

Opalia Estate Stage 6

GITA Inspection Verification Report

Prepared For:	Lojac Civil Pty Ltd
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Report Number	D21661A V1
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Version Release Date	2 Feb 2022
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Report Released By	C Caulfield
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Title	Project Manager
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Signature



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1 Introduction

Terra Firma Laboratories was engaged by Lojac Civil Pty Ltd as the Geotechnical Inspection and Testing Authority (GITA) to provide Level 1 supervision and testing works on the earthworks component for Opalia Estate Stage 6. This work was conducted over the period of 31/08/2021 to 31/01/2022.

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 620 through to 648, 655 through to 669 and 671 through to 686, bounded by streets Nova Street, Athena Road and Pegasus 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 Breese Pitt Dixon Pty Ltd (Drawing Reference: 6751E/06) and provided by Lojac Civil 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 Lojac Civil 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 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 300mm of fill 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 (D21661D1, 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 61 density tests (Hilf method in accordance with 1289 5.7.1) were undertaken with 0 failed results. 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 6 at Opalia Estate. For completed fill areas of greater than 300mm, and for works completed between 31/08/2021 and 31/01/2022, 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 6 of Opalia 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: Lojac Civil Pty Ltd
Project: Opalia Estate Stage 6

Project No: D21661
Specification: 95%

Date:	Test No:	Layer:	Retest of:	Density:	Pass/Fail:	Lot No:	Report No:
31/08/2021	1	Layer 1		104.0%	Pass	Lot 635	D21661-1
31/08/2021	2	Layer 1		106.5%	Pass	Lot 637	D21661-1
31/08/2021	3	Layer 1		107.0%	Pass	Lot 639	D21661-1
31/08/2021	4	Layer 1		102.5%	Pass	Lot 641	D21661-1
31/08/2021	5	Layer 1		103.5%	Pass	Lot 643	D21661-1
31/08/2021	6	Layer 1		103.0%	Pass	Lot 645	D21661-1
31/08/2021	7	Layer 1		106.5%	Pass	Lot 647	D21661-1
31/08/2021	8	Layer 1		107.5%	Pass	Lot 668	D21661-1
31/08/2021	9	Layer 1		101.0%	Pass	Lot 666	D21661-1
31/08/2021	10	Layer 1		106.5%	Pass	Lot 664	D21661-1
31/08/2021	11	Layer 1		108.0%	Pass	Lot 662	D21661-1
31/08/2021	12	Layer 1		109.0%	Pass	Lot 660	D21661-1
31/08/2021	13	Layer 1		101.5%	Pass	Lot 658	D21661-1
31/08/2021	14	Layer 1		107.5%	Pass	Lot 656	D21661-1
2/09/2021	15	Layer 2		102.5%	Pass	Lot 636	D21661-2
2/09/2021	16	Layer 2		105.5%	Pass	Lot 638	D21661-2
2/09/2021	17	Layer 2		103.5%	Pass	Lot 640	D21661-2
14/09/2021	18	Layer 1		104.5%	Pass	Lot 620	D21661-3
14/09/2021	19	Layer 1		106.5%	Pass	Lot 622	D21661-3
14/09/2021	20	Layer 1		106.0%	Pass	Lot 624	D21661-3
14/09/2021	21	Layer 1		100.5%	Pass	Lot 626	D21661-3
14/09/2021	22	Layer 1		99.5%	Pass	Lot 628	D21661-3
14/09/2021	23	Layer 1		100.5%	Pass	Lot 630	D21661-3
14/09/2021	24	Layer 1		99.0%	Pass	Lot 632	D21661-3
14/09/2021	25	Layer 1		99.5%	Pass	Lot 634	D21661-3
9/11/2021	26	Layer 1		104.5%	Pass	Lot 620	D21661-4
9/11/2021	27	Layer 1		104.5%	Pass	Lot 621	D21661-4
9/11/2021	28	Layer 1		104.0%	Pass	Lot 622	D21661-4
9/11/2021	29	Layer 1		104.5%	Pass	Lot 623	D21661-4
9/11/2021	30	Layer 1		104.0%	Pass	Lot 624	D21661-4
9/11/2021	31	Layer 1		104.0%	Pass	Lot 625	D21661-4
9/11/2021	32	Layer 1		104.5%	Pass	Lot 626	D21661-4
15/12/2021	33	Layer 2		101.5%	Pass	Lot 627	D21661-5
15/12/2021	34	Layer 2		102.0%	Pass	Lot 629	D21661-5
15/12/2021	35	Layer 2		102.0%	Pass	Lot 631	D21661-5
15/12/2021	36	Layer 2		102.5%	Pass	Lot 633	D21661-5
16/12/2021	37	Layer 1		99.0%	Pass	Lot 681	D21661-6
16/12/2021	38	Layer 1		105.0%	Pass	Lot 671	D21661-6
16/12/2021	39	Layer 1		104.0%	Pass	Lot 672	D21661-6
16/12/2021	40	Layer 1		103.5%	Pass	Lot 673	D21661-6
16/12/2021	41	Layer 1		104.0%	Pass	Lot 674	D21661-6



Compaction Test Register

Client: Lojac Civil Pty Ltd
Project: Opalia Estate Stage 6

Project No: D21661
Specification: 95%

Date:	Test No:	Layer:	Retest of:	Density:	Pass/Fail:	Lot No:	Report No:
16/12/2021	42	Layer 1		103.0%	Pass	Lot 675	D21661-6
16/12/2021	43	Layer 1		103.5%	Pass	Lot 678	D21661-6
16/12/2021	44	Layer 1		104.5%	Pass	Lot 683	D21661-6
17/12/2021	45	FSL		103.5%	Pass	Lot 669	D21661-7
17/12/2021	46	FSL		102.5%	Pass	Lot 667	D21661-7
17/12/2021	47	FSL		102.5%	Pass	Lot 663	D21661-7
17/12/2021	48	FSL		103.0%	Pass	Lot 642	D21661-7
17/12/2021	49	FSL		102.5%	Pass	Lot 661	D21661-7
17/12/2021	50	FSL		103.5%	Pass	Lot 659	D21661-7
17/12/2021	51	FSL		101.5%	Pass	Lot 644	D21661-7
17/12/2021	52	FSL		103.0%	Pass	Lot 646	D21661-7
17/12/2021	53	Layer 2		104.5%	Pass	Lot 676	D21661-7
17/12/2021	54	Layer 2		102.0%	Pass	Lot 677	D21661-7
17/12/2021	55	Layer 2		103.5%	Pass	Lot 679	D21661-7
17/12/2021	56	Layer 2		100.5%	Pass	Lot 680	D21661-7
13/01/2022	57	Layer 2		103.5%	Pass	Lot 682	D21661-8
13/01/2022	58	Layer 2		102.5%	Pass	Lot 684	D21661-8
31/01/2022	59	Layer 02		112.0%	Pass	Lot 648	D21661-9
31/01/2022	60	Layer 02		101.5%	Pass	Lot 655	D21661-9
31/01/2022	61	Layer 02		104.0%	Pass	Lot 657	D21661-9

Material Test Report

Report Number: D21661-1
Issue Number: 1
Date Issued: 02/09/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Client Reference: Eski
Work Request: 3661
Date Sampled: 31/08/2021
Dates Tested: 31/08/2021 - 01/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Opalia estate stage 6 - Level one
Material: Clay
Material Source: On site



Deer Park Laboratory
 Factory 1 80-82 Rebecca Drive Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Eranda Hippola
 Snr lab Tech

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-3661A	D21-3661B	D21-3661C	D21-3661D	D21-3661E	D21-3661F
Test Number	1	2	3	4	5	6
Date Tested	31/08/2021	31/08/2021	31/08/2021	31/08/2021	31/08/2021	31/08/2021
Time Tested	09:00	09:00	09:00	09:00	09:00	09:00
Test Request #/Location	LOT 635	LOT 637	LOT 639	LOT 641	LOT 643	LOT 645
Layer / Reduced Level	Layer 1	Layer 1	Layer 1	Layer 1	Layer 1	Layer 1
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay
Test Depth (mm)	175	175	175	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	1.90	1.91	1.95	1.89	1.88	1.89
Field Moisture Content %	26.6	26.6	26.4	26.4	26.3	26.5
Field Dry Density (FDD) t/m ³	1.50	1.51	1.54	1.50	1.49	1.50
Peak Converted Wet Density t/m ³	1.83	1.79	1.82	1.85	1.82	1.84
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	29.0	29.7	28.6	29.6	29.6	29.7
Adj. Field Moisture Content % (AS1289.5.4.1)	26.6	26.6	26.4	26.4	26.3	26.5
Moisture Ratio % (AS1289.5.4.1)	91.5	89.5	92.0	89.0	88.5	89.5
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**	**	**	**
Moisture Variation (Wv) %	2.5	3.0	2.0	3.0	3.0	3.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	104.0	106.5	107.0	102.5	103.5	103.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: D21661-1
Issue Number: 1
Date Issued: 02/09/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Client Reference: Eski
Work Request: 3661
Date Sampled: 31/08/2021
Dates Tested: 31/08/2021 - 01/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Opalia estate stage 6 - Level one
Material: Clay
Material Source: On site



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 Snr lab Tech

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Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-3661G	D21-3661H	D21-3661I	D21-3661J	D21-3661K	D21-3661L
Test Number	7	8	9	10	11	12
Date Tested	31/08/2021	31/08/2021	31/08/2021	31/08/2021	31/08/2021	31/08/2021
Time Tested	09:00	09:00	09:00	09:00	09:00	09:00
Test Request #/Location	LOT 647	LOT 668	LOT 666	LOT 664	LOT 662	LOT 660
Layer / Reduced Level	Layer 1	Layer 1	Layer 1	Layer 1	Layer 1	Layer 1
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay	Silty Clay
Test Depth (mm)	175	175	175	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	1.82	1.86	1.84	1.87	1.86	1.87
Field Moisture Content %	26.7	26.5	26.5	26.1	26.5	26.3
Field Dry Density (FDD) t/m ³	1.44	1.47	1.46	1.48	1.47	1.48
Peak Converted Wet Density t/m ³	1.72	1.73	1.83	1.76	1.72	1.72
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	29.9	29.7	29.6	29.3	29.7	29.5
Adj. Field Moisture Content % (AS1289.5.4.1)	26.7	26.5	26.5	26.1	26.5	26.3
Moisture Ratio % (AS1289.5.4.1)	89.5	89.0	90.0	89.0	89.0	89.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**	**	**	**
Moisture Variation (Wv) %	3.5	3.5	3.0	3.0	3.5	3.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	106.5	107.5	101.0	106.5	108.0	109.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: D21661-1
Issue Number: 1
Date Issued: 02/09/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Client Reference: Eski
Work Request: 3661
Date Sampled: 31/08/2021
Dates Tested: 31/08/2021 - 01/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Opalia estate stage 6 - Level one
Material: Clay
Material Source: On site



Deer Park Laboratory
 Factory 1 80-82 Rebecca Drive Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



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Approved Signatory: Eranda Hippola
 Snr lab Tech

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-3661M	D21-3661N				
Test Number	13	14				
Date Tested	31/08/2021	31/08/2021				
Time Tested	09:00	09:00				
Test Request #/Location	LOT 658	LOT 656				
Layer / Reduced Level	Layer 1	Layer 1				
Thickness of Layer (mm)	200	200				
Soil Description	Silty Clay	Silty Clay				
Test Depth (mm)	175	175				
Sieve used to determine oversize (mm)	19.0	19.0				
Percentage of Wet Oversize (%)	0	0				
Percentage of Dry Oversize (%) (AS1289.5.4.1)	0	0				
Field Wet Density (FWD) t/m ³	1.86	1.96				
Field Moisture Content %	26.4	26.4				
Field Dry Density (FDD) t/m ³	1.47	1.55				
Peak Converted Wet Density t/m ³	1.83	1.82				
Adjusted Peak Converted Wet Density t/m ³	**	**				
Adj. Optimum Moisture Content % (AS1289.5.4.1)	29.6	29.5				
Adj. Field Moisture Content % (AS1289.5.4.1)	26.4	26.4				
Moisture Ratio % (AS1289.5.4.1)	89.0	89.5				
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**				
Moisture Variation (Wv) %	3.0	3.0				
Adjusted Moisture Variation %	**	**				
Hilf Density Ratio (%)	101.5	107.5				
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: D21661-2
Issue Number: 1
Date Issued: 06/09/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Work Request: 3673
Date Sampled: 02/09/2021
Dates Tested: 02/09/2021 - 03/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Opalia estate stage 6 - Level one
Material: Silty Clay
Material Source: On Site



Deer Park Laboratory
 Factory 1 80-82 Rebecca Drive Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Eranda Hippola
 Snr lab Tech

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D21-3673A	D21-3673B	D21-3673C
Test Number	15	16	17
Date Tested	02/09/2021	02/09/2021	02/09/2021
Time Tested	03:30	03:30	03:30
Test Request #/Location	LOT 636	LOT 638	LOT 640
Layer / Reduced Level	Layer 2	Layer 2	Layer 2
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)	0	0	0
Field Wet Density (FWD) t/m ³	1.84	1.87	1.85
Field Moisture Content %	21.5	19.9	20.9
Field Dry Density (FDD) t/m ³	1.51	1.56	1.53
Peak Converted Wet Density t/m ³	1.79	1.77	1.79
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	26.6	25.7	26.0
Adj. Field Moisture Content % (AS1289.5.4.1)	21.5	19.9	20.9
Moisture Ratio % (AS1289.5.4.1)	81.0	77.5	80.0
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	5.0	5.5	5.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	102.5	105.5	103.5
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: D21661-3
Issue Number: 1
Date Issued: 16/09/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Client Reference: Eski
Work Request: 3743
Date Sampled: 14/09/2021
Dates Tested: 14/09/2021 - 15/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Opalia Estate Stage 6
Material: Clay
Material Source: On Site



Deer Park Laboratory
 Factory 1 80-82 Rebecca Drive Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



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Approved Signatory: Eranda Hippola
 Snr lab Tech

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D21-3743A	D21-3743B	D21-3743C	D21-3743D
Test Number	18	19	20	21
Date Tested	14/09/2021	14/09/2021	14/09/2021	14/09/2021
Time Tested	15:37	15:37	15:37	15:37
Test Request #/Location	LOT 620	LOT 622	LOT 624	LOT 626
Layer / Reduced Level	Layer 1	Layer 1	Layer 1	Layer 1
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	0
Field Wet Density (FWD) t/m ³	1.97	2.06	2.05	1.90
Field Moisture Content %	22.5	23.5	20.2	21.8
Field Dry Density (FDD) t/m ³	1.61	1.66	1.70	1.56
Peak Converted Wet Density t/m ³	1.88	1.93	1.93	1.89
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	25.7	26.3	23.5	24.2
Adj. Field Moisture Content % (AS1289.5.4.1)	22.5	23.5	20.2	21.8
Moisture Ratio % (AS1289.5.4.1)	87.5	89.5	85.5	90.5
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**	**
Moisture Variation (Wv) %	3.0	2.5	3.0	2.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	104.5	106.5	106.0	100.5
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: D21661-3
Issue Number: 1
Date Issued: 16/09/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Client Reference: Eski
Work Request: 3743
Date Sampled: 14/09/2021
Dates Tested: 14/09/2021 - 15/09/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Opalia Estate Stage 6
Material: Clay
Material Source: On Site



