

Octave Estate Stage 1

GITA Inspection Verification Report

Prepared For: Streetworks Pty Ltd

Report Number P21462A V1

Version Release Date 18 February 2021

Report Released By C Caulfield

Title Project Manager

Signature



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1 Introduction

Terra Firma Laboratories was engaged by *Streetworks Pty Ltd* as the Geotechnical Inspection and Testing Authority (GITA) to provide Level 1 supervision and testing works on the earthworks component for Octave Estate Stage 1. This work was conducted over the period of 19/01/2021 to 8/02/2021.

This report presents that the allotment earthworks was carried out in accordance with AS3798-2007 *Guidelines for Earthworks for Commercial and Residential Development* and in compliance with the compaction control specifications established by the contractor.

2 Scope of Work

2.1 Area of Work

The areas of work included lots 110 through to 118, 127 to 128 and 135 through 139. The site will be a residential development.

The area on which fill was placed is shown on site plan (Appendix 1: *Test Location Plan*) based on drawings prepared by GPR Consulting Pty Ltd, drawing reference 0329-01-R03 and provided by *Streetworks Pty Ltd*.

The supervision work by the GITA involved both inspection of sub grade preparation work and full time inspection and testing of fill placement.

2.2 Specification

The technical specification (Reference from Drawings) for compaction control requirements was provided by *Streetworks Pty Ltd* and established that:

Test Rolling is required for all layers of structural fill and materials within 150mm of permanent subgrade level so as to withstand test rolling without visible deformation or springing. Corrective action is required where unstable areas exceed 20% of the area being considered by test rolling.

Section 5.2 of AS3798-2007 (Section 5.2) establishes a specification requirement for a minimum density ratio of not less than 95% noting that soils containing more than 20% of particles coarser than 37.5mm cannot be tested for relative compaction using the procedures of AS1289 5.1.1 and AS1289 5.2.1.

In accordance with Table 8.1 (AS3798), for large scale operations, (greater than 1500m²), the minimum testing frequency is 1 test per layer per material type per 2500m² or 1 test per 500m³ distributed reasonable evenly throughout full depth and area or 3 tests per lot. AS3798 defines a lot as “an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work”. All three of these test frequencies must be achieved and this is typically confirmed to have been achieved when 3 tests per visit (day) have been completed.

2.3 Limitations

Terra Firma Laboratories cannot verify any works completed by others outside of the time period specified in the introduction. Uncontrolled works may include, but are not limited to trenching for services, cut and fill works for slab preparation or subsequent removal of vegetation and back fill of holes unless specified in section 2.1 of this report.

Terra Firma Laboratories cannot verify that the material used as a filling medium is free from chemical or other contamination. The scope and the period of Terra Firma Laboratories as described in the introduction are subject to restrictions and limitations. Terra Firma Laboratories did not perform a complete assessment of all possible conditions and circumstances that may exist at the site. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Terra Firma Laboratories.

Verification of finished surface level to design levels is outside of the scope of the GITA report.

Any drawings or marked locations presented in this report should be considered only as pictorial evidence of our work. Therefore, unless otherwise stated, any dimensions should not be used for accurate calculations or dimensioning.

Where data has been supplied by the client or a third party, it is assumed that the information is correct unless otherwise stated. No responsibility is accepted by Terra Firma Laboratories for incomplete or inaccurate data supplied by others.

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3 Construction Method

3.1 Subgrade Preparation

At the time of subgrade inspection the following was observed:

- Subgrade preparation involved stripping the site of topsoil, vegetation and organic matter. On Lots 112 through to 118, the sand material was removed and a clay subgrade was found.
- The site was cleared of all trees and stumps to the extent necessary for the fill placement to proceed
- The roots of all trees and any debris was removed from site prior to any fill placement

The sub-grade area was then proof-rolled to confirm it was capable of withstanding test rolling without visible deformation or springing and any areas observed to be soft or otherwise unsuitable were rectified. The sub-grade was watered and scarified prior to fill placement to aid layer bonding.

3.2 Fill Placement

The contractor was observed to have suitable construction equipment and plant available on-site during the construction period for use in the fill placement.

All fill was placed in layers of thicknesses not exceeding 300mm. At the completion of a placed layer, compaction testing was performed to confirm appropriate compaction had been achieved and supported the observations made. It should be noted that the compaction tests are representative samples of the fill placed and support the visual assessment of the works completed. Each house lot does not necessarily require a compaction test to have been conducted within the house allotment but may have been verified by testing conducted within up to a 2500m² area of the house lot.

Final fill placement levels were verified against design level by others. For the purposes of this report, it was observed that finished levels were in accordance with levels marked on site by survey markers.

The final 300mm of material placed across the site was placed as a topsoil layer or growing medium and should be considered as non-structural, as it was placed in an uncontrolled manner, as allowed by specifications and placement of the final 300mm of fill was not observed by the GITA.

4 Construction Verification

Compaction Verification testing is summarized in a detailed test register with test certificates attached provided in Appendix 2: *Compaction Test Register and Test Certificates*. A test location

plan (P21426 D1, Appendix 1) providing a schematic of test locations across the extent of scope of works for every placed layer of fill is also documented.

A total of 28 density tests (Hilf method in accordance with 1289 5.7.1) were undertaken with 1 failed results. The contractor was notified of any failed tests and the failed areas were ripped, watered, compacted and then re-tested to confirm compliance with the specification. The results summarised in the compaction test register (Appendix 2) confirm that for every layer of fill placed in a specific work area, satisfactory testing was completed.

5 Statement of Compliance

The intention of this report is to provide a description of the earthworks construction for Stage 1 at Octave Estate. For completed fill areas of greater than 300mm, and for works completed between 19/01/2021 and 8/02/2021, earthworks construction activities were conducted under the full time supervision of the Geotechnical Inspection and Testing Authority. Inspections and testing of the fill areas at this site indicate that both sub grade preparation and fill placement have been conducted in accordance with the specification. The earthworks construction for Stage 1 of Octave Estate was observed to be constructed in compliance with the requirements of the Technical Specification.



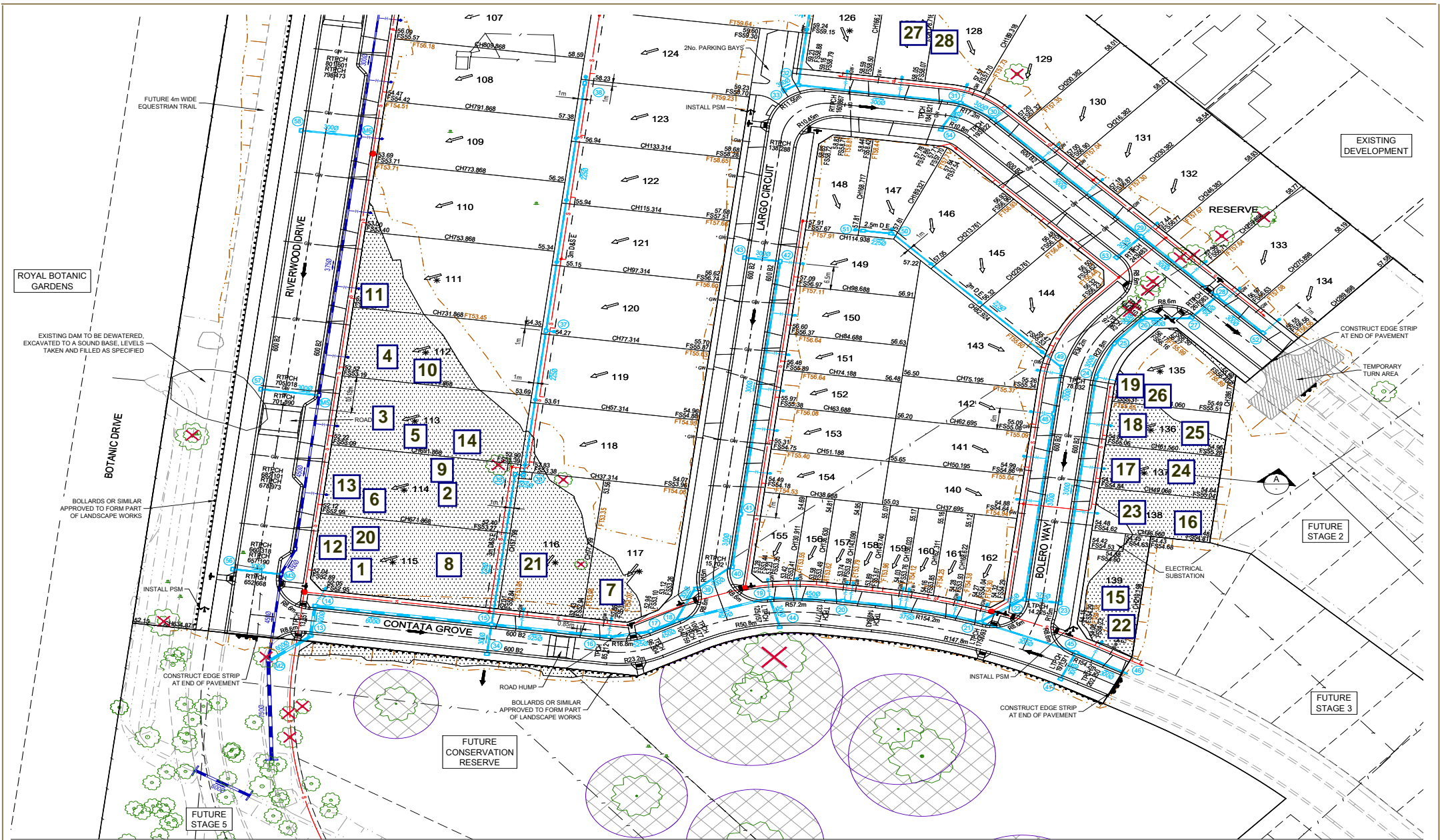
Your Worksite is Our Laboratory.

Appendix 1: Test Location Plan

Our Head Office
47 National Ave
Pakenham, VIC 3810

Our Laboratories
Pakenham 03 9769 5799
Deer Park 03 8348 5596
Bibra Lake 08 9395 7220

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Our Head Office
47 National Ave
Pakenham, VIC 3810

Our Laboratories
Pakenham 03 9769 5799
Deer Park 03 8348 5596
Bibra Lake 08 9395 7220

Test Location Plan

not to scale

Client: Streetworks Pty Ltd

Project: Octave Estae, Stage 1

Reference: P21426 D1



Your Worksite is Our Laboratory.

Appendix 2: Compaction Test Register and Test Certificates

Our Head Office
47 National Ave
Pakenham, VIC 3810

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Deer Park 03 8348 5596
Bibra Lake 08 9395 7220

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Compaction Test Register

Client: Streetworks Pty Ltd **Project No:** P21462
Project: Octave Estate Stage 1 **Specification:** 95%

Date:	Test No:	Layer:	Retest of:	Density:	Pass/Fail:	Lot No:	Report No:
19/01/2021	1	Layer 1		95.0	Pass	Lot 115	P21462-1
19/01/2021	2	Layer 1		98.0	Pass	Lot 114	P21462-1
19/01/2021	3	Layer 1		97.0	Pass	Lot 113	P21462-1
21/01/2021	4	Layer 2		106.5	Pass	Lot 112	P21462-2
21/01/2021	5	Layer 2		101.0	Pass	Lot 113	P21462-2
21/01/2021	6	Layer 3		102.5	Pass	Lot 114	P21462-2
21/01/2021	7	Layer 3		100.5	Pass	Lot 115	P21462-2
22/01/2021	8	Layer 4		98.0	Pass	Lot 115	P21462-3
22/01/2021	9	Layer 4		97.0	Pass	Lot 114	P21462-3
22/01/2021	10	Layer 2		96.5	Pass	Lot 112	P21462-3
22/01/2021	11	Layer 1		97.5	Pass	Lot 111	P21462-3
27/01/2021	12	Layer 5		93.5	Fail	Lot 115	P21462-4
27/01/2021	13	Layer 5		96.5	Pass	Lot 114	P21462-4
27/01/2021	14	Layer 5		96.0	Pass	Lot 113	P21462-4
27/01/2021	15	Layer 1		100.0	Pass	Lot 139	P21462-4
27/01/2021	16	Layer 1		96.0	Pass	Lot 138	P21462-4
27/01/2021	17	Layer 2		101.0	Pass	Lot 137	P21462-4
27/01/2021	18	Layer 2		98.0	Pass	Lot 136	P21462-4
27/01/2021	18	Layer 1		98.0	Pass	Lot 135	P21462-4
28/01/2021	20	Layer 5	12	100.0	Pass	Lot 115	P21462-5
28/01/2021	21	Layer 3		103.5	Pass	Lot 116	P21462-5
01/02/2021	22	Layer 2		99.5	Pass	Lot 139	P21462-6
01/02/2021	23	Layer 2		100.5	Pass	Lot 138	P21462-6
01/02/2021	24	Layer 2		99.0	Pass	Lot 137	P21462-6
01/02/2021	25	Layer 2		99.5	Pass	Lot 136	P21462-6
01/02/2021	26	Layer 2		100.0	Pass	Lot 135	P21462-6
08/02/2021	27	Layer 1		101.0	Pass	Lot 127	P21462-7
08/02/2021	28	Layer 1		99.5	Pass	Lot 128	P21462-7

Material Test Report

Report Number: P21462-1
Issue Number: 1
Date Issued: 04/02/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21462
Project Name: Octave Estate Stage 1
Project Location: Cranbourne
Client Reference: 05925
Work Request: 5190
Date Sampled: 19/01/2021 15:30
Dates Tested: 19/01/2021 - 20/01/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Material: Silty Clay
Material Source: Onsite



Pakenham Laboratory
 47 National Avenue Pakenham VIC 3810
 Phone: (03) 9769 5799
 Email: jsomaradne@terrafirmalabs.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Janaka Somaratne
 Lab Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P21-5190A	P21-5190B	P21-5190C
Test Number	1	2	3
Date Tested	19/01/2021	19/01/2021	19/01/2021
Time Tested	15:30	15:30	15:30
Test Request #/Location	Lot 115	Lot 114	Lot 113
Layer / Reduced Level	Layer 1	Layer 1	Layer 1
Thickness of Layer (mm)	300	300	300
Soil Description	Silty Clay	Silty Clay	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
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	0	0
Field Wet Density (FWD) t/m ³	1.94	2.09	1.97
Field Moisture Content %	8.8	13.7	7.0
Field Dry Density (FDD) t/m ³	1.78	1.84	1.84
Peak Converted Wet Density t/m ³	2.03	2.13	2.04
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	11.3	13.5	9.0
Adj. Field Moisture Content % (AS1289.5.4.1)	8.8	13.7	7.0
Moisture Ratio % (AS1289.5.4.1)	78.0	101.5	78.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	2.5	0.0	2.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	95.0	98.0	97.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: P21462-2
Issue Number: 2 - This version supersedes all previous issues
Reissue Reason: Material Type Added
Date Issued: 18/02/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21462
Project Name: Octave Estate Stage 1
Project Location: Cranbourne
Work Request: 5213
Date Sampled: 21/01/2021 15:00
Dates Tested: 21/01/2021 - 27/01/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Material: CLAY
Material Source: Onsite



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Approved Signatory: Chris Caulfield
 Project Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	P21-5213A	P21-5213B	P21-5213C	P21-5213D
Test Number	4	5	6	7
Date Tested	21/01/2021	21/01/2021	21/01/2021	21/01/2021
Time Tested	15:13	15:14	15:19	15:20
Test Request #/Location	Lot 112	Lot 113	Lot 114	Lot 117
Layer / Reduced Level	Layer 2	Layer 2	Layer 3	Layer 3
Thickness of Layer (mm)	300	300	300	300
Soil Description	silty Clay	silty Clay	silty Clay	silty Clay
Test Depth (mm)	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	**	0	0
Field Wet Density (FWD) t/m ³	2.09	1.98	2.14	2.07
Field Moisture Content %	17.4	18.5	14.2	14.9
Field Dry Density (FDD) t/m ³	1.78	1.67	1.88	1.80
Peak Converted Wet Density t/m ³	1.96	1.96	2.09	2.06
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	18.8	**	14.4	15.3
Adj. Field Moisture Content % (AS1289.5.4.1)	17.4	18.5	14.2	14.9
Moisture Ratio % (AS1289.5.4.1)	92.5	101.5	98.5	97.5
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**	**
Moisture Variation (Wv) %	1.5	-0.5	0.0	0.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	106.5	101.0	102.5	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: P21462-3
Issue Number: 1
Date Issued: 04/02/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21462
Project Name: Octave Estate Stage 1
Project Location: Cranbourne
Client Reference: 05929
Work Request: 5231
Date Sampled: 22/01/2021 15:00
Dates Tested: 22/01/2021 - 27/01/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Material: silty Clay
Material Source: Onsite



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Approved Signatory: Janaka Somaratne
 Lab Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	P21-5231A	P21-5231B	P21-5231C	P21-5231D
Test Number	8	9	10	11
Date Tested	22/01/2021	22/01/2021	22/01/2021	22/01/2021
Time Tested	15:00	15:00	15:00	15:00
Test Request #/Location	Lot 115	Lot 114	Lot 112	Lot 111
Layer / Reduced Level	Layer 4	Layer 4	Layer 2	Layer 1
Thickness of Layer (mm)	300	300	300	300
Soil Description	Silty Clay	Silty Clay	Silty Clay	Sand
Test Depth (mm)	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.04	2.02	2.02	1.89
Field Moisture Content %	13.7	13.9	17.8	6.6
Field Dry Density (FDD) t/m ³	1.79	1.77	1.72	1.77
Peak Converted Wet Density t/m ³	2.07	2.07	2.09	1.94
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	13.9	13.8	17.3	10.5
Adj. Field Moisture Content % (AS1289.5.4.1)	13.7	13.9	17.8	6.6
Moisture Ratio % (AS1289.5.4.1)	98.5	100.5	103.0	63.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	-0.5	4.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	98.0	97.0	96.5	97.5
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: P21462-4
Issue Number: 1
Date Issued: 04/02/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21462
Project Name: Octave Estate Stage 1
Project Location: Cranbourne
Client Reference: 05931
Work Request: 5242
Date Sampled: 27/01/2021 15:30
Dates Tested: 27/01/2021 - 28/01/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Material: Silty Clay
Material Source: Onsite



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Approved Signatory: Janaka Somaratne
 Lab Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	P21-5242A	P21-5242B	P21-5242C	P21-5242D
Test Number	12	13	14	15
Date Tested	27/01/2021	27/01/2021	27/01/2021	27/01/2021
Time Tested	15:00	15:00	15:00	15:00
Test Request #/Location	Lot 115	Lot 114	Lot 113	Lot 139
Layer / Reduced Level	Layer 5	Layer 5	Layer 5	Layer 1
Thickness of Layer (mm)	300	300	300	300
Soil Description	Silty Clay	Silty Clay	Silty Clay	Sand
Test Depth (mm)	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	0	0	0
Field Wet Density (FWD) t/m ³	2.02	2.06	2.07	1.85
Field Moisture Content %	10.0	13.4	11.7	4.3
Field Dry Density (FDD) t/m ³	1.83	1.82	1.85	1.77
Peak Converted Wet Density t/m ³	2.16	2.14	2.15	1.85
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	9.5	12.8	11.7	7.1
Adj. Field Moisture Content % (AS1289.5.4.1)	10.0	13.4	11.7	4.3
Moisture Ratio % (AS1289.5.4.1)	105.5	104.5	100.0	60.5
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**	**
Moisture Variation (Wv) %	-0.5	-0.5	0.0	3.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	93.5	96.5	96.0	100.0
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: P21462-4
Issue Number: 1
Date Issued: 04/02/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21462
Project Name: Octave Estate Stage 1
Project Location: Cranbourne
Client Reference: 05931
Work Request: 5242
Date Sampled: 27/01/2021 15:30
Dates Tested: 27/01/2021 - 28/01/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Material: Silty Clay
Material Source: Onsite



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Approved Signatory: Janaka Somaratne
 Lab Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	P21-5242E	P21-5242F	P21-5242G	P21-5242H
Test Number	16	17	18	19
Date Tested	27/01/2021	27/01/2021	27/01/2021	27/01/2021
Time Tested	15:00	15:00	15:00	15:00
Test Request #/Location	Lot 138	Lot 137	Lot 136	Lot 135
Layer / Reduced Level	Layer 1	Layer 2	Layer 2	Layer 1
Thickness of Layer (mm)	300	300	300	300
Soil Description	Sand	Sand	Sand	Sand
Test Depth (mm)	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	0	0	0
Field Wet Density (FWD) t/m ³	1.82	1.86	1.85	1.84
Field Moisture Content %	5.0	4.2	5.4	4.8
Field Dry Density (FDD) t/m ³	1.73	1.78	1.76	1.75
Peak Converted Wet Density t/m ³	1.90	1.84	1.89	1.87
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	7.6	6.8	8.1	6.4
Adj. Field Moisture Content % (AS1289.5.4.1)	5.0	4.2	5.4	4.8
Moisture Ratio % (AS1289.5.4.1)	66.0	62.0	66.5	75.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**	**
Moisture Variation (Wv) %	3.0	3.0	3.0	2.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	96.0	101.0	98.0	98.0
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: P21462-5
Issue Number: 1
Date Issued: 05/02/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21462
Project Name: Octave Estate Stage 1
Project Location: Cranbourne
Client Reference: 05932
Work Request: 5259
Date Sampled: 28/01/2021 15:00
Dates Tested: 28/01/2021 - 29/01/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Material: Silty Clay
Material Source: Onsite



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Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Chris Caulfield
 Project Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P21-5259A	P21-5259B	
Test Number	20	21	
Date Tested	28/01/2021	28/01/2021	
Time Tested	15:00	15:00	
Test Request #/Location	RT 12 Lot 115	Lot 116	
Layer / Reduced Level	Layer 5	Layer 3	
Thickness of Layer (mm)	300	300	
Soil Description	Silty Clay	Silty Clay	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	**	
Field Wet Density (FWD) t/m ³	1.91	2.13	
Field Moisture Content %	5.7	13.4	
Field Dry Density (FDD) t/m ³	1.80	1.88	
Peak Converted Wet Density t/m ³	1.91	2.05	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Adj. Optimum Moisture Content % (AS1289.5.4.1)	**	**	
Adj. Field Moisture Content % (AS1289.5.4.1)	5.7	13.4	
Moisture Ratio % (AS1289.5.4.1)	190.0	97.0	
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	
Moisture Variation (Wv) %	-3.5	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	100.0	103.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

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

Material Test Report

Report Number: P21462-6
Issue Number: 1
Date Issued: 11/02/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21462
Project Name: Octave Estate Stage 1
Project Location: Cranbourne
Work Request: 5283
Date Sampled: 01/02/2021 14:30
Dates Tested: 02/02/2021 - 02/02/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Material: Sand
Material Source: Onsite



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Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1					
Sample Number	P21-5283A	P21-5283B	P21-5283C	P21-5283D	P21-5283E
Test Number	22	23	24	25	26
Date Tested	01/02/2021	01/02/2021	01/02/2021	01/02/2021	01/02/2021
Time Tested	14:30	14:30	14:30	14:30	14:30
Test Request #/Location	Lot No 139	Lot No 138	Lot No 137	Lot No 136	Lot No 135
Layer / Reduced Level	Layer 2	Layer 2	Layer 2	Layer 2	Layer 2
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Sand	Sand	Sand	Sand	Sand
Test Depth (mm)	275	275	275	275	275
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
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	**	**	**	**
Field Wet Density (FWD) t/m ³	1.92	1.90	1.89	1.87	1.88
Field Moisture Content %	5.9	7.1	7.5	5.5	6.3
Field Dry Density (FDD) t/m ³	1.82	1.77	1.76	1.77	1.77
Peak Converted Wet Density t/m ³	1.94	1.89	1.91	1.88	1.88
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	8.1	**	**	**	**
Adj. Field Moisture Content % (AS1289.5.4.1)	5.9	7.1	7.5	5.5	6.3
Moisture Ratio % (AS1289.5.4.1)	73.0	74.0	82.5	69.5	71.5
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**	**	**
Moisture Variation (Wv) %	2.5	2.5	1.5	2.5	2.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	99.5	100.5	99.0	99.5	100.0
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: P21462-7
Issue Number: 1
Date Issued: 18/02/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21462
Project Name: Octave Estate Stage 1
Project Location: Cranbourne
Client Reference: 06087
Work Request: 5338
Date Sampled: 08/02/2021 09:00
Dates Tested: 09/02/2021 - 09/02/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Material: Sand
Material Source: Onsite



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Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P21-5338A	P21-5338B	
Test Number	27	28	
Date Tested	08/02/2021	08/02/2021	
Time Tested	09:00	09:00	
Test Request #/Location	Lot 127	Lot 128	
Layer / Reduced Level	Layer 1	Layer 1	
Thickness of Layer (mm)	300	300	
Soil Description	Sand	Sand	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	**	
Field Wet Density (FWD) t/m ³	1.91	1.89	
Field Moisture Content %	6.4	6.4	
Field Dry Density (FDD) t/m ³	1.79	1.78	
Peak Converted Wet Density t/m ³	1.89	1.90	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Adj. Optimum Moisture Content % (AS1289.5.4.1)	**	**	
Adj. Field Moisture Content % (AS1289.5.4.1)	6.4	6.4	
Moisture Ratio % (AS1289.5.4.1)	91.5	97.0	
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	
Moisture Variation (Wv) %	0.5	0.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	101.0	99.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

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