

Gold Coast Office  
Job: GL16/078  
Ref: 17136  
Author: Ian Masman

30<sup>th</sup> June 2017.

Golding Contractors Pty Ltd  
Po Box 1643  
Milton Qld, 4064

**ATTENTION: MR CAMERON MCCLURE**  
Email: [Cameron.mcclure@golding.com.au](mailto:Cameron.mcclure@golding.com.au)

Dear Sir

**RE: LEVEL ONE COMPLIANCE REPORT FOR  
EARTHWORKS FILLING OPERATIONS  
GAINSBOROUGH GREENS, PRECINCT 1.3  
YAWALPAH ROAD, PIMPAMA**

## Table of Contents

<b>1.0 INTRODUCTION</b> .....	2
1.1 General .....	2
1.2 Previous Earthworks .....	2
1.3 The Project .....	2
<b>2.0 THE BRIEF</b> .....	4
2.1 Additional Requirements .....	4
<b>3.0 METHODOLOGY</b> .....	4
3.1 Stripped Surface Assessment .....	4
3.2 Filling Operations .....	5
<b>4.0 STATEMENT OF COMPLIANCE</b> .....	6
<b>5.0 EXCLUSIONS</b> .....	7
<b>6.0 LIMITATIONS</b> .....	7

## **1.0 INTRODUCTION**

### **1.1 General**

This report presents results of Level One earthworks inspections, field testing and associated Compaction Compliance testing carried out on earthworks fill constructed to form residential building platforms and embankments below subgrade at the Gainsborough Greens, Precinct 1.3, development, Yawalpah Road, Pimpama (The Site).

The work was commissioned by Mr. Cameron McClure representing Golding Contractors (The Client) using Purchase Order 4500210869.

The earthworks were carried out by The Client.

Earthworks operations were carried out intermittently between 4<sup>th</sup> May, 2016 and 7<sup>th</sup> June, 2017.

### **1.2 Previous Earthworks**

As far as can be determined there was no previous earthworks carried out at The Site.

### **1.3 The Project**

The proposed development at The Site includes residential allotments, new pavements and associated underground service networks.

Earthworks filling was required to form building platforms supporting proposed residences and embankments below subgrade to support future pavements. Earthworks construction at The Site included stripping vegetation, organics and topsoil; proof roll testing of the natural ground surfaces, and then filling The Site to the project design levels.

The Site is bounded by bushland to the East, and The Gainsborough Greens Golf Course to the North, South and West.

Picture 1: Aerial View of the Site (Image Source: Nearthmap.com, showing 8<sup>th</sup> March, 2017).



## 2.0 THE BRIEF

The Brief from the Client was limited to:

- Level One Inspections of the placement and compaction of fill materials between the existing ground levels and the design earthworks levels in accordance with AS3798 2007 – “Guidelines on Earthworks for Commercial and Residential Developments”;
- Relative Density Control Testing in accordance with AS1289 – Testing of Soils for Engineering Purposes and at frequencies required in AS3798 Table 8.1.
- City of Gold Coast Council Requirements.
- Notes on KN Group project drawings.

All other design requirements such as CBR and Quality of Materials, site classification, material assessments, foundation assessments and slope / global stability appraisals were not included in the Brief and are therefore excluded from this Report.

KN Group Earthworks Contour Plan A1-08-133-SK5 indicates the extents of fill to be constructed at The Site. This plan is considered to be a reasonable indication of the actual fill constructed during our involvement.

For confirmation of the actual thickness of fill on an individual lot, a Lot Disclosure Plan can be requested from the Developer.

### 2.1 Additional Requirements

Morrison Geotechnic was not engaged to carry out additional works other than what was outlined in the Brief.

## 3.0 METHODOLOGY

Earthworks Inspections and Testing was carried out on the stripped and exposed ground surfaces and during the placement and compaction of fill materials forming residential allotments and embankments below subgrade.

Field and laboratory testing included walk over assessments of the existing ground conditions, proof roll testing of the stripped surfaces including the existing fill and natural surface, observation of filling and compaction activities and field density testing using a soil moisture density gauge and Hilf Density compactions.

### 3.1 Stripped Surface Assessment

The Site had been cleared of all debris, trees and topsoil. Visible organic matter, un-compacted or loose soil, unsuitable materials and any over wet areas were removed to expose a natural foundation.

Materials exposed after stripping and clearing the site which formed the foundation for new fill can be broadly summarized as:

- Natural – Sandy Clay (Cl), at least very stiff, high plasticity, fine to medium grained sand, grey brown and brown and moist.

The stripped surface was proof rolled by The Client in the presence of our Geotechnicians using a Cat 815 Compactor carrying out multiple passes. Areas where movements were observed beneath the wheels of the plant were removed to a suitable base or tyned, air dried to approximate optimum moisture content and re-compacted. After the above treatments were carried out, the proof rolling process was repeated.

When no visible movement or vertical deflection was observed during proof roll testing, the stripped surface was assessed to be suitable as a foundation for the placement of fill.

**Picture 2: View of the Stripped Surface Prior to the Placement of Fill**



### 3.2 Filling Operations

Fill materials were sourced from cut areas at The Site as well as imported.

Materials used as fill at The Site can be summarized as: -

- Onsite –Sandy Clay (CL – CI), low to medium plasticity, fine to medium grained sand, yellow/brown and moist.
- Import – (GP) Sandy Clayey Gravel, fine to medium sized angular gravel, brown, low plasticity clay, yellow/brown, fine to coarse grained sand, Moist.

Placement and compaction of the fill materials was carried out using the following plant:

- Cat D6 Dozers
- Water Trucks
- Excavator
- 815 Compactors
- Body trucks
- Pad Foot Roller
- Articulated Dump Trucks

The fill was placed in layers appropriate for the above plant, moisture conditioned at the fill source and during placement and thoroughly mixed to achieve moisture contents suitable for compaction.

To the extent that was reasonably practicable, fill materials visibly containing excessive amounts of silts or deleterious materials such as sticks, oversize particles or construction debris were sorted to remove the contaminants prior to placement, or rejected for use. Some cobble sized particles may remain in the body of the fill, however are unlikely to be in sufficient quantities to adversely affect the performance of the new fill. Sloping areas requiring filling were benched and continually keyed into the slope prior to

and during fill placement. Compaction of the fill was carried out using multiple passes of the above compaction plant.

Field density tests and laboratory compactions were carried out on the fill materials in accordance with Table 5.1 and 8.1 of AS3798 2007 (Guidelines on Earthworks for Commercial and Residential Developments) and tested to AS1289 test methods (Testing of Soils for Engineering Purposes). Testing under this Job Number for the recent works achieved the required compaction specification of 95% standard Hilf compaction.

**Picture 3: Site Earthworks Filling Operations**



The location of the field density tests are shown on the Site Plan contained in Appendix A.

The results of the field density and laboratory compaction tests are contained in Appendix B.

These test locations and levels were not obtained by survey and are therefore should only be considered as approximate.

#### **4.0 STATEMENT OF COMPLIANCE**

Our representatives observed the relevant earthworks operations during our engagement including the stripped surface, fill placement and compaction operations and carried out field density tests and laboratory compaction tests in accordance with The Brief.

The fill at The Site has been observed to be placed and compacted in a controlled manner and can be termed "Controlled" as defined in AS2870 (Residential Slabs and Footings).

## 5.0 EXCLUSIONS

The compliance statement excludes any top soil, which may be placed for use as Lot dressing or any other subsequent earthworks after 7<sup>th</sup> June, 2017. All trench backfill, landscaping fill and other fill placed without our knowledge is also excluded.

Assessments of batter stability, global stability, and material quality such as soaked CBR and site classifications are excluded from this commission. The stability of any fill batters in the long term must take account of the variable materials used for the construction of the fill platforms and all surface loads including traffic loads near the crest of all batters.

Our on-site attendance specifically excludes assessments of fill material quality and engineering properties that are outside the requirements of AS 3798 - 2007, including soil or fill reactivity and soaked CBR values. We note that the fill materials comprise clay soils, which may result in unfavorable site classifications for individual lots and low subgrade design strengths for pavements.

Footings and ground slabs for any structures constructed over natural soils or controlled fill should be designed to accommodate the characteristic ground surface movements and settlement potential. Assessments of these design parameters are beyond the scope of this Report.

Controlled fill (Level 1 Fill) provides an overview that the Earthwork Specification has been met. There are instances where significant long term settlements of controlled fill can occur. Large total and differential settlements can be expected where fill has been placed over soft and compressible soils and where the thickness of controlled fill varies significantly across a lot.

In some cases, fill materials with high silt content can deteriorate in wet weather conditions resulting in allowable bearing pressures less than 100 kPa.

## 6.0 LIMITATIONS

This Report has been prepared by Morrison Geotechnic Pty Ltd (Morrison Geotechnic), and may include contributions from Morrison Geotechnic's officers and employees, sub-contractors, sub-consultants or agents (Contributors).

This Report is for the sole benefit and use of Golding Contractors Pty Ltd (Client), its designers, clients and relevant statutory authorities for the sole purpose of providing geotechnical advice and recommendations in respect of Gainsborough Greens, Precinct 1.3, Yawalpah Road, Pimpama Development (Project). The Report is only intended to address those issues expressly described in the Brief/ Work Instructions in this Report. This report should not be relied upon for assessing fill extents and thicknesses.

This Report should not be used or relied upon for any other purpose without Morrison Geotechnic's prior written consent. Morrison Geotechnic and the Contributors do not accept any responsibility or liability in any way whatsoever for the use or reliance of this Report by anyone other than the Client, its designers, its clients and relevant statutory authorities or by anyone else for any purpose other than that for which it has been prepared.

Except with Morrison Geotechnic's prior written consent, this Report may not be:

- (a) released to any other party, whether in whole or in part (other than to the Client's officers, employees, advisers, designers, clients and relevant statutory authorities);
- (b) Used or relied upon by any other party.

Morrison Geotechnic and the Contributors, do not accept any liability or responsibility whatsoever for, or in respect of, any use or reliance upon this Report by any other party. Morrison Geotechnic is not obliged to enter into discussions with any third party in respect of this Report.

The information (including technical information and information obtained through discussions) on which this report is based has been provided by the Client and third parties. Morrison Geotechnic and the Contributors:

- (a) have relied upon and presumed the accuracy of this information;
- (b) have not verified the accuracy or reliability of this information (other than as expressly stated in this Report);
- (c) have not made any independent investigations or enquiries in respect of those matters of which it has no actual knowledge at the time of giving this Report to the Client; and
- (d) Make no warranty or guarantee, expressed or implied, as to the accuracy or reliability of this information.

Morrison Geotechnic and the Contributors do not accept responsibility or liability for any incorrect assumptions related to this Report. For the avoidance of doubt, this Report:

- (a) is not an environmental, contamination or hazardous materials assessment; may be invalid, incomplete or inaccurate (including errors in the scope of work, investigation methodology, observations, opinions and advice) where the information provided to Morrison Geotechnic was invalid, incomplete or inaccurate;
- (b) Is limited to observations of those parts of the site described in Section 1.0.

No warranty or guarantee, whether express or implied, is made in respect of the geotechnical data, information, advice, opinions and recommendations present in this Report.

If further information becomes available, or additional assumptions need to be made, Morrison Geotechnic reserves its right to amend this Report.

If you have any queries regarding the above, please contact Mr. Ian Masman at our Gold Coast office.



**Ian Masman**  
For and on behalf of  
**MORRISON GEOTECHNIC PTY LIMITED**



**M. D. RILEY (RPEQ 5641)**

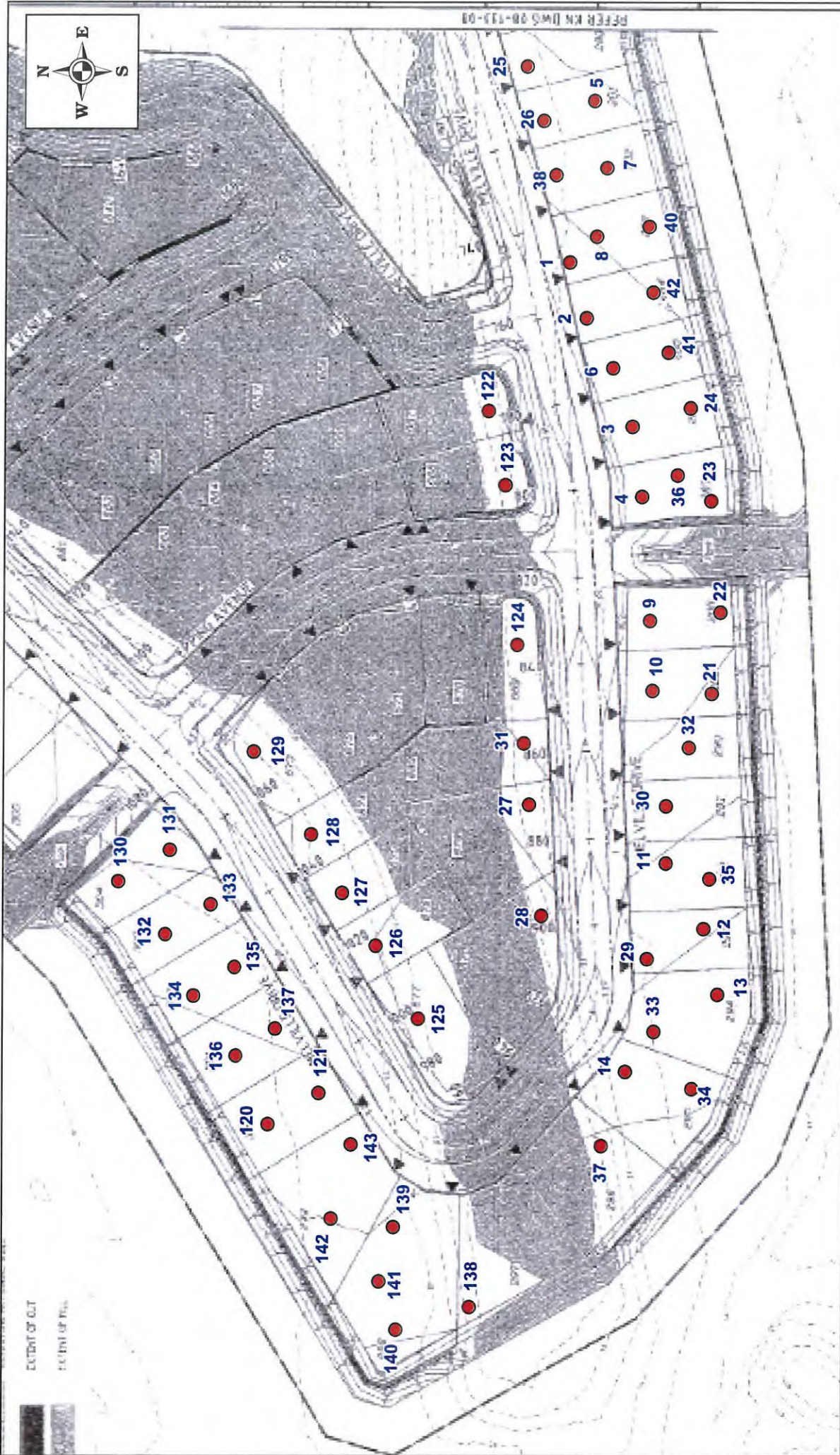
**ATTACHMENTS:**

- Appendix A – Site Plan Showing Test Locations
- Appendix B – Test Reports
- Appendix C – Photo Gallery



# **APPENDIX 'A'**

**(Site Plan showing Test Locations)**



ABN: 51 009 878 899  
 Unit 1/5 Brendan Drive Nerang 4211 Ph: 5596 1599  
 Email: goldcoastlab@morrisongeo.com.au Fax: 5527 2027  
 Engineers: D.Riley, J.Daly, S.Wynne, D.Dragun, B.Taylor  
 D.Vanderhor & B.Elsmore  
 Geologists: L.Bexley & R.Howchin



**MORRISON**  
**GEOTECHNIC**

Map Description :	<b>Field Density Test Locations (Sheet 1 of 3)</b>
Client :	<b>Golding Contractors Pty Ltd</b>
Project :	<b>Gainsborough Greens Precinct 1.3</b>
Project No :	<b>GL16/078</b>
Date :	<b>30/6/17</b>
Scale :	<b>Not to Scale</b>



Map Description :	<b>Field Density Test Locations (Sheet 2 of 3)</b>
Client :	<b>Golding Contractors Pty Ltd</b>
Project :	<b>Gainsborough Greens Precinct 1.3</b>
Project No :	<b>GL16/078</b>
Date :	<b>30/6/17</b>
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**MORRISON**  
**GEOTECHNIC**



Map Description :	<b>Field Density Test Locations (Sheet 3 of 3)</b>
Client :	<b>Golding Contractors Pty Ltd</b>
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 Geologists: L.Bexley & R.Howchin

**MORRISON**  
**GEOTECHNIC**





# **APPENDIX 'B'**

**(Laboratory Test Results)**

## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.1/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>12/05/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	218704	218705		
Test Number :	1	2		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	5/05/2016	5/05/2016		
Date Tested :	5/05/2016	5/05/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	283	284		
Sample Location :	REFER TO SITE PLAN 0.4m ABOVE INSITU	REFER TO SITE PLAN 0.4m ABOVE INSITU		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	25.4	19.8		
Hilf MDR Number :	218704	218705		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	112.5	98		
Field Wet Density (t/m <sup>3</sup> ) :	1.980	1.920		
Optimum Moisture Content (%) :	22.6	20.2		
Moisture Variation :	-2.7	0.3		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.050	2.020		
Hilf Density Ratio (%) :	<b>96.5</b>	<b>95.0</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p>  <p style="text-align: center;">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.2/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>12/05/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	218746	218747		
Test Number :	3	4		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	6/05/2016	6/05/2016		
Date Tested :	6/05/2016	6/05/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	286	287		
Sample Location :	REFER TO SITE PLAN 0.4m ABOVE INSITU	REFER TO SITE PLAN 0.4m ABOVE INSITU		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	20.4	21.4		
Hilf MDR Number :	218746	218747		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	102	94		
Field Wet Density (t/m <sup>3</sup> ) :	1.980	1.950		
Optimum Moisture Content (%) :	20.0	22.8		
Moisture Variation :	-0.3	1.3		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.000	1.980		
Hilf Density Ratio (%) :	<b>99.0</b>	<b>98.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				



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GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR  
 NATA Accreditation Number  
 1169

## Hilf Density Ratio Report

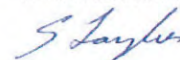
Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.3/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>16/05/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	218801	218802		
Test Number :	5	6		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	9/05/2016	9/05/2016		
Date Tested :	9/05/2016	9/05/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	281	285		
Sample Location :	REFER TO SITE PLAN  0.6m ABOVE INSITU	REFER TO SITE PLAN  0.6m ABOVE INSITU		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	17.6	21.1		
Hilf MDR Number :	218801	218802		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	106.5	93.5		
Field Wet Density (t/m <sup>3</sup> ) :	1.920	1.960		
Optimum Moisture Content (%) :	16.5	22.6		
Moisture Variation :	-1.0	1.4		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.010	1.920		
Hilf Density Ratio (%) :	<b>95.5</b>	<b>102.0</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

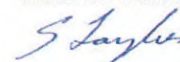
Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.4/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>16/05/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	218824	218825		
Test Number :	7	8		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	10/05/2016	10/05/2016		
Date Tested :	10/05/2016	10/05/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	282	283		
Sample Location :	REFER TO SITE PLAN 0.8m ABOVE INSITU	REFER TO SITE PLAN 0.8m ABOVE INSITU		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	17.1	19.2		
Hilf MDR Number :	218824	218825		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	105.5	105		
Field Wet Density (t/m <sup>3</sup> ) :	2.060	1.990		
Optimum Moisture Content (%) :	16.2	18.3		
Moisture Variation :	-0.8	-0.8		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.030	2.050		
Hilf Density Ratio (%) :	<b>101.5</b>	<b>97.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



Accredited for compliance with ISO/IEC 17025 - Testing.

APPROVED SIGNATORY



GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR  
 NATA Accreditation Number  
 1169

## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.5/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>31/05/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	219171	219172		
Test Number :	9	10		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	21/05/2016	21/05/2016		
Date Tested :	21/05/2016	21/05/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	288	289		
Sample Location :	REFER TO SITE PLAN 0.6m ABOVE INSITU	REFER TO SITE PLAN 0.6m ABOVE INSITU		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	16.2	21.9		
Hilf MDR Number :	219171	219172		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	81	91.5		
Field Wet Density (t/m <sup>3</sup> ) :	1.910	1.970		
Optimum Moisture Content (%) :	20.0	24.0		
Moisture Variation :	3.8	2.0		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.900	1.920		
Hilf Density Ratio (%) :	<b>100.5</b>	<b>103.0</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				

## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.6/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>31/05/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	219184	219185		
Test Number :	11	12		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	23/05/2016	23/05/2016		
Date Tested :	23/05/2016	23/05/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	292	293		
Sample Location :	REFER TO SITE PLAN 0.4m ABOVE INSITU	REFER TO SITE PLAN 0.4m ABOVE INSITU		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	22.2	21.5		
Hilf MDR Number :	219184	219185		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	91.5	93		
Field Wet Density (t/m <sup>3</sup> ) :	1.910	1.940		
Optimum Moisture Content (%) :	24.3	23.2		
Moisture Variation :	2.0	1.6		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.910	1.940		
Hilf Density Ratio (%) :	<b>100.0</b>	<b>100.0</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

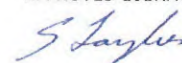
Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.7/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>31/05/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	219211	219212		
Test Number :	13	14		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	24/05/2016	24/05/2016		
Date Tested :	24/05/2016	24/05/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	294	295		
Sample Location :	REFER TO SITE PLAN 0.4m ABOVE INSITU	REFER TO SITE PLAN 0.4m ABOVE INSITU		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	18.0	18.4		
Hilf MDR Number :	219211	219212		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	94.5	96		
Field Wet Density (t/m <sup>3</sup> ) :	1.910	1.940		
Optimum Moisture Content (%) :	19.1	19.1		
Moisture Variation :	1.0	0.7		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.970	1.970		
Hilf Density Ratio (%) :	<b>97.0</b>	<b>98.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.9/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>7/10/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>


Sample Number :	223611	223612	223613	223614
Test Number :	15	16	17	18
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	28/09/2016	28/09/2016	28/09/2016	28/09/2016
Date Tested :	28/09/2016	28/09/2016	28/09/2016	28/09/2016
Material Type :	EMBANKMENT FILL	EMBANKMENT FILL	EMBANKMENT FILL	EMBANKMENT FILL
Material Source :	IMPORT	IMPORT	IMPORT	IMPORT
Lot Number :				
Sample Location :	MELVILLE DRIVE REFER TO SITE PLAN 1.2m BELOW SG	MELVILLE DRIVE REFER TO SITE PLAN 1m BELOW SG	MELVILLE DRIVE REFER TO SITE PLAN 1m BELOW SG	MELVILLE DRIVE REFER TO SITE PLAN 1.4m BELOW SG
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	5.4	5.1	5.1	4.9
Hilf MDR Number :	223611	223612	223613	223614
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	58	58.5	56.5	59
Field Wet Density (t/m <sup>3</sup> ) :	2.230	2.240	2.260	2.220
Optimum Moisture Content (%) :	9.3	8.7	9.0	8.3
Moisture Variation :	4.0	3.8	4.0	3.5
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.180	2.170	2.190	2.190
Hilf Density Ratio (%) :	<b>102.0</b>	<b>103.0</b>	<b>103.5</b>	<b>101.5</b>
Minimum Specification :	98	98	98	98
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.10/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>7/10/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	223615	223616		
Test Number :	19	20		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	28/09/2016	28/09/2016		
Date Tested :	28/09/2016	28/09/2016		
Material Type :	EMBANKMENT FILL	EMBANKMENT FILL		
Material Source :	IMPORT	IMPORT		
Lot Number :				
Sample Location :	MELVILLE DRIVE REFER TO SITE PLAN 1.5m BELOW SG	MELVILLE DRIVE REFER TO SITE PLAN 1.1m BELOW SG		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	5.7	5.3		
Hilf MDR Number :	223615	223616		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	59.5	57.5		
Field Wet Density (t/m <sup>3</sup> ) :	2.230	2.240		
Optimum Moisture Content (%) :	9.6	9.2		
Moisture Variation :	4.0	4.0		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.180	2.180		
Hilf Density Ratio (%) :	<b>102.5</b>	<b>102.5</b>		
Minimum Specification :	98	98		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

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## Hilf Density Ratio Report

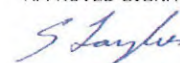
Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.11/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>19/10/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	224230	224231	224232	
Test Number :	31	32	33	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	14/10/2016	14/10/2016	14/10/2016	
Date Tested :	14/10/2016	14/10/2016	14/10/2016	
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	
Material Source :	IMPORT	IMPORT	IMPORT	
Lot Number :	680	290	294	
Sample Location :	REFER TO SITE PLAN E 531788 N 6922990 0.5m BELOW FL	REFER TO SITE PLAN E 531786 N 6922944 0.4m BELOW FL	REFER TO SITE PLAN E 531733 N 6922965 0.7m BELOW FL	
Test Depth (mm) :	150	150	150	
Layer Depth (mm) :	-	-	-	
Maximum Size (mm) :	19	19	19	
Oversize Wet (%) :	-	-	-	
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	11.5	11.3	11.8	
Hilf MDR Number :	224230	224231	224232	
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	
Compactive Effort :	Standard	Standard	Standard	
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	97.5	102.5	110.5	
Field Wet Density (t/m <sup>3</sup> ) :	2.240	2.260	2.290	
Optimum Moisture Content (%) :	11.8	11.0	10.7	
Moisture Variation :	0.3	-0.1	-1.0	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.210	2.250	2.250	
Hilf Density Ratio (%) :	<b>101.0</b>	<b>100.5</b>	<b>101.5</b>	
Minimum Specification :	95	95	95	
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.12/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>20/10/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	224168	224169	224170	224171
Test Number :	27	28	29	30
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	13/10/2016	13/10/2016	13/10/2016	13/10/2016
Date Tested :	13/10/2016	13/10/2016	13/10/2016	13/10/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	679	678	293	291
Sample Location :	REFER TO SITE PLAN E 531775 N 6922992 0.5m BELOW FL	REFER TO SITE PLAN E 531752 N 6922984 0.8m BELOW FL	REFER TO SITE PLAN E 531751 N 6922961 0.6m BELOW FL	REFER TO SITE PLAN E 531773 N 6922958 0.6m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	8	16	13	12
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.540	2.544	2.492	2.446
Field Moisture Content (%) :	9.6	15.6	10.4	8.9
Hilf MDR Number :	224168	224169	224170	224171
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	112.5	107	84	82.5
Field Wet Density (t/m <sup>3</sup> ) :	2.150	2.160	2.200	2.190
Optimum Moisture Content (%) :	8.6	14.6	12.4	10.8
Moisture Variation :	-1.1	-0.9	2.0	1.9
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.15*	2.16*	2.22*	2.21*
Hilf Density Ratio (%) :	<b>100.0</b>	<b>100.0</b>	<b>99.0</b>	<b>99.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.13/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>20/10/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	224120	224121	224122	224123
Test Number :	21	22	23	24
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	12/10/2016	12/10/2016	12/10/2016	12/10/2016
Date Tested :	12/10/2016	12/10/2016	12/10/2016	12/10/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	289	288	287	286
Sample Location :	REFER TO SITE PLAN E 531804 N 6922947 0.7m BELOW FL	REFER TO SITE PLAN E 531818 N 6922963 0.8m BELOW FL	REFER TO SITE PLAN E 531850 N 6922971 0.4m BELOW FL	REFER TO SITE PLAN E 531863 N 6922954 0.5m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	18.4	15.7	4.8	7.3
Hilf MDR Number :	224120	224121	224122	224123
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	101	106	49.5	72
Field Wet Density (t/m <sup>3</sup> ) :	1.970	1.980	2.280	2.270
Optimum Moisture Content (%) :	18.2	14.8	9.7	10.1
Moisture Variation :	-0.1	-0.8	4.9	2.8
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.960	2.030	2.110	2.190
Hilf Density Ratio (%) :	<b>100.5</b>	<b>97.5</b>	<b>108.0</b>	<b>104.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.14/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>20/10/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	224124	224125		
Test Number :	25	26		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	12/10/2016	12/10/2016		
Date Tested :	12/10/2016	12/10/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	280	281		
Sample Location :	REFER TO SITE PLAN E 531947 N 6922980 0.8m BELOW FL	REFER TO SITE PLAN E 531936 N 6922989 0.3m BELOW FL		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	7.2	7.7		
Hilf MDR Number :	224124	224125		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	68.5	68		
Field Wet Density (t/m <sup>3</sup> ) :	2.290	2.270		
Optimum Moisture Content (%) :	10.6	11.3		
Moisture Variation :	3.4	3.6		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.100	2.100		
Hilf Density Ratio (%) :	<b>109.0</b>	<b>108.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.15/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>25/10/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	224274	224275	224276	
Test Number :	34	35	36	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	17/10/2016	17/10/2016	17/10/2016	
Date Tested :	17/10/2016	17/10/2016	17/10/2016	
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	
Material Source :	IMPORT	IMPORT	IMPORT	
Lot Number :	295	292	287	
Sample Location :	REFER TO SITE PLAN E 531707 N 6922951 0.6m BELOW FL	REFER TO SITE PLAN E 531761 N 6922955 0.6m BELOW FL	REFER TO SITE PLAN E 531842 N 6922961 0.3m BELOW FL	
Test Depth (mm) :	150	150	150	
Layer Depth (mm) :	-	-	-	
Maximum Size (mm) :	19	19	19	
Oversize Wet (%) :	-	-	-	
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	2.8	2.4	3.0	
Hilf MDR Number :	224274	224275	224276	
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	
Compactive Effort :	Standard	Standard	Standard	
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	37	30.5	35.5	
Field Wet Density (t/m <sup>3</sup> ) :	2.290	2.300	2.320	
Optimum Moisture Content (%) :	7.5	7.9	8.5	
Moisture Variation :	4.9	5.7	5.7	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.180	2.190	2.190	
Hilf Density Ratio (%) :	<b>105.0</b>	<b>104.5</b>	<b>105.5</b>	
Minimum Specification :	95	95	95	
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location : <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number : <b>GL16-078.16/1</b> Report Date : <b>26/10/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	224382	224383	224384	
Test Number :	37	38	39	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	18/10/2016	18/10/2016	18/10/2016	
Date Tested :	18/10/2016	18/10/2016	18/10/2016	
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	
Material Source :	ONSITE	ONSITE	ONSITE	
Lot Number :	296	282	279	
Sample Location :	REFER TO SITE PLAN E 531695 N 6922968 0.7m BELOW FL	REFER TO SITE PLAN E 531914 N 6922974 0.4m BELOW FL	REFER TO SITE PLAN E 531978 N 6922970 0.6m BELOW FL	
Test Depth (mm) :	150	150	150	
Layer Depth (mm) :	-	-	-	
Maximum Size (mm) :	19	19	19	
Oversize Wet (%) :	-	-	-	
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	3.7	5.0	5.6	
Hilf MDR Number :	224382	224383	224384	
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	
Compactive Effort :	Standard	Standard	Standard	
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	44.5	53.5	59	
Field Wet Density (t/m <sup>3</sup> ) :	2.290	2.280	2.300	
Optimum Moisture Content (%) :	8.3	9.4	9.5	
Moisture Variation :	4.7	4.4	4.0	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.110	2.090	2.100	
Hilf Density Ratio (%) :	<b>108.5</b>	<b>109.0</b>	<b>109.5</b>	
Minimum Specification :	95	95	95	
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				



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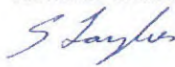
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 NATA Accreditation Number  
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## Hilf Density Ratio Report

Client :	<b>GOLDING CONTRACTORS</b>	Report Number:	<b>GL16-078.17/1</b>
Address :	<b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date :	<b>26/10/2016</b>
Project Name :	<b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :	
Project Number :	<b>GL16/078</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>	

Sample Number :	224417	224418	224419	
Test Number :	40	41	42	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	19/10/2016	19/10/2016	19/10/2016	
Date Tested :	19/10/2016	19/10/2016	19/10/2016	
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	
Material Source :	ONSITE	ONSITE	ONSITE	
Lot Number :	283	285	284	
Sample Location :	REFER TO SITE PLAN E 531910 N 6922966 0.6m BELOW FL	REFER TO SITE PLAN E 531881 N 6922956 0.6m BELOW FL	REFER TO SITE PLAN E 531896 N 692296 0.6m BELOW FL	
Test Depth (mm) :	150	150	150	
Layer Depth (mm) :	-	-	-	
Maximum Size (mm) :	19	19	19	
Oversize Wet (%) :	8	9	9	
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.634	2.648	2.629	
Field Moisture Content (%) :	5.1	3.5	4.1	
Hilf MDR Number :	224417	224418	224419	
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	
Compactive Effort :	Standard	Standard	Standard	
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	54	43.5	43.5	
Field Wet Density (t/m <sup>3</sup> ) :	2.310	2.280	2.300	
Optimum Moisture Content (%) :	9.4	8.1	9.4	
Moisture Variation :	4.4	4.7	5.4	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.14*	2.11*	2.12*	
Hilf Density Ratio (%) :	<b>108.0</b>	<b>108.0</b>	<b>108.5</b>	
Minimum Specification :	95	95	95	
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

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## Hilf Density Ratio Report

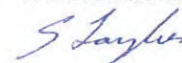
Client :	<b>GOLDING CONTRACTORS</b>	Report Number:	<b>GL16-078.18/1</b>
Address :	<b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date :	<b>1/11/2016</b>
Project Name :	<b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :	
Project Number :	<b>GL16/078</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>	

Sample Number :	224773	224774	224775	224776
Test Number :	47	48	49	50
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	26/10/2016	26/10/2016	26/10/2016	26/10/2016
Date Tested :	26/10/2016	26/10/2016	26/10/2016	26/10/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	320	319	321	322
Sample Location :	REFER TO SITE PLAN E 531962 N 6923252 3.1m BELOW FL	REFER TO SITE PLAN E 531949 N 6923250 3.4m BELOW FL	REFER TO SITE PLAN E 531987 N 6923254 2.7m BELOW FL	REFER TO SITE PLAN E 532002 N 6923237 2m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	20.6	24.5	23.5	17.5
Hilf MDR Number :	224773	224774	224775	224776
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	100	100	101	100.5
Field Wet Density (t/m <sup>3</sup> ) :	1.930	1.940	1.900	1.910
Optimum Moisture Content (%) :	20.6	24.5	23.3	17.4
Moisture Variation :	0.0	0.0	-0.1	0.0
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.930	1.920	1.910	1.900
Hilf Density Ratio (%) :	<b>100.0</b>	<b>101.0</b>	<b>100.0</b>	<b>100.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.19/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>3/11/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	224733	224734	224735	224736
Test Number :	43	44	45	46
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	25/10/2016	25/10/2016	25/10/2016	25/10/2016
Date Tested :	25/10/2016	25/10/2016	25/10/2016	25/10/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	316	318	314	317
Sample Location :	REFER TO SITE PLAN E 531903 N 6923229 4.5m BELOW FL	REFER TO SITE PLAN E 531937 N 6923251 4m BELOW FL	REFER TO SITE PLAN E 531887 N 6923212 3.6m BELOW FL	REFER TO SITE PLAN E 531921 N 6923241 3.9m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	17.8	18.6	20.7	19.0
Hilf MDR Number :	224733	224734	224735	224736
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	104	102.5	102.5	103.5
Field Wet Density (t/m <sup>3</sup> ) :	1.900	1.900	1.910	1.900
Optimum Moisture Content (%) :	17.1	18.1	20.2	18.4
Moisture Variation :	-0.6	-0.4	-0.4	-0.5
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.000	2.000	2.010	2.000
Hilf Density Ratio (%) :	<b>95.0</b>	<b>95.5</b>	<b>95.0</b>	<b>95.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b>	Report Number: <b>GL16-078.20/1</b>
Address : <b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date : <b>3/11/2016</b>
Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :
Project Number : <b>GL16/078</b>	Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b>
Location: <b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>

Sample Number :	224870	224871	224872	224873
Test Number :	51	52	53	54
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	27/10/2016	27/10/2016	27/10/2016	27/10/2016
Date Tested :	27/10/2016	27/10/2016	27/10/2016	27/10/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	315	314	315	317
Sample Location :	REFER TO SITE PLAN E 531902 N 6923215 2.2m BELOW FL	REFER TO SITE PLAN E 531887 N 6923207 2.0m BELOW FL	REFER TO SITE PLAN E 531898 N 6923228 2.9m BELOW FL	REFER TO SITE PLAN E 531931 N 6923233 2.3m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	23.2	21.8	18.3	19.0
Hilf MDR Number :	224870	224871	224872	224873
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	100.5	100.5	100.5	101
Field Wet Density (t/m <sup>3</sup> ) :	1.920	1.930	1.890	1.890
Optimum Moisture Content (%) :	23.1	21.7	18.2	18.8
Moisture Variation :	0.0	0.0	0.0	0.0
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.930	1.940	1.960	1.960
Hilf Density Ratio (%) :	<b>99.5</b>	<b>99.5</b>	<b>96.5</b>	<b>97.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

Client :	<b>GOLDING CONTRACTORS</b>	Report Number:	<b>GL16-078.21/1</b>
Address :	<b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date :	<b>3/11/2016</b>
Project Name :	<b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :	
Project Number :	<b>GL16/078</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>	

Sample Number :	224874	224875	
Test Number :	55	56	
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	
Date Sampled :	27/10/2016	27/10/2016	
Date Tested :	27/10/2016	27/10/2016	
Material Type :	GENERAL FILL	GENERAL FILL	
Material Source :	ONSITE	ONSITE	
Lot Number :	318	319	
Sample Location :	REFER TO SITE PLAN E 531947 N 6923234 2m BELOW FL	REFER TO SITE PLAN E 531960 N 6923237 1.8m BELOW FL	
Test Depth (mm) :	150	150	
Layer Depth (mm) :	-	-	
Maximum Size (mm) :	19	19	
Oversize Wet (%) :	-	-	
Oversize Dry (%) :			
Oversize Density (t/m <sup>3</sup> ) :			
Field Moisture Content (%) :	18.0	18.7	
Hilf MDR Number :	224874	224875	
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	
Compactive Effort :	Standard	Standard	
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	
Moisture Ratio (%) :	95.5	99	
Field Wet Density (t/m <sup>3</sup> ) :	1.960	1.950	
Optimum Moisture Content (%) :	18.8	18.9	
Moisture Variation :	0.9	0.1	
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.880	1.900	
Hilf Density Ratio (%) :	<b>104.5</b>	<b>102.5</b>	
Minimum Specification :	95	95	
Moisture Specification :			
Site Selection :			
Soil Description :			
Remarks :	-		



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 NATA Accreditation Number  
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## Hilf Density Ratio Report

Client :	<b>GOLDING CONTRACTORS</b>	Report Number:	<b>GL16-078.22/1</b>
Address :	<b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date :	<b>3/11/2016</b>
Project Name :	<b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :	
Project Number :	<b>GL16/078</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>	

Sample Number :	225063	225064	225065	225066
Test Number :	63	64	65	66
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	29/10/2016	29/10/2016	29/10/2016	29/10/2016
Date Tested :	29/10/2016	29/10/2016	29/10/2016	29/10/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	313	313	312	312
Sample Location :	REFER TO SITE PLAN E 531877 N 6923178 2m BELOW FL	REFER TO SITE PLAN E 531862 N 6923191 3m BELOW FL	REFER TO SITE PLAN E 531852 N 6923180 2.8m BELOW FL	REFER TO SITE PLAN E 531859 N 6923168 2.1m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	21.2	20.5	21.4	20.7
Hilf MDR Number :	225063	225064	225065	225066
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	101	100.5	100.5	99.5
Field Wet Density (t/m <sup>3</sup> ) :	1.940	1.910	1.940	1.920
Optimum Moisture Content (%) :	21.0	20.4	21.3	20.8
Moisture Variation :	0.0	0.0	0.0	0.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.970	1.960	1.970	1.930
Hilf Density Ratio (%) :	<b>98.5</b>	<b>97.5</b>	<b>98.0</b>	<b>99.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

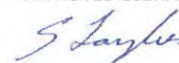
Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.23/1</b> Report Date : <b>3/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	225128	225129	225130	225131
Test Number :	67	68	69	70
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	31/10/2016	31/10/2016	31/10/2016	31/10/2016
Date Tested :	31/10/2016	31/10/2016	31/10/2016	31/10/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	314	315	316	317
Sample Location :	REFER TO SITE PLAN E 531890 N 6923200 1.7m BELOW FL	REFER TO SITE PLAN E 531906 N 6923209 2.2m BELOW FL	REFER TO SITE PLAN E 531921 N 6923237 3.2m BELOW FL	REFER TO SITE PLAN E 531927 N 6923235 1.9m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	18.1	19.1	18.2	18.8
Hilf MDR Number :	225128	225129	225130	225131
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	90.5	90.5	89.5	89
Field Wet Density (t/m <sup>3</sup> ) :	1.980	1.970	2.010	1.980
Optimum Moisture Content (%) :	20.0	21.1	20.3	21.2
Moisture Variation :	1.8	1.9	2.0	2.3
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.980	1.990	2.000	1.980
Hilf Density Ratio (%) :	<b>100.0</b>	<b>99.0</b>	<b>100.0</b>	<b>100.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :				



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APPROVED SIGNATORY


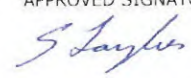


GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR  
 NATA Accreditation Number  
 1169

## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.24/1</b> Report Date : <b>3/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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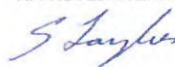
Sample Number :	225132	225133	225134	225135
Test Number :	71	72	73	74
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	31/10/2016	31/10/2016	31/10/2016	31/10/2016
Date Tested :	31/10/2016	31/10/2016	31/10/2016	31/10/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	318	321	320	316
Sample Location :	REFER TO SITE PLAN E 531938 N 6923238 1.5m BELOW FL	REFER TO SITE PLAN E 531969 N 6923271 2.0m BELOW FL	REFER TO SITE PLAN E 531963 N 6923251 2.5m BELOW FL	REFER TO SITE PLAN E 531913 N 6923214 3.8m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	22.9	18.0	18.3	17.2
Hilf MDR Number :	225132	225133	225134	225135
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	95.5	91	90	89.5
Field Wet Density (t/m <sup>3</sup> ) :	1.970	2.020	1.990	2.010
Optimum Moisture Content (%) :	24.0	19.7	20.4	19.3
Moisture Variation :	1.1	1.7	2.1	2.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.940	1.940	1.950	1.980
Hilf Density Ratio (%) :	<b>102.0</b>	<b>104.0</b>	<b>101.5</b>	<b>102.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.25/1</b> Report Date : <b>4/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	225179	225180	225181	225182
Test Number :	75	76	77	78
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	1/11/2016	1/11/2016	1/11/2016	1/11/2016
Date Tested :	1/11/2016	1/11/2016	1/11/2016	1/11/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	321	321	322	655
Sample Location :	REFER TO SITE PLAN E 531984 N 6923265 0.8m BELOW FL	REFER TO SITE PLAN E 531980 N 6923271 FINISHED LEVEL	REFER TO SITE PLAN E 531995 N 6923227 1m BELOW FL	REFER TO SITE PLAN E 531987 N 6923224 FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	19.6	20.1	19.5	19.7
Hilf MDR Number :	225179	225180	225181	225182
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	101	100	99	91.5
Field Wet Density (t/m <sup>3</sup> ) :	2.050	2.060	1.940	1.960
Optimum Moisture Content (%) :	19.4	20.1	19.7	21.6
Moisture Variation :	-0.1	0.0	0.2	1.9
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.060	2.030	1.970	1.940
Hilf Density Ratio (%) :	<b>100.0</b>	<b>101.5</b>	<b>98.5</b>	<b>101.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.26/1</b> Report Date : <b>7/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	224982	224983	224984	224985
Test Number :	57	58	59	60
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	28/10/2016	28/10/2016	28/10/2016	28/10/2016
Date Tested :	28/10/2016	28/10/2016	28/10/2016	28/10/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	322	323	324	325
Sample Location :	REFER TO SITE PLAN E 532009 N 6923224 2.7m BELOW FL	REFER TO SITE PLAN E 532024 N 6923210 2.5m BELOW FL	REFER TO SITE PLAN E 532030 N 6923201 2.4m BELOW FL	REFER TO SITE PLAN E 532032 N 6923187 2.8m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	20.8	21.6	20.2	22.3
Hilf MDR Number :	224982	224983	224984	224985
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	97	98	98.5	99.5
Field Wet Density (t/m <sup>3</sup> ) :	1.940	1.870	1.830	1.830
Optimum Moisture Content (%) :	21.4	22.1	20.5	22.4
Moisture Variation :	0.6	0.5	0.2	0.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.970	1.970	1.900	1.930
Hilf Density Ratio (%) :	<b>98.5</b>	<b>95.0</b>	<b>96.0</b>	<b>95.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.27/1</b> Report Date : <b>7/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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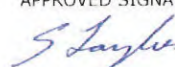
Sample Number :	224986	224987		
Test Number :	61	62		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	28/10/2016	28/10/2016		
Date Tested :	28/10/2016	28/10/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	326	325		
Sample Location :	REFER TO SITE PLAN E 532031 N 6923178 2.1m BELOW FL	REFER TO SITE PLAN E 532044 N 6923187 2.2m BELOW FL		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	20.9	20.9		
Hilf MDR Number :	224986	224987		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	105	100		
Field Wet Density (t/m <sup>3</sup> ) :	1.940	1.940		
Optimum Moisture Content (%) :	19.9	20.9		
Moisture Variation :	-0.8	0.0		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.050	2.020		
Hilf Density Ratio (%) :	<b>95.0</b>	<b>95.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p>  <p style="text-align: center;">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.28/1</b> Report Date : <b>11/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	225574	225575	225576	225577
Test Number :	85	86	87	88
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	8/11/2016	8/11/2016	8/11/2016	8/11/2016
Date Tested :	8/11/2016	8/11/2016	8/11/2016	8/11/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	305	305	306	307
Sample Location :	REFER TO SITE PLAN E 531784 N 6923097 2m BELOW FL.	REFER TO SITE PLAN E 531775 N 6923109 0.8m BELOW FL	REFER TO SITE PLAN E 531782 N 6923116 2m BELOW FL	REFER TO SITE PLAN E 531800 N 6923122 0.6m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	10.5	12.1	13.1	12.4
Hilf MDR Number :	225574	225575	225576	225577
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	83.5	72	74	72
Field Wet Density (t/m <sup>3</sup> ) :	2.090	2.070	2.070	1.970
Optimum Moisture Content (%) :	12.6	16.8	17.7	17.2
Moisture Variation :	2.2	4.6	4.6	4.7
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.950	2.010	1.950	1.940
Hilf Density Ratio (%) :	<b>107.5</b>	<b>102.5</b>	<b>106.0</b>	<b>101.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			


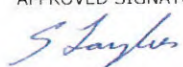
 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p>  <p style="text-align: center;">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR          NATA Accreditation Number          1169</p>
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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.29/1</b> Report Date : <b>11/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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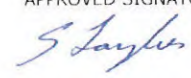
Sample Number :	225578	225579		
Test Number :	89	90		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	8/11/2016	8/11/2016		
Date Tested :	8/11/2016	8/11/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	308	308		
Sample Location :	REFER TO SITE PLAN E 531810 N 6923135 0.7m BELOW FL	REFER TO SITE PLAN E 531817 N 6923127 FINISHED LEVEL		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	12.1	10.0		
Hilf MDR Number :	225578	225579		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	73.5	69.5		
Field Wet Density (t/m <sup>3</sup> ) :	1.980	1.960		
Optimum Moisture Content (%) :	16.5	14.4		
Moisture Variation :	4.4	4.5		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.930	1.940		
Hilf Density Ratio (%) :	<b>102.5</b>	<b>101.0</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

 Accredited for compliance with ISO/IEC 17025 - Testing.	APPROVED SIGNATORY  GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169
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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.30/1</b> Report Date : <b>11/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	225646	225647	225648
Test Number :	91	92	93
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	9/11/2016	9/11/2016	9/11/2016
Date Tested :	9/11/2016	9/11/2016	9/11/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE
Lot Number :	306	306	305
Sample Location :	REFER TO SITE PLAN E 531800 N 6923103 1m BELOW FL	REFER TO SITE PLAN E 531791 N 6923113 FINISHED LEVEL	REFER TO SITE PLAN E 531784 N 6923094 FINISHED LEVEL
Test Depth (mm) :	150	150	150
Layer Depth (mm) :	-	-	-
Maximum Size (mm) :	19	19	19
Oversize Wet (%) :	-	-	-
Oversize Dry (%) :			
Oversize Density (t/m <sup>3</sup> ) :			
Field Moisture Content (%) :	20.7	20.5	20.3
Hilf MDR Number :	225646	225647	225648
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	120.5	119	130
Field Wet Density (t/m <sup>3</sup> ) :	2.000	2.030	2.050
Optimum Moisture Content (%) :	17.2	17.3	15.6
Moisture Variation :	-3.4	-3.1	-4.6
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.100	2.070	2.090
Hilf Density Ratio (%) :	<b>95.5</b>	<b>98.0</b>	<b>98.0</b>
Minimum Specification :	95	95	95
Moisture Specification :			
Site Selection :			
Soil Description :			
Remarks :			

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p>  <p style="text-align: center;">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR          NATA Accreditation Number          1169</p>
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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.31/1</b> Report Date : <b>14/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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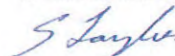
Sample Number :	225325	225326	225327	225328
Test Number :	79	80	81	82
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	3/11/2016	3/11/2016	3/11/2016	3/11/2016
Date Tested :	3/11/2016	3/11/2016	3/11/2016	3/11/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	661	307	307	308
Sample Location :	REFER TO SITE PLAN E 531832 N 6923096 0.8m BELOW FL	REFER TO SITE PLAN E 531809 N 6923113 1m BELOW FL	REFER TO SITE PLAN E 531798 N 6923125 1.8m BELOW FL	REFER TO SITE PLAN E 531810 N 6923140 1.5m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	17.8	17.8	19.9	17.9
Hilf MDR Number :	225325	225326	225327	225328
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	103.5	104.5	104	108
Field Wet Density (t/m <sup>3</sup> ) :	1.980	1.990	1.960	1.960
Optimum Moisture Content (%) :	17.2	17.1	19.1	16.6
Moisture Variation :	-0.5	-0.6	-0.7	-1.2
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.080	2.090	2.060	2.070
Hilf Density Ratio (%) :	<b>95.5</b>	<b>95.0</b>	<b>95.0</b>	<b>95.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p> <p style="text-align: center;"><i>Gary Taylor</i></p> <p style="text-align: center;">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR          NATA Accreditation Number          1169</p>
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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.32/1</b> Report Date : <b>14/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	225329	225330		
Test Number :	83	84		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	3/11/2016	3/11/2016		
Date Tested :	3/11/2016	3/11/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	309	310		
Sample Location :	REFER TO SITE PLAN E 531824 N 6923142 1.4m BELOW FL	REFER TO SITE PLAN E 531835 N 6923152 1.1m BELOW FL		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	16.2	16.3		
Hilf MDR Number :	225329	225330		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	102	97.5		
Field Wet Density (t/m <sup>3</sup> ) :	2.000	2.000		
Optimum Moisture Content (%) :	15.9	16.7		
Moisture Variation :	-0.2	0.5		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.090	2.070		
Hilf Density Ratio (%) :	<b>95.5</b>	<b>96.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p>  <p style="text-align: center;">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR          NATA Accreditation Number          1169</p>
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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.33/1</b> Report Date : <b>22/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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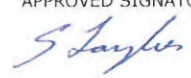
Sample Number :	225929	225930		
Test Number :	94	95		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	14/11/2016	14/11/2016		
Date Tested :	14/11/2016	14/11/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	311	311		
Sample Location :	REFER TO SITE PLAN E 531851 N 6923160 2.0m BELOW FL	REFER TO SITE PLAN E 531852 N 6923169 1.0m BELOW FL		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	23.9	24.7		
Hilf MDR Number :	225929	225930		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	106.5	106		
Field Wet Density (t/m <sup>3</sup> ) :	1.940	1.930		
Optimum Moisture Content (%) :	22.4	23.3		
Moisture Variation :	-1.3	-1.2		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.990	1.980		
Hilf Density Ratio (%) :	<b>97.0</b>	<b>97.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

 <b>NATA</b> <small>WORLD RECOGNISED ACCREDITATION</small>	Accredited for compliance with ISO/IEC 17025 - Testing.	APPROVED SIGNATORY  GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169
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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.34/1</b> Report Date : <b>22/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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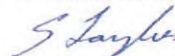
Sample Number :	226054	226055		
Test Number :	100	101		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	16/11/2016	16/11/2016		
Date Tested :	16/11/2016	16/11/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	310	310		
Sample Location :	REFER TO SITE PLAN E 531828 N 6923155 0.6m BELOW FL	REFER TO SITE PLAN E 531838 N 6923149 FINISHED LEVEL		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	20.3	20.1		
Hilf MDR Number :	226054	226055		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	105.5	103.5		
Field Wet Density (t/m <sup>3</sup> ) :	1.930	1.920		
Optimum Moisture Content (%) :	19.2	19.4		
Moisture Variation :	-1.0	-0.6		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.980	1.960		
Hilf Density Ratio (%) :	<b>97.5</b>	<b>97.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	APPROVED SIGNATORY  GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169
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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.35/1</b> Report Date : <b>22/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	225983	225984	225985	225986
Test Number :	96	97	98	99
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	15/11/2016	15/11/2016	15/11/2016	15/11/2016
Date Tested :	15/11/2016	15/11/2016	15/11/2016	15/11/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	661	309	309	307
Sample Location :	REFER TO SITE PLAN E 531843 N 6923110 FINISHED LEVEL	REFER TO SITE PLAN E 531827 N 6923135 FINISHED LEVEL	REFER TO SITE PLAN E 531818 N 6923147 0.7m BELOW FL	REFER TO SITE PLAN E 531792 N 6923124 FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	15.8	15.2	15.5	17.2
Hilf MDR Number :	225983	225984	225985	225986
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	88.5	86.5	88.5	88.5
Field Wet Density (t/m <sup>3</sup> ) :	2.090	2.020	2.040	2.090
Optimum Moisture Content (%) :	17.9	17.5	17.6	19.4
Moisture Variation :	2.0	2.2	2.0	2.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.060	2.050	2.040	2.030
Hilf Density Ratio (%) :	<b>101.5</b>	<b>98.5</b>	<b>100.0</b>	<b>103.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	APPROVED SIGNATORY  GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169
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## Hilf Density Ratio Report

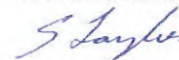
Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.36/1</b> Report Date : <b>25/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	226253	226254	226255	226256
Test Number :	104	105	106	107
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	18/11/2016	18/11/2016	18/11/2016	18/11/2016
Date Tested :	18/11/2016	18/11/2016	18/11/2016	18/11/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	681	681	319	319
Sample Location :	REFER TO SITE PLAN E 531966 N 6923260 1.2m BELOW FL	REFER TO SITE PLAN E 531968 N 6923247 FINISHED LEVEL	REFER TO SITE PLAN E 531947 N 6923253 0.7m BELOW FL	REFER TO SITE PLAN E 531951 N 6923242 FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	21.6	21.0	20.6	21.6
Hilf MDR Number :	226253	226254	226255	226256
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	101	100.5	92.5	90
Field Wet Density (t/m <sup>3</sup> ) :	1.930	1.910	1.910	1.920
Optimum Moisture Content (%) :	21.4	20.9	22.3	24.0
Moisture Variation :	0.0	0.0	1.7	2.4
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.860	1.870	1.850	1.850
Hilf Density Ratio (%) :	<b>104.0</b>	<b>102.0</b>	<b>103.5</b>	<b>104.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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APPROVED SIGNATORY



GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR  
 NATA Accreditation Number  
 1169



## Hilf Density Ratio Report

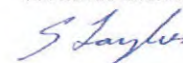
Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.37/1</b> Report Date : <b>25/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	226257	226258	226259	226260
Test Number :	108	109	110	111
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	18/11/2016	18/11/2016	18/11/2016	18/11/2016
Date Tested :	18/11/2016	18/11/2016	18/11/2016	18/11/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	318	318	322	322
Sample Location :	REFER TO SITE PLAN E 531935 N 6923253 0.8m BELOW FL	REFER TO SITE PLAN E 531939 N 6923234 FINISHED LEVEL	REFER TO SITE PLAN E 532011 N 6923222 0.5m BELOW FL	REFER TO SITE PLAN E 532006 N 6923218 FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	20.4	20.7	21.0	19.5
Hilf MDR Number :	226257	226258	226259	226260
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	95.5	94	101	93
Field Wet Density (t/m <sup>3</sup> ) :	1.930	1.920	1.910	1.930
Optimum Moisture Content (%) :	21.4	22.1	20.8	21.0
Moisture Variation :	1.0	1.3	-0.1	1.5
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.870	1.890	1.880	1.840
Hilf Density Ratio (%) :	<b>103.5</b>	<b>102.0</b>	<b>101.0</b>	<b>104.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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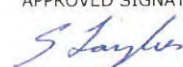


GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR  
 NATA Accreditation Number  
 1169

## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.38/1</b> Report Date : <b>25/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	226323	226324	226325	226326
Test Number :	112	113	114	115
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	21/11/2016	21/11/2016	21/11/2016	21/11/2016
Date Tested :	21/11/2016	21/11/2016	21/11/2016	21/11/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	311	312	313	314
Sample Location :	REFER TO SITE PLAN E 531845 N 6923163 FINISHED LEVEL	REFER TO SITE PLAN E 531852 N 6923178 1.3m BELOW FL	REFER TO SITE PLAN E 531863 N 6923184 1m BELOW FL	REFER TO SITE PLAN E 531880 N 6923207 0.7m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	19.9	20.1	19.5	20.1
Hilf MDR Number :	226323	226324	226325	226326
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	97.5	103	103.5	93
Field Wet Density (t/m <sup>3</sup> ) :	2.000	2.010	1.990	1.990
Optimum Moisture Content (%) :	20.4	19.5	18.8	21.7
Moisture Variation :	0.5	-0.5	-0.6	1.5
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.900	1.950	1.960	1.920
Hilf Density Ratio (%) :	<b>105.5</b>	<b>103.0</b>	<b>101.5</b>	<b>103.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

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## Hilf Density Ratio Report

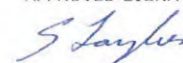
Client :	<b>GOLDING CONTRACTORS</b>	Report Number:	<b>GL16-078.39/1</b>
Address :	<b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date :	<b>25/11/2016</b>
Project Name :	<b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :	
Project Number :	<b>GL16/078</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>YAWALPAH ROAD , PIMPAMA</b>		<b>Page 1 of 1</b>

Sample Number :	226327	226328	226329	226330
Test Number :	116	117	118	119
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	21/11/2016	21/11/2016	21/11/2016	21/11/2016
Date Tested :	21/11/2016	21/11/2016	21/11/2016	21/11/2016
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	314	315	316	316
Sample Location :	REFER TO SITE PLAN E 531892 N 6923198 FINISHED LEVEL	REFER TO SITE PLAN E 531895 N 6923220 1m BELOW FL	REFER TO SITE PLAN E 531910 N 6923235 2.0m BELOW FL	REFER TO SITE PLAN E 531913 N 6923225 1m BELOW FL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	-	-	-	-
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	20.5	18.9	18.7	23.4
Hilf MDR Number :	226327	226328	226329	226330
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1	AS1289.5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	104	104	104	104
Field Wet Density (t/m <sup>3</sup> ) :	2.010	1.980	2.000	2.020
Optimum Moisture Content (%) :	19.8	18.2	18.0	22.5
Moisture Variation :	-0.6	-0.6	-0.6	-0.9
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.950	1.940	1.940	1.960
Hilf Density Ratio (%) :	<b>103.0</b>	<b>102.5</b>	<b>103.0</b>	<b>103.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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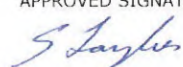


GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR  
NATA Accreditation Number  
1169

## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.40/1</b> Report Date : <b>29/11/2016</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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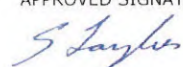
Sample Number :	226207	226208		
Test Number :	102	103		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	17/11/2016	17/11/2016		
Date Tested :	17/11/2016	17/11/2016		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	317	317		
Sample Location :	REFER TO SITE PLAN E 531925 N 6923231 0.7m BELOW FL	REFER TO SITE PLAN E 531923 N 6923242 FINISHED LEVEL		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	19.4	18.2		
Hilf MDR Number :	226207	226208		
Hilf MDR Method :	AS1289.5.7.1	AS1289.5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	100.5	94		
Field Wet Density (t/m <sup>3</sup> ) :	1.960	1.970		
Optimum Moisture Content (%) :	19.3	19.4		
Moisture Variation :	0.0	1.2		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	1.980	1.970		
Hilf Density Ratio (%) :	<b>98.5</b>	<b>100.0</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.41/1</b> Report Date : <b>15/05/2017</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	232867	232868		
Test Number :	120	121		
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4		
Date Sampled :	11/05/2017	11/05/2017		
Date Tested :	11/05/2017	11/05/2017		
Material Type :	GENERAL FILL	GENERAL FILL		
Material Source :	ONSITE	ONSITE		
Lot Number :	300	300		
Sample Location :	REFER TO SITE PLAN E 531700 N 6923048 0.8m BELOW FL	REFER TO SITE PLAN E 531715 N 6923039 FINISHED LEVEL		
Test Depth (mm) :	150	150		
Layer Depth (mm) :	-	-		
Maximum Size (mm) :	19	19		
Oversize Wet (%) :	-	-		
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :				
Field Moisture Content (%) :	16.3	17.9		
Hilf MDR Number :	232867	232868		
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1		
Compactive Effort :	Standard	Standard		
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1		
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1		
Moisture Ratio (%) :	100.5	99.5		
Field Wet Density (t/m <sup>3</sup> ) :	2.040	2.020		
Optimum Moisture Content (%) :	16.2	18.0		
Moisture Variation :	0.0	0.1		
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.080	2.050		
Hilf Density Ratio (%) :	<b>98.5</b>	<b>98.5</b>		
Minimum Specification :	95	95		
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			



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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.42/1</b> Report Date : <b>24/05/2017</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	232970	232971	232972	232973
Test Number :	122	123	124	125
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	12/05/2017	12/05/2017	12/05/2017	12/05/2017
Date Tested :	12/05/2017	12/05/2017	12/05/2017	12/05/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	667	668	669	677
Sample Location :	REFER TO SITE PLAN E 531870 N 6923003 FINISHED LEVEL	REFER TO SITE PLAN E 531852 N 6922997 FINISHED LEVEL	REFER TO SITE PLAN E 531814 N 6922991 FINISHED LEVEL	REFER TO SITE PLAN E 531725 N 6923012 FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	200	-	200	200
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	2	3	3	2
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.439	2.411	2.413	2.455
Field Moisture Content (%) :	17.3	19.3	21.3	17.3
Hilf MDR Number :	232970	232971	232972	232973
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	93	104.5	103.5	104
Field Wet Density (t/m <sup>3</sup> ) :	2.030	2.040	2.020	2.010
Optimum Moisture Content (%) :	18.6	18.5	20.6	16.6
Moisture Variation :	1.3	-0.7	-0.6	-0.6
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2*	2.04*	2.04*	2.02*
Hilf Density Ratio (%) :	<b>101.5</b>	<b>100.0</b>	<b>99.0</b>	<b>99.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.43/1</b> Report Date : <b>24/05/2017</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	233210	233211	233212	233213
Test Number :	126	127	128	129
Sampling Method :	AS1141.3.1 (6.9.4)	AS1141.3.1 (6.9.4)	AS1141.3.1 (6.9.4)	AS1141.3.1 (6.9.4)
Date Sampled :	12/05/2017	12/05/2017	12/05/2017	12/05/2017
Date Tested :	12/05/2017	12/05/2017	12/05/2017	12/05/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	676	675	674	673
Sample Location :	REFER TO SITE PLAN E 531743 N 6923024 FINISHED LEVEL	REFER TO SITE PLAN E 531757 N 6923033 0.2m BELOW FL	REFER TO SITE PLAN E 531768 N 6923039 FINISHED LEVEL	REFER TO SITE PLAN E 531783 N 6923052 FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	200	200	200	200
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	3	2	2	2
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.418	2.475	2.421	2.427
Field Moisture Content (%) :	18.2	18.3	16.3	18.4
Hilf MDR Number :	233210	233211	233212	233213
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1	AS1289.5.8.1 & 5.7.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	105	103.5	101.5	104
Field Wet Density (t/m <sup>3</sup> ) :	2.050	2.040	2.030	2.040
Optimum Moisture Content (%) :	17.4	17.7	16.1	17.7
Moisture Variation :	-0.7	-0.5	-0.1	-0.6
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.02*	2.04*	2*	2.03*
Hilf Density Ratio (%) :	<b>101.5</b>	<b>100.0</b>	<b>101.0</b>	<b>100.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize



 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p> <p style="text-align: center;"><i>G Taylor</i></p> <p style="text-align: center;">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR          NATA Accreditation Number          1169</p>
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## Hilf Density Ratio Report

Client : <b>GOLDING CONTRACTORS</b> Address : <b>Po Box 65, Arundel BC, QLD, 4214</b> Project Name : <b>GAINSBOROUGH GREENS - PRECINCT 1.3</b> Project Number : <b>GL16/078</b> Location: <b>YAWALPAH ROAD , PIMPAMA</b>	Report Number: <b>GL16-078.44/1</b> Report Date : <b>14/06/2017</b> Order Number : Test Method : <b>AS1289.5.8.1 &amp; 5.7.1</b> <p style="text-align: right;"><b>Page 1 of 1</b></p>
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Sample Number :	233791	233792	233793	233794
Test Number :	130	131	132	133
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	6/06/2017	6/06/2017	6/06/2017	6/06/2017
Date Tested :	6/06/2017	6/06/2017	6/06/2017	6/06/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	304	304	303	303
Sample Location :	REFER TO SITE PLAN E 531758 N 6923086 0.8m BELOW FL	REFER TO SITE PLAN E 531765 N 6923076 FINISHED LEVEL	REFER TO SITE PLAN E 531745 N 6923079 0.5m BELOW FL	REFER TO SITE PLAN E 531751 N 6923066 FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	6	2	2	3
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.411	2.424	2.394	2.397
Field Moisture Content (%) :	13.4	14.1	14.3	30.0
Hilf MDR Number :	233791	233792	233793	233794
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	100	99.5	100	100.5
Field Wet Density (t/m <sup>3</sup> ) :	2.110	2.090	2.090	2.110
Optimum Moisture Content (%) :	13.4	14.2	14.3	29.9
Moisture Variation :	0.0	0.1	0.0	0.0
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.15*	2.12*	2.13*	2.14*
Hilf Density Ratio (%) :	<b>98.0</b>	<b>98.5</b>	<b>98.5</b>	<b>98.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p style="text-align: center;">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p style="text-align: center;">APPROVED SIGNATORY</p> <div style="text-align: center;">         IAN MASMAN (Gold Coast) - GOLD COAST MANAGER        NATA Accreditation Number        1169     </div>
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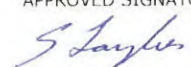


## Hilf Density Ratio Report

Client :	<b>GOLDING CONTRACTORS</b>	Report Number:	<b>GL16-078.45/1</b>
Address :	<b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date :	<b>14/06/2017</b>
Project Name :	<b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :	
Project Number :	<b>GL16/078</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>YAWALPAH ROAD , PIMPAMA</b>	<b>Page 1 of 1</b>	

Sample Number :	233795	233796	233797	233798
Test Number :	134	135	136	137
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	6/06/2017	6/06/2017	6/06/2017	6/06/2017
Date Tested :	6/06/2017	6/06/2017	6/06/2017	6/06/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	302	302	301	301
Sample Location :	REFER TO SITE PLAN E 531731 N 6923068 0.6m BELOW FL	REFER TO SITE PLAN E 531741 N 6923058 FINISHED LEVEL	REFER TO SITE PLAN E 531719 N 6923062 0.5m BELOW FL	REFER TO SITE PLAN E 531726 N 6923049 FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	2	2	8	3
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.475	2.450	2.428	2.406
Field Moisture Content (%) :	14.1	13.9	12.9	14.8
Hilf MDR Number :	233795	233796	233797	233798
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	100.5	100	96	99
Field Wet Density (t/m <sup>3</sup> ) :	2.080	2.100	2.080	2.100
Optimum Moisture Content (%) :	14.0	13.9	13.4	15.0
Moisture Variation :	0.0	0.0	0.6	0.1
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.13*	2.13*	2.12*	2.12*
Hilf Density Ratio (%) :	<b>97.5</b>	<b>98.5</b>	<b>98.0</b>	<b>99.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize


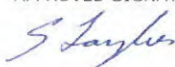
 <p align="center">Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p align="center">APPROVED SIGNATORY</p>  <p align="center">GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR        NATA Accreditation Number        1169</p>
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## Hilf Density Ratio Report

Client :	<b>GOLDING CONTRACTORS</b>	Report Number:	<b>GL16-078.46/1</b>
Address :	<b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date :	<b>16/06/2017</b>
Project Name :	<b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :	
Project Number :	<b>GL16/078</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>YAWALPAH ROAD , PIMPAMA</b>		<b>Page 1 of 1</b>

Sample Number :	233888	233889	233890	233891
Test Number :	138	139	140	141
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	7/06/2017	7/06/2017	7/06/2017	7/06/2017
Date Tested :	7/06/2017	7/06/2017	7/06/2017	7/06/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	297	298	298	298
Sample Location :	REFER TO SITE PLAN E 531665 N 6922998 FINISHED LEVEL	REFER TO SITE PLAN E 531658 N 6923020 0.5m BELOW FL	REFER TO SITE PLAN E 531670 N 6923019 0.3m BELOW FL	REFER TO SITE PLAN E 531680 N 6923013 FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	2	2	1	3
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.367	2.361	2.343	2.393
Field Moisture Content (%) :	10.9	10.8	11.0	11.0
Hilf MDR Number :	233888	233889	233890	233891
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	86	85.5	97	86
Field Wet Density (t/m <sup>3</sup> ) :	2.100	2.100	2.100	2.110
Optimum Moisture Content (%) :	12.7	12.7	11.3	12.8
Moisture Variation :	1.8	1.9	0.3	1.8
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.09*	2.08*	2.07*	2.09*
Hilf Density Ratio (%) :	<b>100.5</b>	<b>101.0</b>	<b>101.0</b>	<b>101.5</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize



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## Hilf Density Ratio Report

Client :	<b>GOLDING CONTRACTORS</b>	Report Number:	<b>GL16-078.47/1</b>
Address :	<b>Po Box 65, Arundel BC, QLD, 4214</b>	Report Date :	<b>16/06/2017</b>
Project Name :	<b>GAINSBOROUGH GREENS - PRECINCT 1.3</b>	Order Number :	
Project Number :	<b>GL16/078</b>	Test Method :	<b>AS1289.5.8.1 &amp; 5.7.1</b>
Location:	<b>YAWALPAH ROAD , PIMPAMA</b>		<b>Page 1 of 1</b>

Sample Number :	233892	233893	233894	233994
Test Number :	142	143	144	145
Sampling Method :	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4	AS1289.1.2.1 CL. 6.4
Date Sampled :	7/06/2017	7/06/2017	7/06/2017	7/06/2017
Date Tested :	7/06/2017	7/06/2017	7/06/2017	7/06/2017
Material Type :	GENERAL FILL	GENERAL FILL	GENERAL FILL	GENERAL FILL
Material Source :	ONSITE	ONSITE	ONSITE	ONSITE
Lot Number :	299	299	662	328
Sample Location :	REFER TO SITE PLAN E 531680 N 6923026 0.3m BELOW FL	REFER TO SITE PLAN E 531696 N 6923030 FINISHED LEVEL	REFER TO SITE PLAN E 531811 N 6923077 FINISHED LEVEL	REFER TO SITE PLAN E 531989 N 6923195 FINISHED LEVEL
Test Depth (mm) :	150	150	150	150
Layer Depth (mm) :	-	-	-	-
Maximum Size (mm) :	19	19	19	19
Oversize Wet (%) :	2	2	2	2
Oversize Dry (%) :				
Oversize Density (t/m <sup>3</sup> ) :	2.364	2.514	2.364	2.393
Field Moisture Content (%) :	10.8	10.8	11.1	11.2
Hilf MDR Number :	233892	233893	233894	233994
Hilf MDR Method :	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1	AS1289.5.1.1 & 5.7.1
Compactive Effort :	Standard	Standard	Standard	Standard
Field Density Method :	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1	AS1289.5.8.1
Moisture Method :	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Moisture Ratio (%) :	85	87	83	87.5
Field Wet Density (t/m <sup>3</sup> ) :	2.110	2.100	2.100	2.110
Optimum Moisture Content (%) :	12.7	12.4	13.4	12.8
Moisture Variation :	1.9	1.7	2.2	1.7
Peak Converted Wet Density (t/m <sup>3</sup> ) :	2.1*	2.09*	2.08*	2.11*
Hilf Density Ratio (%) :	<b>100.5</b>	<b>100.0</b>	<b>101.0</b>	<b>100.0</b>
Minimum Specification :	95	95	95	95
Moisture Specification :				
Site Selection :				
Soil Description :				
Remarks :	-			

\* - denotes adjusted for oversize

 <p>Accredited for compliance with ISO/IEC 17025 - Testing.</p>	<p>APPROVED SIGNATORY</p>  <p>GARY TAYLOR (Gold Coast) - WORKS SUPERVISOR NATA Accreditation Number 1169</p>
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# **APPENDIX 'C'**

**(Photo Gallery)**



IMAG0526



IMAG0534



IMAG0536



IMAG0537



IMAG0538



IMAG0539



IMAG0540



IMAG0541



IMAG0548



IMAG0570



IMAG0571



IMAG0572



IMAG0573



IMAG0574



IMAG0576



IMAG0579



IMAG0580



IMAG0581



IMAG0583



IMAG0713



IMAG0714



IMAG0715



IMAG0721



IMAG0757



IMAG0758



IMAG0759



IMAG0769



IMAG0770



IMAG0771



IMAG0772



IMAG0773



IMAG0800



IMAG0801



IMAG0802



IMAG0803





IMG\_1179



IMG\_1180



IMG\_1181



IMG\_1182



IMG\_1183



IMG\_1184



IMG\_1185



IMG\_1205



IMG\_1206



IMG\_1207



IMG\_1208



IMG\_1209



IMG\_3160



IMG\_3161



IMG\_3162



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