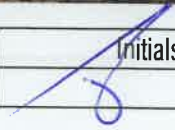


Level One Report AS3798

Client: Shadforth Civil Pty Ltd
Project: Riverbank Estate, Stage – 16C
Address: Boss Drive, Morayfield Qld
Job No.: J21/22



Version	Date	Author	Initials	Reviewer	Initials
1	17/09/2021	Matt Webb	MW	Jacob Jones	

Form No: W169 – Version 4 (14/05/2021)



CONSTRUCTION



MATERIALS



TESTING

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Appendix 1 – General Layout Plan

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Appendix 3 – Typical Site Conditions

Appendix 4 – Site Information

1.0 Introduction

Wagner Soil Testing has recently completed a Level One Overview of Earthworks, in accordance with the requirements of **AS3798 – “Guidelines on Earthworks for Commercial and Residential Developments”** for Shadforth Civil Pty Ltd.

Controlled fill (as defined in AS 2870) was placed by Shadforth. Stripping instructions, proof rolling, and compaction control testing was carried out by Wagner Soil Testing (on a fulltime basis) during all earthwork's operations. Our onsite supervision component excludes assessments of fill quality and engineering properties that are outside the requirements of AS3798 – 2007, including CBR values and soil reactivity.

2.0 Site Description

The site is located at Boss Drive, Morayfield Qld. The general location of the site is shown in the attached site plans (Appendix 1). The site is bound by Residential Properties.

3.0 Foundation Preparation

3.1 Site Stripping

Vegetation, topsoil, and organic rich materials were stripped and stockpiled onsite prior to the commencement of filling operations. As a safety factor several test pits were excavated in the proposed fill area to assess subsurface conditions & no significant issues were noted during this phase.

3.2 Proof Rolling

All stripped areas were proof rolled prior to any fill placement. Any compressible areas with apparent movement were excavated to a firm base before any fill being placed.

4.0 Controlled Filling

Fill materials (Onsite) were compacted using a medium sized pad foot roller in layers not exceeding 0.3m loose. The natural ground in the areas of filling generally comprised of Sandy, Silty, Clay (CL-CI). The fill material used was generally as above. Moisture contents of all fill placed was monitored by Wagner Soil Testing. Total volumes of fill reached 43,512m³.

5.0 Compaction Control Testing

Compaction Control Testing was carried out by Wagner Soil Testing. Testing was carried out in accordance with the requirements of **AS3798 Table 5.1 (Minimum Relative Compaction)** and **Table 8.1 (Frequency of Field Density Tests)**. During the works, Eighty Seven (87) Field Dry Densities were carried out on fill materials together with Dynamic Cone Penetrometers (DCP's) over the filled zones periodically & at the completion of earthworks operations to help quantify bearing capacities.

6.0 Field Density Results

All Nuclear Field Densities carried out on the fill indicated Density Ratios greater than the specified requirement of 95% (standard compaction) & **AS3798 Table 5.1**.

7.0 Report on Filling Operations

The results obtained from Compaction Control Testing, together with observations made during earthworks operations indicate that all fill materials were placed in a controlled manner in accordance with good engineering practices. The earthworks have been carried out to meet the requirements of **Level 1 Certification as per AS3798 – "Guidelines on Earthworks for Commercial and Residential Developments"**.

8.0 Notes

Certified / Controlled (Level 1) Fill is only an assurance of its density. There are sites where long-term consolidations of fill can occur, unrelated to its actual density. Sites where fill has been placed over inferior material and sites where the depth of controlled fill varies dramatically over short distances are sites where differential consolidations must be considered. Although all Field Densities carried out reached density ratios greater than 95% as required, some material still may have bearing ratios below 100kPa as per AS2870 – Residential Slabs & Footings depending on material composition, and unfavourable site classifications and low subgrade design strengths still may be encountered.

All compacted fill is subject to secondary (creep) settlement, which is relational to the depth of the fill. Estimated secondary settlement may be of the order of 1% to 2% of the total fill height over 15 years. There is a possibility that additional fill has been placed after the date of the last field density test or at times when Wagner Soil Testing has not been notified that filling operations are in progress. The installation of services may cause disruption of the compacted fill.

Unless otherwise stated, Level 1 Certification does not address trench backfill operations, batter slope stability, retaining wall construction, global stability analysis, acid sulfate testing and or management. The "supervision" component of this Level 1 Report is not NATA endorsed. Wagner Soil Testing must be contacted if any site levels are modified whatsoever. It is the client's responsibility to maintain site drainage after the issue of this report.

A full geotechnical site investigation / classification and foundation design for the specific ground conditions should be carried out by suitably qualified or experienced personnel prior to building. This service can be provided, if required, by contacting Wagner Soil Testing.

Constraints:

This report was produced for the sole use of Shadforth Civil Pty Ltd. This report should not be used by or depended upon for other projects or purposes on the same or other projects or by a third party. In the preparation of this report Wagner Soil Testing has relied upon information provided by the client and or their agents.

The results provided in this report are indicative of the subsurface conditions on the site only at the specific sampling or testing locations, and then only to the depths investigated along with the time the work was carried out. It is known that subsurface conditions can suddenly change due to irregular geological processes and as a result of human influences. Such changes may occur after Wagner Soil Testing's field testing has been completed.

Certain ground conditions and the materials behaviour observed or contained at the test locations may alter from those which may be encountered elsewhere on the site. Should variations in subsurface conditions be encountered, then additional advice should be sought from Wagner Soil Testing and if required, amendments made.

Wagner Soil Testing cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome, or conclusion given in this report.

To establish a geotechnical model as per AS1726-2017-5.2 we require extra testing. No differential settlement estimates have been calculated for this site.

For further technical support regarding this Geotechnical Report please contact Mr. Dean Wagner of Wagner Soil Testing.



Dean Wagner
Managing Director
Wagner Soil Testing

Appendix 1 – General Layout Plan

Appendix 2 – Field Density Reports

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	19-Feb-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	1	Page	1 of 1
		Order No:	Sam D

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1531	W21/1532	W21/1533
Test Location	Lot 1328	Lot 1330	Lot 1332
	Front of Lot	Front of Lot	Front of Lot
	2nd Lift	2nd Lift	2nd Lift
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	19-Feb-21	19-Feb-21	19-Feb-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	1.96	1.99	2.01
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.03	2.03	2.05
Peak Added Moisture (%)	-0.2	-0.3	-0.2
Moisture Correction (%)	-0.3	-0.4	-0.3
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	96.5	98.0	98.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #36988		



 Authorised Signatory
 Accreditation No: 15070
 Accredited for compliance ISO/IEC 17025 - Testing

Date 23/02/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	19-Feb-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	2	Page	1 of 1
		Order No:	Sam D

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1534	W21/1535	W21/1536
Test Location	Road 4	road 4	Road 4
	Ch 460m	Ch 500m	Ch 540m
	1st Lift	1st Lift	1st Lift
Layer / Elevation	Embankment Fill	Embankment Fill	Embankment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	19-Feb-21	19-Feb-21	19-Feb-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.01	1.97	1.99
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.05	2.03	2.04
Peak Added Moisture (%)	+3.7	+1.8	+2.4
Moisture Correction (%)	+4.0	+2.0	+2.7
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	98.0	97.0	97.5
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #36988		




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 Accredited for compliance ISO/IEC 17025 - Testing

Date 23/02/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	22-Feb-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	3	Page	1 of 2
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1549	W21/1550	W21/1551
Test Location	Lot 1327	Lot 1328	Lot 1329
	Centre Lot	Centre Lot	Centre Lot
	3rd Lift	3rd Lift	3rd Lift
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	22-Feb-21	22-Feb-21	22-Feb-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.01	2.00	1.98
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.11	2.06	2.02
Peak Added Moisture (%)	-1.1	-2.6	-2.7
Moisture Correction (%)	-1.3	-3.1	-2.8
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	95.5	96.5	98.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #36994		



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Date 25/02/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	20-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	3B Page 1 of 3	Order No:	Sam D

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1537	W21/1538	W21/1539
Test Location	Road 4	road 4	Road 4
	Ch 420m	Ch 470m	Ch 530m
	Final Level	Final Level	Final Level
Layer / Elevation	Embankment Fill	Embankment Fill	Embankment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	20-Mar-21	20-Mar-21	30-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.03	2.03	2.01
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.05	2.12	2.04
Peak Added Moisture (%)	+2.0	+1.5	+3.0
Moisture Correction (%)	+2.2	+1.8	+3.3
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	99.0	96.0	98.5
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #41147		



 Authorised Signatory
 Accreditation No: 15070
 Accredited for compliance ISO/IEC 17025 - Testing

Date 28/03/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd		Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556		Date:	22/02/2021
Project:	Riverbank Estate Stage 16c		Tested by:	JL
Location:	Morayfield, Qld		Checked:	JJ
Report Number	4	Page	2 of 2	Order No: Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1552	W21/1553	W21/1554
Test Location	Lot 1330	Lot 1331	Lot 1332
	Centre Lot	Centre Lot	Centre Lot
	3rd Lift	3rd Lift	3rd Lift
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	22-Feb-21	22-Feb-21	22-Feb-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	1.973	2.025	2.003
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.042	2.058	2.023
Peak Added Moisture (%)	-1.4	-1.2	+0.2
Moisture Correction (%)	-1.7	-1.4	+0.2
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	96.6	98.4	99.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #36994		



 Authorised Signatory
 Accreditation No: 15070
 Accredited for compliance ISO/IEC 17025 - Testing

Date 25/02/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	20-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	4B Page 2 of 3	Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1540	W21/1541	W21/1542
Test Location	Road 4	road 4	Road 4
	Ch 555m	Ch 600m	Ch 650m
	Final Level	Final Level	Final Level
Layer / Elevation	Embankment Fill	Embankment Fill	Embankment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	20-Mar-21	20-Mar-21	30-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.01	2.00	2.03
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.07	2.04	2.06
Peak Added Moisture (%)	+2.2	+0.3	+1.1
Moisture Correction (%)	+2.4	+0.5	+1.4
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	97.0	98.0	98.5
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #41147		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	23-Feb-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DW
Report Number:	5	Page	1 of 2
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1581	W21/1582	W21/1583
Test Location	Lot 1311	Lot 1312	Lot 1313
	Centre Lot	Centre Lot	Centre Lot
	2nd Lift	2nd Lift	2nd Lift
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	23-Feb-21	23-Feb-21	23-Feb-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	1.98	2.01	2.02
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.07	2.07	2.07
Peak Added Moisture (%)	+0.5	+1.3	+1.3
Moisture Correction (%)	+0.6	+1.5	+1.5
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	95.5	97.5	98.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #36996		




 Authorised Signatory
 Accreditation No: 15070
 Accredited for compliance ISO/IEC 17025 - Testing

Date 25/02/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	20-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	5B Page	3 of 3	Order No: Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1543	W21/1544	W21/1545
Test Location	Road 8	Road 18	Road 5
	Ch 25m	Ch 20m	Ch 30m
	Final Level	Final Level	Final Level
Layer / Elevation	Embankment Fill	Embankment Fill	Embankment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	20-Mar-21	20-Mar-21	30-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.05	2.03	2.04
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.10	2.06	2.03
Peak Added Moisture (%)	+0.2	+1.3	+1.0
Moisture Correction (%)	+0.4	+1.5	+1.3
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	97.5	98.5	99.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #41147		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	23-Feb-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DW
Report Number:	6 Page 2 of 2	Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1584	W21/1585	W21/1586
Test Location	Lot 1314	Lot 1315	Lot 1316
	Centre Lot	Centre Lot	Centre Lot
	2nd Lift	2nd Lift	2nd Lift
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	23-Feb-21	23-Feb-21	23-Feb-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.01	1.98	1.97
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.06	2.08	2.07
Peak Added Moisture (%)	-0.5	-1.2	-2.4
Moisture Correction (%)	-0.6	-1.4	-2.9
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	97.5	95.0	95.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #36996		



 Authorised Signatory
 Accreditation No: 15070
 Accredited for compliance ISO/IEC 17025 - Testing

Date 25/02/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	1-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	7	Page	1 of 2
		Order No:	Sam

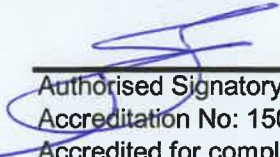
Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1924	W21/1925	W21/1926
Test Location	Lot 1333	Lot 1334	Lot 1335
	Centre Lot	Centre Lot	Centre Lot
	3rd Lift	3rd Lift	3rd Lift
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	1-Mar-21	1-Mar-21	1-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.01	1.97	1.99
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.08	2.08	2.08
Peak Added Moisture (%)	+2.3	+0.0	+1.3
Moisture Correction (%)	+2.5	+0.0	+1.5
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	96.5	95.0	95.5
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #37183		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd		Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556		Date:	1/03/2021
Project:	Riverbank Estate Stage 16c		Tested by:	JL
Location:	Morayfield, Qld		Checked:	JJ
Report Number	8	Page	2 of 2	Order No: Sam

