Haynes Consulting Engineers Pty Ltd ABN No. 53613630078 P.O Box 549 Noosa Heads 4567

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LEVEL 2 CERTIFICATION

17 Lots at Highland Court, Pie Creek Lots 9-25, on SP323061

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2nd June 2021 File No 1803

To: Roberts Bros. Pty Ltd (by email)

LEVEL 2 CERTIFICATION

17 Lots at Highlander Court, Pie Creek Lots 9-25, on SP323061

This letter provides Level 2 certification to AS3798-2007 'Guidelines on earthworks for commercial and residential developments' and includes the results of testing conducted during filling earthworks on proposed lots Lots 9-25, on SP323061.

Roberts Brothers Pty Ltd personnel and sub-contractors undertook the cut to fill and compaction using existing site material to create house sites.

Inspections of surface stripping (to remove organic topsoil), removal of unsuitable materials and subgrade proof rolling prior to filling were completed.

Determination of field density of compacted fill in accordance with AS1289 was completed by Douglas Partners Pty Ltd as attached. The compaction tests show that results were above the required 95% Standard Compaction. Test locations are shown on the attached plans 1803 sheet numbers S5B-S10 to S5A-S13 inclusive Revision 0.

This certification only provides an assurance of the density of the fill tested, and suitability of the stripped surface for placement of that fill. This certification does not address any other issues that may be relevant to foundation and building construction.

Please refer to report limitations attached, the Client in this instance is Roberts Brothers Pty Ltd.

Regards,

A Haynes BE Civil (Hons) RPEQ MIEAust CPEng

10-

LIMITATIONS

This report is provided for the sole use by the Client and its professional advisers. No responsibility whatsoever for the contents of this report will be accepted to any person other than the Client. Any use which a third party makes of this report, or any reliance on or decisions to be made based on it, is the responsibility of such third parties. Haynes Consulting Engineers accepts no responsibility for damages, if any, suffered by any third party as a result of decisions made or actions based on this report.

Haynes Consulting Engineers did not perform a complete assessment of all possible conditions or circumstances that may exist at the site referenced in the report. 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 Haynes Consulting Engineers in regards to it.

Conditions may exist which were undetectable given that economic and time constraints limit the practical extent of investigation. Variations in conditions may occur between investigation locations, and there may be special conditions pertaining to the site which have not been revealed by the investigation and which have not therefore been taken into account in the report.

Where variations exist on site, additional studies and actions may be required. Haynes Consulting Engineers's opinions are based upon information that existed at the time that the works were performed. The passage of time, man-made or natural events, may alter the site conditions. It is understood that the Services undertaken allowed Haynes Consulting Engineers to form an opinion of the actual conditions of the site at the time the site was visited and cannot be used to assess the effect of any subsequent changes in the quality of the site, or its surroundings, or any laws or regulations.

Any assessments made in this report are based on the conditions indicated from published sources and the findings of the investigation described. Actual subsurface conditions may differ from those indicated in the report (e.g. between boreholes or test pits). No warranty is included, either express or implied, that the actual conditions will conform exactly to the assessments contained in this report.

Where data supplied by the client or other external sources, including previous site investigation data, have been used, it has been assumed that the information is correct unless otherwise stated. No responsibility is accepted by Haynes Consulting Engineers for incomplete or inaccurate data supplied by others.

Report Number: 681742.00-3

Issue Number:

Date Issued: 09/10/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts **Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 10687 **Date Sampled:** 24/09/2020

Dates Tested: 24/09/2020 - 02/10/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 9
Material Source: Onsite



Douglas Partners Pty Ltd

Sunshine Coast Laboratory 1/28 Kessling Avenue Kunda Park QLD 4556

Phone: (07) 5351 0400

Fax: (07) 5351 0499

Email: martin.cook@douglaspartners.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8	3.1		
Sample Number	SS-10687A	SS-10687B	
Date Tested	24/09/2020	24/09/2020	
Time Tested	11:40	11:45	
Test Request #/Location	Lot 9	Lot 9	
Easting	461864	461867	
Northing	7096757	7096758	
Elevation (m)	0.3 < F.L	0.8 < F.L	
Soil Description	Sandy Clay	Sandy Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.04	1.97	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	1.97	1.95	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	1.0	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	103.0	101.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: 681742.00-3

681742.00-4 **Report Number:**

Issue Number:

Date Issued: 09/10/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: **David Roberts Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 10688 **Date Sampled:** 24/09/2020

Dates Tested: 24/09/2020 - 02/10/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 25 **Material Source:** Onsite



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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8	3.1		
Sample Number	SS-10688A	SS-10688B	
Date Tested	24/09/2020	24/09/2020	
Time Tested	11:30	11:35	
Test Request #/Location	Lot 25	Lot 25	
Easting	461823	461833	
Northing	7096687	7096684	
Elevation (m)	0.3 < F.L.	1.2 < F.L.	
Soil Description	Sandy Clay	Sandy Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	1.82	1.78	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	1.85	1.81	
Adjusted Peak Converted Wet Density t/m3	**	**	
Moisture Variation (Wv) %	2.0	1.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	98.5	98.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: 681742.00-4

Report Number: 681742.00-10

Issue Number:

Date Issued: 11/11/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts **Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11095 **Date Sampled:** 02/11/2020

Dates Tested: 02/11/2020 - 03/11/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Material Source: Onsite



Douglas Partners Pty Ltd

Sunshine Coast Laboratory

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NATA
WORLD RECOGNISED
ACCREDITATION

Approved Signatory: Shae Harry

Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8	.1		
Sample Number	SS-11095A	SS-11095B	
Date Tested	02/11/2020	02/11/2020	
Time Tested	08:00	08:05	
Test Request #/Location	Bulk Earthworks Lot 18	Bulk Earthworks Lot 18	
Easting	461535	461526	
Northing	7096511	7096500	
Elevation (m)	0.6 < F.L.	0.3 < F.L.	
Soil Description	Clayey Sand	Clayey Sand	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	1.90	2.05	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	1.98	1.99	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	3.0	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	96.0	103.0	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: 681742.00-10

Report Number: 681742.00-11

Issue Number:

Date Issued: 11/11/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts **Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11096 **Date Sampled:** 02/11/2020

Dates Tested: 02/11/2020 - 03/11/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Material Source: Onsite



Douglas Partners Pty Ltd

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Approved Signatory: Shae Harry

Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-11096A	SS-11096B	
Date Tested	02/11/2020	02/11/2020	
Time Tested	09:30	09:35	
Test Request #/Location	Bulk Earthworks Lot 24	Bulk Earthworks Lot 24	
Easting	461762	461778	
Northing	7096641	7096631	
Elevation (m)	0.7 < F.L	1.3 < F.L	
Soil Description	Clayey Sand	Clayey Sand	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	1.94	1.88	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	1.90	1.92	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	-1.0	0.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	102.0	98.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: 681742.00-11

681742.00-12 **Report Number:**

Issue Number:

Date Issued: 26/11/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: **David Roberts Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11184 **Date Sampled:** 09/11/2020

Dates Tested: 10/11/2020 - 12/11/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 13 **Material Source:** Onsite



Douglas Partners Pty Ltd

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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8	.1		
Sample Number	SS-11184A	SS-11184B	
Date Tested	09/11/2020	09/11/2020	
Time Tested	10:20	10:30	
Test Request #/Location	Lot 13	Lot 13	
Easting	461735	461732	
Northing	70966760	7096681	
Elevation (m)	0.8m < F.L.	0.3m < F.L.	
Soil Description	Sandy Clay	Sandy Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.01	2.04	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	2.00	1.97	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	3.5	2.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	100.5	103.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: 681742.00-12

Report Number: 681742.00-13

Issue Number:

Date Issued: 26/11/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts
Project Number: 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11185 **Date Sampled:** 09/11/2020

Dates Tested: 10/11/2020 - 13/11/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 24
Material Source: Onsite



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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

0		
Compaction Control AS 1289 5.7.1 & 5.8		
Sample Number	SS-11185A	
Date Tested	09/11/2020	
Time Tested	10:45	
Test Request #/Location	Lot 24	
Easting	461783	
Northing	7096637	
Layer / Reduced Level	0.2m < F.L	
Soil Description	Sandy Clay	
Test Depth (mm)	150	
Sieve used to determine oversize (mm)	19.0	
Percentage of Wet Oversize (%)	0	
Field Wet Density (FWD) t/m ³	2.18	
Field Dry Density (FDD) t/m ³	**	
Peak Converted Wet Density t/m ³	2.18	
Adjusted Peak Converted Wet Density t/m3	**	
Moisture Variation (Wv) %	3.5	
Adjusted Moisture Variation %	**	
Hilf Density Ratio (%)	100.0	
Compaction Method	Standard	
Report Remarks	**	

Moisture Variation Note:

Report Number: 681742.00-13

Report Number: 681742.00-14

Issue Number:

Date Issued: 26/11/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts
Project Number: 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11186 **Date Sampled:** 09/11/2020

Dates Tested: 10/11/2020 - 13/11/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Dry Density Ratio

Lot Number: 15
Material Source: Onsite



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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8	.1	
Sample Number	SS-11186A	
Date Tested	09/11/2020	
Time Tested	10:55	
Test Request #/Location	Lot 15	
Easting	461653	
Northing	7096618	
Elevation (m)	F.L.	
Soil Description	Sandy Clay	
Test Depth (mm)	150	
Sieve used to determine oversize (mm)	19.0	
Percentage of Wet Oversize (%)	0	
Field Wet Density (FWD) t/m ³	1.90	
Field Dry Density (FDD) t/m ³	**	
Peak Converted Wet Density t/m ³	1.93	
Adjusted Peak Converted Wet Density t/m ³	**	
Moisture Variation (Wv) %	1.5	
Adjusted Moisture Variation %	**	
Hilf Density Ratio (%)	99.0	
Compaction Method	Standard	
Report Remarks	**	

Moisture Variation Note:

Report Number: 681742.00-14

Report Number: 681742.00-17

Issue Number: 2 - This version supersedes all previous issues

Reissue Reason: Location Error

Date Issued: 15/06/2021

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy QLD 4563

Contact: David Roberts
Project Number: 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11263 **Date Sampled:** 13/11/2020

Dates Tested: 14/11/2020 - 19/11/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compácted

Specification: Minimum 95% Standard Hilf Density Ratio

Location: Bulk Earthworks

Lot Number: 23
Material Source: Onsite



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Approved Signatory: Shae Harry
Laboratory Manager
Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.	1		
Sample Number	SS-11263A	SS-11263B	SS-11263C
Date Tested	13/11/2020	13/11/2020	13/11/2020
Time Tested	08:05	08:10	08:15
Test Request #/Location	Lot 23	Lot 23	Lot 23
Easting	461740	461749	461745
Northing	7096583	7096592	7096587
Elevation (m)	1.5 < F.L	1.0 < F.L	0.3 < F.L
Soil Description	Sandy Gravelly Clay	Sandy Gravelly Clay	Sandy Gravelly Clay
Test Depth (mm)	150	150	150
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	2.01	1.98	2.07
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	2.07	2.04	2.02
Adjusted Peak Converted Wet Density t/m3	**	**	**
Moisture Variation (Wv) %	3.0	3.5	3.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	97.0	97.0	102.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Report Number: 681742.00-17

Report Number: 681742.00-18

Issue Number:

Date Issued: 26/11/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts
Project Number: 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11264 **Date Sampled:** 13/11/2020

Dates Tested: 14/11/2020 - 19/11/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 21
Material Source: Onsite



Douglas Partners Pty Ltd

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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8	3.1	
Sample Number	SS-11264A	
Date Tested	13/11/2020	
Time Tested	08:45	
Test Request #/Location	Lot 21	
Easting	461676	
Northing	7096532	
Elevation (m)	1.7 < F.L	
Soil Description	Sandy Gravel	
Test Depth (mm)	150	
Sieve used to determine oversize (mm)	19.0	
Percentage of Wet Oversize (%)	0	
Field Wet Density (FWD) t/m ³	1.86	
Field Dry Density (FDD) t/m ³	**	
Peak Converted Wet Density t/m ³	1.87	
Adjusted Peak Converted Wet Density t/m3	**	
Moisture Variation (Wv) %	0.5	
Adjusted Moisture Variation %	**	
Hilf Density Ratio (%)	99.5	
Compaction Method	Standard	
Report Remarks	**	

Moisture Variation Note:

Report Number: 681742.00-18

Report Number: 681742.00-19

Issue Number:

Date Issued: 26/11/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts
Project Number: 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11265 **Date Sampled:** 13/11/2020

Dates Tested: 14/11/2020 - 19/11/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 20 Material Source: Onsite



Douglas Partners Pty Ltd

Sunshine Coast Laboratory

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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8	.1	
Sample Number	SS-11265A	
Date Tested	13/11/2020	
Time Tested	08:50	
Test Request #/Location	Lot 20	
Easting	461627	
Northing	7096507	
Elevation (m)	1.9 < F.L	
Soil Description	Sandy Clay	
Test Depth (mm)	150	
Sieve used to determine oversize (mm)	19.0	
Percentage of Wet Oversize (%)	0	
Field Wet Density (FWD) t/m ³	1.80	
Field Dry Density (FDD) t/m ³	**	
Peak Converted Wet Density t/m ³	1.79	
Adjusted Peak Converted Wet Density t/m ³	**	
Moisture Variation (Wv) %	2.5	
Adjusted Moisture Variation %	**	
Hilf Density Ratio (%)	100.0	
Compaction Method	Standard	
Report Remarks	**	

Moisture Variation Note:

Report Number: 681742.00-19

681742.00-20 **Report Number:**

Issue Number:

Date Issued: 26/11/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: **David Roberts Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11266 **Date Sampled:** 13/11/2020

Dates Tested: 14/11/2020 - 19/11/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 16 **Material Source:** Onsite



Douglas Partners Pty Ltd

Sunshine Coast Laboratory

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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8	.1	
Sample Number	SS-11266A	
Date Tested	13/11/2020	
Time Tested	09:05	
Test Request #/Location	Lot 16	
Easting	461596	
Northing	7096586	
Elevation (m)	F.L	
Soil Description	Sandy Clay	
Test Depth (mm)	150	
Sieve used to determine oversize (mm)	19.0	
Percentage of Wet Oversize (%)	0	
Field Wet Density (FWD) t/m ³	1.86	
Field Dry Density (FDD) t/m ³	**	
Peak Converted Wet Density t/m ³	1.82	
Adjusted Peak Converted Wet Density t/m ³	**	
Moisture Variation (Wv) %	-0.5	
Adjusted Moisture Variation %	**	
Hilf Density Ratio (%)	102.0	
Compaction Method	Standard	
Report Remarks	**	

Moisture Variation Note:

Report Number: 681742.00-20

Report Number: 681742.00-22

Issue Number:

Date Issued: 10/12/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts **Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11423 **Date Sampled:** 26/11/2020

Dates Tested: 26/11/2020 - 02/12/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 12
Material Source: Onsite



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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.	1		
Sample Number	SS-11423A	SS-11423B	
Date Tested	26/11/2020	26/11/2020	
Time Tested	12:15	12:19	
Test Request #/Location	Lot 12	Lot 12	
Easting	5262439	5252975	
Northing	2241477	2239560	
Elevation (m)	0.3 < F.L	0.7 < F.L	
Soil Description	Sandy Gravelly Clay	Sandy Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	1.95	1.99	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	1.88	1.92	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	4.5	2.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	104.0	103.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: 681742.00-22

Report Number: 681742.00-23

Issue Number:

Date Issued: 10/12/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts **Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11424 **Date Sampled:** 26/11/2020

Dates Tested: 26/11/2020 - 02/12/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 14
Material Source: Onsite



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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8	3.1	
Sample Number	SS-11424A	
Date Tested	26/11/2020	
Time Tested	12:27	
Test Request #/Location	Lot 14	
Easting	5157202	
Northing	2195485	
Elevation (m)	0.3 < F.L	
Soil Description	Sandy Gravelly Clay	
Test Depth (mm)	150	
Sieve used to determine oversize (mm)	19.0	
Percentage of Wet Oversize (%)	0	
Field Wet Density (FWD) t/m ³	2.06	
Field Dry Density (FDD) t/m ³	**	
Peak Converted Wet Density t/m ³	2.11	
Adjusted Peak Converted Wet Density t/m3	**	
Moisture Variation (Wv) %	0.5	
Adjusted Moisture Variation %	**	
Hilf Density Ratio (%)	97.5	
Compaction Method	Standard	
Report Remarks	**	

Moisture Variation Note:

Report Number: 681742.00-23

Report Number: 681742.00-24

Issue Number:

Date Issued: 10/12/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts
Project Number: 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11425 **Date Sampled:** 26/11/2020

Dates Tested: 26/11/2020 - 03/12/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 10
Material Source: Onsite



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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-11425A	SS-11425B	
Date Tested	26/11/2020	26/11/2020	
Time Tested	12:34	12:38	
Test Request #/Location	Lot 10	Lot 10	
Easting	5310262	5325263	
Northing	2302022	2303494	
Elevation (m)	0.3 < F.L	0.7 < F.L	
Soil Description	Sandy Gravelly Clay	Sandy Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	4	
Field Wet Density (FWD) t/m ³	1.98	1.97	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	1.93	**	
Adjusted Peak Converted Wet Density t/m ³	**	2.07	
Moisture Variation (Wv) %	3.5	**	
Adjusted Moisture Variation %	**	2.5	
Hilf Density Ratio (%)	102.5	95.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: 681742.00-24

Report Number: 681742.00-25

Issue Number:

Date Issued: 10/12/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts **Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11426 **Date Sampled:** 26/11/2020

Dates Tested: 26/11/2020 - 03/12/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 21
Material Source: Onsite



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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.	.1		
Sample Number	SS-11426A	SS-11426B	
Date Tested	26/11/2020	26/11/2020	
Time Tested	12:44	12:49	
Test Request #/Location	Lot 21	Lot 21	
Easting	5042020	5037333	
Northing	2184949	2180338	
Elevation (m)	1.0 < F.L	0.3 < F.L	
Soil Description	Sandy Gravelly Clay	Sandy Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	2	
Field Wet Density (FWD) t/m ³	1.99	2.03	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	2.03	**	
Adjusted Peak Converted Wet Density t/m ³	**	1.94	
Moisture Variation (Wv) %	6.0	**	
Adjusted Moisture Variation %	**	6.5	
Hilf Density Ratio (%)	98.0	104.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: 681742.00-25

681742.00-26 **Report Number:**

Issue Number:

Date Issued: 10/12/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: **David Roberts Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11428 **Date Sampled:** 26/11/2020

Dates Tested: 26/11/2020 - 02/12/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: **Material Source:** Onsite



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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-11428A	SS-11428B	
Date Tested	26/11/2020	26/11/2020	
Time Tested	12:58	13:02	
Test Request #/Location	Lot 20	Lot 20	
Easting	5008642	5004256	
Northing	2144235	2149998	
Elevation (m)	0.3 < F.L	1.1 < F.L	
Soil Description	Sandy Gravelly Clay	Sandy Gravelly Clay	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	3	
Field Wet Density (FWD) t/m ³	2.09	2.00	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	1.98	**	
Adjusted Peak Converted Wet Density t/m ³	**	1.97	
Moisture Variation (Wv) %	5.0	**	
Adjusted Moisture Variation %	**	5.0	
Hilf Density Ratio (%)	105.5	101.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: 681742.00-26

Report Number: 681742.00-27

Issue Number:

Date Issued: 10/12/2020

Client: Roberts Bros Pty Ltd

123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts **Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

Work Request: 11429 **Date Sampled:** 26/11/2020

Dates Tested: 26/11/2020 - 03/12/2020

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Lot Number: 17
Material Source: Onsite



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Approved Signatory: Martin Cook

Assistant Laboratory Manager

NATA Accredited Laboratory Number: 828

Compaction Control AS 1289 5.7.1 & 5.8	.1	
Sample Number	SS-11429A	
Date Tested	26/11/2020	
Time Tested	13:09	
Test Request #/Location	Lot 17	
Easting	5059688	
Northing	2089607	
Elevation (m)	F.L	
Soil Description	Silty Gravelly Clay	
Test Depth (mm)	150	
Sieve used to determine oversize (mm)	19.0	
Percentage of Wet Oversize (%)	0	
Field Wet Density (FWD) t/m ³	2.05	
Field Dry Density (FDD) t/m ³	**	
Peak Converted Wet Density t/m ³	2.08	
Adjusted Peak Converted Wet Density t/m ³	**	
Moisture Variation (Wv) %	2.5	
Adjusted Moisture Variation %	**	
Hilf Density Ratio (%)	98.5	
Compaction Method	Standard	
Report Remarks	**	

Moisture Variation Note:

Report Number: 681742.00-27

Report Number:

Issue Number:

Date Issued:

Client:

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Approved Signatory: Shae Harry Laboratory Manager

Laboratory Accreditation Number: 828

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123 Cooroy Belli Creek Road, Cooroy 4563 Contact: **David Roberts Project Number:** 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

681742.00-33

18/02/2021

Roberts Bros Pty Ltd

Work Request: 11956 **Date Sampled:** 08/02/2021

Dates Tested: 09/02/2021 - 11/02/2021

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Material Source: Onsite

Caranastian Cantral AC 4000 F 7.4 8 F 0.4			
Compaction Control AS 1289 5.7.1 & 5.8.1	00.440504	00.44050D	
Sample Number	SS-11956A	SS-11956B	
Date Tested	08/02/2021	08/02/2021	
Time Tested	02:45	02:50	
Test Request #/Location	Bulk Earthworks Lot 19	Bulk Earthworks Lot 19	
Easting	461550	461533	
Northing	7096456	7096449	
Layer / Reduced Level	1.0 < F.L.	0.3 < F.L.	
Soil Description	**	**	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	0	0	
Field Wet Density (FWD) t/m ³	2.10	2.21	
Field Dry Density (FDD) t/m ³	**	**	
Peak Converted Wet Density t/m ³	2.01	2.09	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	1.0	0.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	104.5	105.5	
Compaction Method	Standard	Standard	
Report Remarks	**	**	

Moisture Variation Note:

Report Number: 681742.00-33

681742.00-35

18/02/2021

David Roberts

681742.00

08/02/2021

11958

Roberts Bros Pty Ltd

Proposed Subdivision

09/02/2021 - 12/02/2021

or pavement - compacted

Greendale, Stage 5, Pie Creek

123 Cooroy Belli Creek Road, Cooroy 4563

Minimum 95% Standard Hilf Density Ratio

AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

Report Number:

Project Number:

Project Location:

Project Name:

Work Request:

Date Sampled:

Dates Tested:

Specification:

Material Source:

Sampling Method:

Issue Number:

Date Issued:

Client:

Contact:

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Approved Signatory: Shae Harry Laboratory Manager

Laboratory Accreditation Number: 828

Compaction Control AS 1289 5.7.1 & 5.8	.1	
Sample Number	SS-11958B	
Date Tested	08/02/2021	
Time Tested	03:36	
Test Request #/Location	Bulk Earthworks Lot 11	
Easting	461753	
Northing	7096835	
Layer / Reduced Level	0.3 < F.L.	
Soil Description	**	
Test Depth (mm)	150	
Sieve used to determine oversize (mm)	19.0	
Percentage of Wet Oversize (%)	0	
Field Wet Density (FWD) t/m ³	1.75	
Field Dry Density (FDD) t/m ³	**	
Peak Converted Wet Density t/m ³	1.81	
Adjusted Peak Converted Wet Density t/m ³	**	
Moisture Variation (Wv) %	-0.5	
Adjusted Moisture Variation %	**	
Hilf Density Ratio (%)	96.5	
Compaction Method	Standard	
Report Remarks	**	

Moisture Variation Note:

Report Number: 681742.00-35

Report Number:

Issue Number:

Date Issued:

Client:

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Approved Signatory: Shae Harry
Laboratory Manager
Laboratory Accreditation Number: 828

Geotechnics | Environment
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123 Cooroy Belli Creek Road, Cooroy 4563

Contact: David Roberts

Project Number: 681742.00

Project Name: Proposed Subdivision

Project Location: Greendale, Stage 5, Pie Creek

681742.00-34

18/02/2021

Roberts Bros Pty Ltd

Work Request: 11957 **Date Sampled:** 08/02/2021

Dates Tested: 09/02/2021 - 12/02/2021

Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks

or pavement - compacted

Specification: Minimum 95% Standard Hilf Density Ratio

Material Source: Onsite

	Laboratory Accreditation Number: 626		
Compaction Control AS 1289 5.7.1 & 5.8.1			
Sample Number	SS-11957A	SS-11957B	SS-11957C
Date Tested	08/02/2021	08/02/2021	08/02/2021
Fime Tested	03:07	03:12	03:20
Test Request #/Location	Bulk Earthworks Lot 22	Bulk Earthworks Lot 22	Bulk Earthworks Lot 22
Easting	461705	461704	461725
Northing	7096568	7096552	7096562
_ayer / Reduced Level	0.3 < F.L.	1.0 < F.L.	1.5 < F.L.
Soil Description	**	**	**
Гest Depth (mm)	150	150	150
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	2.05	2.02	2.02
Field Dry Density (FDD) t/m ³	**	**	**
Peak Converted Wet Density t/m ³	1.97	2.01	1.95
Adjusted Peak Converted Wet Density	**	**	**
Moisture Variation (Wv) %	1.0	-0.5	-0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	104.0	100.5	103.5
Compaction Method	Standard	Standard	Standard
Report Remarks	**	**	**

Moisture Variation Note:

Report Number: 681742.00-34







