

Shadforths Civil Pty Ltd
99 Sandalwood Lane
Forest Glen QLD 4556

Project 681328.00
2 February 2021
R.001.REV0
CW:gm

Attention: Josh Burkin

Email: josh.burkin@shadcivil.com.au

Report on Earthworks Inspection and Testing
Riverton Residential Estate, Stages 1 and 2
Bio Retention Basins

Cusack Lane, Jimboomba

1. Introduction

This report presents the results of the inspection and testing of bulk earthworks fill for the redesign of two Bioretention Basins at Cusack Lane, Jimboomba. The fill was placed and tested from 22 September 2020 to 4 November 2020.

A small amount of additional fill was placed on Lots 2024 and 2025. The fill was placed and tested from 29 January 2021 to 1 February 2021.

The scope of testing and inspections provided by Douglas Partners Pty Ltd (DP) comprised 'Level 1' geotechnical inspection and testing as defined in AS 3798-2007 *"Guidelines on Earthworks for Commercial and Residential Developments"*, and as required by the earthworks requirements shown on the project drawings as described below. No other earthworks specification was provided for the work.

This report must be read in conjunction with the attached notes entitled *'About This Inspection Report'* and any other attached information and should be kept in its entirety without separation of individual pages or sections.

2. Scope of Works

This report only addresses the fill placed at the development within the extents of the test locations (including elevation) noted on the results and as shown on the attached test location plan. Any other part of the site is not addressed by this report unless stated otherwise.

The specification shown on the earthworks plan 5544 ENG CW2A-502 prepared by Gassman Pty Ltd and supplied by Shadforths Civil Pty Ltd, required compaction to a minimum of 95% Standard dry

density in accordance with the requirements of AS 3798-2007. No moisture specification was noted on the supplied drawings.

In general, the bulk earthworks operations comprised stripping and grubbing of the existing surface, removal of pockets of unsuitable soils within areas of fill (if any), then placement and compaction of cut to fill won from onsite to bring the ground level up to design surface level for the required works.

The stripped subgrade was inspected by DP prior to the placement of bulk fill. The subgrade was test rolled and was considered suitable to accept the placement of fill.

The fill materials predominantly comprised gravelly clayey sand with some sandy clay won from onsite cuts.

Fill materials were placed by Moxi loads and spread by a D6 dozer. Compaction was achieved using a padfoot roller with loose layer thickness typically ranging from approximately 200 mm to 300 mm. Moisture was controlled by an onsite water cart.

Inspections were made by a senior technician from DP, who was present during the placement of fill. Following the compaction of each layer, where possible, the layer was tested to assess if the specified minimum dry density ratio had been achieved. All layers, including where density testing was not carried out, were test rolled with a fully loaded water cart under the observation of the senior technician.

Testing was carried using the nuclear gauge method outlined in test method AS 1289 5.8.1. The relative compaction was determined using the Hilf Density Ratio method outlined in test method AS 1289 5.7.1. A total of 61 density tests were carried out during the earthworks. A summary of the test results is presented in Table 1.

A total of 2 additional density tests were carried out on lots 2024 and 2025. A summary of the test results is presented in Table 2.

Table 1: Summary of Density Testing

Item	Compaction	Moisture Variation
Specification	95% Std	N/A
No. of tests	61	61
Range	95.5 to 107.0% Std	1.0% wet to 5% dry of OMC
No of tests outside specification	0	0
Mean	101.6% Std	1.6% dry of OMC

Note: OMC – Optimum Moisture Content for Standard compaction

Table 2: Summary of Density Testing (Lots 2024 & 2025)

Item	Compaction	Moisture Variation
Specification	95% Std	N/A
No. of tests	2	2
Range	98.5 to 101.0% Std	2.0% dry to 2.5% dry of OMC
No of tests outside specification	0	0
Mean	99.8% Std	2.3% dry of OMC

Note: OMC – Optimum Moisture Content for Standard compaction

3. Comments

DP undertook inspection and testing of earthworks in accordance with a 'Level 1' standard as defined in AS 3798-2007 *"Guideline on Earthworks for Commercial and Residential Developments"*.

It is considered that the placement and compaction of the fill placed by Shadforth's Civil Pty Ltd from 22 September 2020 to 4 November 2020 within the extents of the test locations (including elevation) noted on the results and as shown on the attached test location plan has been carried out in general accordance with the requirements of the specification. DP does not undertake to guarantee the work of the contractor nor relieve their responsibility to produce a complete product conforming to the requirements of the specification.

For building on the controlled filled areas, consideration should be given by the user to the following:

- Possible disruption of the compacted fill by the installation of services;
- The possibility that additional fill has been placed before and after the dates of field density tests or at times when DP has not been notified that filling operations are in progress;
- Adequate containment of the filled areas;
- The suitability of the filled land to support structure of various types without excessive deflection, in particular, the shrink-swell properties of the filling and natural soils must be considered in foundation/footing slab design in detailing future structure; and
- Variation in fill depth.

Based on the inspection and testing, it is considered that the fill referred to in this report may be considered as "controlled fill" as defined in AS2870-2011 *"Residential Slabs and Footings"* for site classification purposes.

4. Limitations

This report is provided for the exclusive use of Shadforth's Civil Pty Ltd for this project only and for the purposes as described in the report. It should not be used by or relied upon for other projects or purposes on the same or other site or by a third party. Any party so relying upon this report beyond its exclusive use and purpose as stated above, and without the express written consent of DP, does so entirely at its own risk and without recourse to DP for any loss or damage. In preparing this report DP has necessarily relied upon information provided by the client and/or their agents.

The results provided in the report are indicative of the subsurface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Subsurface conditions can change abruptly due to variable geological processes and also as a result of human influences. Such changes may occur after DP's field testing has been completed.

This report is based upon the conditions encountered during this investigation. The accuracy of this report provided by DP may be affected by undetected variations in ground conditions across the site between and beyond the sampling and/or testing locations. The advice may also be limited by budget constraints imposed by others or by site accessibility.

This report must be read in conjunction with all of the attached and should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome or conclusion stated in this report.

Please contact the undersigned if you have any questions on this matter.

Yours faithfully
Douglas Partners Pty Ltd



Chad Whatley
Laboratory Manager

Reviewed by



Gary Samuels
Senior Associate

Attachments: About this Inspection Report
 Compaction Control Test Reports
 Test Location Plan

About this Inspection Report

Douglas Partners



Introduction

These notes are provided to amplify DP's inspection report in regard to the limitations of carrying out inspection work. Not all notes are necessarily relevant to this report.

Standards

This inspection report has been prepared by qualified personnel to current engineering standards of interpretation and analysis.

Copyright and Limits of Use

This inspection report is the property of DP and is provided for the exclusive use of the client for the specific project and purpose as described in the report. It should not be used by a third party for any purpose other than to confirm that the construction works addressed in the report have been inspected as described. Use of the inspection report is limited in accordance with the Conditions of Engagement for the commission.

DP does not undertake to guarantee the works of the contractors or relieve them of their responsibility to produce a completed product conforming to the design.

Reports

This inspection report may include advice or opinion that is based on engineering and/or geological interpretation, information provided by the client or the client's agent, and information gained from:

- an investigation report for the project (if available to DP);
- inspection of the work, exposed ground conditions, excavation spoil and performance of excavating equipment while DP was on site;
- investigation and testing that was carried out during the site inspection;
- anecdotal information provided by authoritative site personnel; and

- DP's experience and knowledge of local geology.

Such information may be limited by the frequency of any inspection or testing that was able to be practically carried out, including possible site or cost constraints imposed by the client/contractor(s). For these reasons, the reliability of this inspection report is limited by the scope of information on which it relies.

Every care is taken with the inspection report as it relates to interpretation of subsurface conditions and any recommendations or suggestions for construction or design. However, DP cannot anticipate or assume responsibility for:

- unexpected variations in subsurface conditions that are not evident from the inspection; and
- the actions of contractors responding to commercial pressures.

Should these issues occur, then additional advice should be sought from DP and, if required, amendments made.

This inspection report must be read in conjunction with any attached information. This inspection report should be kept in its entirety without separation of individual pages or sections. DP cannot be held responsible for interpretations or conclusions from review by others of this inspection report or test data, which are not otherwise supported by an expressed statement, interpretation, outcome or conclusion stated in this inspection report.

Material Test Report




 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-1
Issue Number: 1
Date Issued: 25/09/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 6982
Date Sampled: 23/09/2020
Dates Tested: 23/09/2020 - 25/09/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Clayey Gravelly Sand

Compaction Control AS 1289 5.7.1 & 5.8.1					
Sample Number	GL-6982A	GL-6982B	GL-6982C	GL-6982D	GL-6982E
Date Tested	23/09/2020	23/09/2020	23/09/2020	23/09/2020	23/09/2020
Time Tested	10:00	10:05	10:10	10:15	10:20
Test Request #/Location	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill
Easting	500568	500583	500581	500567	500574
Northing	6922989	6922989	6923005	6923005	6923023
Layer / Reduced Level	Layer 1	Layer 2	Layer 2	Layer 3	Layer 3
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Gravelly Clayey Sand	Gravelly Clayey Sand	Gravelly Clayey Sand	Gravelly Clayey Sand	Gravelly Clayey Sand
Test Depth (mm)	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.21	2.26	2.13	2.24	2.16
Field Dry Density (FDD) t/m ³	**	**	**	**	**
Peak Converted Wet Density t/m ³	2.18	2.18	2.14	2.19	2.13
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.5	2.0	2.0	2.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	101.0	104.0	99.5	102.5	101.0
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-2
Issue Number: 1
Date Issued: 25/09/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Client Reference: Densities
Work Request: 6971
Date Sampled: 22/09/2020
Dates Tested: 22/09/2020 - 25/09/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Gravelly Clayey Sand


Compaction Control AS 1289 5.7.1 & 5.8.1					
Sample Number	GL-6971A	GL-6971B	GL-6971C	GL-6971D	GL-6971E
Date Tested	22/09/2020	22/09/2020	22/09/2020	22/09/2020	22/09/2020
Time Tested	10:00	10:05	10:10	10:15	10:20
Test Request #/Location	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill
Easting	6923021	6922998	6922984	6923000	6923018
Northing	500597	500600	500585	500578	500584
Layer / Reduced Level	Layer 1	Layer 1	Layer 2	Layer 2	Layer 2
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Gravelly Clayey Sand	Gravelly Clayey Sand	Gravelly Clayey Sand	Gravelly Clayey Sand	Gravelly Clayey Sand
Test Depth (mm)	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	10	0	0	4	3
Field Wet Density (FWD) t/m ³	2.22	2.22	2.20	2.22	2.21
Field Dry Density (FDD) t/m ³	**	**	**	**	**
Peak Converted Wet Density t/m ³	**	2.16	2.15	**	**
Adjusted Peak Converted Wet Density t/m ³	2.16	**	**	2.15	2.16
Moisture Variation (Wv) %	**	1.0	1.0	**	**
Adjusted Moisture Variation %	1.0	**	**	1.5	1.5
Hilf Density Ratio (%)	102.5	102.5	102.0	103.0	102.5
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-3
Issue Number: 1
Date Issued: 13/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7091
Date Sampled: 07/10/2020
Dates Tested: 07/10/2020 - 10/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Clayey Gravelly Sand

Compaction Control AS 1289 5.7.1 & 5.8.1


Sample Number	GL-7091A	GL-7091B	GL-7091C
Date Tested	07/10/2020	07/10/2020	07/10/2020
Time Tested	10:05	10:10	10:15
Test Request #/Location	Allotment Fill	Allotment Fill	Allotment Fill
Easting	500551	500552	500551
Northing	6923040	6923015	6922997
Layer / Reduced Level	Layer 5	Layer 5	Layer 5
Thickness of Layer (mm)	300	300	300
Soil Description	Clayey Gravelly Sand	Clayey Gravelly Sand	Clayey Gravelly Sand
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.04	2.06	2.04
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	2.04	2.03	2.04
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	4.0	4.5	4.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	100.0	101.5	100.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-4
Issue Number: 1
Date Issued: 13/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7027
Date Sampled: 29/09/2020
Dates Tested: 29/09/2020 - 09/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Gravelley Sandy Clay

Compaction Control AS 1289 5.7.1 & 5.8.1						
Sample Number	GL-7027A	GL-7027B	GL-7027C	GL-7027D	GL-7027E	GL-7027F
Date Tested	29/09/2020	29/09/2020	29/09/2020	29/09/2020	29/09/2020	29/09/2020
Time Tested	08:30	08:35	08:40	08:45	08:50	08:55
Test Request #/Location	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill
Easting	500603	500603	500595	500605	500610	500602
Northing	6923007	6923001	6923016	6923017	6923029	6923031
Layer / Reduced Level	Layer 3	Layer 3	Layer 3	Layer 3	Layer 3	Layer 3
Thickness of Layer (mm)	300	300	300	300	300	300
Soil Description	Gravelly Sandy Clay	Gravelly Sandy Clay	Gravelly Sandy Clay	Gravelly Sandy Clay	Gravelly Sandy Clay	Gravelly Sandy Clay
Test Depth (mm)	150	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	2	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.22	2.21	2.22	2.23	2.01	2.02
Field Dry Density (FDD) t/m ³	**	**	**	**	**	**
Peak Converted Wet Density t/m ³	**	2.06	2.08	2.11	2.10	2.10
Adjusted Peak Converted Wet Density t/m ³	2.08	**	**	**	**	**
Moisture Variation (Wv) %	**	4.0	3.5	2.5	2.0	2.5
Adjusted Moisture Variation %	4.0	**	**	**	**	**
Hilf Density Ratio (%)	106.5	107.0	106.5	105.5	95.5	96.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report




 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-4
Issue Number: 1
Date Issued: 13/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7027
Date Sampled: 29/09/2020
Dates Tested: 29/09/2020 - 09/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Gravelley Sandy Clay

Compaction Control AS 1289 5.7.1 & 5.8.1						
Sample Number	GL-7027G	GL-7027H	GL-7027I	GL-7027J	GL-7027K	GL-7027L
Date Tested	29/09/2020	29/09/2020	29/09/2020	29/09/2020	29/09/2020	29/09/2020
Time Tested	09:00	09:05	11:35	11:40	11:45	11:50
Test Request #/Location	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill
Easting	500589	500586	500586	500594	500588	500597
Northing	6923027	6923014	6923027	6923032	6923040	6923048
Layer / Reduced Level	Layer 2	Layer 2	Layer 4	Layer 4	Layer 4	Layer 4
Thickness of Layer (mm)	300	300	300	300	300	300
Soil Description	Gravelly Sandy Clay	Gravelly Sandy Clay	Gravelly Sandy Clay	Gravelly Sandy Clay	Gravelly Sandy Clay	Gravelly Sandy Clay
Test Depth (mm)	150	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.13	2.13	1.91	1.92	2.30	2.28
Field Dry Density (FDD) t/m ³	**	**	**	**	**	**
Peak Converted Wet Density t/m ³	2.13	2.21	1.97	1.91	2.15	2.22
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	-0.5	1.0	-1.0	0.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	100.0	96.5	97.0	100.0	107.0	102.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report




 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-4
Issue Number: 1
Date Issued: 13/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7027
Date Sampled: 29/09/2020
Dates Tested: 29/09/2020 - 09/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Gravelley Sandy Clay

Compaction Control AS 1289 5.7.1 & 5.8.1						
Sample Number	GL-7027M	GL-7027N				
Date Tested	29/09/2020	29/09/2020				
Time Tested	11:55	12:00				
Test Request #/Location	Allotment Fill	Allotment Fill				
Easting	500576	500571				
Northing	6923052	6923043				
Layer / Reduced Level	Layer 4	Layer 4				
Thickness of Layer (mm)	300	300				
Soil Description	Gravelly Sandy Clay	Gravelly Sandy Clay				
Test Depth (mm)	150	150				
Sieve used to determine oversize (mm)	19.0	19.0				
Percentage of Wet Oversize (%)	0	0				
Field Wet Density (FWD) t/m ³	2.25	2.13				
Field Dry Density (FDD) t/m ³	**	**				
Peak Converted Wet Density t/m ³	2.18	2.10				
Adjusted Peak Converted Wet Density t/m ³	**	**				
Moisture Variation (Wv) %	2.0	2.0				
Adjusted Moisture Variation %	**	**				
Hilf Density Ratio (%)	103.5	101.5				
Compaction Method	Standard	Standard				
Report Remarks	**	**				

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-5
Issue Number: 1
Date Issued: 13/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7044
Date Sampled: 30/09/2020
Dates Tested: 30/09/2020 - 06/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Gravelley Clayey Sand