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact)	AS 1289 1.2.1 (6.4(b))	
Lab Number	W21/1927		
Test Location	Lot 1336		
	Centre Lot		
	3rd Lift		
Layer / Elevation	Allotment Fill		
Material Source	Onsite		
Depth Tested	175		
Layer Thickness	200		
Date Tested	1-Mar-21		
Material Sampled	After Compaction		
Test Results			
Insitu Wet Density (t/m ³)	2.026		
Insitu Moisture Content (%)	N/A		
PCWD (t/m ³)	2.095		
Peak Added Moisture (%)	+4.1		
Moisture Correction (%)	+4.4		
Retaining Sieve (mm)	19.0		
Percentage Oversize (wet)	0.0		
HILF DENSITY RATIO (%)	96.7		
MOISTURE VARIATION (%)			
Compaction Type	Standard		
Degree of Compaction	95%		
Remarks	Docket #37183		




 Authorised Signatory
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 Accredited for compliance ISO/IEC 17025 - Testing

Date 3/03/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	2-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	15	Page	1 of 2
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1957	W21/1958	W21/1959
Test Location	Lot 1305	Lot 1306	Lot 1307
	Centre Lot	Centre Lot	Centre Lot
	2nd Lift	2nd Lift	2nd Lift
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	2-Mar-21	2-Mar-21	2-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	1.97	2.01	1.99
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.06	2.10	2.07
Peak Added Moisture (%)	+0.1	+1.1	+0.3
Moisture Correction (%)	+0.1	+1.2	+0.4
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	95.5	96.0	96.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #37186		




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 Accreditation No: 15070
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Date 4/03/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	2-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	16	Page	2 of 2
		Order No:	Sam P


Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/1960	W21/1961	W21/1962
Test Location	Lot 1308	Lot 1309	Lot 1310
	Centre Lot	Centre Lot	Centre Lot
	2nd Lift	2nd Lift	2nd Lift
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	2-Mar-21	2-Mar-21	2-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.02	1.97	2.03
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.08	2.06	2.08
Peak Added Moisture (%)	+2.2	+0.2	+2.3
Moisture Correction (%)	+2.3	+0.2	+2.5
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	97.0	96.0	97.5
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #37186		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	9-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	17	Page	1 of 3
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/2185	W21/2186	W21/2187
Test Location	Lot 1313	Lot 1314	Lot 1315
	Centre Lot	Centre Lot	Centre Lot
	Final Level	Final Level	Final Level
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	9-Mar-21	9-Mar-21	9-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	1.96	2.00	1.99
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.05	2.07	2.08
Peak Added Moisture (%)	-0.1	+0.3	+0.3
Moisture Correction (%)	-0.1	+0.3	+0.3
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	96.0	96.5	96.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #37192		




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Date 12/03/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	9-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	18	Page	2 of 3
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/2188	W21/2189	W21/2190
Test Location	Lot 1316	Lot 1317	Lot 1318
	Centre Lot	Centre Lot	Centre Lot
	Final Level	Final Level	Final Level
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	9-Mar-21	9-Mar-21	9-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.01	1.97	2.02
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.10	2.07	2.08
Peak Added Moisture (%)	+2.2	+0.3	+2.3
Moisture Correction (%)	+2.4	+0.3	+2.3
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	96.0	95.5	97.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #37192		



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Date 12/03/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd		Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556		Date:	9/03/2021
Project:	Riverbank Estate Stage 16c		Tested by:	JL
Location:	Morayfield, Qld		Checked:	JJ
Report Number	19	Page	3 of 3	Order No: Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/2191	W21/2192	W21/2193
Test Location	Lot 1319	Lot 1320	Lot 1321
	Centre Lot	Centre Lot	Centre Lot
	Final Level	Final Level	Final Level
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	9-Mar-21	9-Mar-21	9-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.060	2.025	1.989
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.119	2.088	2.072
Peak Added Moisture (%)	+3.3	+2.1	-1.8
Moisture Correction (%)	+3.6	+2.3	-2.1
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	97.2	97.0	96.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #37192		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	10-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	20	Page	1 of 3
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/2204	W21/2205	W21/2206
Test Location	Lot 1305	Lot 1306	Lot 1307
	Centre Lot	Centre Lot	Centre Lot
	Final Level	Final Level	Final Level
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	10-Mar-21	10-Mar-21	10-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	1.95	1.98	1.97
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.04	2.05	2.05
Peak Added Moisture (%)	-1.1	-0.3	-0.1
Moisture Correction (%)	-1.3	-0.4	-0.1
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	95.5	96.5	96.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #37195		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	10-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	21	Page	2 of 3
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/2207	W21/2208	W21/2209
Test Location	Lot 1308	Lot 1309	Lot 1310
	Centre Lot	Centre Lot	Centre Lot
	Final Level	Final Level	Final Level
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	10-Mar-21	10-Mar-21	10-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	1.97	2.01	2.01
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.06	2.08	2.09
Peak Added Moisture (%)	-1.1	-0.2	-0.3
Moisture Correction (%)	-1.3	-0.2	-0.4
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	95.5	96.5	96.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #37195		




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Date 17/03/2021

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	10-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	22	Page	3 of 3
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact)	AS 1289 1.2.1 (6.4(b))	
Lab Number	W21/2210	W21/2211	
Test Location	Lot 1311	Lot 1312	
	Centre Lot	Centre Lot	
	Final Level	Final Level	
Layer / Elevation	Allotment Fill	Allotment Fill	
Material Source	Onsite	Onsite	
Depth Tested	175	175	
Layer Thickness	200	200	
Date Tested	10-Mar-21	10-Mar-21	
Material Sampled	After Compaction	After Compaction	
Test Results			
Insitu Wet Density (t/m ³)	2.01	1.99	
Insitu Moisture Content (%)	N/A	N/A	
PCWD (t/m ³)	2.08	2.08	
Peak Added Moisture (%)	+2.3	-0.2	
Moisture Correction (%)	+2.5	-0.2	
Retaining Sieve (mm)	19.0	19.0	
Percentage Oversize (wet)	0.0	0.0	
HILF DENSITY RATIO (%)	96.5	95.5	
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	
Degree of Compaction	95%	95%	
Remarks	Docket #37195		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	15-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	23	Page	1 of 2
		Order No:	Sam

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/2573	W21/2574	W21/2575
Test Location	Lot 1333	Lot 1334	Lot 1335
	Centre Lot	Centre Lot	Centre Lot
	Final Level	Final Level	Final Level
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	15-Mar-21	15-Mar-21	15-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.01	1.97	1.99
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.08	2.07	2.07
Peak Added Moisture (%)	-2.3	-2.2	-1.2
Moisture Correction (%)	-2.7	-2.6	-1.4
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	96.5	95.5	96.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #39001		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	15/03/2021
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number	24	Page	2 of 2
		Order No:	Sam

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact)	AS 1289 1.2.1 (6.4(b))	
Lab Number	W21/2576		
Test Location	Lot 1336		
	Centre Lot		
	Final Level		
Layer / Elevation	Allotment Fill		
Material Source	Onsite		
Depth Tested	175		
Layer Thickness	200		
Date Tested	15-Mar-21		
Material Sampled	After Compaction		
Test Results			
Insitu Wet Density (t/m ³)	1.966		
Insitu Moisture Content (%)	N/A		
PCWD (t/m ³)	2.065		
Peak Added Moisture (%)	+0.0		
Moisture Correction (%)	+0.0		
Retaining Sieve (mm)	19.0		
Percentage Oversize (wet)	0.0		
HILF DENSITY RATIO (%)	95.2		
MOISTURE VARIATION (%)			
Compaction Type	Standard		
Degree of Compaction	95%		
Remarks	Docket #39001		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	20-Mar-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	JJ
Report Number:	24B	Page	1 of 1
		Order No:	Sam

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/2600	W21/2601	W21/2602
Test Location	Lot 1330	Lot 1331	Lot 1332
	Centre Lot	Centre Lot	Centre Lot
	Final Level	Final Level	Final Level
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	20-Mar-21	20-Mar-21	20-Mar-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.00	1.99	2.02
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.04	2.01	2.07
Peak Added Moisture (%)	+0.0	+0.5	+1.0
Moisture Correction (%)	+0.0	+0.7	+1.3
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	98.0	99.0	97.5
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #41147		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	26-May-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DS
Report Number:	72	Page	1 of 2
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/6241	W21/6242	W21/6243
Test Location	Lot 1322	Lot 1323	Lot 1324
	Rear of Lot	Rear of Lot	Rear of Lot
	1.0m Below FL	1.0m Below FL	1.0m Below FL
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	26-May-21	26-May-21	26-May-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.07	2.01	2.08
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.10	2.07	2.10
Peak Added Moisture (%)	+3.7	+0.3	+3.8
Moisture Correction (%)	+4.0	+0.4	+4.1
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	98.5	97.0	99.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	V-Drain Backfill Docket #37913		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	26-May-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DS
Report Number:	73	Page	2 of 2
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact)	AS 1289 1.2.1 (6.4(b))	
Lab Number	W21/6244	W21/6245	
Test Location	Lot 1325	Lot 1326	
	Rear of Lot	Rear of Lot	
	1.0m Below FL	1.0m Below FL	
Layer / Elevation	Allotment Fill	Allotment Fill	
Material Source	Onsite	Onsite	
Depth Tested	175	175	
Layer Thickness	200	200	
Date Tested	26-May-21	26-May-21	
Material Sampled	After Compaction	After Compaction	
Test Results			
Insitu Wet Density (t/m ³)	2.04	2.00	
Insitu Moisture Content (%)	N/A	N/A	
PCWD (t/m ³)	2.09	2.06	
Peak Added Moisture (%)	+3.7	+1.8	
Moisture Correction (%)	+4.0	+2.0	
Retaining Sieve (mm)	19.0	19.0	
Percentage Oversize (wet)	0.0	0.0	
HILF DENSITY RATIO (%)	97.5	97.0	
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	
Degree of Compaction	95%	95%	
Remarks	V-Drain Backfill		
	Docket #37913		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	27/5/21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DS
Report Number:	74	Page	1 of 3
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/6338	W21/6339	W21/6340
Test Location	Lot 1327	Lot 1328	Lot 1329
	Rear of Lot	Rear of Lot	Rear of Lot
	0.5m Below FL	0.5m Below FL	0.5m Below FL
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	27/5/21	27/5/21	27/5/21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	1.97	1.99	2.02
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.05	2.02	2.09
Peak Added Moisture (%)	-2.2	+0.0	+2.3
Moisture Correction (%)	-2.6	+0.0	+2.5
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	96.5	98.5	97.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	V-Drain Backfill		
	Docket #37918		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	27/5/21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DS
Report Number:	75	Page	2 of 3
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/6341	W21/6342	W21/6343
Test Location	Lot 1330	Lot 1331	Lot 1332
	Rear of Lot	Rear of Lot	Rear of Lot
	0.5m Below FL	0.5m Below FL	0.5m Below FL
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	27/5/21	27/5/21	27/5/21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.06	2.02	1.97
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.12	2.04	2.01
Peak Added Moisture (%)	+2.2	+2.2	-1.7
Moisture Correction (%)	+2.4	+2.5	+2.0
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	97.0	99.0	98.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	V-Drain Backfill Docket #37918		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	27/5/21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DS
Report Number:	76	Page	3 of 3
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact)	AS 1289 1.2.1 (6.4(b))	
Lab Number	W21/6344		
Test Location	Lot 1333		
	Rear of Lot		
	0.5m Below FL		
Layer / Elevation	Allotment Fill		
Material Source	Onsite		
Depth Tested	175		
Layer Thickness	200		
Date Tested	27/5/21		
Material Sampled	After Compaction		
Test Results			
Insitu Wet Density (t/m ³)	2.01		
Insitu Moisture Content (%)	N/A		
PCWD (t/m ³)	2.10		
Peak Added Moisture (%)	+0.0		
Moisture Correction (%)	+0.0		
Retaining Sieve (mm)	19.0		
Percentage Oversize (wet)	0.0		
HILF DENSITY RATIO (%)	96.0		
MOISTURE VARIATION (%)			
Compaction Type	Standard		
Degree of Compaction	95%		
Remarks	V-Drain Backfill		
	Docket #37918		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	28-May-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DS
Report Number:	77	Page	1 of 2
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/6397	W21/6398	W21/6399
Test Location	Lot 1330	Lot 1331	Lot 1332
	Rear of Lot	Rear of Lot	Rear of Lot
	Final Level	Final Level	Final Level
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	28-May-21	28-May-21	28-May-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.03	1.98	2.05
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.14	2.01	2.13
Peak Added Moisture (%)	+0.5	+0.4	+0.6
Moisture Correction (%)	+0.6	+0.5	+0.7
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	95.0	98.5	96.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	V-Drain Backfill Docket #37923		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	28-May-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DS
Report Number:	78	Page	2 of 2
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/6400	W21/6401	W21/6402
Test Location	Lot 1333	Lot 1335	Lot 1336
	Rear of Lot	South Side of Lot	Northside of Lot
	Final Level	Final Level	Final Level
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	28-May-21	28-May-21	28-May-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	1.97	2.04	2.08
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.00	2.13	2.15
Peak Added Moisture (%)	+0.5	+0.5	+0.6
Moisture Correction (%)	+0.6	+0.6	+0.7
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	98.0	96.0	96.5
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	V-Drain Backfill		
	Docket #37923		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	31-May-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DS
Report Number:	79 Page 1 of 3	Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/6626	W21/6627	W21/6628
Test Location	Lot 1322	Lot 1323	Lot 1324
	Centre of Lot	Centre of Lot	Centre of Lot
	Final Level	Final Level	Final Level
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	31-May-21	31-May-21	31-May-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	1.99	2.06	2.08
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.01	2.01	2.01
Peak Added Moisture (%)	+0.5	+0.6	+0.5
Moisture Correction (%)	+0.6	+0.7	+0.6
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	99.5	102.5	103.5
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #37928		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	31-May-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DS
Report Number:	80	Page	2 of 3
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact) AS 1289 1.2.1 (6.4(b))		
Lab Number	W21/6629	W21/6630	W21/6631
Test Location	Lot 1325	Lot 1326	Lot 1327
	Centre of Lot	Centre of Lot	Centre of Lot
	Final Level	Final Level	Final Level
Layer / Elevation	Allotment Fill	Allotment Fill	Allotment Fill
Material Source	Onsite	Onsite	Onsite
Depth Tested	175	175	175
Layer Thickness	200	200	200
Date Tested	31-May-21	31-May-21	31-May-21
Material Sampled	After Compaction	After Compaction	After Compaction
Test Results			
Insitu Wet Density (t/m ³)	2.04	2.00	2.03
Insitu Moisture Content (%)	N/A	N/A	N/A
PCWD (t/m ³)	2.00	2.01	2.00
Peak Added Moisture (%)	+0.5	+0.4	+0.4
Moisture Correction (%)	+0.6	+0.5	+0.5
Retaining Sieve (mm)	19.0	19.0	19.0
Percentage Oversize (wet)	0.0	0.0	0.0
HILF DENSITY RATIO (%)	102.0	99.5	101.0
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	Standard
Degree of Compaction	95%	95%	95%
Remarks	Docket #37928		

REPORT ON FIELD HILF DENSITY - NUCLEAR METER

Client:	Shadforth's Civil Pty Ltd	Job No:	J21/22
Client Address:	99 Sandalwood Lane, Forest Glen Qld 4556	Date:	31-May-21
Project:	Riverbank Estate Stage 16c	Tested by:	JL
Location:	Morayfield, Qld	Checked:	DS
Report Number:	81	Page	3 of 3
		Order No:	Sam P

Test Methods	AS 1289 5.8.1/5.7.1/5.1.1		
Sample Method	Earthworks Layer (Compact)	AS 1289 1.2.1 (6.4(b))	
Lab Number	W21/6632	W21/6633	
Test Location	Lot 1328	Lot 1329	
	Centre of Lot	Centre of Lot	
	Final Level	Final Level	
Layer / Elevation	Allotment Fill	Allotment Fill	
Material Source	Onsite	Onsite	
Depth Tested	175	175	
Layer Thickness	200	200	
Date Tested	31-May-21	31-May-21	
Material Sampled	After Compaction	After Compaction	
Test Results			
Insitu Wet Density (t/m ³)	2.01	1.97	
Insitu Moisture Content (%)	N/A	N/A	
PCWD (t/m ³)	2.02	2.01	
Peak Added Moisture (%)	+0.5	+0.5	
Moisture Correction (%)	+0.6	+0.6	
Retaining Sieve (mm)	19.0	19.0	
Percentage Oversize (wet)	0.0	0.0	
HILF DENSITY RATIO (%)	99.5	98.0	
MOISTURE VARIATION (%)			
Compaction Type	Standard	Standard	
Degree of Compaction	95%	95%	
Remarks	Docket #37928		

Appendix 3 – Typical Site Conditions



CONSTRUCTION

MATERIALS

TESTING

Appendix 4 – Site Information

Information

Important Information about your Report

As a client of Wagner Soil Testing Pty Ltd you should know that site subsurface conditions cause more construction problems than any other factor. These notes have been provided to help you interpret and understand the limitations of your report.

Your report is project specific

Your report has been developed on the basis of your unique project specific requirements as understood by Wagner Soil Testing and applies only to the site investigated. Project criteria typically include the general nature of the project; its size and configuration; the location of any structure on the site; other site improvements; the presence of underground utilities; and the additional risk imposed by scope-of-surface limitations imposed by the client. Your report should not be used if there are any changes to the project without first asking Wagner Soil Testing to assess how factors that changed subsequent to the date of the report affect the report's recommendations. Wagner Soil Testing cannot accept responsibility for problems that may occur due to changed factors if they are not consulted. Our report does not take into account any existing filled ground or any other unforeseen subsurface conditions that may change anticipated site classification.

Subsurface conditions can change

A geotechnical engineering report is based on conditions that existed at the time the study was performed. Do not rely on a geotechnical engineering report whose adequacy may have been affected by: the passage of time; by man-made events, such as construction on or adjacent to the site; or by natural events, such as floods, earthquakes, or groundwater fluctuations. Always contact Wagner Soil Testing before applying the report to determine if it is still reliable. A minor amount of additional testing or analysis could prevent major problems.

Interpretation of factual data

Site assessment identifies actual subsurface conditions only at those points where samples are taken and when they are taken. Data derived from literature and external data source review, sampling and subsequent laboratory testing are interpreted by geologists, engineers or scientists to provide an opinion about overall site conditions, their likely impact on the proposed development and recommended actions. Actual conditions may differ from those inferred to exist, because no professional, no matter how qualified, can reveal what is hidden by earth, rock and time. The actual interface between materials may be far more gradual or abrupt than assumed based on the facts obtained. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected conditions. For this reason, owners

should retain the services of Wagner Soil Testing through the development stage, to identify variances, conduct additional tests if required, and recommend solutions to problems encountered on site.

Your report will only give preliminary recommendations

Your report is based on the assumption that the site conditions as revealed through selective point sampling are indicative of actual conditions throughout an area. This assumption cannot be substantiated until project implementation has commenced and therefore your report recommendations can only be regarded as preliminary. Only Wagner Soil Testing, who prepared the report, is fully familiar with the background information needed to assess whether or not the report's recommendations are valid and whether or not changes should be considered as the project develops. If another party undertakes the implementation of recommendations of this report, there is a risk that the report will be misinterpreted, and Wagner Soil Testing cannot be held responsible for such misinterpretation.

Your report is prepared for specific purposes and persons

To avoid misuse of the information contained in your report it is recommended that you confer with Wagner Soil Testing before passing your report on to another party who may not be familiar with the background and purpose of the report. Your report should not be applied to any project other than that originally specified at the time the report was issued.

It is a requirement that the client contacts Wagner Soil Testing Pty Ltd when the exact position of the proposed building is confirmed so we can check if our Boreholes fall in the footing area [our borelogs are only presumed indicative of the whole area until this is confirmed]. In the case of a cracked house investigation more testing may be required to conclude all possible causes of settlement and or movement. Initial drilling and lab testing may only identify some of the causes of the problem. Wagner Soil Testing should be contacted when additional testing is required. It is a company policy that Wagner Soil Testing are contacted if the development (including any portion and/or envelope) is sold and/or changes title as the report is only for the use of our direct client. If the development is sold and/or changes title Wagner Soil Testing must be contacted and subsequently will carry out a comprehensive site inspection – evaluation at no cost to ensure the preliminary report is relevant and no changes whatsoever have been made.