

Level One Compliance Report

Bulk Earthworks Filling Operations

Woodlinks Village – Stage 17

Collingwood Park

NOVEMBER 11, 2020

Prepared By

MORRISON GEOTECHNIC PTY LTD

Prepared for:

Shadforths Civil Pty Ltd

Document Reference: 17124



MORRISON
GEOTECHNIC

Brisbane Office
Job No: DL20/313
Ref No: 17124
Author: R. Mitchell

11th November 2020

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

ATTENTION: MS ADELEINE LOVELL
Email: Adeleine.Lovell@shadcivil.com.au

Dear Sir,

**RE: LEVEL ONE COMPLIANCE REPORT FOR
BULK EARTHWORKS FILLING OPERATIONS
WOODLINKS VILLAGE – STAGE 17
COLLINGWOOD PARK**

Table of Contents

1.0	INTRODUCTION	2
1.1	General	2
1.2	Previous Earthworks	2
1.3	The Project	2
2.0	THE BRIEF	3
3.0	METHODOLOGY	3
3.1	Stripped Surface Assessment	3
3.2	Filling Operations.....	4
4.0	STATEMENT OF COMPLIANCE	5
5.0	EXCLUSIONS	6
6.0	LIMITATIONS	6
	ATTACHMENTS:	7
	Appendix A – Site Plan Showing Test Locations	7
	Appendix B – Laboratory Test Results Reports	7

1.0 INTRODUCTION

1.1 General

This report presents results of Level One Earthworks Inspections and associated Compaction Compliance testing carried out on Earthworks Fill constructed to form residential building platforms and embankments below subgrade at the Woodlinks Village Stage 17 Development (The Site).

The work was commissioned by Ms. A. Lovell representing Shadforths Civil Ltd Pty (The Client), using Purchase Order 2082-917002. Earthworks were carried out by The Client. Earthworks filling operations were carried out intermittently during September 2020.

Picture 1: Aerial View of the Site (Image Source: Nearmap.com- dated 5th July 2020)



1.2 Previous Earthworks

As far as could be assessed onsite no previous earthworks had been conducted at The Site.

1.3 The Project

The Purpose for filling at The Site is to construct a Residential Subdivision which included new pavements, residential building platforms and associated underground services.

Peak Urban Pty Ltd Bulk Earthworks Layout Plan, Project Number 20-0071, Drawing Number 102 Revision A, indicates the extents and thickness of fill to be constructed at The Site. This plan is considered to be a reasonable indication of the actual fill constructed with the following exceptions: -

- No fill was constructed on Lots 499.

Any fill on this lot is limited to topsoil respread only.

The extent of fill covered by this report is contained in Appendix A as a marked-up site plan.

The actual thickness of fill on an individual Lot can be obtained from the Developer as a Lot Disclosure Plan.

The Site is bounded by existing developments to the South and undeveloped land to the North, East and West.

2.0 THE BRIEF

The Brief from the Client was limited to:

- Level One Inspection and Testing of the placement and compaction of fill materials in accordance with AS3798 2007 – “Guidelines on Earthworks for Commercial and Residential Developments”,
- Ipswich City Council Project Specifications.
- Relative Density Control Testing in accordance with AS1289 – Testing of Soils for Engineering Purposes and at frequencies required in AS3798 Table 8.1.
- Notes on Peak Urban Earthworks Drawings.

All other design requirements such as CBR and Quality of Materials, site classification, material, settlement assessments and existing filling were not included in the Brief and are therefore excluded from this Report.

3.0 METHODOLOGY

Earthworks Inspections and Testing was carried out on the stripped and exposed ground surfaces and during the placement and compaction of fill materials.

Field and laboratory testing included a walk over assessments of the existing ground conditions, observation of filling and compaction activities and compaction testing.

3.1 Stripped Surface Assessment

The areas to be filled at The Site were observed to be stripped and cleared of all visible organic matter, deleterious, loose and unsuitable materials and topsoil to depths exposing competent natural ground.

The materials forming the natural foundation exposed after the stripping and clearing can be summarised as:

- Sandy Clay (CI-CH) – at least stiff, medium to high plasticity, orange brown, grey brown and moist.

Following the stripped surface assessment of the fill areas, the natural foundation was approved for filling using the following process:

- Walk over assessments confirming that the competent ground was exposed.
- Proof roll testing using large sized and loaded truck. Areas that moved during proof roll testing were removed as required to depths exposing suitable fill foundation.

On this basis, the compliant assessments in accordance with above indicate that the exposed ground surfaces forming the fill foundation is capable of supporting new fill materials.

Picture 2: View of Stripping Operations



3.2 Filling Operations

Fill material was sourced from onsite cuts areas and spoil from trench excavations.

Fill materials can be broadly summarised as:

- Sandy Clay (Cl) – low - medium plasticity, fine to coarse grained sand and traces of fine to coarse gravels, brown, grey brown and moist.
- Ripped Sandstone with engineering properties of Clayey Sand (SC) – fine to coarse grained sand and traces of fine to coarse gravels, low plasticity fines, yellow brown and moist.

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

- 825 Compactors
- Excavators
- Articulated Dump Trucks
- Water Truck
- Grader
- Padfoot Roller
- Dozer

The fill materials were moisture conditioned at the source and during placement to moisture contents suitable for compaction. Deleterious materials such as organics, sticks, roots and over size particles were sorted and removed during placement or were rejected for use. Occasional cobble sized particles may remain in the fill however are not considered to affect the fill as a mass.

Placement of the fill materials was carried layers appropriate for the above plant and compacted using the above plant carrying out multiple passes.

Our representative observed the filling process as described above and it was assessed to be consistent for the entire thickness of fill.

Compaction Testing was carried out on the compacted fill materials in accordance with Table 5.1 and 8.1 of AS3798 2007 (Guidelines on Earthworks for Commercial and Residential Developments) for Type 1 Earthworks and tested to AS1289 test methods (Testing of Soils for Engineering Purposes). Testing achieved the required specification of 95% of the Hilt Density.

Fill placed and compacted at measured density ratios less than 95% were tined, moisture conditioned and re-compacted until the required specification was achieved. Retesting was carried out using Random Stratified Location methods.

The Location of the field density tests are shown on the Site Plan contained in Appendix A. These test locations and levels were not obtained by survey and therefore should only be considered as approximate.

Picture 3: View of Filling Operations



4.0 STATEMENT OF COMPLIANCE

Our representative observed all the relevant earthworks operations including the stripped surfaces, filling operations and carried out field density tests in accordance with the required standards (AS 3798 and AS 1289) and specifications.

It is confirmed that Level 1 Inspection has been carried out on the bulk earthworks fill used to form the residential lots and embankments below subgrade for this project. Based on observations made by our Geotechnicians and the results of the field and laboratory tests, the placed and compacted fill at the project has, as far as we have been able to assess, has been constructed in general accordance with the intent of AS3798 and the specifications.

The fill can be deemed to be “controlled” as defined in AS2870 (Residential Slabs and Footings).

5.0 EXCLUSIONS

This statement does not include any topsoil, which may be placed for use as dressing or any other subsequent earthworks after September 2020.

Assessments of material quality such as soaked CBR and site classifications are excluded from this commission.

Our on-site attendance specifically excludes assessments of fill material quality and engineering properties that are outside the requirements of AS3798 - 2007, including soil or fill reactivity and soaked CBR values. We note that the fill materials used may result in unfavourable site classifications and low subgrade design strengths.

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

This report is not to be relied upon for settlement analysis and soft soils engineering advice. This is beyond the scope of this report and outside our engagement.

6.0 LIMITATIONS

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

This Report is for the sole benefit and use of Shadforths Civil Pty Ltd (**Client**), its designers, clients and relevant statutory authorities for the sole purpose of providing geotechnical advice and recommendations in respect of the Woodlinks Stage 17 Development, (**Project**). The Report is only intended to address those issues expressly described in the Brief/ Work Instructions in this Report.

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

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

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

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

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

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

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

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

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

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

If you have any queries regarding the above, please contact our Brisbane office.

Yours faithfully



RHYS MITCHELL

For and on behalf of

MORRISON GEOTECHNIC PTY LIMITED

ATTACHMENTS:

Appendix A – Site Plan Showing Test Locations

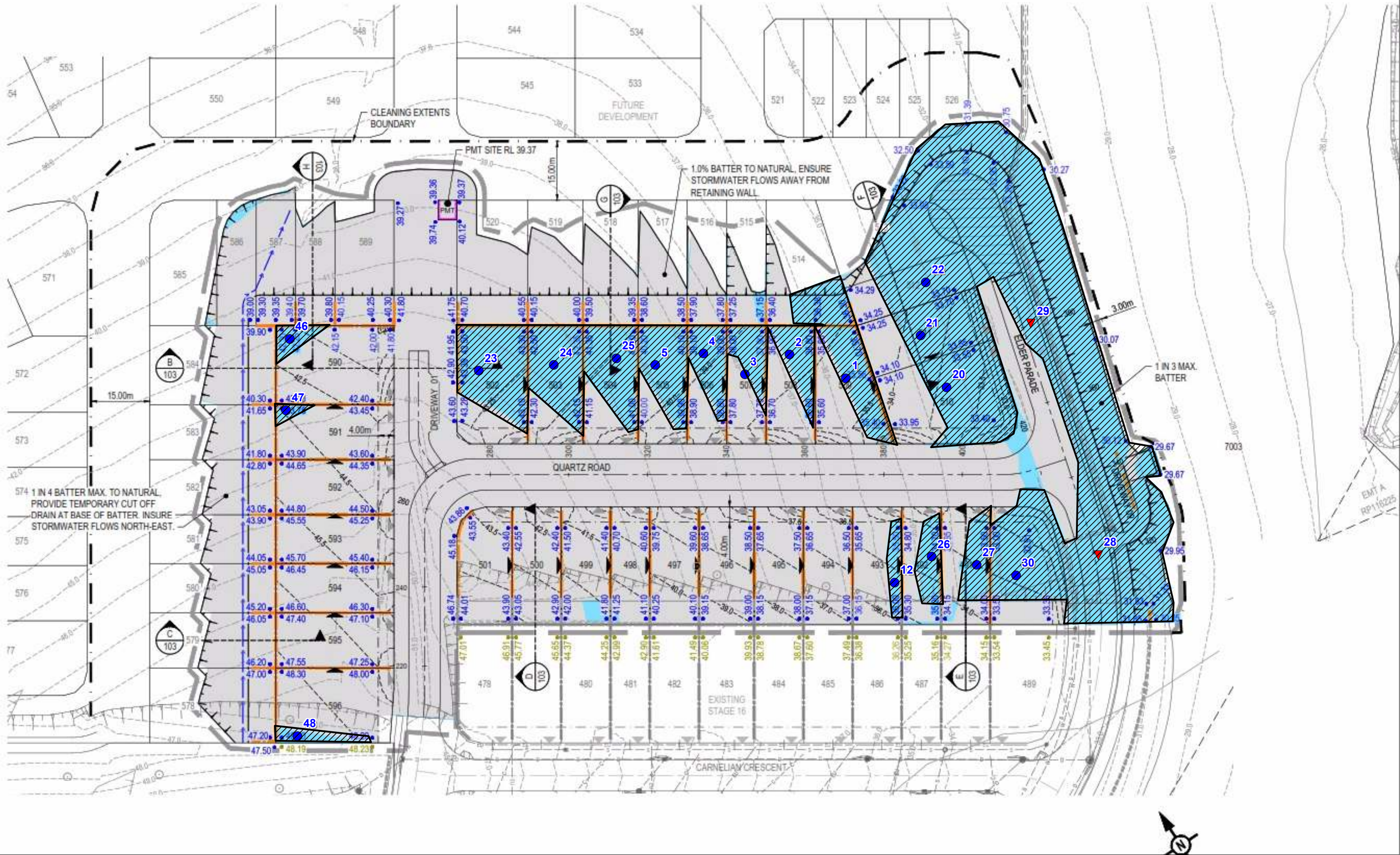
Appendix B – Laboratory Test Results Reports

Appendix A

Site Plan & Test Locations



MORRISON
GEOTECHNIC



MORRISON GEOTECHNIC PTY LTD

ABN: 51 009 878 899

Unit 1/ 35 Limestone St, Darra 4076 Ph: 3279 0900
 Email: brisbanelab@morrisongeo.com.au

Engineers: M.Ballard
 D.Dragun
 Geologists: R.Howchin
 Laboratory: M.Morrison & N.O'Haire

LEGEND

- ▼ 0.0 - 0.99 Below Final Level
- ▼ 1.0 - 1.99 Below Final Level
- ▼ 2.0 - 2.99 Below Final Level
- ▼ 3.0 - 3.99 Below Final Level
- ▼ 4.0 - 4.99 Below Final Level
- Final Level

Map Description :	EARTHWORKS FIELD DENSITY TESTING - Level 1 Inspection		
Client :	SHADFORTHS PTY LTD		
Project :	WODLINKS - STAGE 17		
Project No :	DL20/313	Drawing No :	DL20/313 - 01
		Scale :	Not to Scale

Appendix B

Laboratory Test Reports



MORRISON
GEOTECHNIC

Material Test Report



Brisbane | Gold Coast | Maroochydhore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

Phone: (07) 3279 0900

Email: l davidson@mgeo.com.au

Report Number: DL20/313-2
Issue Number: 1
Date Issued: 17/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/313
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 17
Work Request: 9998
Date Sampled: 11/09/2020
Dates Tested: 11/09/2020 - 15/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 17 Allotment Fill
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Liam Davidson
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	D20-9998A	D20-9998B	D20-9998C	D20-9998D	D20-9998E
Test Number	1	2	3	4	5
Date Tested	11/09/2020	11/09/2020	11/09/2020	11/09/2020	11/09/2020
Time Tested	07:06	07:13	07:18	07:23	07:29
Test Request #/Location	STG 17 Allotment Fill Lot 509	STG 17 Allotment Fill Lot 508	STG 17 Allotment Fill Lot 507	STG 17 Allotment Fill Lot 506	STG 17 Allotment Fill Lot 505
Easting	10m Off North Boundary	5m Off North Boundary	10m Off North Boundary	5m Off North Boundary	10m Off North Boundary
Northing	5m Off East Boundary	5m Off East Boundary	5m Off East Boundary	5m Off East Boundary	5m Off East Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	sandy Clay	sandy Clay	sandy Clay	sandy Clay	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	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	1.97	2.03	1.97	1.92	2.02
Field Moisture Content %	9.5	13.1	16.2	9.5	10.6
Field Dry Density (FDD) t/m ³	1.80	1.79	1.69	1.75	1.83
Peak Converted Wet Density t/m ³	1.95	2.01	1.96	1.96	2.04
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Moisture Variation (Wv) %	3.5	3.0	3.0	1.0	1.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	100.5	101.0	100.5	98.0	99.0
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



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
 ABN: 51 009 878 899
 Brisbane Laboratory
 Unit 1, 35 Limestone Darra QLD 4076
 Phone: (07) 3279 0900
 Email: nathaniel@mgeo.com.au

Report Number: DL20/313-3
Issue Number: 1
Date Issued: 17/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/313
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 17
Work Request: 10012
Date Sampled: 14/09/2020
Dates Tested: 14/09/2020 - 15/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 17 Allotment Fill
Material Source: Onsite Cut



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Branch Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-10012A		
Test Number	12		
Date Tested	14/09/2020		
Time Tested	08:00		
Test Request #/Location	Stage 17 Allotment Fill Lot 493		
Easting	10m Off North Boundary		
Northing	2m Off East Boundary		
Layer / Reduced Level	Finish Level		
Soil Description	CLAY, Brown		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0.0		
Field Wet Density (FWD) t/m ³	1.94		
Field Moisture Content %	13.4		
Field Dry Density (FDD) t/m ³	1.71		
Peak Converted Wet Density t/m ³	1.92		
Adjusted Peak Converted Wet Density t/m ³	**		
Moisture Variation (Wv) %	4.5		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	101.0		
Compaction Method	Standard		

Moisture Variation Note:

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

Material Test Report



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
 ABN: 51 009 878 899
 Brisbane Laboratory
 Unit 1, 35 Limestone Darra QLD 4076
 Phone: (07) 3279 0900
 Email: l davidson@mgeo.com.au

Report Number: DL20/313-5
Issue Number: 1
Date Issued: 22/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/313
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 17
Work Request: 10049
Date Sampled: 16/09/2020
Dates Tested: 16/09/2020 - 22/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 17 Allotment Fill
Material Source: Onsite Cut



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Liam Davidson
 Senior Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D20-10049A	D20-10049B	D20-10049C	D20-10049D
Test Number	20	21	22	23
Date Tested	16/09/2020	16/09/2020	16/09/2020	16/09/2020
Time Tested	06:46	06:53	03:39	07:22
Test Request #/Location	STG 17 Allotment Fill Lot 510	STG 17 Allotment Fill Lot 511	STG 17 Allotment Fill Lot 512	STG 17 Allotment Fill Lot 502
Easting	10m Off South Boundary	6m Off South Boundary	5m Off North Boundary	10m Off East Boundary
Northing	11m Off East Boundary	12m Off Easy Boundary	10m Off East Boundary	8m Off North Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	silty Clay Brown	silty Clay Brown	silty Clay Brown	silty Clay Brown
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	0.0	0.0
Field Wet Density (FWD) t/m ³	2.03	1.96	1.88	2.06
Field Moisture Content %	11.0	14.5	16.3	9.0
Field Dry Density (FDD) t/m ³	1.83	1.71	1.61	1.89
Peak Converted Wet Density t/m ³	2.00	1.93	1.87	1.93
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	2.5	2.5	3.0	3.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	101.0	101.5	100.5	106.5
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



Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

Phone: (07) 3279 0900

Email: l davidson@mgeo.com.au

Report Number: DL20/313-5
Issue Number: 1
Date Issued: 22/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/313
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 17
Work Request: 10049
Date Sampled: 16/09/2020
Dates Tested: 16/09/2020 - 22/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 17 Allotment Fill
Material Source: Onsite Cut



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Liam Davidson
 Senior Technician

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D20-10049E	D20-10049F	D20-10049G	D20-10049H
Test Number	24	25	26	27
Date Tested	16/09/2020	16/09/2020	16/09/2020	16/09/2020
Time Tested	07:32	02:18	02:28	02:35
Test Request #/Location	STG 17 Allotment Fill Lot 503	STG 17 Allotment Fill Lot 504	STG 17 Allotment Fill Lot 492	STG 17 Allotment Fill Lot 491
Easting	7m Off East Boundary	10m Off North Boundary	3m Off East Boundary	4m Off East Boundary
Northing	9m Off North Boundary	7m Off East Boundary	13m Off North Boundary	15m Off North Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level	Finish Level
Soil Description	silty Clay Brown	silty Clay Brown	silty Clay Brown	silty Clay Brown
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	4.8	0.0
Field Wet Density (FWD) t/m ³	1.94	1.98	2.00	1.92
Field Moisture Content %	8.6	6.3	9.7	16.9
Field Dry Density (FDD) t/m ³	1.78	1.86	1.82	1.65
Peak Converted Wet Density t/m ³	1.90	1.92	**	2.00
Adjusted Peak Converted Wet Density t/m ³	**	**	1.98	**
Moisture Variation (Wv) %	2.0	3.0	**	-2.0
Adjusted Moisture Variation %	**	**	2.5	**
Hilf Density Ratio (%)	102.0	103.0	101.0	96.0
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



Brisbane | Gold Coast | Maroochydore
 Morrison Geotechnic Pty Ltd
 Brisbane Laboratory
 Unit 1, 35 Limestone Darra QLD 4076
 Phone: (07) 3279 0900
 Email: nathaniel@mgeo.com.au

Report Number: DL20/313-6
Issue Number: 1
Date Issued: 23/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/313
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 17
Work Request: 10065
Date Sampled: 17/09/2020
Dates Tested: 17/09/2020 - 17/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 100% STD
Site Selection: Selected by GTA
Material: Internal Road Embankment
Material Source: Onsite



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Branch Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D20-10065A	D20-10065B	
Test Number	28	29	
Date Tested	17/09/2020	17/09/2020	
Time Tested	06:46	06:53	
Test Request #/Location	Elder Parade	Elder Parade	
Chainage (m)	320	380	
Location Offset (m)	CL	1m Right from CL	
Layer / Reduced Level	0.3m Below F/L	0.3m below F/L	
Soil Description	sandy Clay	sandy Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0.0	0.0	
Field Wet Density (FWD) t/m ³	2.04	1.93	
Field Moisture Content %	9.8	8.9	
Field Dry Density (FDD) t/m ³	1.86	1.77	
Peak Converted Wet Density t/m ³	2.01	1.92	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	5.0	5.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	101.5	100.0	
Compaction Method	Standard	Standard	

Moisture Variation Note:

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

Material Test Report



Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

Phone: (07) 3279 0900

Email: nathaniel@mgeo.com.au

Report Number: DL20/313-7
Issue Number: 1
Date Issued: 23/09/2020
Client: SHADFORTH'S CIVIL PTY LTD
99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/313
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 17
Work Request: 10082
Date Sampled: 18/09/2020
Dates Tested: 18/09/2020 - 21/09/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 17 Allotment Fill
Material Source: Onsite Cut



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
Branch Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D20-10082A		
Test Number	30		
Date Tested	18/09/2020		
Time Tested	07:46		
Test Request #/Location	Stage 17 Allotment Fill Lot 490		
Easting	5m Off South Boundary		
Northing	5m Off West Boundary		
Layer / Reduced Level	Finish Level		
Soil Description	Sandy Clay. Brown		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	4.5		
Field Wet Density (FWD) t/m ³	2.08		
Field Moisture Content %	9.3		
Field Dry Density (FDD) t/m ³	1.91		
Peak Converted Wet Density t/m ³	**		
Adjusted Peak Converted Wet Density t/m ³	2.02		
Moisture Variation (Wv) %	**		
Adjusted Moisture Variation %	5.0		
Hilf Density Ratio (%)	103.5		
Compaction Method	Standard		

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report



Brisbane | Gold Coast | Maroochydore

Morrison Geotechnic Pty Ltd

ABN: 51 009 878 899

Brisbane Laboratory

Unit 1, 35 Limestone Darra QLD 4076

Phone: (07) 3279 0900

Email: nathaniel@mgeo.com.au

Report Number: DL20/313-9
Issue Number: 1
Date Issued: 10/11/2020
Client: SHADFORTH'S CIVIL PTY LTD
 99 SANDALWOOD LANE, FOREST GLEN QLD 4556
Project Number: DL20/313
Project Name: EARTHWORKS SUPERVISION
Project Location: WOODLINKS, STAGE 17
Work Request: 10823
Date Sampled: 06/11/2020
Dates Tested: 06/11/2020 - 09/11/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Stage 17 Allotment Fill
Material Source: Onsite Cut



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
 Branch Manager

NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1

	D20-10823A	D20-10823B	D20-10823C
Sample Number			
Test Number	46	47	48
Date Tested	06/11/2020	06/11/2020	06/11/2020
Time Tested	01:15	01:20	01:25
Test Request #/Location	Allotment Fill Lot 590	Allotment Fill Lot 591	Allotment Fill Lot 596
Easting	5m Off North Boundary	4m Off North Boundary	3m Off South Boundary
Northing	6m Off West Boundary	4m Off East Boundary	4m Off West Boundary
Layer / Reduced Level	Finish Level	Finish Level	Finish Level
Soil Description	sandstone brown	sandstone brown	sandy Clay brown
Test Depth (mm)	150	150	150
Fraction Tested (mm)	19.0	19.0	19.0
Oversize (wet basis) %	0	0	1
Oversize (dry basis) %	0	0	1
Field Wet Density t/m ³	2.22	2.20	2.04
Field Moisture Content %	5.1	5.0	7.9
Field Dry Density t/m ³	2.12	2.10	1.89
Maximum Dry Density t/m ³	1.94	1.92	**
Adjusted Maximum Dry Density t/m ³	**	**	1.92
Optimum Moisture Content (OMC) %	12.0	12.5	**
Adjusted Optimum Moisture Content (OMC) %	**	**	11.5
Moisture Variation %	6.5	7.5	3.5
Moisture Ratio %	43.0	40.5	69.5
Density Ratio %	109.0	109.5	98.0
Compaction Method	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC