

Imagine Estate Stages 15 Strathfieldsaye

Earthworks Supervision Report for
DPJ Civil

Report 22C 0046
February 2023

Imagine Estate Stages 15 Strathfieldsaye

Earthworks Supervision Report

for
DPJ Civil

Revision

Revision	Date	Authorised
22C 0046	14/02/2022	SEH

Distribution (this revision only)

Recipient	Format	Date
GTSS	On file	14/02/2022
DPJ Civil Contact: Darren Pitson	Email PDF	14/02/2022



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1 INTRODUCTION

DPJ Civil commissioned Geotechnical Testing Services (GTS) to undertake Level 1 Supervision and testing (AS3798-2007) for the earthworks for the residential subdivision at Imagine Estate Stage 15, Strathfieldsaye.

Level 1 Testing was generally performed in line with AS3798-2007 “Guidelines on Earthworks for Commercial and Residential Development” and provides inspection of the construction of controlled fill and compaction testing in accordance with AS1289 “Methods of Testing Soils for Engineering Purposes”. The Level 1 testing was undertaken by Geotechnicians with supervision provided by a Geotechnical Engineer from GTS.

2 SCOPE OF WORKS

2.1 AREA OF WORK

Geotechnical Testing Services provided Level 1 inspection and testing of the engineered fill placed in Lots 1509-1516, 1520-1521, 1524-1526. The testing and level 1 certification of Lots 1501 to 1506 of stage 15 were included in the previous GTS report – *‘Imagine Estate Stages 14A & Part 15 & 16 Strathfieldsaye – 22C 0447’*.

The depth of fill across the site varied from none to around 3.0 metres in the deepest section of the dam/water course. Sites with less than 300mm of fill were not included in the Level 1 earthworks.

2.2 PLACEMENT SPECIFICATION

Whilst there was no earthworks specification compiled for this project, the placement of the fill and associated works generally followed the recommendations outlined in AS3798-2007 “Guidelines for Earthworks for Commercial and Residential Developments” and the construction specification.

In summary, the earthworks comply with the following:

- The layers for residential lots are to be compacted to at least 95% of the density ratio in accordance with AS1289 5.1.1 (or 5.7.1), based on Standard compaction.

In accordance with Table 8.1 of AS3798-2007, the filling may generally be considered large scale (greater than 1500m²) and therefore a minimum of 1 test per layer per 2500m² is required. In addition, there is a narrow water race to be backfilled that may be classed as a trench and therefore

requires 1 test per 2 layers per 40m (essentially per lot). The testing conducted meets the minimum requirements.

3 INSPECTION AND TESTING

Inspection of the excavated base was conducted by a Senior Geotechnical Engineer and it was observed that the unsuitable material (vegetation, topsoil/silt, and low strength fill) had been removed with the base consisting of varying material form (Gravelly) Silty Clay to extremely weathered siltstone rock/conglomerate, all of which had good strength.

Level 1 inspection and testing was undertaken by a geotechnician from GTS who nominated the timing and location of the in-situ density tests. The approximate location of each test is recorded on the test reports and attached fill plan.

Laboratory compaction testing was undertaken on a one to one basis at our Bendigo laboratory. A summary of the results of the compaction control testing is presented in a table below with the full NATA endorsed test reports included in the Appendix.

4 SUMMARY OF TEST RESULTS

A summary of the test results is included in the following table with full NATA accredited reports included in the Appendix.

Project No.	Sample No.	Test Date	Location	Reduced Level (mm)	Moisture S % O.M.C	Hilf Density Ratio %
1	B21-10257A	17/11/2021	Lot 1525	FSL	4.0 dry	101.5
2	B21-10257B	17/11/2021	Reserve	FSL	3.0 dry	103.5
3	B21-10257C	17/11/2021	Lot 1516	FSL	4.0 dry	102.5
4	B21-10257D	17/11/2021	Lot 1520	FSL	2.0 dry	101.5
5	B21-10403A	6/12/2021	Accord Street	-2000	1.0 dry	102.5
6	B21-10408A	7/12/2021	Accord Street	-1700	0.5 dry	101.5
7	B21-10408B	7/12/2021	Accord Street	-1400	-0.5 wet	99.5
8	B21-10439A	13/12/2021	Accord Street	-1100	2.0 dry	105
9	B21-10439B	13/12/2021	Lot 1515	FSL	4.5 dry	102.5
10	B21-10466A	16/12/2021	Lot 1512	-900	2.5 dry	101.5
11	B21-10466B	16/12/2021	Lot 1513	-900	1.5 dry	98.5

Project No.	Sample No.	Test Date	Location	Reduced Level (mm)	Moisture S % O.M.C	Hilf Density Ratio %
12	B21-10466C	16/12/2021	Lot 1514	-900	2.5 dry	103
13	B22-10537A	17/01/2022	Lot 1512	-600	3.0 dry	107
14	B22-10537B	17/01/2022	Lot 1513	-600	4.0 dry	105.5
15	B22-10537C	17/01/2022	Lot 1514	-600	2.5 dry	106
16	B22-10556A	19/01/2022	Lot 1512	-300	0.0	100.5
17	B22-10556B	19/01/2022	Lot 1513	-300	2.0 dry	103
18	B22-10556C	19/01/2022	Lot 1514	-300	2.0 dry	102
19	B22-10574A	21/01/2022	Lot 1512	FSL	2.5 dry	105.5
20	B22-10574B	21/01/2022	Lot 1513	FSL	2.0 dry	101
21	B22-10574C	21/01/2022	Lot 1514	FSL	2.5 dry	102
22	B22-10596A	24/01/2022	Lot 1510	-600	1.5 dry	100.5
23	B22-10596B	24/01/2022	Lot 1511	-600	1.5 dry	100
24	B22-10604A	25/01/2022	Lot 1509	-300	0.0	96.5
25	B22-10604B	25/01/2022	Lot 1510	-300	-0.5 wet	96.5
26	B22-10604C	25/01/2022	Lot 1511	-300	1.5 dry	99
27	B22-10636A	01/02/2022	Lot 1509	FSL	0.5 dry	103.5
28	B22-10636B	01/02/2022	Lot 1510	FSL	3.0 dry	106.5
29	B22-10636C	01/02/2022	Lot 1511	FSL	2.5 dry	101.5
30	B21-10239A	16/11/2021	Lot 1526	-300	0.5 dry	102.0
31	B21-9306H	07/06/2021	Lot 1525	-300	4.5 dry	100.5

*FSL = Finished Surface Level.

5 STATEMENT OF COMPLIANCE

GTS personnel have provided Level 1 inspection and testing services during the placement of material for the filling in 1509-1516, 1520-1521, 1524-1526. The placement of fill and construction techniques adopted was observed throughout the project.

Based on observations made by GTS personnel and the results of field and laboratory tests, we consider that the fill has been placed and compacted and is considered to be engineered or controlled fill. Therefore, subject to residential site classifications, the controlled fill material is deemed a suitable founding medium for future residential buildings. It is noted that topsoil material may be spread across the sites following completion of these earthworks and that this topsoil material is not considered controlled fill.

Prepared by:



Ethan Doyle (BE (Hons) GradEAust)
Graduate Geotechnical Engineer

Reviewed by:



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Principal Geotechnical Engineer

APPENDIX

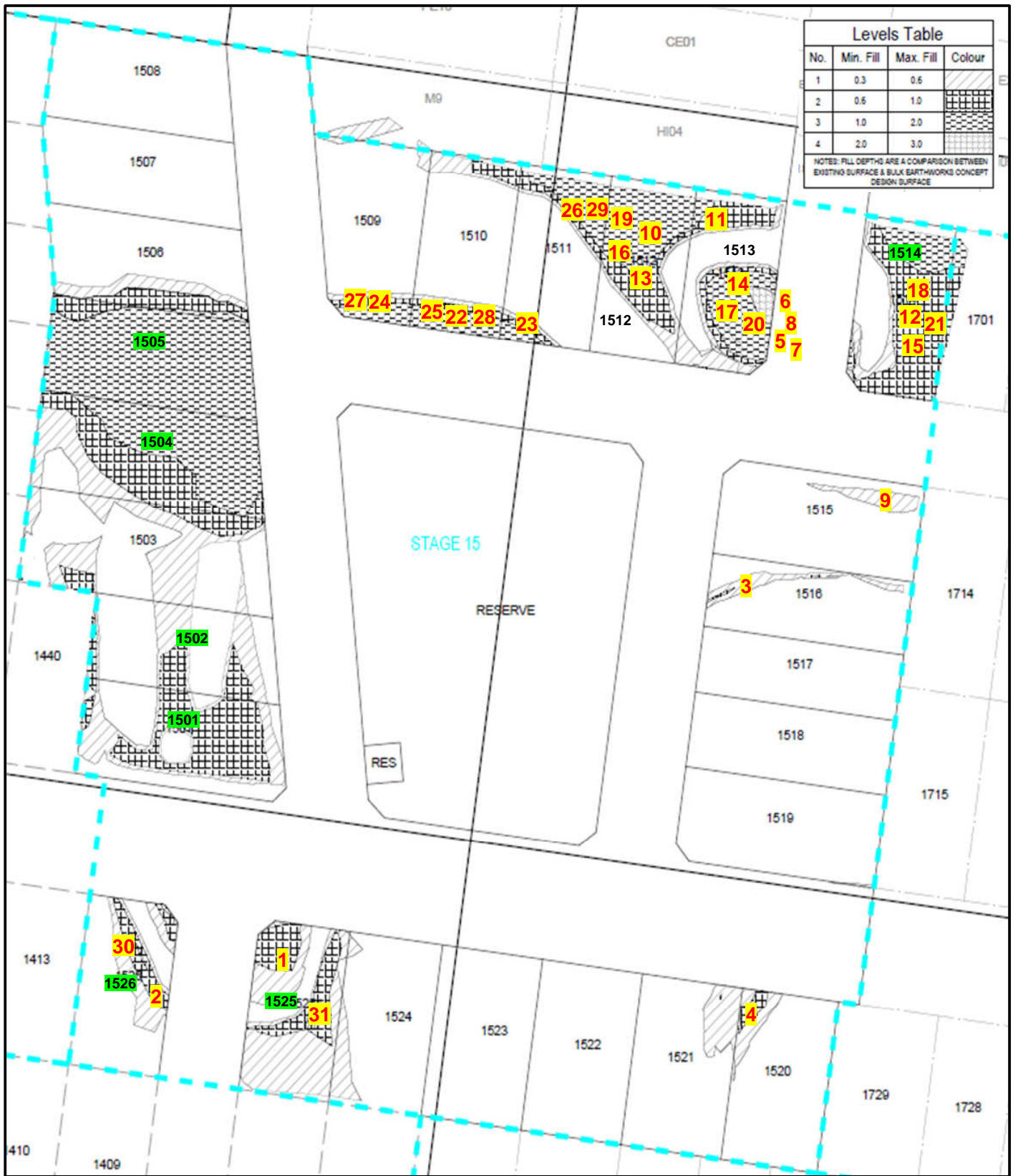


Figure 1: Site plan with lot testing

Material Test Report

Report Number: P17236-60
Issue Number: 1
Date Issued: 18/11/2021
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Stage 15
Work Request: 10257
Date Sampled: 17/11/2021
Dates Tested: 17/11/2021 - 18/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location



Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 13 Alstonvale Court East Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: joshl@gts.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

Compaction Control AS 1289 5.7.1 & 5.8.1				
Sample Number	B21-10257A	B21-10257B	B21-10257C	B21-10257D
Date Tested	17/11/2021	17/11/2021	17/11/2021	17/11/2021
Time Tested	14:40	14:45	14:50	14:57
Test Request #/Location	Stage 15 House Blocks / Water Race Backfill	Stage 15 House Blocks / Water Race Backfill	Stage 15 House Blocks / Water Race Backfill	Stage 15 House Blocks / Dam Backfill
Chainage (m)	Lot 1525	Reserve	Lot 1516	Lot 1520
Location Offset (m)	Centre of Water Race	Centre of Water Race	Centre of Water Race	Rear Centre
Elevation (m)	**	**	**	Layer 2
Layer / Reduced Level	FSL	FSL	FSL	FSL
Thickness of Layer (mm)	300	300	300	300
Soil Description	Gravelly Silty Clay	Gravelly Silty Clay	Gravelly Silty Clay	Gravelly 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 (%)	2	0	0	0
Field Wet Density (FWD) t/m ³	2.01	2.11	2.09	2.00
Field Dry Density (FDD) t/m ³	**	**	**	**
Peak Converted Wet Density t/m ³	**	2.04	2.03	1.97
Adjusted Peak Converted Wet Density t/m ³	1.98	**	**	**
Moisture Variation (Wv) %	**	3.0	4.0	2.0
Adjusted Moisture Variation %	4.0	**	**	**
Hilf Density Ratio (%)	101.5	103.5	102.5	101.5
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: P17236-61
Issue Number: 1
Date Issued: 07/12/2021
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Stage 15
Work Request: 10403
Date Sampled: 06/12/2021
Dates Tested: 06/12/2021 - 07/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location

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Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	B21-10403A		
Date Tested	06/12/2021		
Time Tested	12:14		
Test Request #/Location	Dam Backfill Accord Street		
Easting	265915		
Northing	5923736		
Layer / Reduced Level	-2000		
Thickness of Layer (mm)	300		
Soil Description	Gravelly Silty Clay		
Test Depth (mm)	275		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	0		
Field Wet Density (FWD) t/m ³	2.09		
Field Dry Density (FDD) t/m ³	**		
Peak Converted Wet Density t/m ³	2.04		
Adjusted Peak Converted Wet Density t/m ³	**		
Moisture Variation (Wv) %	1.0		
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: P17236-62
Issue Number: 1
Date Issued: 08/12/2021
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Stage 15
Work Request: 10408
Date Sampled: 07/12/2021
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
Site Selection: Selected by Client
Material Source: Test Location



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Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	B21-10408A	B21-10408B	
Date Tested	07/12/2021	07/12/2021	
Time Tested	08:07	15:07	
Test Request #/Location	Stage 15 Accord Street / Dam Backfill	Stage 15 Accord street / Dam Backfill	
Easting	265917	265919	
Northing	5923737	5923743	
Layer / Reduced Level	-1700	-1400	
Thickness of Layer (mm)	300	300	
Soil Description	Gravelly Silty Clay	Gravelly Silty Clay	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	1	0	
Field Wet Density (FWD) t/m ³	2.16	2.11	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	**	2.12	
Adjusted Peak Converted Wet Density t/m ³	2.12	**	
Moisture Variation (Wv) %	**	-0.5	
Adjusted Moisture Variation %	0.5	**	
Hilf Density Ratio (%)	101.5	99.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

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

Material Test Report

Report Number: P17236-63
Issue Number: 1
Date Issued: 14/12/2021
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Stage 15
Work Request: 10439
Date Sampled: 13/12/2021
Dates Tested: 13/12/2021 - 14/12/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location



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Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	B21-10439A	B21-10439B	
Date Tested	13/12/2021	13/12/2021	
Time Tested	11:56	12:04	
Test Request #/Location	Stage 15 Accord Street / Dam Backfill	Stage 15 House Block	
Easting	265919	Lot 1515	
Northing	5923733	Rear Left Hand Corner	
Layer / Reduced Level	Layer 4	FSL	
Thickness of Layer (mm)	300	300	
Soil Description	Gravelly Silty Clay	Gravelly Silty Clay	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.16	2.07	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	2.05	2.02	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	2.0	4.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	105.0	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

Material Test Report

Report Number: P17236-64
Issue Number: 1
Date Issued: 17/12/2021
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Strathfieldsaye
Work Request: 10466
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
Site Selection: Selected by Client
Material Source: Test Location



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Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	B21-10466A	B21-10466B	B21-10466C
Date Tested	16/12/2021	16/12/2021	16/12/2021
Time Tested	14:34	14:39	14:42
Test Request #/Location	House Blocks Lot 1512	House Blocks Lot 1513	House Blocks Lot 1514
Chainage (m)	**	**	**
Location Offset (m)	Back	Back	Back
Layer / Reduced Level	-900	-900	-900
Thickness of Layer (mm)	300	300	300
Soil Description	Silty Gravelly Clay	Silty Gravelly Clay	Silty Gravelly 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
Field Wet Density (FWD) t/m ³	2.12	2.08	2.12
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	2.09	2.11	2.06
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	2.5	1.5	2.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	101.5	98.5	103.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: P17236-65
Issue Number: 1
Date Issued: 18/01/2022
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Stage 15
Work Request: 10537
Date Sampled: 17/01/2022
Dates Tested: 17/01/2022 - 18/01/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location



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Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	B22-10537A	B22-10537B	B22-10537C
Date Tested	17/01/2022	17/01/2022	17/01/2022
Time Tested	11:37	11:42	11:47
Test Request #/Location	House Lots Lot 1512	House Lots Lot 1513	House Lots Lot 1514
Chainage (m)	Centre	Centre	Centre
Location Offset (m)	Centre	Centre	Centre
Layer / Reduced Level	-600	-600	-600
Thickness of Layer (mm)	300	300	300
Soil Description	Silty Gravelly Clay	Silty Gravelly Clay	Silty Gravelly Clay
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	4	0	0
Field Wet Density (FWD) t/m ³	2.20	2.18	2.20
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	**	2.06	2.08
Adjusted Peak Converted Wet Density t/m ³	2.06	**	**
Moisture Variation (Wv) %	**	4.0	2.5
Adjusted Moisture Variation %	3.0	**	**
Hilf Density Ratio (%)	107.0	105.5	106.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: P17236-66
Issue Number: 1
Date Issued: 20/01/2022
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Stage 15
Work Request: 10556
Date Sampled: 19/01/2022
Dates Tested: 19/01/2022 - 20/01/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location



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Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	B22-10556A	B22-10556B	B22-10556C
Date Tested	19/01/2022	19/01/2022	19/01/2022
Time Tested	11:14	11:19	11:25
Test Request #/Location	House Lots Lot 1512	House Lots Lot 1513	House Lots Lot 1514
Chainage (m)	Centre	Centre	Centre
Location Offset (m)	**	**	**
Layer / Reduced Level	-300	-300	-300
Thickness of Layer (mm)	300	300	300
Soil Description	Silty Gravelly Clay	Silty Gravelly Clay	Silty Gravelly 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
Field Wet Density (FWD) t/m ³	2.10	2.11	2.13
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	2.09	2.05	2.09
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	0.0	2.0	2.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	100.5	103.0	102.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: P17236-67
Issue Number: 1
Date Issued: 21/01/2022
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Stage 15
Work Request: 10574
Date Sampled: 21/01/2022
Dates Tested: 21/01/2022 - 21/01/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location



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Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	B22-10574A	B22-10574B	B22-10574C
Date Tested	21/01/2022	21/01/2022	21/01/2022
Time Tested	07:27	07:30	07:37
Test Request #/Location	House Blocks Lot 1512	House Blocks Lot 1513	House Blocks Lot 1514
Chainage (m)	Centre	Centre	Centre
Location Offset (m)	**	**	**
Layer / Reduced Level	FSL	FSL	FSL
Thickness of Layer (mm)	300	300	300
Soil Description	Silty Gravelly Clay	Silty Gravelly Clay	Silty Gravelly Clay
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	2	2	0
Field Wet Density (FWD) t/m ³	2.17	2.11	2.05
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	**	**	2.01
Adjusted Peak Converted Wet Density t/m ³	2.05	2.09	**
Moisture Variation (Wv) %	**	**	2.5
Adjusted Moisture Variation %	2.5	2.0	**
Hilf Density Ratio (%)	105.5	101.0	102.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: P17236-68
Issue Number: 1
Date Issued: 27/01/2022
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Stage 15
Work Request: 10596
Date Sampled: 24/01/2022
Dates Tested: 24/01/2022 - 25/01/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location



Geotechnical Testing Services (Southern)
 Bendigo Soil and Concrete Testing Laboratory
 13 Alstonvale Court East Bendigo VIC 3550
 Phone: (03) 5441 4881
 Email: joshl@gts.com.au

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Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	B22-10596A	B22-10596B	
Date Tested	24/01/2022	24/01/2022	
Time Tested	11:17	11:21	
Test Request #/Location	House Block Lot 1510	House Block Lot 1511	
Chainage (m)	Centre	Centre	
Location Offset (m)	**	**	
Layer / Reduced Level	-600	-600	
Thickness of Layer (mm)	300	300	
Soil Description	Silty Gravelly Clay	Silty Gravelly Clay	
Test Depth (mm)	275	275	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	1	0	
Field Wet Density (FWD) t/m ³	2.16	2.14	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	**	2.14	
Adjusted Peak Converted Wet Density t/m ³	2.15	**	
Moisture Variation (Wv) %	**	1.5	
Adjusted Moisture Variation %	1.5	**	
Hilf Density Ratio (%)	100.5	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: P17236-69
Issue Number: 1
Date Issued: 28/01/2022
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Stage 15
Work Request: 10604
Date Sampled: 25/01/2022
Dates Tested: 25/01/2022 - 27/01/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location



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Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	B22-10604A	B22-10604B	B22-10604C
Date Tested	25/01/2022	25/01/2022	25/01/2022
Time Tested	09:47	09:50	09:53
Test Request #/Location	House Block Lot 1509	House Block Lot 1510	House Block Lot 1511
Chainage (m)	Centre	Centre	Centre
Location Offset (m)	**	**	**
Layer / Reduced Level	-300	-300	-300
Thickness of Layer (mm)	300	300	300
Soil Description	Silty Gravelly Clay	Silty Gravelly Clay	Silty Gravelly 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
Field Wet Density (FWD) t/m ³	2.12	2.12	2.16
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	2.20	2.19	2.17
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	0.0	-0.5	1.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	96.5	96.5	99.0
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

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

Material Test Report

Report Number: P17236-70
Issue Number: 1
Date Issued: 02/02/2022
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Stage 15
Work Request: 10636
Date Sampled: 01/02/2022
Dates Tested: 01/02/2022 - 02/02/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location



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Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	B22-10636A	B22-10636B	B22-10636C
Date Tested	01/02/2022	01/02/2022	01/02/2022
Time Tested	14:16	14:20	14:24
Test Request #/Location	House Blocks Lot 1509	House Blocks Lot 1510	House Blocks Lot 1511
Chainage (m)	Centre	Centre	Centre
Location Offset (m)	**	**	**
Layer / Reduced Level	FSL	FSL	FSL
Thickness of Layer (mm)	300	300	300
Soil Description	Silty Gravelly Clay	Silty Gravelly Clay	Silty Gravelly 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
Field Wet Density (FWD) t/m ³	2.23	2.17	2.12
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	2.16	2.04	2.09
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	0.5	3.0	2.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	103.5	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: P17236-47
Issue Number: 1
Date Issued: 08/06/2021
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Work Request: 9306
Date Sampled: 07/06/2021
Dates Tested: 07/06/2021 - 08/06/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Location: Strathfieldsaye
Material Source: Test Location



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Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

Compaction Control AS 1289 5.7.1 & 5.8.1					
Sample Number	B21-9306A	B21-9306B	B21-9306C	B21-9306D	B21-9306E
Date Tested	07/06/2021	07/06/2021	07/06/2021	07/06/2021	07/06/2021
Time Tested	09:47	09:54	09:59	10:02	10:09
Test Request #/Location	Stage 14a & 14b House Blocks	Stage 14a & 14b House Blocks	Stage 14a & 14b House Blocks	Stage 14a & 14b House Blocks	Stage 14a & 14b House Blocks
Chainage (m)	Lot 1436	Lot 1435	Lot HA19	Lot HA18	Lot HA20
Location Offset (m)	Centre	Centre	Centre	Centre	Centre
Layer / Reduced Level	-300	-300	-300	-300	-300
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Gravelly Silty Clay	Gravelly Silty Clay	Gravelly Silty Clay	Gravelly Silty Clay	Gravelly Silty Clay
Test Depth (mm)	250	250	250	250	250
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	3	0
Field Wet Density (FWD) t/m ³	2.09	2.09	2.05	2.13	2.08
Field Dry Density (FDD) t/m ³	**	**	**	**	**
Peak Converted Wet Density t/m ³	1.95	2.01	2.01	**	2.01
Adjusted Peak Converted Wet Density t/m ³	**	**	**	2.02	**
Moisture Variation (Wv) %	2.0	0.5	1.5	**	1.0
Adjusted Moisture Variation %	**	**	**	1.0	**
Hilf Density Ratio (%)	107.5	104.0	102.0	105.5	103.5
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

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

Material Test Report



Report Number: P17236-47
Issue Number: 1
Date Issued: 08/06/2021
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Work Request: 9306
Date Sampled: 07/06/2021
Dates Tested: 07/06/2021 - 08/06/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Location: Strathfieldsaye
Material Source: Test Location

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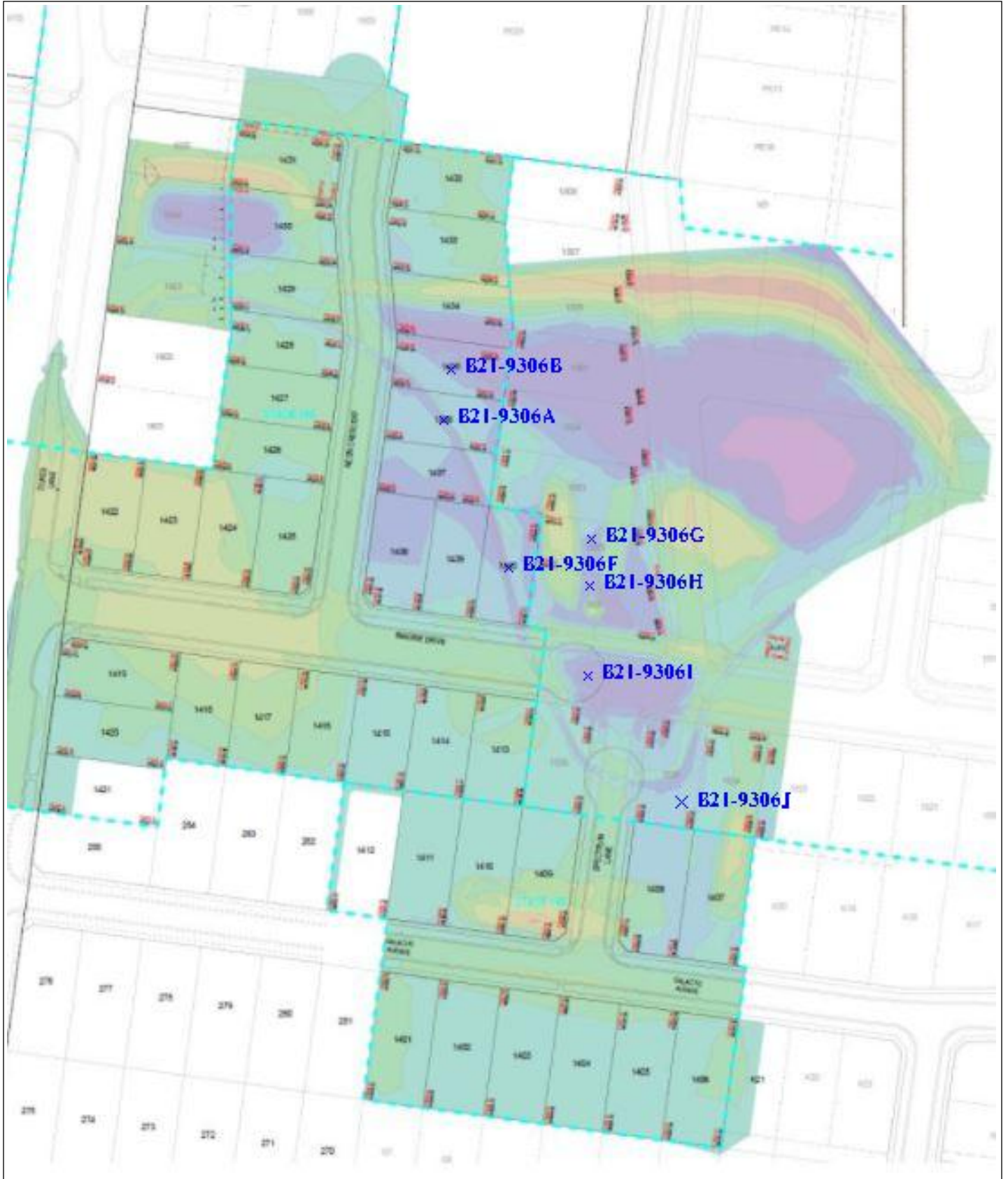
Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

Compaction Control AS 1289 5.7.1 & 5.8.1					
Sample Number	B21-9306F	B21-9306G	B21-9306H	B21-9306I	B21-9306J
Date Tested	07/06/2021	07/06/2021	07/06/2021	07/06/2021	07/06/2021
Time Tested	14:13	14:21	14:26	14:32	14:36
Test Request #/Location	Stage 14a & 14b House Block	Stage 14a & 14b House Block	Stage 14a & 14b House Block	Stage 14a & 14b Roadway	Stage 14a & 14b House Block
Chainage (m)	Lot 1440	Dam backfil	Dam backfill	CH150	DK34
Location Offset (m)	Centre	265794, 5923691 (Zone 55H), 200 m	265804, 5923651 (Zone 55H), 196 m	Centre	Centre
Layer / Reduced Level	-300	-300	-300	FSL	FSL
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Silty Gravelly Clay	Silty Gravelly Clay	Silty Gravelly Clay	Silty Gravelly Clay	Silty Gravelly Clay
Test Depth (mm)	250	250	250	250	250
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	6	3	0	0
Field Wet Density (FWD) t/m ³	2.11	2.17	2.06	2.16	2.18
Field Dry Density (FDD) t/m ³	**	**	**	**	**
Peak Converted Wet Density t/m ³	2.08	**	**	2.03	2.06
Adjusted Peak Converted Wet Density t/m ³	**	2.16	2.06	**	**
Moisture Variation (Wv) %	4.0	**	**	2.0	1.0
Adjusted Moisture Variation %	**	2.0	4.5	**	**
Hilf Density Ratio (%)	101.5	100.5	100.5	107.0	106.0
Compaction Method	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**

Moisture Variation Note:

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

Sample Locations Plan



Material Test Report



Report Number: P17236-59
Issue Number: 1
Date Issued: 17/11/2021
Client: Dunlop & Pitson Pty Ltd
 24 Jewell Court , Bendigo VIC 3550
Project Number: P17236
Project Name: Imagine Estate-Strathfieldsaye
Project Location: Stage 14B & 15
Work Request: 10239
Date Sampled: 16/11/2021
Dates Tested: 16/11/2021 - 16/11/2021
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Site Selection: Selected by Client
Material Source: Test Location

Geotechnical Testing Services (Southern)
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Approved Signatory: Josh Lagodzki
 NATA Accredited Laboratory Number: 19506

Compaction Control AS 1289 5.7.1 & 5.8.1				
Sample Number	B21-10239A	B21-10239B	B21-10239C	B21-10239D
Date Tested	16/11/2021	16/11/2021	16/11/2021	16/11/2021
Time Tested	07:50	07:58	08:03	08:06
Test Request #/Location	Road Way / Dam Backfill Imagine Drive	House Blocks Lot 1601	House Blocks Lot 1602	House Blocks Lot 1603
Easting	265905	265664	265669	265665
Northing	5923618	5923709	5923735	5923751
Layer / Reduced Level	-300	FSL	FSL	FSL
Thickness of Layer (mm)	300	300	250	250
Soil Description	Gravelly Silty Clay	Gravelly Silty Clay	Gravelly Silty Clay	Gravelly Silty Clay
Test Depth (mm)	275	275	225	225
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	3	0	0	0
Field Wet Density (FWD) t/m ³	2.10	2.11	2.07	2.10
Field Dry Density (FDD) t/m ³	**	**	**	**
Peak Converted Wet Density t/m ³	**	2.08	2.07	2.07
Adjusted Peak Converted Wet Density t/m ³	2.06	**	**	**
Moisture Variation (Wv) %	**	1.5	1.5	0.0
Adjusted Moisture Variation %	0.5	**	**	**
Hilf Density Ratio (%)	102.0	101.5	100.0	101.0
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