Douglas Partners
Geotechnics / Environment / Groundwater

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Shadforths Civil Contractors Pty Ltd
99 Sandalwood Lane
Forest Glen QLD 4556

Project 676079.00
23 January 2019
Rev.00.0
SJ:CB

Attention: Campbell Thompson

Email: campbell.thompson@shadcivil.com.au

Dear Sirs

Repot on Level 1 Bulk Earthworks Inspection and Testing
Rosehaven Estate Stage 7
Bassetts Lane, Rosewood

1. Introduction

This report presents a summary of geotechnical inspections and bulk earthworks testing undertaken by Douglas Partners Pty Ltd (DP) between 26 Septemberand 8 November 2018 for Rosehaven Estate Stage 7 located at Bassetts Lane, Rosewood.

The scope of inspection and testing provided by Douglas Partners Pty Ltd (DP) comprised full-time 'Level 1' inspection and testing of bulk filling operations and density testing as defined in AS 3798–2007 "Guidelines on Earthworks for Commercial and Residential Developments". The general earthworks notes presented on a "Bulk Earthworks Layout Plan – Drawing No. C3.01 Issue 01", prepared by Acor Consultants (QLD) Pty Ltd (Acor) were also referenced during the works.

This report only addresses the filling 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.

2. Earthworks Activities

2.1 Stripping and Clearing

The area associated with the extension of works to Rosehaven Estate Stage 7 was stripped of grass and topsoil.

2.2 Removal of Wet Material

Any material that was assessed to exceed the optimum moisture content (OMC) was excavated and stockpiled on site to allow to dry. DP was advised that this material will be used for future filling in other areas of the Rosehaven Estate.

2.3 Test Rolling

The exposed subgrade was test rolled using a loaded 15 tonne water truck. Any problem areas were identified and treated by removal and replacement with suitable filling material. At the end of test rolling and any required remediation works, the subgrade areas were assessed suitable for the placement of filling.

2.4 Filling Materials

The materials used during the filling works comprised:

- site won silty clay; and/or
- a mixture of silty clayey sand with crushed weathered sandstone from excavations in the Karalee area; and /or
- silty sandy gravel from CCA Downs Riverview.

The above materials were assessed to be suitable for bulk filling purposed.

2.5 Specification

The requirements for the earthworks operations, as indicated in the aforementioned Acor drawing, comprised compaction to 95% Standard dry density ratio in areas of general filling, and compaction to 100% Standard dry density ratio in areas of building pads with moisture contents within ± 2% of optimum moisture content for Standard compaction (OMC).

The frequency of field density testing was adopted from AS3798 at a rate of not less than one per 200 m^3 of filling placed per layer or 1000 m^2 of subgrade.

2.6 Placement and Testing of General Filling

Inspection and field density testing was carried out by geotechnicians, who were onsite at all times during filling placement. Filling was placed with scrapers and articulated trucks, and was spread with two D10 dozers, articulated water trucks, scraper water trucks and compacted with 815 Cat compactors and 20 tonne pad foot roller. The filling was placed in layers up to 300 mm loose thickness.

The Contractor was advised on layer thickness, density and moisture content throughout the work. If a layer thickness was too great, then they were subsequently reduced. If an area did not attain the required density, it was moisture conditioned and re-compacted prior to retesting. Similarly, when the general filling was placed too dry or too wet of OMC, the Contractor was advised to moisture condition the material to within ±2% of OMC.

The field density testing was carried out using the nuclear gauge method AS 1289.5.8.1 and relative compaction was determined using the method AS 1289.5.7.1. A total number of 36 field density tests from within Rosehaven Estate Stage 7 were undertaken from 26 September 2018 to 8 November 2018. Up to approximately 1 m depth of filling was placed in areas over the period. The density tests

are indicated on the attached Summary of Level 1 Field Density Test Results and are also summarised in Table 1 below.

Table 1: Summary of Hilf Density Testing of Completed Filling 95 % Specification.

Item	Compaction	Moisture Variation
General Fill Specification	Minimum 95% Standard	-2.0% to +2.0% of OMC[1]
Number of Test	9	9
Range of Results	95% to 103.5% Standard	0.0% OMC to +1.5% dry of OMC[1]
No. of Tests Outside the Specification	0	0
Mean (all tests)	99.0% Standard	0.8% dry of OMC[1]

[1] OMC – optimum moisture content

Table 2: Summary of Hilf Density Testing of Completed Final Level Filling 100 % Specification.

Item	Compaction	Moisture Variation
General Fill Specification	Minimum 100% Standard	-2.0% to +2.0% of OMC[1]
Number of Test	27	27
Range of Results	97% to 107.5% Standard	1.0% wet to +2.0% dry of OMC[1]
No. of Tests Outside the Specification	2	0
Mean (all tests)	103.3% Standard	0.7% dry of OMC[1]

[1] OMC – optimum moisture content

The reported density values at the final formation level on Lots 30 and 32 were 97% Standard and 97.5% Standard respectively. Although these density values at final layer level were less than the specification, it is anticipated that the final levels of filling would also be susceptible to moisture changes and disturbance during construction which will influence the density of the material.

3. Comments

DP undertook 'Level 1' inspection and testing of bulk earthworks as defined in AS 3798–2007 "*Guidelines on Earthworks for Commercial and Residential Developments*". Based on the inspections and test results, it is considered that the placement and compaction of the filling for Stage 7 of the Rosehaven Estate project at the locations shown on Drawing 1, has been carried out in accordance with the requirements of the specification.

DP does not undertake to guarantee the work of the contractors nor relieve their responsibility to produce a completed product conforming to the requirements of the specification.

For building on controlled filling at the site, consideration should be given by the user to the following:

- the possibility that additional filling has been placed after the date of the last field density test or at times when DP has not been notified that filling operations were in progress;

- possible disruption of the compacted filling by services installation;
- adequate confinement of the filled areas; and
- the suitability of the filled land to support structures of various types without excessive deflection.

We trust that the above information is suitable for your present requirements. Should you have any queries, please do not hesitate to contact the undersigned.

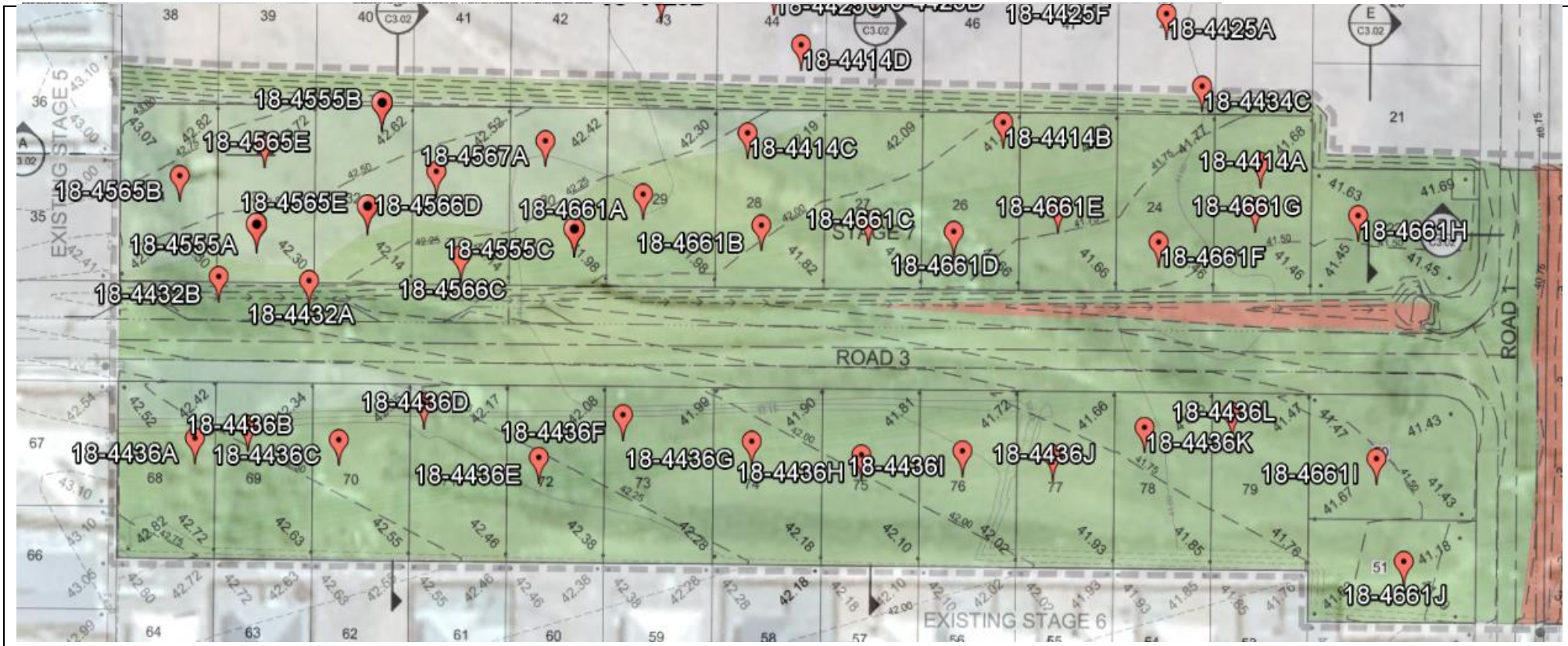
Yours faithfully
Douglas Partners Pty Ltd

Srdjan Jajcanin
Laboratory Manager

Reviewed by

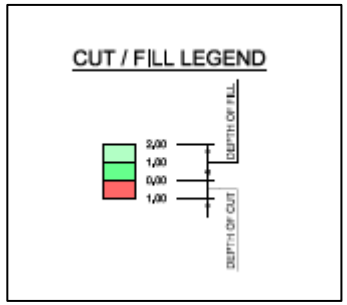
Chris Bell
Principal

Attachments: About This Earthworks Inspection and Testing Report
RS7-1 Test location plan



Notes:

1. Test locations are approximate only and are shown with reference to existing and proposed site features.
2. Drawing adapted from plan C4.01 Issue 01 provided by client.



Douglas Partners Geotechnics / Environment / Groundwater	CLIENT: Shadforths Civil Contractors	**CBR Locations and Limits**	PROJECT No:	676079.00
	OFFICE: Brisbane	**Stage 7**	DRAWING No:	1
	DATE: 22.01.2019	**Rosehaven Estate Rosewood**	REVISION:	-

Material Test Report

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NATA
WORLD RECOGNISED ACCREDITATION

Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-2**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4349
Date Sampled: 19/09/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 8 Filling**

Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1			
Sample Number	18-4349A	18-4349B	
Date Tested	19/09/2018	19/09/2018	
Time Tested	04:10	04:20	
Test Request #/Location	Stage 8	Stage 8	
Easting	460908	460887	
Northing	6942448	6942452	
Layer / Reduced Level	RL 41.53	RL 41.42	
Thickness of Layer (mm)	200	200	
Soil Description	Silty clay	Silty clay	
Test Depth (mm)	150	150	
Fraction Tested (mm)	19.0	19.0	
Oversize (wet basis) %	0	0	
Oversize (dry basis) %	0	0	
Field Wet Density t/m^3	1.95	1.94	
Field Moisture Content %	24.2	26.6	
Field Dry Density t/m^3	1.57	1.53	
Maximum Dry Density t/m^3	1.55	1.48	
Adjusted Maximum Dry Density t/m^3	**	**	
Optimum Moisture Content (OMC) %	25.0	27.0	
Adjusted Optimum Moisture Content (OMC) %	**	**	
Moisture Variation %	1.0	0.5	
Moisture Ratio %	96.0	99.0	
Density Ratio %	**101.5**	**103.5**	
Compaction Method	**Standard**	**Standard**	

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

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Approved Signatory: Serge Jajcanin
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Report Number: **676079.00-3**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4353
Date Sampled: 20/09/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 8 Filling**

Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1			
Sample Number	18-4353A	18-4353B	18-4353C
Date Tested	20/09/2018	20/09/2018	20/09/2018
Time Tested	13:30	14:05	16:05
Test Request #/Location	Stage 8	Stage 8	Stage 8
Easting	460892	460912	460862
Northing	6942448	6942447	6942440
Layer / Reduced Level	RL 42.00	RL 41.90	RL 40.80
Thickness of Layer (mm)	300	300	300
Soil Description	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty Clay
Test Depth (mm)	150	150	150
Fraction Tested (mm)	19.0	19.0	19.0
Oversize (wet basis) %	0	0	0
Oversize (dry basis) %	0	0	0
Field Wet Density t/m^3	2.05	2.04	2.02
Field Moisture Content %	21.6	19.0	19.8
Field Dry Density t/m^3	1.69	1.71	1.69
Maximum Dry Density t/m^3	1.69	1.73	1.72
Adjusted Maximum Dry Density t/m^3	**	**	**
Optimum Moisture Content (OMC) %	22.0	20.0	20.0
Adjusted Optimum Moisture Content (OMC) %	**	**	**
Moisture Variation %	0.5	1.0	0.0
Moisture Ratio %	98.0	95.5	99.0
Density Ratio %	**100.0**	**98.5**	**98.0**
Compaction Method	**Standard**	**Standard**	**Standard**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

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Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-4**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4368
Date Sampled: 22/09/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 8 Filling**

Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1					
Sample Number	18-4368A	18-4368B	18-4368C	18-4368D	18-4368E
Date Tested	22/09/2018	22/09/2018	22/09/2018	22/09/2018	22/09/2018
Time Tested	06:45	06:55	07:05	09:50	10:00
Test Request #/Location	Stage 8	Stage 8	Stage 8	Stage 8	Stage 8
Chainage (m)	460837	460868	460898	460834	460861
Location Offset (m)	6942468	6942465	6942459	6942469	6942466
Elevation (m)	RL 41.80	RL 41.55	RL 41.60	RL 42.20	RL 41.40
Thickness of Layer (mm)	250	250	250	250	250
Soil Description	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty Clay
Test Depth (mm)	150	150	150	150	150
Fraction Tested (mm)	19.0	19.0	19.0	19.0	19.0
Oversize (wet basis) %	0	0	0	0	0
Oversize (dry basis) %	0	0	0	0	0
Field Wet Density t/m^3	2.04	2.06	2.10	2.03	2.02
Field Moisture Content %	23.2	22.1	22.7	22.0	21.4
Field Dry Density t/m^3	1.66	1.69	1.71	1.66	1.67
Maximum Dry Density t/m^3	1.64	1.65	1.66	1.68	1.68
Adjusted Maximum Dry Density t/m^3	**	**	**	**	**
Optimum Moisture Content (OMC) %	22.5	22.0	22.0	21.0	21.5
Adjusted Optimum Moisture Content (OMC) %	**	**	**	**	**
Moisture Variation %	-1.0	0.0	-0.5	-1.0	0.0
Moisture Ratio %	104.0	99.5	102.5	105.0	99.0
Density Ratio %	**101.5**	**102.5**	**103.0**	**98.5**	**99.5**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

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Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-5**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4379
Date Sampled: 24/09/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 8 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	18-4379A	18-4379B	18-4379C	18-4379D	18-4379E
Date Tested	26/09/2018	26/09/2018	26/09/2018	26/09/2018	26/09/2018
Time Tested	08:30	08:45	09:00	09:15	09:30
Test Request #/Location	Stage 8 Lot 7	Stage 8 Lot 8	Stage 8 Lot 9	Stage 8 Lot 10	Stage 8 Lot 11
Easting	460837	460848	460861	460873	460891
Northing	6942465	6942465	6942462	6942461	6942457
Elevation (m)	RL 42.50	RL 42.40	RL 42.30	RL 42.20	RL 42.00
Layer / Reduced Level	-100 FL	-100 FL	-100 FL	-100 FL	-100 FL
Thickness of Layer (mm)	250	250	250	250	250
Soil Description	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty 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 (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.08	2.07	2.05	2.08	2.04
Field Moisture Content %	22.0	22.3	22.7	21.6	22.5
Field Dry Density (FDD) t/m^3	1.70	1.69	1.67	1.71	1.67
Peak Converted Wet Density t/m^3	2.04	2.03	2.02	2.04	2.06
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	-0.5	0.0	-0.5	0.0	-0.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**101.5**	**102.0**	**101.5**	**102.0**	**99.5**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Modified**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

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Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number:	**676079.00-5**
Issue Number:	1
Date Issued:	17/10/2018
Client:	Shadforths Civil Pty Ltd 99 Sandalwood Lane, Forest Glen QLD 4556
Contact:	Campbell Thompson
Project Number:	676079.00
Project Name:	ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location:	23 - 45 Bassett Lane, ROSEWOOD
Work Request:	4379
Date Sampled:	24/09/2018
Sampling Method:	AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification:	Minimum 95% Standard
Lot No:	**Stage 8 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1	
Sample Number	18-4379F
Date Tested	26/09/2018
Time Tested	09:45
Test Request #/Location	Stage 8 Lot 12
Easting	460907
Northing	6942453
Elevation (m)	RL 41.90
Layer / Reduced Level	-100 FL
Thickness of Layer (mm)	250
Soil Description	Sandy Silty Clay
Test Depth (mm)	150
Sieve used to determine oversize (mm)	19.0
Percentage of Wet Oversize (%)	**
Field Wet Density (FWD) t/m^3	2.10
Field Moisture Content %	21.8
Field Dry Density (FDD) t/m^3	1.72
Peak Converted Wet Density t/m^3	2.06
Adjusted Peak Converted Wet Density t/m^3	**
Moisture Variation (Wv) %	-0.5
Adjusted Moisture Variation %	**
Hilf Density Ratio (%)	**102.0**
Compaction Method	**Modified**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

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Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-6**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4383
Date Sampled: 24/09/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 98% Standard
Lot No: **Stage 8 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1		
Sample Number	18-4383A	18-4383B
Date Tested	24/09/2018	24/09/2018
Time Tested	**	**
Test Request #/Location	Stage 8	Stage 8
Easting	460865	460895
Northing	6942438	6942432
Elevation (m)	RL 41.50	RL 41.50
Thickness of Layer (mm)	300	300
Soil Description	Sandy Silty Clay	Sandy Silty Clay
Test Depth (mm)	150	150
Sieve used to determine oversize (mm)	19.0	19.0
Percentage of Wet Oversize (%)	**	**
Field Wet Density (FWD) t/m^3	2.07	2.02
Field Moisture Content %	24.2	24.2
Field Dry Density (FDD) t/m^3	1.67	1.63
Peak Converted Wet Density t/m^3	2.03	1.96
Adjusted Peak Converted Wet Density t/m^3	**	**
Moisture Variation (Wv) %	-1.0	-1.0
Adjusted Moisture Variation %	**	**
Hilf Density Ratio (%)	**102.0**	**103.0**
Compaction Method	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

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Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number:	**676079.00-7**
Issue Number:	1
Date Issued:	17/10/2018
Client:	Shadforths Civil Pty Ltd 99 Sandalwood Lane, Forest Glen QLD 4556
Contact:	Campbell Thompson
Project Number:	676079.00
Project Name:	ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location:	23 - 45 Bassett Lane, ROSEWOOD
Work Request:	4384
Date Sampled:	21/09/2018
Sampling Method:	AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification:	Minimum 95% Standard
Lot No:	**Stage 8 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1	
Sample Number	18-4384A
Date Tested	21/09/2018
Time Tested	15:25
Test Request #/Location	Rosewood Stage 8
Easting	460840
Northing	6942465
Elevation (m)	RL 42.20
Thickness of Layer (mm)	250
Soil Description	Silty Clay
Test Depth (mm)	150
Sieve used to determine oversize (mm)	19.0
Percentage of Wet Oversize (%)	**
Field Wet Density (FWD) t/m^3	2.02
Field Moisture Content %	26.6
Field Dry Density (FDD) t/m^3	1.60
Peak Converted Wet Density t/m^3	2.07
Adjusted Peak Converted Wet Density t/m^3	**
Moisture Variation (Wv) %	-0.5
Adjusted Moisture Variation %	**
Hilf Density Ratio (%)	**98.0**
Compaction Method	**Standard**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

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NATA Accredited Laboratory Number: 828

Report Number: **676079.00-8**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4392
Date Sampled: 27/09/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 8 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	18-4392A	18-4392B	18-4392C
Date Tested	25/09/2018	25/09/2018	25/09/2018
Time Tested	**	**	**
Test Request #/Location	**	**	**
Easting	461043	461006	460960
Northing	6942444	6942453	6942459
Elevation (m)	41.45	41.40	41.5
Thickness of Layer (mm)	250	250	250
Soil Description	Silty Clay	Silty Clay	Silty Clay
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**
Field Wet Density (FWD) t/m^3	1.96	1.96	1.99
Field Moisture Content %	23.4	23.8	24.5
Field Dry Density (FDD) t/m^3	1.58	1.58	1.60
Peak Converted Wet Density t/m^3	1.97	1.90	1.89
Adjusted Peak Converted Wet Density t/m^3	**	**	**
Moisture Variation (Wv) %	-0.5	1.0	1.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	**99.5**	**103.5**	**105.5**
Compaction Method	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

Douglas Partners
Geotechnics / Environment / Groundwater
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Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-9**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4414
Date Sampled: 26/09/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stages 7 & 8**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	18-4414A	18-4414B	18-4414C	18-4414D	18-4414E
Date Tested	26/09/2018	26/09/2018	26/09/2018	26/09/2018	26/09/2018
Time Tested	10:00	10:10	10:20	10:30	02:00
Test Request #/Location	Stage 7 + 8	Stage 7 + 8	Stage 7 + 8	Stage 7 + 8	Stage 7 + 8
Easting	461010	460961	460919	460927	460952
Northing	6942376	6942383	6942406	6942386	6942398
Elevation (m)	RL 41.3	RL 41.7	RL 41.4	RL 41.8	RL 41.36
Thickness of Layer (mm)	200	200	200	200	200
Soil Description	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty 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 (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.03	2.01	2.03	2.02	2.03
Field Moisture Content %	21.5	42.8	20.8	22.7	22.2
Field Dry Density (FDD) t/m^3	1.67	1.41	1.68	1.65	1.66
Peak Converted Wet Density t/m^3	2.04	2.02	2.03	1.98	1.97
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	1.5	0.5	0.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**99.5**	**100.0**	**99.5**	**102.0**	**103.0**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

Douglas Partners
Geotechnics / Environment / Groundwater
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Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-9**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4414
Date Sampled: 26/09/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stages 7 & 8**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1		
Sample Number	18-4414F	18-4414G
Date Tested	26/09/2018	26/09/2018
Time Tested	02:15	02:30
Test Request #/Location	Stage 7 + 8	Stage 7 + 8
Easting	46915	460872
Northing	6942417	6942423
Elevation (m)	RL 41.74	RL 42.0
Thickness of Layer (mm)	200	200
Soil Description	Sandy Silty Clay	Sandy Silty Clay
Test Depth (mm)	150	150
Sieve used to determine oversize (mm)	19.0	19.0
Percentage of Wet Oversize (%)	**	**
Field Wet Density (FWD) t/m^3	2.04	2.06
Field Moisture Content %	21.7	13.1
Field Dry Density (FDD) t/m^3	1.67	1.82
Peak Converted Wet Density t/m^3	1.99	1.98
Adjusted Peak Converted Wet Density t/m^3	**	**
Moisture Variation (Wv) %	1.5	0.5
Adjusted Moisture Variation %	**	**
Hilf Density Ratio (%)	**102.0**	**104.0**
Compaction Method	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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WORLD RECOGNISED ACCREDITATION

Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-10**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4425
Date Sampled: 28/09/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 8 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	18-4425A	18-4425B	18-4425C	18-4425D	18-4425E
Date Tested	28/09/2018	28/09/2018	28/09/2018	28/09/2018	28/09/2018
Time Tested	**	**	**	**	**
Test Request #/Location	**	Lot 43	Lot 44	Lot 45	Lot 46
Easting	460989	460913	460921	460942	460959
Northing	6942378	6942406	6942400	6942401	6942399
Elevation (m)	RL 41.33	RL 41.33	RL 41.33	RL 41.33	RL 41.33
Layer / Reduced Level	-	FL-100mm	FL-100mm	FL-100mm	FL-100mm
Thickness of Layer (mm)	250	250	250	250	250
Soil Description	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty Clay	Sandy Silty 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 (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.06	2.04	2.09	2.06	2.05
Field Moisture Content %	24.1	23.8	22.9	22.7	23.4
Field Dry Density (FDD) t/m^3	1.66	1.64	1.70	1.68	1.66
Peak Converted Wet Density t/m^3	2.05	2.03	2.04	2.04	2.04
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	-1.0	-1.0	-1.0	-1.0	-1.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**100.5**	**100.5**	**102.5**	**100.5**	**100.5**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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NATA Accredited Laboratory Number: 828

Report Number:	**676079.00-10**
Issue Number:	1
Date Issued:	17/10/2018
Client:	Shadforths Civil Pty Ltd 99 Sandalwood Lane, Forest Glen QLD 4556
Contact:	Campbell Thompson
Project Number:	676079.00
Project Name:	ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location:	23 - 45 Bassett Lane, ROSEWOOD
Work Request:	4425
Date Sampled:	28/09/2018
Sampling Method:	AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification:	Minimum 95% Standard
Lot No:	**Stage 8 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1	
Sample Number	18-4425F
Date Tested	28/09/2018
Time Tested	**
Test Request #/Location	Lot 47
Easting	460977
Northing	6942407
Elevation (m)	RL 41.33
Layer / Reduced Level	FL-100mm
Thickness of Layer (mm)	250
Soil Description	Sandy Silty Clay
Test Depth (mm)	150
Sieve used to determine oversize (mm)	19.0
Percentage of Wet Oversize (%)	**
Field Wet Density (FWD) t/m^3	2.06
Field Moisture Content %	25.3
Field Dry Density (FDD) t/m^3	1.64
Peak Converted Wet Density t/m^3	2.02
Adjusted Peak Converted Wet Density t/m^3	**
Moisture Variation (Wv) %	-1.0
Adjusted Moisture Variation %	**
Hilf Density Ratio (%)	**102.0**
Compaction Method	**Standard**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

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Report Number: **676079.00-11**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4432
Date Sampled: 02/10/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 7 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1		
Sample Number	18-4432A	18-4432B
Date Tested	02/10/2018	02/10/2018
Time Tested	15:45	17:05
Test Request #/Location	Rosehaven Stage 7	Rosehaven Stage 7
Easting	460841	460826
Northing	6942368	6942372
Layer / Reduced Level	RL41.25	RL41.65
Thickness of Layer (mm)	300	300
Soil Description	Sandy Silty Clay	Sandy Silty Clay
Test Depth (mm)	150	150
Sieve used to determine oversize (mm)	19.0	19.0
Percentage of Wet Oversize (%)	**	**
Field Wet Density (FWD) t/m^3	2.05	2.04
Field Moisture Content %	18.7	17.2
Field Dry Density (FDD) t/m^3	1.72	1.74
Peak Converted Wet Density t/m^3	1.98	1.98
Adjusted Peak Converted Wet Density t/m^3	**	**
Moisture Variation (Wv) %	0.5	0.5
Adjusted Moisture Variation %	**	**
Hilf Density Ratio (%)	**103.5**	**103.0**
Compaction Method	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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Report Number: **676079.00-12**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4434
Date Sampled: 02/10/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 7 & 8 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	18-4434A	18-4434B	18-4434C
Date Tested	04/10/2018	04/10/2018	04/10/2018
Time Tested	08:05	10:05	12:15
Test Request #/Location	Rosehaven Stage 7 + 8	Rosehaven Stage 7 + 8	Rosehaven Stage 7 + 8
Easting	640904	460994	460993
Northing	6942418	6942393	6942369
Elevation (m)	RL 42.40	RL 41.60	RL 41.40
Layer / Reduced Level	-100 below FL	-100 below FL	-
Thickness of Layer (mm)	250	250	250
Soil Description	Sandy Silty Clay	Sandy Silty Clay	Silty Clay
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**
Field Wet Density (FWD) t/m^3	2.04	2.06	1.99
Field Moisture Content %	21.3	21.5	22.0
Field Dry Density (FDD) t/m^3	1.68	1.70	1.63
Peak Converted Wet Density t/m^3	2.02	2.03	1.97
Adjusted Peak Converted Wet Density t/m^3	**	**	**
Moisture Variation (Wv) %	0.5	1.5	0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	**101.0**	**101.5**	**101.0**
Compaction Method	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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NATA
WORLD RECOGNISED ACCREDITATION

Approved Signatory: Serge Jajcanin
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Report Number: **676079.00-13**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4385
Date Sampled: 21/09/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 8 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	18-4385A	18-4385B	18-4385C	18-4385D	18-4385E
Date Tested	21/09/2018	21/09/2018	21/09/2018	21/09/2018	21/09/2018
Time Tested	06:45	08:00	08:30	10:00	10:15
Test Request #/Location	Rosewood Stage 8	Rosewood Stage 8	Rosewood Stage 8	Rosewood Stage 8	Rosewood Stage 8
Easting	460939	460941	460841	460935	460841
Northing	6942414	6942414	6924456	6942414	6942458
Elevation (m)	RL 40.50	RL 40.50	RL 40.50	RL 40.50	RL 40.50
Thickness of Layer (mm)	250	250	250	250	250
Soil Description	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty 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 (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	1.90	1.94	1.95	1.99	1.98
Field Moisture Content %	23.4	26.1	27.9	22.6	22.6
Field Dry Density (FDD) t/m^3	1.54	1.54	1.52	1.62	1.61
Peak Converted Wet Density t/m^3	1.88	1.92	1.84	1.90	1.97
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	-0.5	-0.5	-0.5	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**101.5**	**101.5**	**106.0**	**105.0**	**100.5**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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NATA
WORLD RECOGNISED ACCREDITATION

Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-13**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4385
Date Sampled: 21/09/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 8 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	18-4385F	18-4385G	18-4385H	18-4385I	18-4385J
Date Tested	21/09/2018	21/09/2018	21/09/2018	21/09/2018	21/09/2018
Time Tested	10:30	12:15	14:00	14:15	14:30
Test Request #/Location	Rosewood Stage 8	Rosewood Stage 8	Rosewood Stage 8	Rosewood Stage 8	Rosewood Stage 8
Easting	460877	460871	460850	460876	460904
Northing	6942455	6942422	6942455	6942452	6942418
Elevation (m)	RL 40.50	RL 40.50	RL 40.50	RL 40.50	RL 40.50
Thickness of Layer (mm)	250	250	250	250	250
Soil Description	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty 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 (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	1.97	1.94	2.02	2.02	2.05
Field Moisture Content %	22.9	22.6	24.9	21.6	26.9
Field Dry Density (FDD) t/m^3	1.60	1.58	1.62	1.66	1.62
Peak Converted Wet Density t/m^3	1.89	1.93	1.90	1.91	1.91
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	-0.5	0.0	0.0	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**104.5**	**100.5**	**106.0**	**105.5**	**107.5**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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NATA Accredited Laboratory Number: 828

Report Number: **676079.00-14**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4436
Date Sampled: 03/10/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 7 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	18-4436A	18-4436B	18-4436C	18-4436D	18-4436E
Date Tested	03/10/2018	03/10/2018	03/10/2018	03/10/2018	03/10/2018
Time Tested	06:35	07:05	07:35	08:05	08:35
Test Request #/Location	Lot 68	Lot 69	Lot 70	Lot 71	Lot 72
Easting	460816	460825	460844	460855	460876
Northing	6942340	6942340	6942343	6942339	6942338
Layer / Reduced Level	FL-100	FL-100	FL-100	FL-100	FL-100
Thickness of Layer (mm)	250	250	250	250	250
Soil Description	Silty Sandy Clay	Silty Sandy Clay	Silty Sandy Clay	Silty Sandy Clay	Silty Sandy 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 (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.06	2.03	2.06	2.03	2.07
Field Moisture Content %	20.9	22.8	21.9	21.0	22.1
Field Dry Density (FDD) t/m^3	1.71	1.65	1.69	1.68	1.69
Peak Converted Wet Density t/m^3	1.99	1.99	1.99	1.99	1.99
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	1.5	1.0	1.0	1.5	1.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**104.0**	**102.0**	**103.5**	**102.0**	**104.0**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

Douglas Partners
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Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-14**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4436
Date Sampled: 03/10/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 7 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	18-4436F	18-4436G	18-4436H	18-4436I	18-4436J
Date Tested	03/10/2018	03/10/2018	03/10/2018	03/10/2018	03/10/2018
Time Tested	09:05	09:35	10:05	10:35	11:05
Test Request #/Location	Lot 73	Lot 74	Lot 75	Lot 76	Lot 77
Easting	460888	460908	460927	460945	460959
Northing	6942332	6942332	6942331	6942326	6942325
Layer / Reduced Level	FL-100	FL-100	FL-100	FL-100	FL-100
Thickness of Layer (mm)	250	250	250	250	250
Soil Description	Silty Sandy Clay	Silty Sandy Clay	Silty Sandy Clay	Silty Sandy Clay	Silty Sandy 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 (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.04	2.03	2.04	2.05	2.03
Field Moisture Content %	22.6	23.1	22.8	19.5	22.0
Field Dry Density (FDD) t/m^3	1.66	1.65	1.66	1.72	1.66
Peak Converted Wet Density t/m^3	1.97	1.99	1.98	1.99	1.98
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	1.5	1.0	1.0	1.5	0.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**103.0**	**102.0**	**103.0**	**103.5**	**102.5**
Compaction Method	**Modified**	**Standard**	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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Report Number: **676079.00-14**
Issue Number: 1
Date Issued: 17/10/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4436
Date Sampled: 03/10/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 7 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1		
Sample Number	18-4436K	18-4436L
Date Tested	03/10/2018	03/10/2018
Time Tested	11:35	12:10
Test Request #/Location	Lot 78	Lot 79
Easting	460980	460997
Northing	6942320	6942317
Layer / Reduced Level	FL-100	FL-100
Thickness of Layer (mm)	250	250
Soil Description	Silty Sandy Clay	Silty Sandy Clay
Test Depth (mm)	150	150
Sieve used to determine oversize (mm)	19.0	19.0
Percentage of Wet Oversize (%)	**	**
Field Wet Density (FWD) t/m^3	2.02	2.02
Field Moisture Content %	21.3	23.0
Field Dry Density (FDD) t/m^3	1.67	1.64
Peak Converted Wet Density t/m^3	1.98	1.99
Adjusted Peak Converted Wet Density t/m^3	**	**
Moisture Variation (Wv) %	0.0	0.5
Adjusted Moisture Variation %	**	**
Hilf Density Ratio (%)	**102.5**	**101.5**
Compaction Method	**Modified**	**Modified**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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NATA Accredited Laboratory Number: 828

Report Number: **676079.00-17**
Issue Number: 1
Date Issued: 06/11/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4555
Date Sampled: 25/10/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Filling Stage 7**
Material: Silty Sandy Gravel

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	18-4555A	18-4555B	18-4555C
Date Tested	25/10/2018	25/10/2018	25/10/2018
Time Tested	11:15	14:35	16:05
Test Request #/Location	STAGE 7	STAGE 7	STAGE 7
Easting	460837	460861	460887
Northing	6942413	6942404	6942395
Elevation (m)	41.7	41.75	41.8
Thickness of Layer (mm)	300	300	300
Soil Description	Silty Sandy Gravel	Silty Sandy Gravel	Silty Sandy Gravel
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	37.5	19.0	37.5
Percentage of Wet Oversize (%)	8.0	**	0.0
Field Wet Density (FWD) t/m^3	2.23	2.20	2.22
Field Moisture Content %	6.6	7.0	6.4
Field Dry Density (FDD) t/m^3	2.09	2.06	2.09
Peak Converted Wet Density t/m^3	**	2.28	2.32
Adjusted Peak Converted Wet Density t/m^3	2.34	**	**
Moisture Variation (Wv) %	**	1.5	1.0
Adjusted Moisture Variation %	0.5	**	**
Hilf Density Ratio (%)	**95.0**	**96.5**	**96.0**
Compaction Method	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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NATA WORLD RECOGNISED ACCREDITATION

Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-18**
Issue Number: 1
Date Issued: 06/11/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4565
Date Sampled: 26/10/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 7 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	18-4565A	18-4565B	18-4565C	18-4565D	18-4565E
Date Tested	26/10/2018	26/10/2018	26/10/2018	26/10/2018	26/10/2018
Time Tested	09:15	11:10	11:30	12:15	12:35
Test Request #/Location	STAGE 7	STAGE 7 LOT 34	STAGE 8 LOT 39	STAGE 8 LOT 38	STAGE 7 LOT 33
Easting	460931	460826	460826	460846	460842
Northing	6942367	6942395	6942417	6942412	6942392
Elevation (m)	41.5	42.66	42.6	42.6	42.6
Layer / Reduced Level	**	FL	FL	FL	FL
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Silty Sandy Gravel	Silty Sandy Gravel	Silty Sandy Gravel	Silty Sandy Gravel	Silty Sandy Gravel
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 (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.28	2.28	2.25	2.25	2.23
Field Moisture Content %	9.7	7.9	8.9	7.8	7.7
Field Dry Density (FDD) t/m^3	2.08	2.12	2.07	2.09	2.07
Peak Converted Wet Density t/m^3	2.33	2.31	2.29	2.31	2.35
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	1.0	0.5	0.5	0.5	-1.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**98.0**	**99.0**	**98.5**	**97.5**	**95.0**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-19**
Issue Number: 1
Date Issued: 06/11/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4566
Date Sampled: 27/10/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 7 + 8 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	18-4566A	18-4566B	18-4566C	18-4566D
Date Tested	27/10/2018	27/10/2018	27/10/2018	27/10/2018
Time Tested	08:10	08:30	10:15	10:45
Test Request #/Location	STAGE 8 LOT 40	STAGE 8 LOT 41	STAGE 7 LOT 32	STAGE 7 LOT 31
Easting	460854	460869	460851	460869
Northing	6942413	6942409	6942397	6942389
Elevation (m)	42.5	42.4	42.51	42.35
Layer / Reduced Level	FL	FL	FL	FL
Thickness of Layer (mm)	300	300	300	300
Soil Description	Silty Sandy Gravel	Silty Sandy Gravel	Silty Sandy Gravel	Silty Sandy Gravel
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**
Field Wet Density (FWD) t/m^3	2.28	2.24	2.23	2.30
Field Moisture Content %	9.8	9.9	9.2	9.8
Field Dry Density (FDD) t/m^3	2.07	2.03	2.04	2.09
Peak Converted Wet Density t/m^3	2.28	2.27	2.28	2.29
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**
Moisture Variation (Wv) %	-0.5	-1.0	-0.5	-1.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	**99.5**	**98.5**	**97.5**	**100.0**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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Approved Signatory: Serge Jajcanin
NATA Accredited Laboratory Number: 828

Report Number: **676079.00-20**
Issue Number: 1
Date Issued: 06/11/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4567
Date Sampled: 29/10/2018
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Stage 7 Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1		
Sample Number	18-4567A	
Date Tested	29/10/2018	
Time Tested	12:15	
Test Request #/Location	STAGE 7 LOT 30	
Easting	460886	
Northing	6942387	
Elevation (m)	42.30	
Layer / Reduced Level	FL	
Thickness of Layer (mm)	300	
Soil Description	Silty Sandy Gravel	
Test Depth (mm)	150	
Sieve used to determine oversize (mm)	19.0	
Percentage of Wet Oversize (%)	**	
Field Wet Density (FWD) t/m^3	2.27	
Field Moisture Content %	9.1	
Field Dry Density (FDD) t/m^3	2.08	
Peak Converted Wet Density t/m^3	2.35	
Adjusted Peak Converted Wet Density t/m^3	**	
Moisture Variation (Wv) %	-0.5	
Adjusted Moisture Variation %	**	
Hilf Density Ratio (%)	**97.0**	
Compaction Method	**Standard**	

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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NATA Accredited Laboratory Number: 828

Report Number: **676079.00-24**
Issue Number: 1
Date Issued: 22/11/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4661
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Bulk Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	18-4661A	18-4661B	18-4661C	18-4661D	18-4661E
Date Tested	08/11/2018	08/11/2018	08/11/2018	08/11/2018	08/11/2018
Time Tested	10:10	10:20	10:30	10:40	10:50
Test Request #/Location	Stage 7 LOT- 29	Stage 7 LOT- 28	Stage 7 LOT- 27	Stage 7 LOT- 26	Stage 7 LOT- 25
Easting	460902	460918	460934	460958	460970
Northing	6942378	6942374	6942374	6942370	6942366
Elevation (m)	42	42	41.9	41.8	41.7
Layer / Reduced Level	FL	FL	FL	FL	FL
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Sandy silty gravel	Sandy silty gravel	Sandy silty gravel	Sandy silty gravel	Sandy silty gravel
Test Depth (mm)	150	150	150	150	150
Sieve used to determine oversize (mm)	37.5	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.42	2.43	2.34	2.36	2.35
Field Moisture Content %	6.7	7.2	6.7	7.0	6.7
Field Dry Density (FDD) t/m^3	2.27	2.27	2.20	2.21	2.20
Peak Converted Wet Density t/m^3	2.27	2.31	2.18	2.24	2.24
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	1.5	1.5	1.5	2.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**106.5**	**105.0**	**107.5**	**105.5**	**105.0**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

Material Test Report

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NATA Accredited Laboratory Number: 828

Report Number: **676079.00-24**
Issue Number: 1
Date Issued: 22/11/2018
Client: Shadforths Civil Pty Ltd
99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Campbell Thompson
Project Number: 676079.00
Project Name: ROSEWOOD- Rosehaven Estate Stages 7 & 8
Project Location: 23 - 45 Bassett Lane, ROSEWOOD
Work Request: 4661
Sampling Method: AS1289 1.2.1 6.4 - Sampling from layers in earthworks or pavement - uncompacted/compacted
Specification: Minimum 95% Standard
Lot No: **Bulk Filling**

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	18-4661F	18-4661G	18-4661H	18-4661I	18-4661J
Date Tested	08/11/2018	08/11/2018	08/11/2018	08/11/2018	08/11/2018
Time Tested	11:00	11:10	11:20	11:30	11:40
Test Request #/Location	Stage 7 LOT- 24	Stage 7 LOT- 23	Stage 7 LOT- 22	Stage 7 LOT- 50	Stage 7 LOT- 51
Easting	460984	461006	461035	461023	461023
Northing	6942359	6942356	6942360	6942312	6942298
Elevation (m)	41.6	41.5	41.4	41.3	41
Layer / Reduced Level	FL	FL	FL	FL	FL
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Silty Clay	Silty Clay	Sandy silty gravel	Silty Clay	Silty 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 (%)	**	**	**	**	**
Field Wet Density (FWD) t/m^3	2.11	2.12	2.39	2.10	2.07
Field Moisture Content %	19.7	21.2	6.7	22.7	21.1
Field Dry Density (FDD) t/m^3	1.76	1.75	2.24	1.72	1.71
Peak Converted Wet Density t/m^3	2.01	1.99	2.27	1.99	1.99
Adjusted Peak Converted Wet Density t/m^3	**	**	**	**	**
Moisture Variation (Wv) %	0.5	-0.5	2.0	-0.5	-0.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	**105.0**	**106.0**	**105.0**	**105.5**	**104.0**
Compaction Method	**Standard**	**Standard**	**Standard**	**Standard**	**Standard**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC