

Allanvale Estate Stage 3

GITA Inspection Verification Report

Prepared For: Streetworks Pty Ltd

Report Number P21851A V1

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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 Allanvale Estate Stage 3. This work was conducted over the period of 19/11/2021 to 28/07/2022.

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 301 to 312, 314 to 338, 340 to 354, 371, 372, 374 to 376, 378 to 382, 392, 393 and 3005 to 3011, bounded by streets Sprint Street, Patrobas Loop, Guineas Street, Newmarket Street, Maiden Mews, Gelding Close and Artemis Drive. 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 Peak Urban (Drawing Reference: 102703RD04 and 05) 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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or rely on the whole or any part of the content of this submission. No responsibility will be taken for this report if it is altered in any way, or not reproduced in full.

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 to a depth of approximately 200mm below existing levels.
- 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 150mm 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 150mm of material was not observed by the GITA.

4 Construction Verification

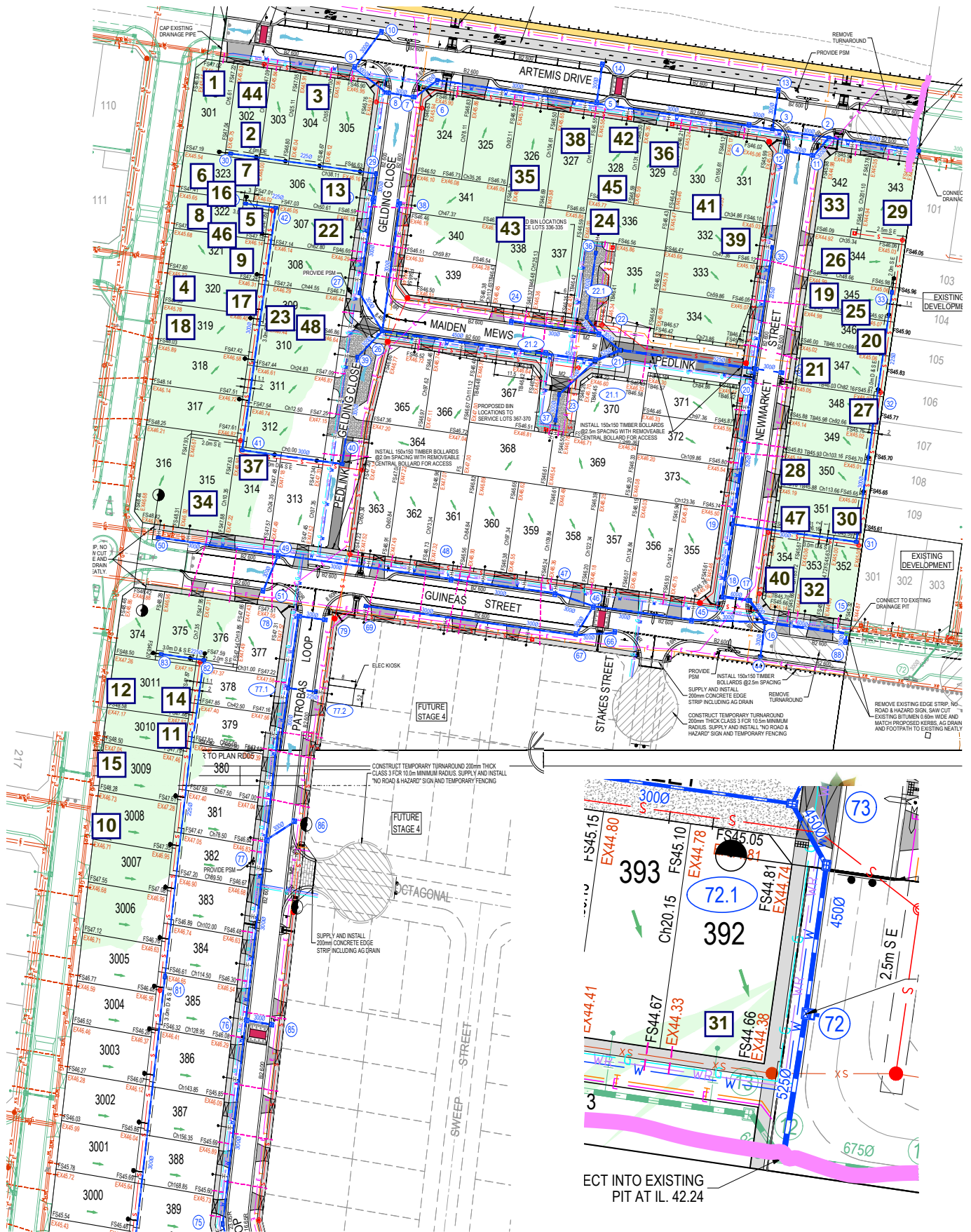
Compaction Verification testing is summarized in a detailed test register with test certificates attached provided in Appendix 2: *Compaction Test Register and Test Certificates*. A test location plan (P21851D1, Appendix 1) providing a schematic of test locations across the extent of scope of works for every placed layer of fill is also documented.

A total of 49 density tests (Hilf method in accordance with 1289 5.7.1) were undertaken with 6 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 3 at Allanvale Estate. For completed fill areas of greater than 300mm, and for works completed between 19/11/2021 and 28/07/2022, 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 3 of Allanvale Estate was observed to be constructed in compliance with the requirements of the Technical Specification.

Appendix 1: Test Location Plan



Appendix 2: Compaction Test Register and Test Certificates



Compaction Test Register

Client: Streetworks Pty Ltd
Project: Allanvale Estate Stage 3

Project No: P21851
Specification: 95%

Date:	Test No:	Layer:	Retest of:	Density:	Pass/Fail:	Lot No:	Report No:
19/11/2021	1	Layer 1		99.5%	Pass	Lot 301	P21851-1
19/11/2021	2	Layer 1		90.5%	Fail	Lot 302	P21851-1
19/11/2021	3	Layer 1		98.0%	Pass	Lot 304	P21851-1
19/11/2021	3	Layer 1		101.5%	Pass	Lot 304	P21851-1
20/11/2021	4	Layer 1		97.0%	Pass	Lot 320	P21851-2
20/11/2021	5	Layer 1		92.0%	Fail	Lot 322	P21851-2
20/11/2021	6	Layer 1		100.0%	Pass	Lot 323	P21851-2
22/11/2021	7	Layer 2		97.5%	Pass	Lot 323	P21851-3
22/11/2021	8	Layer 2		99.5%	Pass	Lot 322	P21851-3
22/11/2021	9	Layer 2		98.5%	Pass	Lot 321	P21851-3
23/11/2021	10	Layer 1		98.5%	Pass	Lot 3008	P21851-4
23/11/2021	11	Layer 2		100.5%	Pass	Lot 3010	P21851-4
23/11/2021	12	Layer 3		98.5%	Pass	Lot 3011	P21851-4
24/11/2021	13	Layer 3		97.0%	Pass	Lot 306	P21851-5
24/11/2021	14	Layer 4		99.0%	Pass	Lot 3011	P21851-5
24/11/2021	15	Layer 4		107.0%	Pass	Lot 3009	P21851-5
25/11/2021	16	Layer 4		104.5%	Pass	Lot 323	P21851-9
25/11/2021	17	Layer 4		100.0%	Pass	Lot 320	P21851-9
25/11/2021	18	Layer 4		101.0%	Pass	Lot 319	P21851-9
26/11/2021	19	Layer 2		94.5%	Fail	Lot 345	P21851-10
26/11/2021	20	Layer 2		96.0%	Pass	Lot 346	P21851-10
26/11/2021	21	Layer 2		97.5%	Pass	Lot 347	P21851-10
29/11/2021	22	Final Layer		99.5%	Pass	Lot 307	P21851-11
29/11/2021	23	Final Layer		92.0%	Fail	Lot 309	P21851-11
29/11/2021	24	Layer 1		97.0%	Pass	Lot 336	P21851-11
29/11/2021	25	Layer 2	Test #19	100.0%	Pass	Lot 345	P21851-11
30/11/2021	26	Layer 3		106.0%	Pass	Lot 344	P21851-7
30/11/2021	27	Layer 3		106.5%	Pass	Lot 348	P21851-7
30/11/2021	28	Layer 3		101.5%	Pass	Lot 350	P21851-7
1/12/2021	29	Layer 4		98.5%	Pass	Lot 343	P21851-12
1/12/2021	30	layer 4		92.0%	Fail	Lot 351	P21851-12
1/12/2021	31	Final Layer		97.5%	Pass	Lot 392	P21851-12
2/12/2021	32	Final Layer		101.0%	Pass	Lot 353	P21851-13
2/12/2021	33	Final Layer		95.5%	Pass	Lot 342	P21851-13
2/12/2021	34	Final Layer		97.5%	Pass	Lot 315	P21851-13
3/12/2021	35	Layer 3		100.0%	Pass	Lot 326	P21851-6
3/12/2021	36	Layer 3		98.0%	Pass	Lot 329	P21851-6
3/12/2021	37	Final Layer		101.5%	Pass	Lot 313	P21851-6
6/12/2021	38	Layer 4		99.0%	Pass	Lot 327	P21851-14
6/12/2021	39	Layer 4		100.5%	Pass	Lot 332	P21851-14
6/12/2021	40	Final Layer		109.5%	Pass	Lot 354	P21851-14



Compaction Test Register

Client: Streetworks Pty Ltd
Project: Allanvale Estate Stage 3

Project No: P21851
Specification: 95%

Date:	Test No:	Layer:	Retest of:	Density:	Pass/Fail:	Lot No:	Report No:
7/12/2021	41	Final Layer		95.0%	Pass	Lot 330	P21851-15
7/12/2021	42	Final Layer		90.5%	Fail	Lot 328	P21851-15
7/12/2021	43	Final Layer		100.5%	Pass	Lot 338	P21851-15
28/07/2022	44	Layer 2	Test #2	99.0%	Pass	Lot 302	P21851-8
28/07/2022	45	Layer 2	Test #42	99.5%	Pass	Lot 328	P21851-8
28/07/2022	46	Layer 2	Test #5	100.0%	Pass	Lot 332	P21851-8
28/07/2022	47	Layer 2	Test #30	102.5%	Pass	Lot 351	P21851-8
28/07/2022	48	Layer 2	Test #23	102.5%	Pass	Lot 3009	P21851-8

Material Test Report

Report Number: P21851-1
Issue Number: 1
Date Issued: 01/12/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Client Reference: 6194
Work Request: 7180
Date Sampled: 19/11/2021 8:30
Dates Tested: 19/11/2021 - 22/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3 Level One
Material: silty Clay
Material Source: Onsite



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



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	P21-7180A		
Test Number	1		
Date Tested	19/11/2021		
Time Tested	15:30		
Test Request #/Location	Lot No 301		
Layer / Reduced Level	Layer 1		
Thickness of Layer (mm)	300		
Soil Description	CLAY		
Test Depth (mm)	275		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**		
Field Wet Density (FWD) t/m ³	1.80		
Field Moisture Content %	40.6		
Field Dry Density (FDD) t/m ³	1.28		
Peak Converted Wet Density t/m ³	1.81		
Adjusted Peak Converted Wet Density t/m ³	**		
Adj. Optimum Moisture Content % (AS1289.5.4.1)	36.4		
Adj. Field Moisture Content % (AS1289.5.4.1)	40.6		
Moisture Ratio % (AS1289.5.4.1)	111.5		
Adjusted Moisture Ratio % (AS1289.5.4.1)	**		
Moisture Variation (Wv) %	-4.0		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	99.5		
Compaction Method	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: P21851-1
Issue Number: 1
Date Issued: 01/12/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Client Reference: 6194
Work Request: 7180
Date Sampled: 19/11/2021 8:30
Dates Tested: 19/11/2021 - 23/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3 Level One
Material: silty Clay
Material Source: Onsite



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Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1

Sample Number	P21-7180B	P21-7180C	
Test Number	2	3	
Date Tested	19/11/2021	19/11/2021	
Time Tested	15:30	15:30	
Test Request #/Location	Lot No 302	Lot No 304	
Layer / Reduced Level	Layer 1	Layer 1	
Thickness of Layer (mm)	300	300	
Soil Description	CLAY	CLAY	
Test Depth (mm)	275	275	
Fraction Tested (mm)	19.0	19.0	
Oversize (wet basis) %	**	0	
Oversize (dry basis) %	**	0	
Curing Hours	**	**	
Method used to Determine Plasticity	**	Visual Assessment	
Field Wet Density t/m ³	1.72	1.80	
Field Moisture Content %	43.6	38.2	
Field Dry Density t/m ³	1.19	1.30	
Maximum Dry Density t/m ³	1.32	1.28	
Adjusted Maximum Dry Density t/m ³	**	**	
Optimum Moisture Content (OMC) %	34.5	36.0	
Adjusted Optimum Moisture Content (OMC) %	**	**	
Moisture Variation %	-9.0	-2.5	
Moisture Ratio %	126.0	106.5	
Density Ratio %	90.5	101.5	
Compaction Method	Standard	Standard	

Moisture Variation Note:

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

Material Test Report

Report Number: P21851-2
Issue Number: 1
Date Issued: 01/12/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Client Reference: 7100
Work Request: 7195
Date Sampled: 20/11/2021 13:00
Dates Tested: 20/11/2021 - 25/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Stage 3 Level 1
Material: silty Clay
Material Source: Onsite



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Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1

Sample Number	P21-7195A	P21-7195B	P21-7195C
Test Number	4	5	6
Date Tested	20/11/2021	20/11/2021	20/11/2021
Time Tested	12:40	12:50	13:00
Test Request #/Location	Lot 320	Lot 322	Lot 323
Layer / Reduced Level	Layer 1	Layer 1	Layer 1
Thickness of Layer (mm)	300	300	300
Soil Description	silty Clay	silty Clay	silty Clay
Test Depth (mm)	275	275	275
Fraction Tested (mm)	19.0	19.0	19.0
Oversize (wet basis) %	0	0	0
Oversize (dry basis) %	0	0	0
Curing Hours	**	**	**
Method used to Determine Plasticity	Visual Assessment	Visual Assessment	Visual Assessment
Field Wet Density t/m ³	1.94	1.80	1.83
Field Moisture Content %	24.1	32.6	42.3
Field Dry Density t/m ³	1.56	1.36	1.29
Maximum Dry Density t/m ³	1.61	1.47	1.29
Adjusted Maximum Dry Density t/m ³	**	**	**
Optimum Moisture Content (OMC) %	20.0	26.5	38.0
Adjusted Optimum Moisture Content (OMC) %	**	**	**
Moisture Variation %	-4.0	-6.5	-4.5
Moisture Ratio %	119.5	124.0	112.0
Density Ratio %	97.0	92.0	100.0
Compaction Method	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: P21851-3
Issue Number: 1
Date Issued: 01/12/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Client Reference: 7903
Work Request: 7221
Date Sampled: 22/11/2021 15:30
Dates Tested: 22/11/2021 - 26/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3 Level One
Material: CLAY
Material Source: Onsite



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 Project Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P21-7221A		
Test Number	7		
Date Tested	22/11/2021		
Time Tested	15:00		
Test Request #/Location	Lot 323		
Layer / Reduced Level	Layer 2		
Thickness of Layer (mm)	300		
Soil Description	CLAY		
Test Depth (mm)	275		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**		
Field Wet Density (FWD) t/m ³	1.94		
Field Moisture Content %	24.4		
Field Dry Density (FDD) t/m ³	1.56		
Peak Converted Wet Density t/m ³	1.99		
Adjusted Peak Converted Wet Density t/m ³	**		
Adj. Optimum Moisture Content % (AS1289.5.4.1)	22.0		
Adj. Field Moisture Content % (AS1289.5.4.1)	24.4		
Moisture Ratio % (AS1289.5.4.1)	110.5		
Adjusted Moisture Ratio % (AS1289.5.4.1)	**		
Moisture Variation (Wv) %	-2.5		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	97.5		
Compaction Method	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: P21851-3
Issue Number: 1
Date Issued: 01/12/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Client Reference: 7903
Work Request: 7221
Date Sampled: 22/11/2021 15:30
Dates Tested: 22/11/2021 - 25/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3 Level One
Material: CLAY
Material Source: Onsite



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 Project Manager

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Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1

Sample Number	P21-7221B	P21-7221C	
Test Number	8	9	
Date Tested	22/11/2021	22/11/2021	
Time Tested	15:00	15:00	
Test Request #/Location	Lot 322	Lot 321	
Layer / Reduced Level	Layer 2	Layer 2	
Thickness of Layer (mm)	300	300	
Soil Description	CLAY	CLAY	
Test Depth (mm)	275	275	
Fraction Tested (mm)	19.0	19.0	
Oversize (wet basis) %	0	0	
Oversize (dry basis) %	0	0	
Curing Hours	**	**	
Method used to Determine Plasticity	Visual Assessment	Visual Assessment	
Field Wet Density t/m ³	1.97	1.98	
Field Moisture Content %	27.2	30.0	
Field Dry Density t/m ³	1.55	1.52	
Maximum Dry Density t/m ³	1.56	1.55	
Adjusted Maximum Dry Density t/m ³	**	**	
Optimum Moisture Content (OMC) %	22.0	21.5	
Adjusted Optimum Moisture Content (OMC) %	**	**	
Moisture Variation %	-5.0	-8.5	
Moisture Ratio %	123.0	140.0	
Density Ratio %	99.5	98.5	
Compaction Method	Standard	Standard	

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: P21851-4
Issue Number: 1
Date Issued: 01/12/2021
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Client Reference: 7902
Work Request: 7239
Date Sampled: 23/11/2021 15:30
Dates Tested: 23/11/2021 - 24/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3 level 1
Material: CLAY
Material Source: Onsite



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NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P21-7239A	P21-7239B	P21-7239C
Test Number	10	11	12
Date Tested	23/11/2021	23/11/2021	23/11/2021
Time Tested	15:30	15:35	15:45
Test Request #/Location	Lot. 3008	Lot. 3010	Lot. 3011
Layer / Reduced Level	1	2	3
Thickness of Layer (mm)	300	300	300
Soil Description	CLAY	CLAY	CLAY
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	2	1
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	**	**
Field Wet Density (FWD) t/m ³	1.95	2.00	1.93
Field Moisture Content %	23.2	25.0	25.2
Field Dry Density (FDD) t/m ³	1.58	1.61	1.55
Peak Converted Wet Density t/m ³	1.98	**	**
Adjusted Peak Converted Wet Density t/m ³	**	2.00	1.96
Adj. Optimum Moisture Content % (AS1289.5.4.1)	21.2	21.1	21.8
Adj. Field Moisture Content % (AS1289.5.4.1)	23.2	24.5	25.0
Moisture Ratio % (AS1289.5.4.1)	109.5	**	**
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	116.0	114.5
Moisture Variation (Wv) %	-2.0	**	**
Adjusted Moisture Variation %	**	-3.5	-3.0
Hilf Density Ratio (%)	98.5	100.5	98.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: P21851-6
Issue Number: 2 - This version supersedes all previous issues
Reissue Reason: Lot Number Corrected
Date Issued: 19/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Work Request: 7412
Date Sampled: 03/12/2021
Dates Tested: 03/12/2021 - 07/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3- Level 1
Material: silty 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	P21-7412A	P21-7412B	P21-7412C
Test Number	35	36	37
Date Tested	03/12/2021	03/12/2021	03/12/2021
Time Tested	16:15	16:15	16:15
Test Request #/Location	Lot. 326	Lot. 329	Lot. 314
Layer / Reduced Level	Layer 3	Layer 3	Final Layer
Thickness of Layer (mm)	300	300	300
Soil Description	silty Clay	silty Clay	silty Clay
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	**	**
Field Wet Density (FWD) t/m ³	1.85	1.85	1.92
Field Moisture Content %	**	**	**
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	1.85	1.89	1.89
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	**	**	**
Adj. Field Moisture Content % (AS1289.5.4.1)	**	**	**
Moisture Ratio % (AS1289.5.4.1)	**	**	**
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	-3.5	-3.5	-2.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	100.0	98.0	101.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: P21851-7
Issue Number: 1
Date Issued: 04/01/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Work Request: 7372
Date Sampled: 30/11/2021
Dates Tested: 01/12/2021 - 07/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3- Level 1
Material: 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	P21-7372A	P21-7372B	P21-7372C
Test Number	26	27	28
Date Tested	30/11/2021	30/11/2021	30/11/2021
Time Tested	**	**	**
Test Request #/Location	344	348	350
Layer / Reduced Level	Layer 3	Layer 3	Layer 3
Thickness of Layer (mm)	300	300	300
Soil Description	CLAY	CLAY	CLAY
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	1.89	1.89	1.82
Field Moisture Content %	38.8	37.8	41.5
Field Dry Density (FDD) t/m ³	1.36	1.37	1.29
Peak Converted Wet Density t/m ³	1.78	1.78	1.79
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	35.0	33.7	37.4
Adj. Field Moisture Content % (AS1289.5.4.1)	38.8	37.8	41.5
Moisture Ratio % (AS1289.5.4.1)	111.0	112.0	111.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	-4.0	-4.0	-4.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	106.0	106.5	101.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: P21851-8
Issue Number: 2 - This version supersedes all previous issues
Reissue Reason: Lot Numbers Corrected
Date Issued: 18/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Work Request: 9951
Date Sampled: 28/07/2022 15:00
Dates Tested: 28/07/2022 - 29/07/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Location: Allenvale Estate St. 3



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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	P22-9951E		
Test Number	48		
Date Tested	28/07/2022		
Time Tested	15:00		
Test Request #/Location	Lot No 309		
Layer / Reduced Level	FSL		
Thickness of Layer (mm)	300		
Soil Description	CLAY		
Test Depth (mm)	275		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0		
Field Wet Density (FWD) t/m ³	1.90		
Field Moisture Content %	42.6		
Field Dry Density (FDD) t/m ³	1.34		
Peak Converted Wet Density t/m ³	1.86		
Adjusted Peak Converted Wet Density t/m ³	**		
Adj. Optimum Moisture Content % (AS1289.5.4.1)	38.3		
Adj. Field Moisture Content % (AS1289.5.4.1)	42.6		
Moisture Ratio % (AS1289.5.4.1)	111.5		
Adjusted Moisture Ratio % (AS1289.5.4.1)	**		
Moisture Variation (Wv) %	-4.0		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	102.5		
Compaction Method	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: P21851-8
Issue Number: 2 - This version supersedes all previous issues
Reissue Reason: Lot Numbers Corrected
Date Issued: 18/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Work Request: 9951
Date Sampled: 28/07/2022 15:00
Dates Tested: 28/07/2022 - 29/07/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Location: Allenvale Estate St. 3



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Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1				
Sample Number	P22-9951A	P22-9951B	P22-9951C	P22-9951D
Test Number	44	45	46	47
Date Tested	28/07/2022	28/07/2022	28/07/2022	28/07/2022
Time Tested	15:00	15:00	15:00	15:00
Test Request #/Location	Lot No 302	Lot No 328	Lot No 322	Lot No 351
Layer / Reduced Level	FSL	Layer 1	FSL	FSL
Thickness of Layer (mm)	300	300	300	300
Soil Description	CLAY	CLAY	CLAY	CLAY
Test Depth (mm)	275	275	275	275
Fraction Tested (mm)	19.0	19.0	19.0	19.0
Oversize (wet basis) %	**	0	0	0
Oversize (dry basis) %	**	0	0	0
Curing Hours	**	**	**	**
Method used to Determine Plasticity	Visual Assessment	Visual Assessment	Visual Assessment	Visual Assessment
Field Wet Density t/m ³	1.90	1.89	1.93	1.92
Field Moisture Content %	41.9	42.3	43.2	41.7
Field Dry Density t/m ³	1.34	1.33	1.35	1.35
Maximum Dry Density t/m ³	1.35	1.33	1.35	1.32
Adjusted Maximum Dry Density t/m ³	**	**	**	**
Optimum Moisture Content (OMC) %	33.5	33.0	31.5	32.5
Adjusted Optimum Moisture Content (OMC) %	**	**	**	**
Moisture Variation %	-8.5	-9.0	-12.0	-9.5
Moisture Ratio %	126.0	127.5	138.0	129.0
Density Ratio %	99.0	99.5	100.0	102.5
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

Report Number: P21851-9
Issue Number: 1
Date Issued: 17/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Client Reference: 7904
Work Request: 7283
Date Sampled: 25/11/2021
Dates Tested: 25/11/2021 - 29/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3- Level 1
Material: CLAY
Material Source: Onsite



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 Project Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P21-7283A	P21-7283B	
Test Number	16	17	
Date Tested	25/11/2021	25/11/2021	
Time Tested	**	**	
Test Request #/Location	Lot 323	Lot 320	
Layer / Reduced Level	Layer 4	Layer 4	
Thickness of Layer (mm)	300	300	
Soil Description	CLAY	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	2.06	1.99	
Field Moisture Content %	22.7	19.9	
Field Dry Density (FDD) t/m ³	1.68	1.66	
Peak Converted Wet Density t/m ³	1.98	1.99	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Adj. Optimum Moisture Content % (AS1289.5.4.1)	**	20.0	
Adj. Field Moisture Content % (AS1289.5.4.1)	22.7	19.9	
Moisture Ratio % (AS1289.5.4.1)	103.0	99.0	
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	
Moisture Variation (Wv) %	-0.5	0.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	104.5	100.0	
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: P21851-9
Issue Number: 1
Date Issued: 17/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Client Reference: 7904
Work Request: 7283
Date Sampled: 25/11/2021
Dates Tested: 25/11/2021 - 30/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3- Level 1
Material: CLAY
Material Source: Onsite



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 Project Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1

Sample Number	P21-7283C		
Test Number	18		
Date Tested	25/11/2021		
Time Tested	**		
Test Request #/Location	Lot 319		
Layer / Reduced Level	Layer 4		
Thickness of Layer (mm)	300		
Soil Description	CLAY		
Test Depth (mm)	275		
Fraction Tested (mm)	19.0		
Oversize (wet basis) %	0		
Oversize (dry basis) %	0		
Curing Hours	**		
Method used to Determine Plasticity	Visual Assessment		
Field Wet Density t/m ³	2.00		
Field Moisture Content %	18.4		
Field Dry Density t/m ³	1.69		
Maximum Dry Density t/m ³	1.68		
Adjusted Maximum Dry Density t/m ³	**		
Optimum Moisture Content (OMC) %	18.0		
Adjusted Optimum Moisture Content (OMC) %	**		
Moisture Variation %	-0.5		
Moisture Ratio %	103.0		
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

Report Number: P21851-10
Issue Number: 1
Date Issued: 17/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Client Reference: 7906
Work Request: 7311
Date Sampled: 26/11/2021 15:30
Dates Tested: 26/11/2021 - 01/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3- Level 1
Material: CLAY
Material Source: Onsite



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 Project Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P21-7311A	P21-7311B	P21-7311C
Test Number	19	20	21
Date Tested	26/11/2021	26/11/2021	26/11/2021
Time Tested	15:30	15:30	15:30
Test Request #/Location	Lot 345	Lot 346	Lot 347
Layer / Reduced Level	Layer 2	Layer 2	Layer 2
Thickness of Layer (mm)	300	300	300
Soil Description	CLAY	CLAY	CLAY
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)	**	**	**
Field Wet Density (FWD) t/m ³	1.81	1.92	2.00
Field Moisture Content %	29.8	20.1	19.7
Field Dry Density (FDD) t/m ³	1.39	1.60	1.67
Peak Converted Wet Density t/m ³	1.91	1.99	2.05
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	29.1	18.1	20.2
Adj. Field Moisture Content % (AS1289.5.4.1)	29.8	20.1	19.7
Moisture Ratio % (AS1289.5.4.1)	102.5	111.0	97.5
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	-0.5	-2.0	0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	94.5	96.0	97.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: P21851-11
Issue Number: 1
Date Issued: 17/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Client Reference: 7909
Work Request: 7347
Date Sampled: 29/11/2021 16:00
Dates Tested: 29/11/2021 - 06/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3- Level 1
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	P21-7347A	P21-7347B	P21-7347C	P21-7347D
Test Number	22	23	24	25
Date Tested	29/11/2021	29/11/2021	29/11/2021	29/11/2021
Time Tested	16:00	16:00	16:00	16:00
Test Request #/Location	Lot 307	Lot 309	Lot 336	Lot 345 Retest #19
Layer / Reduced Level	Final Layer	Final Layer	Layer 1	Layer 2
Thickness of Layer (mm)	300	300	300	300
Soil Description	CLAY	CLAY	CLAY	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)	**	**	**	**
Field Wet Density (FWD) t/m ³	1.94	1.82	1.98	2.00
Field Moisture Content %	25.9	18.1	20.0	17.4
Field Dry Density (FDD) t/m ³	1.54	1.54	1.65	1.70
Peak Converted Wet Density t/m ³	1.94	1.98	2.03	2.00
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	23.9	16.4	19.9	17.2
Adj. Field Moisture Content % (AS1289.5.4.1)	25.9	18.1	20.0	17.4
Moisture Ratio % (AS1289.5.4.1)	108.5	110.0	100.5	101.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**	**
Moisture Variation (Wv) %	-2.0	-1.5	0.0	0.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	99.5	92.0	97.0	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: P21851-12
Issue Number: 1
Date Issued: 17/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Work Request: 7382
Date Sampled: 01/12/2021 15:50
Dates Tested: 01/12/2021 - 03/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3- Level 1
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	P21-7382C		
Test Number	31		
Date Tested	01/12/2021		
Time Tested	15:50		
Test Request #/Location	Lot 392		
Layer / Reduced Level	Final Layer		
Thickness of Layer (mm)	300		
Soil Description	CLAY		
Test Depth (mm)	275		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**		
Field Wet Density (FWD) t/m ³	1.84		
Field Moisture Content %	26.0		
Field Dry Density (FDD) t/m ³	1.46		
Peak Converted Wet Density t/m ³	1.89		
Adjusted Peak Converted Wet Density t/m ³	**		
Adj. Optimum Moisture Content % (AS1289.5.4.1)	25.7		
Adj. Field Moisture Content % (AS1289.5.4.1)	26.0		
Moisture Ratio % (AS1289.5.4.1)	101.0		
Adjusted Moisture Ratio % (AS1289.5.4.1)	**		
Moisture Variation (Wv) %	-0.5		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	97.5		
Compaction Method	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: P21851-12
Issue Number: 1
Date Issued: 17/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Work Request: 7382
Date Sampled: 01/12/2021 15:50
Dates Tested: 01/12/2021 - 03/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3- Level 1
Material: CLAY
Material Source: Onsite



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 Email: ccaulfield@terrafirmalabs.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Chris Caulfield
 Project Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1

Sample Number	P21-7382A	P21-7382B	
Test Number	29	30	
Date Tested	01/12/2021	01/12/2021	
Time Tested	15:50	15:50	
Test Request #/Location	Lot 343	Lot 351	
Layer / Reduced Level	Layer 4	layer 4	
Thickness of Layer (mm)	300	300	
Soil Description	CLAY	CLAY	
Test Depth (mm)	275	275	
Fraction Tested (mm)	19.0	19.0	
Oversize (wet basis) %	0	0	
Oversize (dry basis) %	0	0	
Curing Hours	**	**	
Method used to Determine Plasticity	Visual Assessment	Visual Assessment	
Field Wet Density t/m ³	1.80	1.67	
Field Moisture Content %	40.4	42.5	
Field Dry Density t/m ³	1.28	1.17	
Maximum Dry Density t/m ³	1.30	1.28	
Adjusted Maximum Dry Density t/m ³	**	**	
Optimum Moisture Content (OMC) %	35.0	33.5	
Adjusted Optimum Moisture Content (OMC) %	**	**	
Moisture Variation %	-5.0	-9.0	
Moisture Ratio %	114.5	127.5	
Density Ratio %	98.5	92.0	
Compaction Method	Standard	Standard	

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: P21851-13
Issue Number: 1
Date Issued: 17/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Work Request: 7402
Date Sampled: 02/12/2021 16:15
Dates Tested: 02/12/2021 - 07/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate Stage 3 Level One
Material: silty Clay
Material Source: Onsite



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Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P21-7402A	P21-7402B	P21-7402C
Test Number	32	33	34
Date Tested	02/12/2021	02/12/2021	02/12/2021
Time Tested	16:15	16:15	16:15
Test Request #/Location	Lot 353	Lot 342	Lot 315
Layer / Reduced Level	Final Layer	Final Layer	Final Layer
Thickness of Layer (mm)	300	300	300
Soil Description	silty Clay	silty Clay	silty Clay
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)	**	**	**
Field Wet Density (FWD) t/m ³	1.88	1.87	1.82
Field Moisture Content %	32.1	32.0	38.4
Field Dry Density (FDD) t/m ³	1.42	1.42	1.32
Peak Converted Wet Density t/m ³	1.86	1.96	1.87
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	29.1	29.7	35.3
Adj. Field Moisture Content % (AS1289.5.4.1)	32.1	32.0	38.4
Moisture Ratio % (AS1289.5.4.1)	110.5	107.5	109.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	-3.0	-2.0	-3.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	101.0	95.5	97.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: P21851-14
Issue Number: 1
Date Issued: 18/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Work Request: 7456
Date Sampled: 06/12/2021
Dates Tested: 06/12/2021 - 08/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Estate stage 3- Level 1
Material: silty Clay
Material Source: Onsite



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Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	P21-7456A	P21-7456B	P21-7456C
Test Number	38	39	40
Date Tested	06/12/2021	06/12/2021	06/12/2021
Time Tested	15:45	15:45	15:45
Test Request #/Location	Lot. 327	Lot. 332	Lot. 354
Layer / Reduced Level	Layer 4	Layer 4	Final Layer
Thickness of Layer (mm)	300	300	300
Soil Description	silty Clay	silty Clay	silty Clay
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)	**	**	**
Field Wet Density (FWD) t/m ³	1.84	1.80	2.09
Field Moisture Content %	35.6	38.2	34.4
Field Dry Density (FDD) t/m ³	1.35	1.30	1.55
Peak Converted Wet Density t/m ³	1.86	1.79	1.91
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	**	**	30.4
Adj. Field Moisture Content % (AS1289.5.4.1)	35.6	38.2	34.4
Moisture Ratio % (AS1289.5.4.1)	111.0	101.5	113.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	-3.5	-0.5	-4.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	99.0	100.5	109.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: P21851-15
Issue Number: 1
Date Issued: 18/08/2022
Client: Street Works Pty Ltd
 45 Commercial Drive, Pakenham Vic 3810
Project Number: P21851
Project Name: Allanvale Estate Stage 3 Level One
Project Location: Cranbourne
Work Request: 7468
Date Sampled: 07/12/2021 14:30
Dates Tested: 07/12/2021 - 08/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95%
Site Selection: Selected by Client
Location: Allanvale Stage 3 Estate Level One
Material: Silty clay
Material Source: Onsite



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Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1

Sample Number	P21-7468A	P21-7468B	P21-7468C
Test Number	41	42	43
Date Tested	07/12/2021	07/12/2021	07/12/2021
Time Tested	14:30	14:30	14:30
Test Request #/Location	Lot. 330	Lot. 328	Lot. 338
Layer / Reduced Level	Final Layer	Final Layer	Final Layer
Thickness of Layer (mm)	300	300	300
Soil Description	Silty clay	Silty clay	Silty clay
Test Depth (mm)	275	275	275
Fraction Tested (mm)	19.0	19.0	19.0
Oversize (wet basis) %	0	0	0
Oversize (dry basis) %	0	0	0
Curing Hours	2.0	**	2.0
Method used to Determine Plasticity	Visual Assessment	Visual Assessment	Visual Assessment
Field Wet Density t/m ³	1.84	1.72	1.86
Field Moisture Content %	35.7	42.7	37.3
Field Dry Density t/m ³	1.35	1.21	1.35
Maximum Dry Density t/m ³	1.42	1.33	1.34
Adjusted Maximum Dry Density t/m ³	**	**	**
Optimum Moisture Content (OMC) %	25.5	34.5	30.0
Adjusted Optimum Moisture Content (OMC) %	**	**	**
Moisture Variation %	-10.5	-8.5	-7.5
Moisture Ratio %	140.5	124.5	124.5
Density Ratio %	95.0	90.5	100.5
Compaction Method	Standard	Standard	Standard

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC