

Shadforth Civil Pty Ltd
99 Sandalwood Lane
Forest Glen QLD 4556

Project 211063.00
3 May 2022
R.001.REV0
CW:gm

Attention: Nick Gentle

Email: nick.gentle@shadcivil.com.au

Report on Earthworks Inspection and Testing
Riverton Residential Estate
Stage 2C & External Roadworks, Cusack Lane, Jimboomba

1. Introduction

This report presents the results of the 'Level 1' inspection and testing of bulk earthworks fill placement for the proposed residential development at Riverton Estate, Stage 2C, Cusack Lane, Jimboomba. The fill was placed and tested from 12 January to 27 April 2022.

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 on the above mentioned date and only within the extents of the test locations (including elevation) noted on the results and as shown on the attached test location plans. Any other part of the site or filled placed after the above period is not addressed by this report unless stated otherwise.

These works involved the removal and replacement of over blasted rock within existing road boxes under level one supervision, as such no earthworks plan was prepared by Gassman Development Perspectives or supplied by Shadforth Pty Ltd. The earthworks required compaction to a minimum dry density ratio of 95% relative to standard compaction 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 (if any) within areas of fill, then placement and compaction of cut to fill won from on site 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 sandy clay and some gravelly clayey sand won from onsite cuts.

Fill materials were placed by Moxi loads and spread by an 815 compactor and D6 dozer. Compaction was achieved using an 815 compactor and padfoot roller with loose layer thickness typically ranging from approximately 200 mm to 300 mm. Moisture was controlled by an on site 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 DP 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 70 density tests were carried out during the earthworks. A summary of the test results is presented in Table 1.

Table 1: Summary of Density Testing

| Item | Compaction | Moisture Variation |
|-----------------------------------|--------------------|-----------------------------|
| Specification | 95% Std | N/A |
| No. of tests | 70 | 70 |
| Range | 97.5 to 109.0% Std | 2.5% wet to 4.0% dry of OMC |
| No of tests outside specification | 0 | 0 |
| Mean | 102.0% Std | 1.3% dry of OMC |

Note: OMC – Optimum Moisture Content for Standard compaction

N/A – Not applicable

3. Comments

DP undertook 'Level 1' inspection and testing of earthworks 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 Pty Ltd from 12 January to 27 April 2022, within the extents of the test locations (including elevation) noted on the results and as shown on the attached test location plans, 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.

4. Limitations

Douglas Partners Pty Ltd (DP) has prepared this Level 1 inspection and test report for this project at Riverton Estate, Stage 2C, Cusack Lane, Jimboomba, Hope Island in accordance with DP's proposal 211063.00 dated 19 November 2021. The work was carried out under DP's Conditions of Engagement. This report is provided for the exclusive use of Shadforth 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.

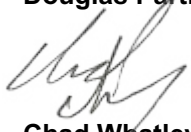
The results provided in the report are indicative of the subsurface conditions on the site only at the specific sampling and/or testing locations, and then only to the depths investigated and at the time the work was carried out. Subsurface conditions can change abruptly due to variable geological processes 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.

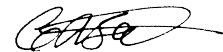
Please contact the undersigned if you have any questions on this matter.

Yours faithfully
Douglas Partners Pty Ltd



Chad Whatley
Laboratory Manager

Reviewed by



Chris Bell
Principal

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

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

Report Number: 211063.00-5
Issue Number: 1
Date Issued: 19/01/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 9992
Dates Tested: 13/01/2022 - 18/01/2022
Location: Allotment Fill Area

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



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-9992A | GL-9992B | GL-9992C | GL-9992D | GL-9992E | GL-9992F |
| Date Tested | 13/01/2022 | 13/01/2022 | 13/01/2022 | 13/01/2022 | 13/01/2022 | 13/01/2022 |
| Time Tested | 02:30 | 02:40 | 02:45 | 02:50 | 02:55 | 03:00 |
| Test Request #/Location | Cooper Crescent | Cooper Crescent | Cooper Crescent | Cooper Crescent | Cooper Crescent | Cooper Crescent |
| Easting | 501148 | 501148 | 501150 | 501150 | 501122 | 501154 |
| Northing | 6922262 | 6922262 | 6922248 | 6922248 | 6922254 | 6922222 |
| Elevation (m) | 31.5 | 31.1 | 30.7 | 30.4 | 31.1 | 32.0 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 | 175 | 175 |
| 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 (%) | 6 | 7 | 11 | 11 | 12 | 14 |
| Field Wet Density (FWD) t/m ³ | 2.14 | 2.19 | 2.18 | 2.24 | 2.11 | 2.14 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | ** | ** | ** | ** | ** | ** |
| Adjusted Peak Converted Wet Density t/m ³ | 2.09 | 2.10 | 2.12 | 2.15 | 2.15 | 2.15 |
| Moisture Variation (Wv) % | ** | ** | ** | ** | ** | ** |
| Adjusted Moisture Variation % | 3.5 | 1.0 | 2.0 | 1.5 | 1.5 | 1.5 |
| Hilf Density Ratio (%) | 102.5 | 104.5 | 103.0 | 104.0 | 98.5 | 99.5 |
| 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



Geotechnics | Environment | Groundwater

Douglas Partners Pty Ltd

Gold Coast Laboratory

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Phone: (07) 5568 8900

Email: chad.whatley@douglaspartners.com.au

Report Number: 211063.00-6
Issue Number: 1
Date Issued: 19/01/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 9982
Dates Tested: 12/01/2022 - 18/01/2022
Location: Allotment Fill Area



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-9982A | GL-9982B | GL-9982C | GL-9982D | GL-9982E | GL-9982F |
| Date Tested | 12/01/2022 | 12/01/2022 | 12/01/2022 | 12/01/2022 | 12/01/2022 | 12/01/2022 |
| Time Tested | 12:00 | 12:10 | 12:20 | 12:30 | 12:40 | 12:50 |
| Test Request #/Location | Allotment Fill Area | Allotment Fill Area | Allotment Fill Area | Allotment Fill Area | Allotment Fill Area | Allotment Fill Area |
| Easting | 501086 | 501086 | 501086 | 501106 | 501106 | 501106 |
| Northing | 6922305 | 6922305 | 6922305 | 6922264 | 6922264 | 6922264 |
| Elevation (m) | 32.6 | 32.2 | 31.8 | 31.8 | 31.5 | 31.1 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 | 175 | 175 |
| 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 | 2.13 | 2.08 | 2.16 | 2.27 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.14 | 2.13 | 2.13 | 2.09 | 2.13 | 2.18 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 1.5 | 1.5 | 0.5 | 1.5 | 0.5 | 1.5 |
| Adjusted Moisture Variation % | ** | ** | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 99.5 | 100.0 | 100.0 | 99.5 | 102.0 | 104.5 |
| 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

Report Number: 211063.00-6
Issue Number: 1
Date Issued: 19/01/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 9982
Dates Tested: 12/01/2022 - 18/01/2022
Location: Allotment Fill Area



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-9982G | GL-9982H | GL-9982I | GL-9982J | GL-9982K | GL-9982L |
| Date Tested | 12/01/2022 | 12/01/2022 | 12/01/2022 | 12/01/2022 | 12/01/2022 | 12/01/2022 |
| Time Tested | 01:00 | 01:05 | 01:10 | 02:30 | 02:40 | 02:50 |
| Test Request #/Location | Allotment Fill Area | Allotment Fill Area | Allotment Fill Area | Allotment Fill Area | Allotment Fill Area | Allotment Fill Area |
| Easting | 501135 | 501135 | 501135 | 501072 | 501072 | 501072 |
| Northing | 6922223 | 6922223 | 6922223 | 6922278 | 6922278 | 6922278 |
| Elevation (m) | 30.6 | 30.3 | 30.0 | 32.7 | 32.3 | 32.0 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 | 175 | 175 |
| 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 | 2.20 | 2.12 | 2.15 | 2.18 | 2.14 | 2.12 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.14 | 2.14 | 2.13 | 2.11 | 2.10 | 2.12 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 1.5 | 2.0 | 2.0 | -0.5 | 1.0 | -1.0 |
| Adjusted Moisture Variation % | ** | ** | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 103.0 | 99.5 | 101.0 | 103.5 | 101.5 | 100.0 |
| 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

Report Number: 211063.00-7
Issue Number: 1
Date Issued: 20/01/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10015
Dates Tested: 17/01/2022 - 19/01/2022
Location: Allotment Fill Area

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



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-10015A | GL-10015B | GL-10015C | GL-10015D |
| Date Tested | 17/01/2022 | 17/01/2022 | 17/01/2022 | 17/01/2022 |
| Time Tested | 11:00 | 11:15 | 11:25 | 11:40 |
| Test Request #/Location | Cooper Crescent | Cooper Crescent | Cooper Crescent | Cooper Crescent |
| Easting | 501212 | 501212 | 501200 | 501182 |
| Northing | 6922152 | 6922142 | 6922169 | 6922171 |
| Elevation (m) | 28.7 | 29.1 | 29.9 | 29.9 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 |
| Soil Description | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay |
| 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 | 2.15 | 2.19 | 2.17 | 2.16 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.14 | 2.16 | 2.17 | 2.11 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** |
| Moisture Variation (Wv) % | -0.5 | -0.5 | -1.0 | 1.5 |
| Adjusted Moisture Variation % | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 100.5 | 101.0 | 100.0 | 102.5 |
| Compaction Method | 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: 211063.00-8
Issue Number: 1
Date Issued: 20/01/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10002
Dates Tested: 14/01/2022 - 19/01/2022
Location: Allotment Fill Area

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



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-10002A | GL-10002B | GL-10002C | GL-10002D |
| Date Tested | 14/01/2022 | 14/01/2022 | 14/01/2022 | 14/01/2022 |
| Time Tested | 12:00 | 12:10 | 12:15 | 12:20 |
| Test Request #/Location | Cooper Crescent | Cooper Crescent | Cooper Crescent | Cooper Crescent |
| Easting | 501169 | 501203 | 501201 | 501176 |
| Northing | 6922182 | 6922150 | 6922172 | 6922192 |
| Elevation (m) | 29.3 | 29.0 | 28.7 | 28.4 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 |
| Soil Description | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay |
| 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 (%) | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m ³ | 2.13 | 2.16 | 2.15 | 2.22 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.07 | 2.05 | 2.11 | 2.08 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 3.5 | 3.5 | 1.0 | 0.0 |
| Adjusted Moisture Variation % | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 103.0 | 105.5 | 102.0 | 106.5 |
| Compaction Method | 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



Geotechnics | Environment | Groundwater

Douglas Partners Pty Ltd

Gold Coast Laboratory

Unit 2/3 Distribution Avenue Molendinar QLD 4214

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Report Number: 211063.00-8
Issue Number: 1
Date Issued: 20/01/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10002
Dates Tested: 14/01/2022 - 19/01/2022
Location: Allotment Fill Area



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-10002E | GL-10002F | GL-10002G | |
| Date Tested | 14/01/2022 | 14/01/2022 | 14/01/2022 | |
| Time Tested | 12:30 | 12:35 | 12:40 | |
| Test Request #/Location | Cooper Crescent | Fitzroy Street | Fitzroy Street | |
| Easting | 501168 | 501205 | 501217 | |
| Northing | 6922181 | 6922201 | 6922225 | |
| Elevation (m) | 28.0 | 28.7 | 28.7 | |
| Thickness of Layer (mm) | 175 | 175 | 175 | |
| Soil Description | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay | |
| 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 | 2.15 | 2.30 | 2.32 | |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | |
| Peak Converted Wet Density t/m ³ | 2.12 | 2.10 | 2.02 | |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | |
| Moisture Variation (Wv) % | 0.5 | 0.5 | 3.5 | |
| Adjusted Moisture Variation % | ** | ** | ** | |
| Hilf Density Ratio (%) | 101.5 | 109.5 | 114.5 | |
| 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

Report Number: 211063.00-9
Issue Number: 1
Date Issued: 24/01/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10048
Dates Tested: 19/01/2022 - 24/01/2022
Location: Allotment Fill Area



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-10048A | GL-10048B | GL-10048C | GL-10048D | GL-10048E |
| Date Tested | 19/01/2022 | 19/01/2022 | 19/01/2022 | 19/01/2022 | 19/01/2022 |
| Time Tested | 10:20 | 10:30 | 10:40 | 10:50 | 11:10 |
| Test Request #/Location | Fitzroy Street | Fitzroy Street | Fitzroy Street | Fitzroy Street | Fitzroy Street |
| Easting | 501292 | 501259 | 501234 | 501202 | 501258 |
| Northing | 6922313 | 6922265 | 6922229 | 6922199 | 6922275 |
| Elevation (m) | 30.3 | 30.3 | 30.4 | 30.7 | 30.6 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 | 175 |
| Soil Description | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly 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 (%) | 0 | 9 | 0 | 0 | 12 |
| Field Wet Density (FWD) t/m ³ | 2.22 | 2.14 | 2.20 | 2.20 | 2.17 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.09 | ** | 2.11 | 2.11 | ** |
| Adjusted Peak Converted Wet Density t/m ³ | ** | 2.16 | ** | ** | 2.18 |
| Moisture Variation (Wv) % | 0.5 | ** | 2.0 | 0.5 | ** |
| Adjusted Moisture Variation % | ** | 0.0 | ** | ** | -2.5 |
| Hilf Density Ratio (%) | 106.5 | 99.0 | 104.5 | 104.5 | 99.5 |
| 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

Report Number: 211063.00-9
Issue Number: 1
Date Issued: 24/01/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10048
Dates Tested: 19/01/2022 - 24/01/2022
Location: Allotment Fill Area

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



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-10048F | GL-10048G | GL-10048H | GL-10048I | GL-10048J |
| Date Tested | 19/01/2022 | 19/01/2022 | 19/01/2022 | 19/01/2022 | 19/01/2022 |
| Time Tested | 11:25 | 11:40 | 11:50 | 12:05 | 12:15 |
| Test Request #/Location | Fitzroy Street | Fitzroy Street | Fitzroy Street | Fitzroy Street | Fitzroy Street |
| Easting | 501214 | 501249 | 501274 | 501260 | 501198 |
| Northing | 6922213 | 6922251 | 6922284 | 6922230 | 6922200 |
| Elevation (m) | 30.6 | 30.8 | 30.9 | 30.9 | 31.0 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 | 175 |
| Soil Description | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly 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 (%) | 0 | 0 | 0 | 0 | 9 |
| Field Wet Density (FWD) t/m ³ | 2.17 | 2.17 | 2.11 | 2.20 | 2.17 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.12 | 2.08 | 2.08 | 2.13 | ** |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** | 2.10 |
| Moisture Variation (Wv) % | -1.0 | 2.5 | 2.0 | -1.0 | ** |
| Adjusted Moisture Variation % | ** | ** | ** | ** | 2.0 |
| Hilf Density Ratio (%) | 102.0 | 104.5 | 101.5 | 103.0 | 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

Report Number: 211063.00-10
Issue Number: 1
Date Issued: 28/01/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10086
Dates Tested: 25/01/2022 - 28/01/2022
Location: Allotment Fill Area

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



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-10086A | GL-10086B | GL-10086C | GL-10086D |
| Date Tested | 25/01/2022 | 25/01/2022 | 25/01/2022 | 25/01/2022 |
| Time Tested | 12:10 | 12:15 | 12:25 | 12:35 |
| Test Request #/Location | Fitzroy Street | Fitzroy Street | Fitzroy Street | Fitzroy Street |
| Easting | 501307 | 501279 | 501268 | 501257 |
| Northing | 6922303 | 6922297 | 6922275 | 6922259 |
| Elevation (m) | 31.7 | 31.9 | 31.6 | 31.8 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 |
| Soil Description | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay |
| 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 (%) | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m ³ | 2.19 | 2.18 | 2.21 | 2.17 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.07 | 2.16 | 2.03 | 2.12 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 4.0 | 1.5 | 0.5 | 0.5 |
| Adjusted Moisture Variation % | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 106.0 | 101.0 | 109.0 | 102.5 |
| Compaction Method | 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: 211063.00-11
Issue Number: 1
Date Issued: 10/02/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10107
Dates Tested: 31/01/2022 - 07/02/2022
Location: Allotment Fill Area



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-10107A | GL-10107B | GL-10107C | GL-10107D | GL-10107E | GL-10107F |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Date Tested | 31/01/2022 | 31/01/2022 | 31/01/2022 | 31/01/2022 | 31/01/2022 | 31/01/2022 |
| Time Tested | 07:10 | 08:00 | 11:10 | 11:50 | 12:00 | 12:20 |
| Test Request #/Location | Merivale Avenue | Merivale Avenue | Merivale Avenue | Merivale Avenue | Merivale Avenue | Merivale Avenue |
| Easting | 501357 | 501355 | 501343 | 501349 | 501350 | 501344 |
| Northing | 6922300 | 6922280 | 6922260 | 6922245 | 6922308 | 6922290 |
| Elevation (m) | 30.7 | 30.2 | 29.6 | 31.1 | 31.4 | 31.8 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 | 175 | 175 |
| 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 | 3 | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m ³ | 2.10 | 2.06 | 2.13 | 2.18 | 2.13 | 2.09 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.10 | ** | 2.11 | 2.10 | 2.09 | 2.15 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | 2.10 | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 3.0 | ** | 2.5 | 2.5 | 2.0 | 0.5 |
| Adjusted Moisture Variation % | ** | 2.5 | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 100.0 | 98.0 | 101.0 | 104.0 | 101.5 | 97.5 |
| 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

Report Number: 211063.00-12
Issue Number: 1
Date Issued: 14/02/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10128
Dates Tested: 01/02/2022 - 12/02/2022
Location: Allotment Fill Area



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-10128A | GL-10128B | GL-10128C | GL-10128D | GL-10128E | GL-10128F |
|--|---------------------|---------------------|---------------------|---------------------|---------------------|---------------------|
| Date Tested | 01/02/2022 | 01/02/2022 | 01/02/2022 | 01/02/2022 | 01/02/2022 | 01/02/2022 |
| Time Tested | 11:30 | 11:45 | 12:00 | 12:10 | 12:20 | 12:45 |
| Test Request #/Location | Merivale Avenue | Merivale Avenue | Merivale Avenue | Merivale Avenue | Merivale Avenue | Merivale Avenue |
| Easting | 501184 | 501184 | 501175 | 501214 | 501214 | 501230 |
| Northing | 6922091 | 6922091 | 6922070 | 6922098 | 6922098 | 6922116 |
| Elevation (m) | 27.7 | 28.1 | 28.5 | 28.8 | 27.4 | 28.0 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 | 175 | 175 |
| 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 | ** | ** | ** | 8 | ** |
| Field Wet Density (FWD) t/m ³ | 2.18 | 2.16 | 2.11 | 2.15 | 2.14 | 2.17 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.10 | 2.14 | 2.13 | 2.16 | ** | 2.16 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** | 2.15 | ** |
| Moisture Variation (Wv) % | 0.0 | 0.0 | 0.5 | 0.5 | ** | 0.5 |
| Adjusted Moisture Variation % | ** | ** | ** | ** | 1.0 | ** |
| Hilf Density Ratio (%) | 103.5 | 101.0 | 99.0 | 99.5 | 99.5 | 100.5 |
| 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

Report Number: 211063.00-13
Issue Number: 1
Date Issued: 14/02/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10163
Dates Tested: 07/02/2022 - 12/02/2022
Location: Allotment Fill Area



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-10163A | GL-10163B | GL-10163C | GL-10163D |
| Date Tested | 07/02/2022 | 07/02/2022 | 07/02/2022 | 07/02/2022 |
| Time Tested | 11:40 | 12:00 | 12:10 | 12:35 |
| Test Request #/Location | Merivale Avenue | Merivale Avenue | Merivale Avenue | Merivale Avenue |
| Easting | 501218 | 501230 | 501243 | 501248 |
| Northing | 6922141 | 6922125 | 6922138 | 6922157 |
| Elevation (m) | 29.0 | 28.6 | 28.3 | 27.8 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 |
| Soil Description | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay |
| 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 | 2.09 | 2.08 | 2.07 | 2.09 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.05 | 2.01 | 2.05 | 2.08 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 2.0 | 3.0 | 0.0 | 0.0 |
| Adjusted Moisture Variation % | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 102.5 | 103.5 | 101.0 | 100.5 |
| Compaction Method | 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: 211063.00-14
Issue Number: 1
Date Issued: 15/02/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10184
Dates Tested: 09/02/2022 - 15/02/2022
Location: Allotment Fill Area



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-10184A | GL-10184B | GL-10184C | GL-10184D |
| Date Tested | 09/02/2022 | 09/02/2022 | 09/02/2022 | 09/02/2022 |
| Time Tested | 10:50 | 11:00 | 11:15 | 11:30 |
| Test Request #/Location | Merivale Avenue | Merivale Avenue | Merivale Avenue | Merivale Avenue |
| Easting | 501329 | 501315 | 501295 | 501342 |
| Northing | 6922233 | 6922216 | 6922205 | 6922254 |
| Elevation (m) | 28.6 | 28.2 | 27.9 | 29.0 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 |
| Soil Description | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay |
| 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 | 2.14 | 2.14 | 2.09 | 2.19 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.09 | 2.09 | 2.12 | 2.11 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 2.0 | 2.5 | 2.0 | 2.0 |
| Adjusted Moisture Variation % | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 102.5 | 102.5 | 98.5 | 104.0 |
| Compaction Method | 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



Geotechnics | Environment | Groundwater

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

Report Number: 211063.00-16
Issue Number: 1
Date Issued: 21/02/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10196
Dates Tested: 10/02/2022 - 17/02/2022
Location: Allotment Fill Area



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-10196A | GL-10196B | GL-10196C | GL-10196D |
|--|---------------------|---------------------|---------------------|---------------------|
| Date Tested | 10/02/2022 | 10/02/2022 | 10/02/2022 | 10/02/2022 |
| Time Tested | 11:55 | 12:05 | 12:20 | 12:30 |
| Test Request #/Location | Merivale Avenue | Merivale Avenue | Merivale Avenue | Merivale Avenue |
| Easting | 501324 | 501299 | 501281 | 501264 |
| Northing | 6922219 | 6922193 | 6922177 | 6922167 |
| Elevation (m) | 28.6 | 28.2 | 27.9 | 27.9 |
| Thickness of Layer (mm) | 175 | 175 | 175 | 175 |
| Soil Description | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay | Gravelly Sandy Clay |
| 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 (%) | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m ³ | 2.05 | 2.09 | 2.06 | 2.09 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.05 | 2.04 | 2.04 | 2.05 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 2.5 | 2.5 | 2.5 | 2.5 |
| Adjusted Moisture Variation % | ** | ** | ** | ** |
| Hilf Density Ratio (%) | 100.0 | 102.5 | 101.0 | 102.0 |
| Compaction Method | 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: 211063.00-26
Issue Number: 1
Date Issued: 28/04/2022
Client: Shadforth Civil Pty Ltd
 99 Sandalwood Lane, Forest Glen QLD 4556
Contact: Nick Gentle
Project Number: 211063.00
Project Name: Riverton Residential Estate, Stage 2C & External Roadworks
Project Location: Cusack Lane, Jimboomba QLD
Work Request: 10650
Date Sampled: 27/04/2022
Dates Tested: 27/04/2022 - 28/04/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Allotment Fill - External Batter
Material: Clayey Sand
Material Source: Site Cut



Accredited for compliance with ISO/IEC 17025 - Testing

 Approved Signatory: Chad Whatley
 Lab Manager

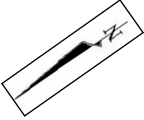
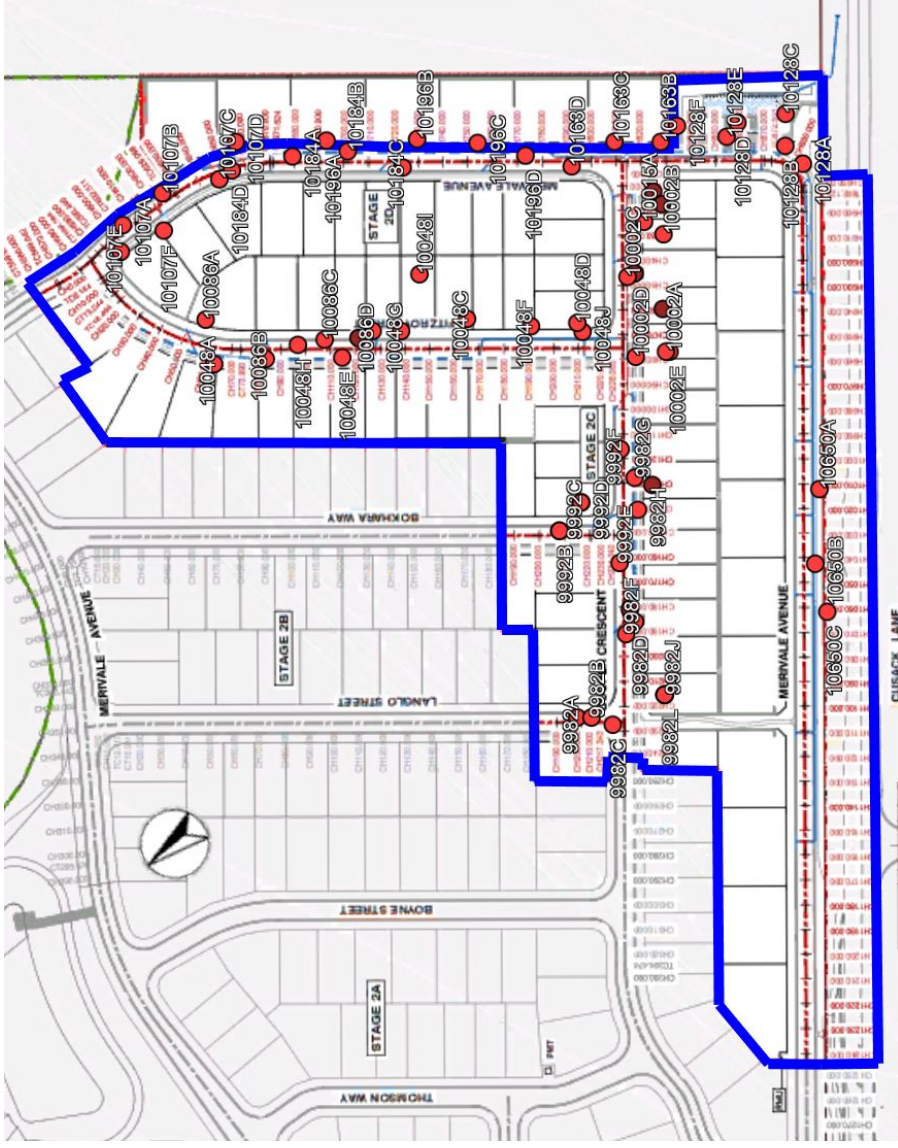
Laboratory Accreditation Number: 828

| Compaction Control AS 1289 5.7.1 & 5.8.1 | | | |
|--|----------------------|----------------------|----------------------|
| Sample Number | GL-10650A | GL-10650B | GL-10650C |
| Date Tested | 27/04/2022 | 27/04/2022 | 27/04/2022 |
| Time Tested | 10:45 | 10:50 | 10:55 |
| Test Request #/Location | Allotment FIII | Allotment FIII | Allotment FIII |
| Easting | 501088 | 501062 | 501046 |
| Northing | 6922170 | 6922194 | 6922209 |
| Elevation (m) | FL | 0.3 < FL | FL |
| Thickness of Layer (mm) | 300 | 300 | 300 |
| Soil Description | Gravelly Clayey Sand | Gravelly Clayey Sand | Gravelly Clayey Sand |
| Test Depth (mm) | 275 | 275 | 275 |
| 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 | 2.12 | 2.12 | 2.14 |
| Field Dry Density (FDD) t/m ³ | ** | ** | ** |
| Peak Converted Wet Density t/m ³ | 2.01 | 2.07 | 2.03 |
| Adjusted Peak Converted Wet Density t/m ³ | ** | ** | ** |
| Moisture Variation (Wv) % | 2.0 | 1.5 | 2.5 |
| Adjusted Moisture Variation % | ** | ** | ** |
| Hilf Density Ratio (%) | 105.5 | 102.5 | 105.5 |
| Compaction Method | Standard | Standard | Standard |
| Report Remarks | ** | ** | ** |

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC



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 CW2B 001 -B.

Legend:

- Field Density Test Location and Number



CLIENT: Shadforth Civil Pty Ltd

OFFICE: Gold Coast

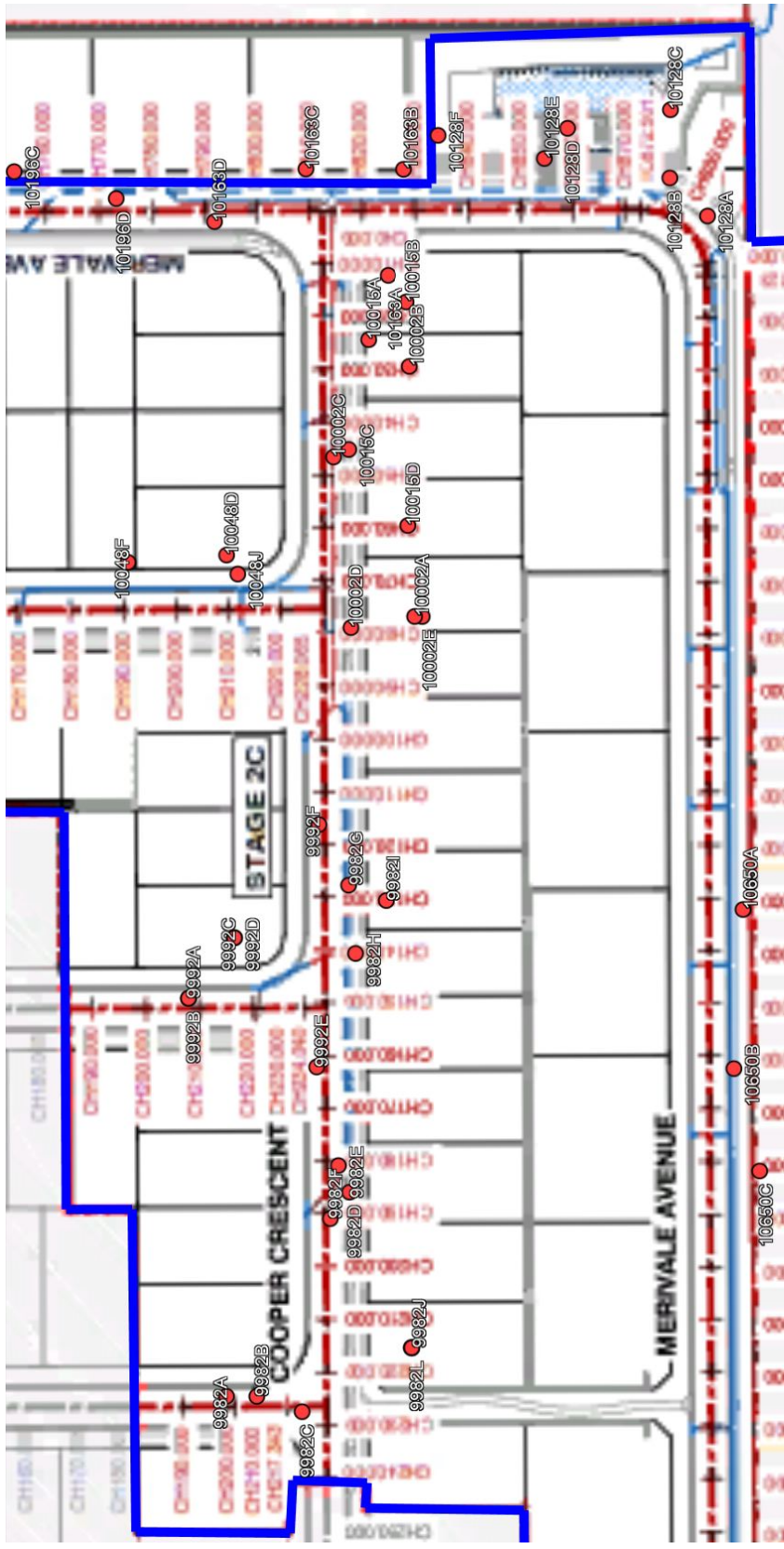
DATE: May 2022

Test Location Plan
Riverton Residential Estate
Stage 2C & External Roadworks
Cusack Lane, Jimboomba

PROJECT No: 211063.00

DRAWING No: 1

REVISION: 0




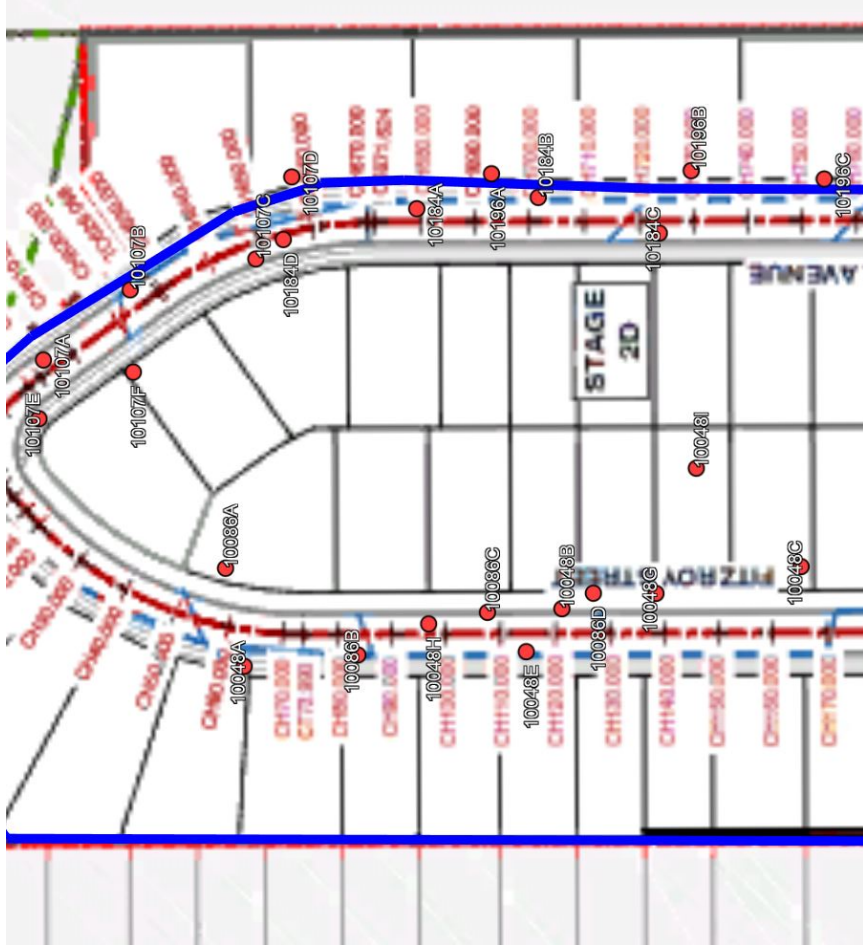
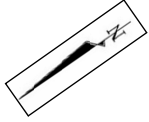
Notes:

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 CW2B 001 -B.

Legend:

- Field Density Test Location and Number

| | | | | |
|--|---------------------------------|--|--|-----------------------|
|  Douglas Partners <small>Geotechnics Environment Groundwater</small> | CLIENT: Shadforth Civil Pty Ltd | Test Location Plan | | PROJECT No: 211063.00 |
| | OFFICE: Gold Coast | Riverton Residential Estate | | DRAWING No: 2 |
| | DATE: May 2022 | Stage 2C & External Roadworks | | REVISION: 0 |
| | | Cusack Lane, Jimboomba | | |



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 CW2B 001 -B.

Legend:

- Field Density Test Location and Number



CLIENT: Shadforth Civil Pty Ltd

OFFICE: Gold Coast

DATE: May 2022

Test Location Plan

Riverton Residential Estate

Stage 2C & External Roadworks

Cusack Lane, Jimboomba

PROJECT No: 2110663.00

DRAWING No: 3

REVISION: 0