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	GL-7044A	GL-7044B	
Date Tested	30/09/2020	30/09/2020	
Time Tested	09:30	09:35	
Test Request #/Location	Allotment Fill	Allotment Fill	
Easting	500578	500589	
Northing	6923066	6923069	
Elevation (m)	0.5m Below FL	0.5m Below FL	
Layer / Reduced Level	Layer 5	Layer 5	
Thickness of Layer (mm)	300	300	
Soil Description	Sandy Gravelley Clay	Sandy Gravelley Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	4	4	
Field Wet Density (FWD) t/m ³	2.22	2.24	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	**	**	
Adjusted Peak Converted Wet Density t/m ³	2.17	2.15	
Moisture Variation (Wv) %	**	**	
Adjusted Moisture Variation %	1.0	2.0	
Hilf Density Ratio (%)	102.5	104.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-6
Issue Number: 1
Date Issued: 13/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7022
Date Sampled: 28/09/2020
Dates Tested: 28/09/2020 - 29/09/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Clayey Gravelly Sand

Compaction Control AS 1289 5.7.1 & 5.8.1

Sample Number	GL-7022A	GL-7022A	
Date Tested	28/09/2020	28/09/2020	
Time Tested	10:15	10:15	
Test Request #/Location	Allotment Fill	Allotment Fill	
Easting	500591	500591	
Northing	6923015	6923015	
Layer / Reduced Level	Layer 3	Layer 3	
Thickness of Layer (mm)	300	300	
Soil Description	Gravelly Sandy Clay	Gravelly Sandy Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.05	2.05	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	1.96	1.98	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	5.0	3.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	104.5	103.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report




Approved Signatory: Chad Whatley

Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-8
Issue Number: 1
Date Issued: 15/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7127
Date Sampled: 09/10/2020
Dates Tested: 09/10/2020 - 15/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site cut
Material Source: Gravelley Clayey Sand

Compaction Control AS 1289 5.7.1 & 5.8.1					
Sample Number	GL-7127A	GL-7127B	GL-7127C	GL-7127D	GL-7127E
Date Tested	09/10/2020	09/10/2020	09/10/2020	09/10/2020	09/10/2020
Time Tested	10:15	10:20	10:25	10:30	10:35
Test Request #/Location	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill	Allotment Fill
Easting	500560	500547	500552	500549	500551
Northing	6922974	6922984	6922994	6923015	6923034
Elevation (m)	27.01	27.09	27.11	27.40	27.51
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Gravelley Clayey Sand	Gravelley Clayey Sand	Gravelley Clayey Sand	Gravelley Clayey Sand	Gravelley Clayey Sand
Test Depth (mm)	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.09	2.10	2.12	2.12	2.09
Field Dry Density (FDD) t/m ³	**	**	**	**	**
Peak Converted Wet Density t/m ³	2.14	2.14	2.14	2.14	2.15
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	1.0	1.0	2.5	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	97.5	98.0	99.0	98.5	97.0
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: 681328.00-9
Issue Number: 1
Date Issued: 16/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7160
Date Sampled: 14/10/2020
Dates Tested: 14/10/2020 - 16/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Gravelly Clayey Sand

Douglas Partners Pty Ltd
 Gold Coast Laboratory
 Unit 2/3 Distribution Avenue Molendinar QLD 4214
 Phone: (07) 5568 8900
 Email: chad.whatley@douglaspartners.com.au

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Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1

	GL-7160A	GL-7160B	GL-7160C
Sample Number	GL-7160A	GL-7160B	GL-7160C
Date Tested	14/10/2020	14/10/2020	14/10/2020
Time Tested	10:10	10:15	10:20
Test Request #/Location	Allotment Fill	Allotment Fill	Allotment Fill
Easting	500598	500602	500602
Northing	6922992	6923008	6923022
Elevation (m)	28.20	28.24	28.30
Thickness of Layer (mm)	300	300	300
Soil Description	Gravelly Clayey Sand	Gravelly Clayey Sand	Gravelly Clayey Sand
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	**	**	19.0
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.20	2.22	2.16
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	2.13	2.13	2.15
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	1.0	0.0	0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	103.5	104.5	100.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



Chad Whatley

Approved Signatory: Chad Whatley

Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-10
Issue Number: 1
Date Issued: 16/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7136
Date Sampled: 12/10/2020
Dates Tested: 12/10/2020 - 16/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site cut
Material Source: Sandy Gravelley Clay

Compaction Control AS 1289 5.7.1 & 5.8.1					
Sample Number	GL-7136A	GL-7136B	GL-7136C	GL-7136D	GL-7136E
Date Tested	12/10/2020	12/10/2020	12/10/2020	12/10/2020	12/10/2020
Time Tested	10:05	10:10	10:15	10:20	10:25
Test Request #/Location	Allotment Fillll	Allotment Fillll	Allotment Fillll	Allotment Fillll	Allotment Fillll
Easting	500602	500602	500601	500597	500589
Northing	6923016	6923032	6923048	6923062	6923073
Elevation (m)	28.24	28.04	28.13	28.09	27.96
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Sandy Gravelley Clay	Sandy Gravelley Clay	Sandy Gravelley Clay	Sandy Gravelley Clay	Sandy Gravelley Clay
Test Depth (mm)	150	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.20	2.22	2.22	2.22	2.19
Field Dry Density (FDD) t/m ³	**	**	**	**	**
Peak Converted Wet Density t/m ³	2.13	2.10	2.13	2.13	2.12
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.0	1.5	2.0	1.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	103.0	106.0	104.0	104.0	103.5
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report



 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-12
Issue Number: 1
Date Issued: 19/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7059
Date Sampled: 01/10/2020
Dates Tested: 01/10/2020 - 19/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Clayey Gravelly Sand

Compaction Control AS 1289 5.7.1 & 5.8.1

Sample Number	GL-7059A	GL-7059B	GL-7059C
Date Tested	01/10/2020	01/10/2020	01/10/2020
Time Tested	10:00	10:05	12:55
Test Request #/Location	Allotment Fill	Allotment Fill	Allotment Fill
Easting	500557	500552	500555
Northing	6922990	6923043	6923065
Layer / Reduced Level	Layer 1	Layer 1	Layer 2
Thickness of Layer (mm)	300	300	300
Soil Description	Sandy Gravelley Clay	Sandy Gravelley Clay	Sandy Gravelley Clay
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	**	**	**
Percentage of Wet Oversize (%)	**	**	**
Field Wet Density (FWD) t/m ³	2.09	2.08	2.09
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	2.10	2.11	2.12
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	2.0	2.0	3.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	99.5	99.0	98.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report




 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-13
Issue Number: 1
Date Issued: 26/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7227
Date Sampled: 20/10/2020
Dates Tested: 20/10/2020 - 26/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site cut
Material Source: Clayey Gravelly Sand

Compaction Control AS 1289 5.7.1 & 5.8.1


Sample Number	GL-7227A	GL-7227B	
Date Tested	20/10/2020	20/10/2020	
Time Tested	**	**	
Test Request #/Location	Allotment Fill	Allotment Fill	
Easting	500597	500598	
Northing	6922995	6922981	
Elevation (m)	28.7	28,8	
Thickness of Layer (mm)	300	300	
Soil Description	Clayey Gravelly Sand	Clayey Gravelly Sand	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.12	2.14	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	2.12	2.16	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	0.5	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	100.0	99.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-14
Issue Number: 1
Date Issued: 26/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7185
Date Sampled: 15/10/2020
Dates Tested: 15/10/2020 - 23/10/2020
Sampling Method: AS 1289.1.2.1 6.4 (a) - Sampling from layers in earthworks or pavement - uncompacted
Specification: 95% STD
Material: Site Cut
Material Source: Gravelly Clayey Sand

Compaction Control AS 1289 5.7.1 & 5.8.1

Sample Number	GL-7185A	GL-7185B	GL-7185C
Date Tested	15/10/2020	15/10/2020	15/10/2020
Time Tested	02:00	02:05	02:10
Test Request #/Location	Allotment Fill	Allotment Fill	Allotment Fill
Easting	500570	500568	500569
Northing	6922995	6923018	6923031
Elevation (m)	27.21	27.23	27.28
Thickness of Layer (mm)	300	300	300
Soil Description	Gravelly Clayey Sand	Gravelly Clayey Sand	Gravelly Clayey Sand
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	**
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.04	2.03	2.10
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	2.01	2.00	2.09
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	-0.5	-0.5	-0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	101.5	101.5	100.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-15
Issue Number: 1
Date Issued: 26/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7196
Date Sampled: 16/10/2020
Dates Tested: 16/10/2020 - 23/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Gravelly Clayey Sand

Compaction Control AS 1289 5.7.1 & 5.8.1

Sample Number	GL-7196A	GL-7196B	GL-7196C
Date Tested	16/10/2020	16/10/2020	16/10/2020
Time Tested	10:10	10:15	10:20
Test Request #/Location	Allotment Fill	Allotment Fill	Allotment Fill
Easting	500565	500564	500562
Northing	6922992	6923014	6923030
Elevation (m)	27.26	27.24	27.28
Thickness of Layer (mm)	300	300	300
Soil Description	Gravelly Clayey Sand	Gravelly Clayey Sand	Gravelly Clayey Sand
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	**	**	**
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.06	2.07	2.06
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	2.03	2.03	2.04
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	1.5	1.5	1.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	101.5	102.0	101.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



Approved Signatory: Chad Whatley
Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-16
Issue Number: 1
Date Issued: 26/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7146
Date Sampled: 13/10/2020
Dates Tested: 13/10/2020 - 22/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Sandy Gravelly Clay

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	GL-7146A	GL-7146B	GL-7146C
Date Tested	13/10/2020	13/10/2020	13/10/2020
Time Tested	10:15	10:20	10:25
Test Request #/Location	Allotment Fill	Allotment Fill	Allotment Fill
Easting	500549	500553	500554
Northing	6923003	6923024	6923045
Elevation (m)	27.50	27.80	27.85
Thickness of Layer (mm)	300	300	300
Soil Description	Sandy Gravelly Clay	Sandy Gravelly Clay	Sandy Gravelly Clay
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	**	**	**
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.14	2.15	2.16
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	2.11	2.09	2.13
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	0.5	1.5	-0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	101.5	102.5	101.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report




Approved Signatory: Chad Whatley
Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-22
Issue Number: 1
Date Issued: 29/10/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7065
Date Sampled: 02/10/2020
Dates Tested: 02/10/2020 - 29/10/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site Cut
Material Source: Brown Sandy Clay

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	GL-7065A		
Date Tested	02/10/2020		
Time Tested	12:30		
Test Request #/Location	Allotment Fill		
Easting	500563		
Northing	6923079		
Layer / Reduced Level	Layer 4		
Thickness of Layer (mm)	300		
Soil Description	Brown Sandy Clay		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Field Wet Density (FWD) t/m ³	2.01		
Field Dry Density (FDD) t/m ³	**		
Peak Converted Wet Density t/m ³	1.99		
Adjusted Peak Converted Wet Density t/m ³	**		
Moisture Variation (Wv) %	0.5		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	101.0		
Compaction Method	Standard		
Report Remarks	**		

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report




 Approved Signatory: Chad Whatley
 Lab Manager

NATA Accredited Laboratory Number: 828

Report Number: 681328.00-29
Issue Number: 1
Date Issued: 16/11/2020
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7327
Date Sampled: 04/11/2020
Dates Tested: 04/11/2020 - 10/11/2020
Sampling Method: AS 1289.1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: 95% STD
Material: Site cut
Material Source: Brown Sandy Clay

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	GL-7327A	GL-7327B	
Date Tested	04/11/2020	04/11/2020	
Time Tested	10:05	10:10	
Test Request #/Location	Allotment Fill	Allotment Fill	
Easting	501207	501209	
Northing	6922557	6922539	
Elevation (m)	29.8	29.2	
Thickness of Layer (mm)	300	300	
Soil Description	Brown Sandy Clay	Brown Sandy Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	**	**	
Percentage of Wet Oversize (%)	**	**	
Field Wet Density (FWD) t/m ³	2.12	2.06	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	2.04	2.04	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	1.5	1.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	104.0	101.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report

Report Number: 681328.00-72
Issue Number: 1
Date Issued: 03/02/2021
Client: Shadforths Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Josh Burkin
Project Number: 681328.00
Project Name: Riverton Residential Estate, Stage 2
Project Location: Cusack Lane, Jimboomba
Work Request: 7896
Dates Tested: 02/02/2021 - 02/02/2021



Accredited for compliance with ISO/IEC 17025 - Testing

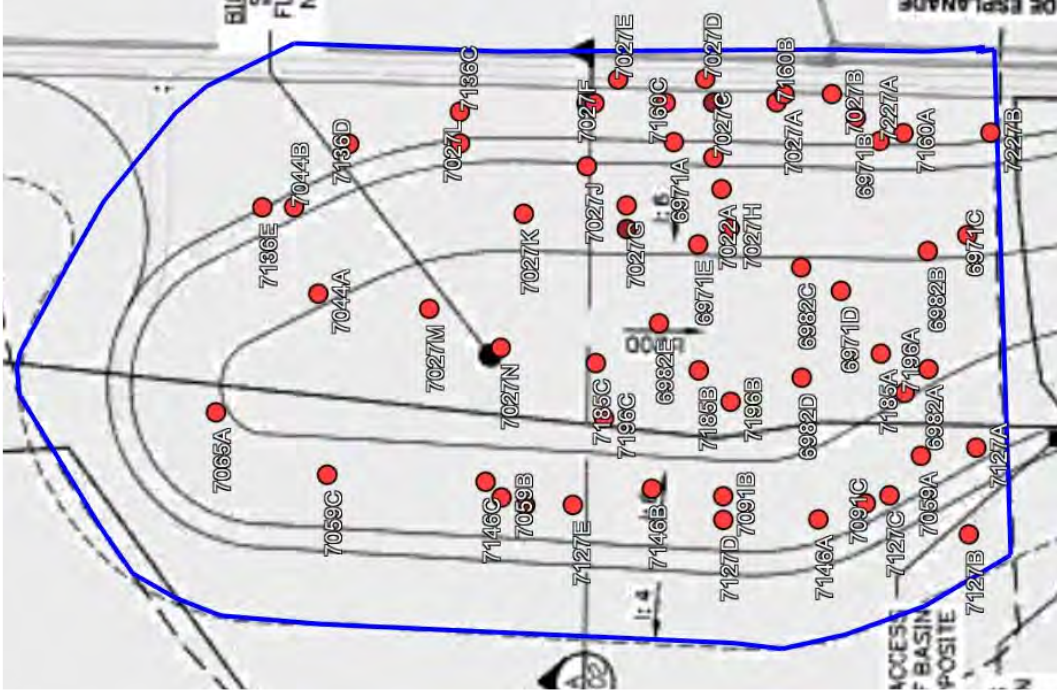
Approved Signatory: Chad Whatley
Lab Manager

Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	GL-7896A	GL-7896B	
Date Tested	01/02/2021	01/02/2021	
Time Tested	12:30	12:40	
Test Request #/Location	Lot 2024	Lot 2025	
Layer / Reduced Level	FL	FL	
Thickness of Layer (mm)	200	200	
Soil Description	Sandy Clay	Sandy Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.14	2.03	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	2.11	2.06	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	2.5	2.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	101.0	98.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

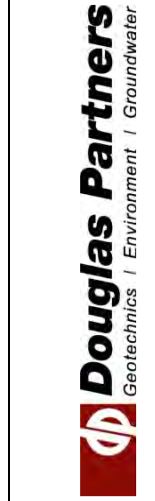


Notes:

1. Test locations are approximate only and are shown with reference to existing site features.
2. Drawing Not To Scale.
3. Image adapted from client supplied drawing no. 5544 ENG CWZA-502 prepared by Gassman Pty Ltd.

Legend:

- Field Density Test Location and Number



CLIENT: Shadforth's Civil Pty Ltd

OFFICE: Gold Coast

DATE: December 2020

Test Location Plan

Bioretention Basins (Riverton Estate)

Stages 1 & 2, Jimboomba

PROJECT No: 671328.00

DRAWING No: 1

REVISION: 0




Notes:

1. Test locations are approximate only and are shown with reference to existing site features.
2. Drawing Not To Scale.
3. Image adapted from client supplied drawing no. 5544 ENG CW2A-502 prepared by Gassman Pty Ltd.

Legend:

- Field Density Test Location and Number

 Douglas Partners <small>Geotechnics Environment Groundwater</small>	CLIENT: Shadforth's Civil Pty Ltd	Test Location Plan		PROJECT No: 671328.00
	OFFICE: Gold Coast	Bioretention Basins (Riverton Estate)		DRAWING No: 2
	DATE: December 2020	Stages 1 & 2, Jimboomba		REVISION: 0



Notes:

1. Test locations are approximate only and are shown with reference to existing site features.
2. Drawing Not To Scale.
3. Image adapted from client supplied drawing no. 5544 ENG CW2A-502 prepared by Gassman Pty Ltd.

Legend:

- Field Density Test Location and Number



CLIENT: Shadforths Civil Pty Ltd

OFFICE: Gold Coast

DATE: February 2021

Test Location Plan

Lots 2024 & 2025 (Riverton Estate)

Stages 1 & 2, Jimboomba

PROJECT No: 671328.00

DRAWING No: 3

REVISION: 0