North, VIC

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

DATE : December 2017

Chadwick Geotechnics REF : 3807351.007.v1

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 Meridian Estate Stage 07 in Clyde North.

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).

LIMITATIONS

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

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
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 Meridian Estate Stage 07 in Clyde North.

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).

LIMITATIONS

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
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 Meridian Estate Stage 07 in Clyde North.

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).

LIMITATIONS

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director
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 Meridian Estate Stage 07 in Clyde North.

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).

LIMITATIONS

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

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
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 Meridian Estate Stage 07 in Clyde North.

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).

LIMITATIONS

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

This report is based on the conditions present and factors affecting the soil at the time of inspection, up to 10th November 2017. 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.
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 Meridian Estate Stage 07 in Clyde North.

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).

LIMITATIONS

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

This report is based on the conditions present and factors affecting the soil at the time of inspection, up to 10th November 2017. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 708 Meridian Estate - Stage 07 Clyde North, VIC

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

Chadwick Geotechnics REF : 3807351.007.v1

DATE : December 2017

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 Meridian Estate Stage 07 in Clyde North.

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).

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

This report is based on the conditions present and factors affecting the soil at the time of inspection, up to 10th November 2017. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT: Lot 709 Meridian Estate - Stage 07 Clyde North, VIC

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

DATE: December 2017

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 Meridian Estate Stage 07 in Clyde North.

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).

LIMITATIONS

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

This report is based on the conditions present and factors affecting the soil at the time of inspection, up to 10th November 2017. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
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 Meridian Estate Stage 07 in Clyde North.

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).

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Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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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 Meridian Estate Stage 07 in Clyde North.

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).

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 712 Meridian Estate - Stage 07 Clyde North, VIC

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

Chadwick Geotechnics REF : 3807351.007.v1

DATE : December 2017

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 Meridian Estate Stage 07 in Clyde North.

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).

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

This report is based on the conditions present and factors affecting the soil at the time of inspection, up to 10th November 2017. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

Robert Barden Tim Chadwick
Geotechnical Engineer Project Director

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www.chadwickgeotechnics.com.au
**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 Meridian Estate Stage 07 in Clyde North.

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).

**LIMITATIONS**

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This report is based on the conditions present and factors affecting the soil at the time of inspection, up to 10th November 2017. 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.
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 Meridian Estate Stage 07 in Clyde North.

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).

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT: Lot 715
Meridian Estate - Stage 07
Clyde North, VIC

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

DATE: December 2017

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 Meridian Estate Stage 07 in Clyde North.

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).

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

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
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 Meridian Estate Stage 07 in Clyde North.

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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SUMMARY

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Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
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 Meridian Estate Stage 07 in Clyde North.

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).

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
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 Meridian Estate Stage 07 in Clyde North.

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).

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This report is based on the conditions present and factors affecting the soil at the time of inspection, up to 10th November 2017. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 721 Meridian Estate - Stage 07 Clyde North, VIC

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

Chadwick Geotechnics REF : 3807351.007.v1

DATE : December 2017

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 Meridian Estate Stage 07 in Clyde North.

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).

LIMITATIONS

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

This report is based on the conditions present and factors affecting the soil at the time of inspection, up to 10th November 2017. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

Robert Barden Tim Chadwick
Geotechnical Engineer Project Director

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www.chadwickgeotechnics.com.au
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 Meridian Estate Stage 07 in Clyde North.

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).

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director
CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT                     : Lot 723 Meridian Estate - Stage 07 Clyde North, VIC

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

Chadwick Geotechnics REF : 3807351.007.v1 DATE : December 2017

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 Meridian Estate Stage 07 in Clyde North.
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).

LIMITATIONS
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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
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 Meridian Estate Stage 07 in Clyde North.

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).

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SUMMARY

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
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 Meridian Estate Stage 07 in Clyde North.

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).

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Geotechnical Engineer

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Project Director

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www.chadwickgeotechnics.com.au
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 Meridian Estate Stage 07 in Clyde North.

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).

LIMITATIONS

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SUMMARY

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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).

LIMITATIONS

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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www.chadwickgeotechnics.com.au
CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT: Lot 735 Meridian Estate - Stage 07 Clyde North, VIC

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

CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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Geotechnical Engineer  Project Director

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CHADWICK GEOENGINEERING PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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Tim Chadwick
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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 746 Meridian Estate - Stage 07 Clyde North, VIC

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

Chadwick Geotechnics REF : 3807351.007.v1

DATE : December 2017

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 Meridian Estate Stage 07 in Clyde North.

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Robert Barden Tim Chadwick
Geotechnical Engineer Project Director

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CHADWICK GEOTECHNICS PTY LTD

Robert Barden
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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 751 Meridian Estate - Stage 07 Clyde North, VIC

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

Chadwick Geotechnics REF : 3807351.007.v1

SUMMARY

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This report is based on the conditions present and factors affecting the soil at the time of inspection, up to 10th November 2017. No responsibility or liability will be accepted and Chadwick Geotechnics Pty Ltd is indemnified to the full extent permitted by law in respect of the use of this Certificate where there has been a change in the nature of the project, or in the site conditions since the site testing.

CHADWICK GEOTECHNICS PTY LTD

Robert Barden
Geotechnical Engineer

Tim Chadwick
Project Director

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CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Lot 752
Meridian Estate - Stage 07
Clyde North, VIC

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

DATE : December 2017

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 Meridian Estate Stage 07 in Clyde North.

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).

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