Deer Park Laboratory
 Factory 1 80-82 Rebecca Drive Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



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Approved Signatory: Eranda Hippola
 Snr lab Tech

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D21-3743E	D21-3743F	D21-3743G	D21-3743H
Test Number	22	23	24	25
Date Tested	14/09/2021	14/09/2021	14/09/2021	14/09/2021
Time Tested	15:37	15:37	15:37	15:37
Test Request #/Location	LOT 628	LOT 630	LOT 632	LOT 634
Layer / Reduced Level	Layer 1	Layer 1	Layer 1	Layer 1
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	0
Field Wet Density (FWD) t/m ³	1.88	1.92	1.87	1.89
Field Moisture Content %	21.9	22.0	24.2	23.3
Field Dry Density (FDD) t/m ³	1.54	1.57	1.51	1.53
Peak Converted Wet Density t/m ³	1.88	1.91	1.89	1.89
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	24.0	23.7	26.6	24.9
Adj. Field Moisture Content % (AS1289.5.4.1)	21.9	22.0	24.2	23.3
Moisture Ratio % (AS1289.5.4.1)	91.5	93.0	91.0	93.5
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**	**
Moisture Variation (Wv) %	2.0	1.5	2.5	1.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	99.5	100.5	99.0	99.5
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: D21661-4
Issue Number: 1
Date Issued: 12/11/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Work Request: 3928
Date Sampled: 09/11/2021
Dates Tested: 09/11/2021 - 11/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by Client
Location: Opalia Estate Stage 6 - level one
Material: Clay
Material Source: On site



Deer Park Laboratory
 17 Walhalla Way Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



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Approved Signatory: Eranda Hippola
 Laboratory Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D21-3928A	D21-3928B	D21-3928C	D21-3928D
Test Number	26	27	28	29
Date Tested	09/11/2021	09/11/2021	09/11/2021	09/11/2021
Time Tested	15:34	15:34	15:34	15:34
Test Request #/Location	Lot 620	Lot 621	Lot 622	Lot 623
Layer / Reduced Level	Layer 1	Layer 1	Layer 1	Layer 1
Thickness of Layer (mm)	150	150	150	150
Soil Description	Clay	Clay	Clay	Clay
Test Depth (mm)	125	125	125	125
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	9	8	9	8
Field Wet Density (FWD) t/m ³	1.86	1.88	1.86	1.87
Field Moisture Content %	17.7	17.0	17.4	17.4
Field Dry Density (FDD) t/m ³	1.58	1.60	1.58	1.59
Peak Converted Wet Density t/m ³	**	**	**	**
Adjusted Peak Converted Wet Density t/m ³	1.79	1.79	1.78	1.79
Moisture Variation (Wv) %	**	**	**	**
Adjusted Moisture Variation %	0.0	1.0	0.0	1.0
Hilf Density Ratio (%)	104.5	104.5	104.0	104.5
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: D21661-4
Issue Number: 1
Date Issued: 12/11/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Work Request: 3928
Date Sampled: 09/11/2021
Dates Tested: 09/11/2021 - 11/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by Client
Location: Opalia Estate Stage 6 - level one
Material: Clay
Material Source: On site



Deer Park Laboratory
 17 Walhalla Way Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



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 Laboratory Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D21-3928E	D21-3928F	D21-3928G	
Test Number	30	31	32	
Date Tested	09/11/2021	09/11/2021	09/11/2021	
Time Tested	15:34	15:34	15:34	
Test Request #/Location	Lot 624	Lot 625	Lot 626	
Layer / Reduced Level	Layer 1	Layer 1	Layer 1	
Thickness of Layer (mm)	150	150	150	
Soil Description	Clay	Clay	Clay	
Test Depth (mm)	125	125	125	
Sieve used to determine oversize (mm)	19.0	19.0	19.0	
Percentage of Wet Oversize (%)	9	9	8	
Field Wet Density (FWD) t/m ³	1.86	1.85	1.84	
Field Moisture Content %	17.4	20.6	19.7	
Field Dry Density (FDD) t/m ³	1.58	1.54	1.54	
Peak Converted Wet Density t/m ³	**	**	**	
Adjusted Peak Converted Wet Density t/m ³	1.79	1.78	1.76	
Moisture Variation (Wv) %	**	**	**	
Adjusted Moisture Variation %	-0.5	-0.5	-0.5	
Hilf Density Ratio (%)	104.0	104.0	104.5	
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: D21661-5
Issue Number: 1
Date Issued: 17/12/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Work Request: 4076
Date Sampled: 15/12/2021
Dates Tested: 15/12/2021 - 16/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Opalia Estate Stage 6 - Level one
Material: Clay
Material Source: On Site



Deer Park Laboratory
 17 Walhalla Way Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



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Approved Signatory: Eranda Hippola
 Laboratory Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	D21-4076A	D21-4076B	D21-4076C	D21-4076D
Test Number	33	34	35	36
Date Tested	15/12/2021	15/12/2021	15/12/2021	15/12/2021
Time Tested	**	**	**	**
Test Request #/Location	Lot 627	Lot 629	Lot 631	Lot 633
Layer / Reduced Level	Layer 2	Layer 2	Layer 2	Layer 2
Thickness of Layer (mm)	150	150	150	150
Soil Description	Clay	Clay	Clay	Clay
Test Depth (mm)	125	125	125	125
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	7	5	4	9
Field Wet Density (FWD) t/m ³	1.88	1.89	1.90	1.92
Field Moisture Content %	26.6	25.9	27.0	25.9
Field Dry Density (FDD) t/m ³	1.49	1.50	1.50	1.53
Peak Converted Wet Density t/m ³	**	**	**	**
Adjusted Peak Converted Wet Density t/m ³	1.85	1.86	1.86	1.88
Moisture Variation (Wv) %	**	**	**	**
Adjusted Moisture Variation %	2.0	2.5	2.5	3.0
Hilf Density Ratio (%)	101.5	102.0	102.0	102.5
Compaction Method	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: D21661-6
Issue Number: 1
Date Issued: 20/12/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Work Request: 4081
Date Sampled: 16/12/2021
Dates Tested: 16/12/2021 - 17/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by Client
Location: Opalia Estate Stage 6 - Level one
Material: Clay
Material Source: On site



Deer Park Laboratory
 17 Walhalla Way Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



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Approved Signatory: Eranda Hippola
 Laboratory Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D21-4081A	D21-4081B	D21-4081C	D21-4081D
Test Number	37	38	39	40
Date Tested	16/12/2021	16/12/2021	16/12/2021	16/12/2021
Time Tested	16:05	16:05	16:05	16:05
Test Request #/Location	Lot 681	Lot 671	Lot 672	Lot 673
Layer / Reduced Level	Layer 1	Layer 1	Layer 1	Layer 1
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	8
Field Wet Density (FWD) t/m ³	1.83	1.87	1.86	1.89
Field Moisture Content %	32.2	30.3	28.1	28.5
Field Dry Density (FDD) t/m ³	1.38	1.44	1.45	1.47
Peak Converted Wet Density t/m ³	1.85	1.79	1.79	**
Adjusted Peak Converted Wet Density t/m ³	**	**	**	1.83
Moisture Variation (Wv) %	1.5	2.5	1.5	**
Adjusted Moisture Variation %	**	**	**	4.0
Hilf Density Ratio (%)	99.0	105.0	104.0	103.5
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: D21661-6
Issue Number: 1
Date Issued: 20/12/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Work Request: 4081
Date Sampled: 16/12/2021
Dates Tested: 16/12/2021 - 17/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by Client
Location: Opalia Estate Stage 6 - Level one
Material: Clay
Material Source: On site



Deer Park Laboratory
 17 Walhalla Way Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



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 Laboratory Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D21-4081E	D21-4081F	D21-4081G	D21-4081H
Test Number	41	42	43	44
Date Tested	16/12/2021	16/12/2021	16/12/2021	16/12/2021
Time Tested	16:05	16:05	16:05	16:05
Test Request #/Location	Lot 674	Lot 675	Lot 678	Lot 683
Layer / Reduced Level	Layer 1	Layer 1	Layer 1	Layer 1
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	5	0
Field Wet Density (FWD) t/m ³	1.86	1.84	1.89	1.86
Field Moisture Content %	29.4	26.5	26.5	26.4
Field Dry Density (FDD) t/m ³	1.44	1.45	1.49	1.48
Peak Converted Wet Density t/m ³	1.79	1.78	**	1.78
Adjusted Peak Converted Wet Density t/m ³	**	**	1.83	**
Moisture Variation (Wv) %	2.0	1.5	**	2.5
Adjusted Moisture Variation %	**	**	1.5	**
Hilf Density Ratio (%)	104.0	103.0	103.5	104.5
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: D21661-7
Issue Number: 1
Date Issued: 20/12/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Work Request: 4086
Date Sampled: 24/12/2021
Dates Tested: 20/12/2021 - 20/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by Client
Location: Opalia Estate Stage 6 - Level One
Material: Clay
Material Source: On site



Deer Park Laboratory
 17 Walhalla Way Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



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Approved Signatory: Eranda Hippola
 Laboratory Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-4086A	D21-4086B	D21-4086C	D21-4086D	D21-4086E	D21-4086F
Test Number	45	46	47	48	49	50
Date Tested	17/12/2021	17/12/2021	17/12/2021	17/12/2021	17/12/2021	17/12/2021
Time Tested	15:18	15:18	15:18	15:18	15:18	15:18
Test Request #/Location	Lot 669	Lot 667	Lot 663	Lot 642	Lot 661	Lot 659
Layer / Reduced Level	FSL	FSL	FSL	FSL	FSL	FSL
Thickness of Layer (mm)	300	300	300	300	300	300
Soil Description	Clay	Clay	Clay	Clay	Clay	Clay
Test Depth (mm)	275	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	7	0
Field Wet Density (FWD) t/m ³	1.81	1.82	1.79	1.82	1.89	1.88
Field Moisture Content %	22.2	22.6	21.7	22.3	22.6	22.8
Field Dry Density (FDD) t/m ³	1.48	1.49	1.47	1.49	1.54	1.53
Peak Converted Wet Density t/m ³	1.76	1.78	1.74	1.77	**	1.81
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	1.84	**
Moisture Variation (Wv) %	2.5	5.5	3.0	3.0	**	3.0
Adjusted Moisture Variation %	**	**	**	**	5.5	**
Hilf Density Ratio (%)	103.5	102.5	102.5	103.0	102.5	103.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: D21661-7
Issue Number: 1
Date Issued: 20/12/2021
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Work Request: 4086
Date Sampled: 24/12/2021
Dates Tested: 20/12/2021 - 20/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by Client
Location: Opalia Estate Stage 6 - Level One
Material: Clay
Material Source: On site



Deer Park Laboratory
 17 Walhalla Way Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Eranda Hippola
 Laboratory Manager
 NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	D21-4086G	D21-4086H	D21-4086I	D21-4086J	D21-4086K	D21-4086L
Test Number	51	52	53	54	55	56
Date Tested	17/12/2021	17/12/2021	17/12/2021	17/12/2021	17/12/2021	17/12/2021
Time Tested	15:18	15:18	15:18	15:18	15:18	15:18
Test Request #/Location	Lot 644	Lot 646	Lot 676	Lot 677	Lot 679	Lot 680
Layer / Reduced Level	FSL	FSL	Layer 2	Layer 2	Layer 2	Layer 2
Thickness of Layer (mm)	300	300	300	300	300	300
Soil Description	Clay	Clay	Clay	Clay	Clay	Clay
Test Depth (mm)	275	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	7	0	0	5	0
Field Wet Density (FWD) t/m ³	1.82	1.89	1.88	1.89	1.86	1.82
Field Moisture Content %	22.5	22.8	21.9	23.1	22.5	23.4
Field Dry Density (FDD) t/m ³	1.49	1.54	1.54	1.53	1.52	1.47
Peak Converted Wet Density t/m ³	1.79	**	1.79	1.85	**	1.81
Adjusted Peak Converted Wet Density t/m ³	**	1.84	**	**	1.80	**
Moisture Variation (Wv) %	5.0	**	5.5	3.5	**	5.5
Adjusted Moisture Variation %	**	4.5	**	**	5.5	**
Hilf Density Ratio (%)	101.5	103.0	104.5	102.0	103.5	100.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: D21661-8
Issue Number: 1
Date Issued: 17/01/2022
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Work Request: 4125
Date Sampled: 13/01/2022 13:00
Dates Tested: 13/01/2022 - 14/01/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 98% Mod
Location: Opalia estate stage 6 - Level one
Material: Clay
Material Source: On Site



Deer Park Laboratory
 17 Walhalla Way Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Eranda Hippola
 Laboratory Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D22-4125A	D22-4125B	
Test Number	57	58	
Date Tested	13/01/2022	13/01/2022	
Time Tested	13:00	13:00	
Test Request #/Location	LOT 682	LOT 684	
Layer / Reduced Level	Layer 2	Layer 2	
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)	0	0	
Field Wet Density (FWD) t/m ³	1.86	1.83	
Field Moisture Content %	14.0	14.1	
Field Dry Density (FDD) t/m ³	1.63	1.60	
Peak Converted Wet Density t/m ³	1.79	1.78	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Adj. Optimum Moisture Content % (AS1289.5.4.1)	16.6	16.5	
Adj. Field Moisture Content % (AS1289.5.4.1)	14.0	14.1	
Moisture Ratio % (AS1289.5.4.1)	84.0	85.5	
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	
Moisture Variation (Wv) %	3.0	2.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	103.5	102.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

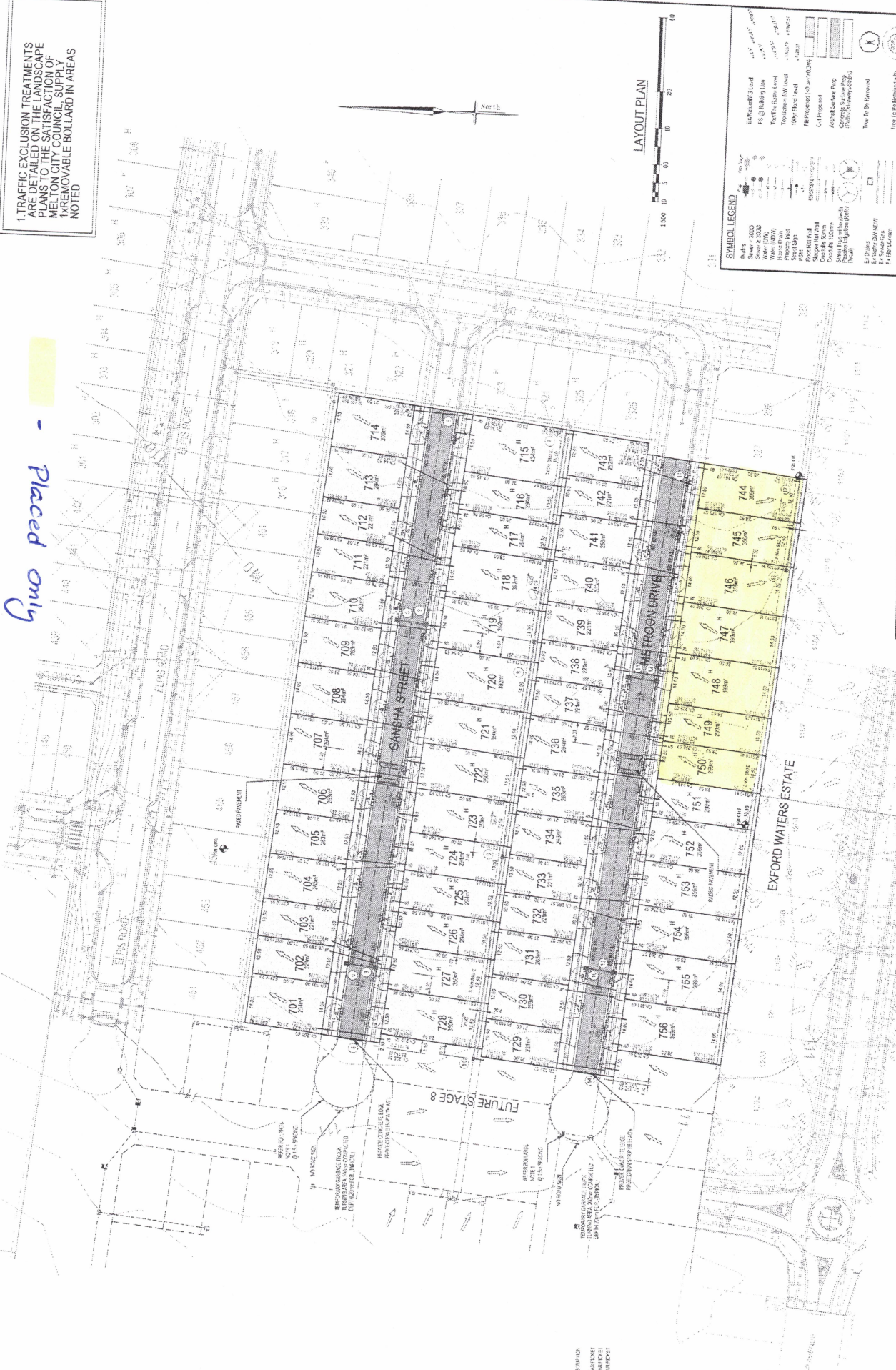
Positive values = test is dry of OMC

Negative values = test is wet of OMC

13/01/22

Placed only

1. TRAFFIC EXCLUSION TREATMENTS ARE DETAILED ON THE LANDSCAPE PLANS TO THE SATISFACTION OF MELTON CITY COUNCIL, SUPPLY 1X REMOVABLE BOLLARD IN AREAS NOTED



A collection of 100 mathematical symbols and icons arranged in a grid. The symbols include mathematical operators like plus, minus, multiplication, division, and modulo; geometric shapes like circles, squares, and triangles; scientific notations like $e^{i\pi}$, 10^{10} , and 10^{-10} ; and other mathematical concepts like infinity, pi, and the golden ratio. The symbols are arranged in a grid that is 10 columns wide and 10 rows high.

bpd		breese pitt dixon pty. ltd. land surveyors		civil engineers		1111 11th Street Melbourne 3000 Tel. 382 7220		MELTON		7/7/78		7		15		D	
PLAN		DATE		BY		CHECKED		LAYOUT PLAN		DATE		BY		CHECKED		DATE	
1		25/01/78		C. G. G. G.		P. G. G.		1		25/01/78		C. G. G. G.		P. G. G.		1	
2		01/02/78		P. G. G.		P. G. G.		2		01/02/78		P. G. G.		P. G. G.		2	
3		01/02/78		P. G. G.		P. G. G.		3		01/02/78		P. G. G.		P. G. G.		3	
4		01/02/78		P. G. G.		P. G. G.		4		01/02/78		P. G. G.		P. G. G.		4	
5		01/02/78		P. G. G.		P. G. G.		5		01/02/78		P. G. G.		P. G. G.		5	
6		01/02/78		P. G. G.		P. G. G.		6		01/02/78		P. G. G.		P. G. G.		6	
7		01/02/78		P. G. G.		P. G. G.		7		01/02/78		P. G. G.		P. G. G.		7	
8		01/02/78		P. G. G.		P. G. G.		8		01/02/78		P. G. G.		P. G. G.		8	
9		01/02/78		P. G. G.		P. G. G.		9		01/02/78		P. G. G.		P. G. G.		9	
10		01/02/78		P. G. G.		P. G. G.		10		01/02/78		P. G. G.		P. G. G.		10	
11		01/02/78		P. G. G.		P. G. G.		11		01/02/78		P. G. G.		P. G. G.		11	
12		01/02/78		P. G. G.		P. G. G.		12		01/02/78		P. G. G.		P. G. G.		12	
13		01/02/78		P. G. G.		P. G. G.		13		01/02/78		P. G. G.		P. G. G.		13	
14		01/02/78		P. G. G.		P. G. G.		14		01/02/78		P. G. G.		P. G. G.		14	
15		01/02/78		P. G. G.		P. G. G.		15		01/02/78		P. G. G.		P. G. G.		15	
16		01/02/78		P. G. G.		P. G. G.		16		01/02/78		P. G. G.		P. G. G.		16	
17		01/02/78		P. G. G.		P. G. G.		17		01/02/78		P. G. G.		P. G. G.		17	
18		01/02/78		P. G. G.		P. G. G.		18		01/02/78		P. G. G.		P. G. G.		18	
19		01/02/78		P. G. G.		P. G. G.		19		01/02/78		P. G. G.		P. G. G.		19	
20		01/02/78		P. G. G.		P. G. G.		20		01/02/78		P. G. G.		P. G. G.		20	
21		01/02/78		P. G. G.		P. G. G.		21		01/02/78		P. G. G.		P. G. G.		21	
22		01/02/78		P. G. G.		P. G. G.		22		01/02/78		P. G. G.		P. G. G.		22	
23		01/02/78		P. G. G.		P. G. G.		23		01/02/78		P. G. G.		P. G. G.		23	
24		01/02/78		P. G. G.		P. G. G.		24		01/02/78		P. G. G.		P. G. G.		24	
25		01/02/78		P. G. G.		P. G. G.		25		01/02/78		P. G. G.		P. G. G.		25	
26		01/02/78		P. G. G.		P. G. G.		26		01/02/78		P. G. G.		P. G. G.		26	
27		01/02/78		P. G. G.		P. G. G.		27		01/02/78		P. G. G.		P. G. G.		27	
28		01/02/78		P. G. G.		P. G. G.		28		01/02/78		P. G. G.		P. G. G.		28	
29		01/02/78		P. G. G.		P. G. G.		29		01/02/78		P. G. G.		P. G. G.		29	
30		01/02/78		P. G. G.		P. G. G.		30		01/02/78		P. G. G.		P. G. G.		30	

STREET	BLOCK	WALK	STREET LIGHTS		STREET LIGHTS		STREET LIGHTS
			STREET LIGHTS	STREET LIGHTS	STREET LIGHTS	STREET LIGHTS	
MARION GALT	16.75	7.10 S	2.60 N	0.50 E	1.50 S	1.50 S	1.50 S
GANDY STREET	16.75	7.10 S	2.60 N	0.50 E	1.50 S	1.50 S	1.50 S

Material Test Report

Report Number: D21661-9
Issue Number: 1
Date Issued: 02/02/2022
Client: Lojac Civil Pty Ltd
 35/148 Chesterville Road, Moorabbin Vic 3189
Project Number: D21661
Project Name: Opalia estate stage 6 - Level one
Project Location: Melton
Work Request: 4187
Date Sampled: 31/01/2022 15:00
Dates Tested: 31/01/2022 - 01/02/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Location: Opalia Estate Stage 6 - Level One
Material: Silty Clay
Material Source: On Site



Deer Park Laboratory
 17 Walhalla Way Ravenhall VIC 3023
 Phone: 0435 751 756
 Email: ehippola@terrafirmalabs.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Eranda Hippola
 Laboratory Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	D22-4187A	D22-4187B	D22-4187C
Test Number	59	60	61
Date Tested	31/01/2022	31/01/2022	31/01/2022
Time Tested	15:00	15:15	15:30
Test Request #/Location	LOT 648	LOT 655	LOT 657
Layer / Reduced Level	Layer 02	Layer 02	Layer 02
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 (%)	9	0	9
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	0	**
Field Wet Density (FWD) t/m ³	2.10	1.88	2.00
Field Moisture Content %	12.5	13.1	13.2
Field Dry Density (FDD) t/m ³	1.89	1.66	1.79
Peak Converted Wet Density t/m ³	**	1.86	**
Adjusted Peak Converted Wet Density t/m ³	1.88	**	1.93
Adj. Optimum Moisture Content % (AS1289.5.4.1)	16.3	17.8	16.9
Adj. Field Moisture Content % (AS1289.5.4.1)	11.3	13.1	12.0
Moisture Ratio % (AS1289.5.4.1)	**	73.5	**
Adjusted Moisture Ratio % (AS1289.5.4.1)	69.5	**	71.5
Moisture Variation (Wv) %	**	5.0	**
Adjusted Moisture Variation %	5.0	**	5.0
Hilf Density Ratio (%)	112.0	101.5	104.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC