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Level One Report

Naric Civil Pty Ltd

Riverbank Estate Stage 18A,

Lot 1008 Market Drive, Caboolture South

October 2019 JOB NUMBER: R19-092

Head Office North Lakes



RYAN & ASSOCIATES GEOTECHNICAL PTY LTD

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Contents

1 Scope	
2 Foundation Preparation	
2.1 Stripping of Area	
2.2 Removal of Unsuitable Materials	
3 Controlled Filling	
4 Compaction Control Operations	
5 Conclusion	
6 Limitations	6
Appendix A	7
Site Plan	8
Appendix B	8
Testing Summary	
Appendix C	
Individual Lot Certificates	

October 2019



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Naric Civil Pty Ltd P.O.Box 150 Redbank Qld 4301 02/10/19

Re: Riverbank Estate Stage 18A, Lot 1008 Market Drive, Caboolture South.

Geotechnical Testing & Certification.

1 Scope

Ryan & Associates Geotechnical was commissioned by Naric Civil Pty Ltd to provide geotechnical inspections, testing and certification of the filling earthworks at the above-mentioned project.

The project was assumed to be a Residential development as per "AS3798 – 2007 Guidelines on Earthworks for Commercial and Residential Developments to Level one requirement as outlined in Section 8".

The development comprises of 25 proposed Lots being constructed on previously developed land, controlled filling works has been completed to Lots 941 – 944 & Lots 957 - 965 as detailed on earthworks drawing 17-002277.1 – 200 Revision 2 Refer to Appendix A "Site Plans" drawing number 17-002277.1 – 200 Revision 2

Ryan & Associates Geotechnical maintained a site presence during the works in accordance with AS3798 – 2007 Level 1. Appendix B – Testing Summary, of this report, contains the testing summary of all testing undertaken with achieved compaction densities.

Site inspections and compaction control testing was carried out as work progressed, with records compiled on all aspects of the earthworks.

This level one report does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

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Foundation Preparation

Stripping of Area

All existing topsoil materials were stripped prior to the commencement of filling operations.

2.2 Removal of Unsuitable Materials

No unsuitable material was required to be removed prior to filling apart from topsoil materials.

Controlled Filling 3

Fill used consisted of on-site cut / imported materials. Fills were placed using an Excavator and Grader in layers not exceeding 0.2m. The fill zones were compacted using an 815 Compactor.

Compaction Control Operations 4

Compliance testing of fill operations was performed by Ryan & Associates Geotechnical between the Months of August - September 2019.

The test results show, where applicable, a Dry Density Ratio of 95% standard or greater was consistently achieved for testing performed on fill materials.

Testing results are shown in the Testing Summary; refer to Appendix B – Testing Summary of this report.

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5 Conclusion

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in accordance with good engineering practice and can be considered controlled fill. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 "Guidelines on Earthworks for Commercial and Residential Development", Clause 8.2.

RYAN & ASSOCIATES

Geotechnical Pty Ltd.

Chris Wilmington Senior Technician

October 2019



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Limitations

This level one certification report verifies that all supervised fill placed meets the minimum requirements of 95% standard compaction where applicable. As far as could be determined the earthworks at the time of completion have been carried out to meet the requirements of the drawing and specification.

This level one report makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one report only covers earthworks filling as detailed in the earth works drawings.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches, retaining walls bridging layers, top soil or any pavements

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

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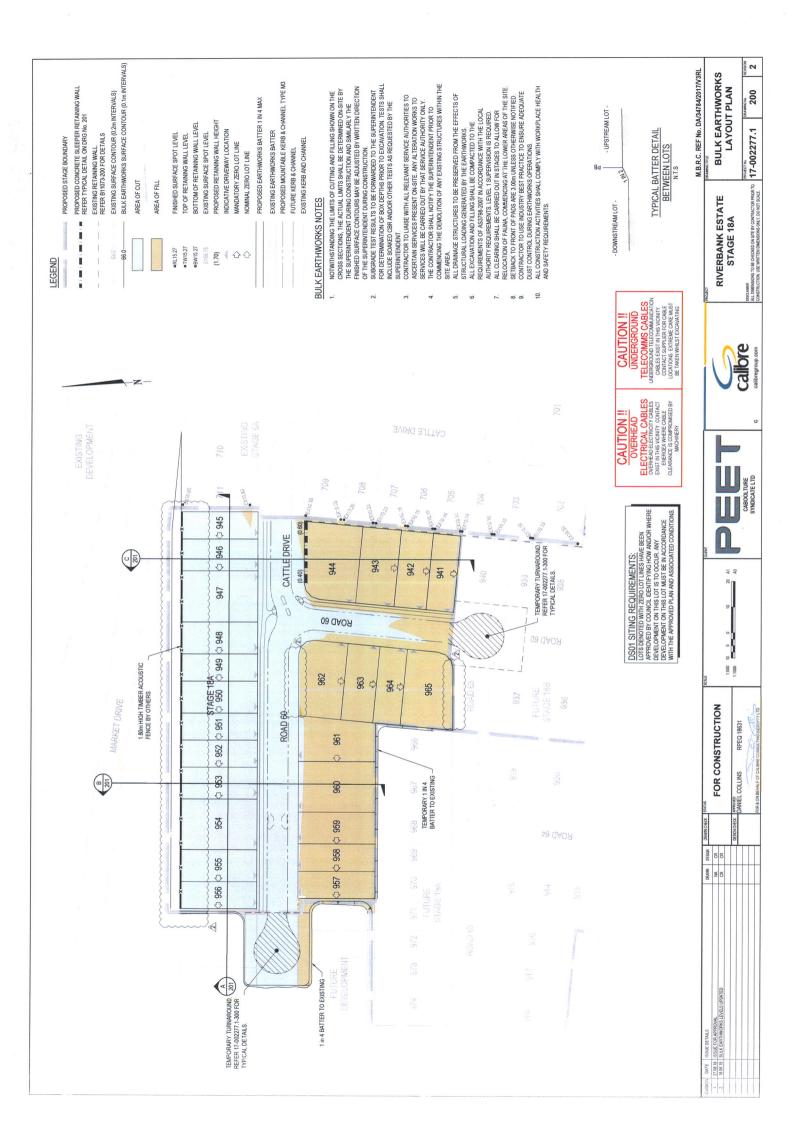
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Appendix A

Site Plan

October 2019 JOB NUMBER: R19-092





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Appendix B

Testing Summary

October 2019 JOB NUMBER: R19-092

Client: Naric Civil Pty Ltd
Project: Riverbank Estate Stage 18B

Project Number: R19-092

Project Location: Lot 1008 Market Drive
Suburb: Caboolture South

Sample Number :	Project Number :	Date Sampled :	Location	Test Number	Test Depth	Layer Depth	MDD (t/m³)	OMC (%)	Oversize Wet (%)	Oversize Dry (%)	Oversize Density (t/m³)	Dry Density (t/m³)	Field MC (%)	Density Ratio (%)				Report No.
N17135	R19-092	16/08/2019	Lot 928, F.L.		150	300	1.72	18	0	0	(SIII)	1.694	17.4	98.5				
N17136	R19-092	16/08/2019	Lot 929, F.L.		150	300	1.732	18.5	0	0		1.685	17.2	97.3				
N17137	R19-092	16/08/2019	Lot 930, F.L.		150	300	1.725	18.4	0	0		1.696	17	98.3				
N17138	R19-092	16/08/2019	Lot 931, F.L.		150	300	1.751	17.6	0	0		1.693	16.8	96.7				
N17139	R19-092	16/08/2019	Lot 932, F.L.		150	300	1.73	18.9	0	0		1.692	17.6	97.8				
N17140	R19-092	16/08/2019	Lot 933, F.L.		150	300	1.753	14.6	0	0		1.751	13.3	99.9				
N17141	R19-092	16/08/2019	Lot 934, F.L.		150	300	1.787	15.1	0	0		1.73	14.3	96.8				
N17142	R19-092	16/08/2019	Lot 935, F.L.		150	300	1.769	15.1	0	0		1.711	14.1	96.7				
N17143	R19-092	16/08/2019	Lot 936, F.L.		150	300	1.785	15	0	0		1.726	14.2	96.7				
N17144	R19-092	16/08/2019	Lot 937, F.L.		150	300	1.77	14.6	0	0		1.736	13.8	98.1				
N17261	R19-092	22/08/2019	Lot 852, Front of lot, FL.		150	300	1.78	20	0	0		1.724	19.5	96.8				
N17262	R19-092	22/08/2019	Lot 938, Front of lot, FL.		150	300	1.779	20.5	0	0		1.726	20	97				
N17263	R19-092	22/08/2019	Lot 939, Front of lot, FL.		150	300	1.797	19.3	0	0		1.737	19	96.7				
N17264	R19-092	22/08/2019	Lot 940, Front of lot, FL.		150	300	1.801	21.4	0	0		1.713	20	95.1				
N17265	R19-092	22/08/2019	Lot 938 & 939 Boundary, 500 Below F.L.		150	300	1.797	19.8	0	0		1.731	19	96.3				
N17266	R19-092	22/08/2019	Lot 940 & 941 Boundary, 500 Below F.L.		150	300	1.82	19.1	0	0		1.754	18.1	96.4				
N17267	R19-092	22/08/2019	Lot 942 & 943 Boundary, 500 Below F.L.		150	300	1.795	21.3	0	0		1.719	20.1	95.8				
N17268	R19-092	22/08/2019	Lot 944 , 500 Below F.L.		150	300	1.837	19.2	0	0		1.757	18.2	95.6				
N17269	R19-092	22/08/2019	Lot 883, F.L.		150	300	1.808	20	0	0		1.729	18	95.6				
N17270	R19-092	22/08/2019	Lot 851, F.L.		150	300	1.812	19.6	0	0		1.732	19	95.6				

Client: Naric Civil Pty Ltd
Project: Riverbank Estate Stage 18B

Project Number: R19-092

Project Location: Lot 1008 Market Drive
Suburb: Caboolture South

Sample Number :	Project Number :	Date Sampled :	Location	Test Number	Test Depth	Layer Depth	MDD (t/m³)	OMC (%)	Oversize Wet (%)	Oversize Dry (%)	Oversize Density (t/m³)	Dry Density (t/m³)	Field MC (%)	Density Ratio (%)				Report No.
N17301	R19-092	20/08/2019	Lot 877, Front of lot, F.L.		150	300	1.749	16.1	0	0	(unr)	1.757	14.2	100.5				
N17302	R19-092	20/08/2019	Lot 878, Front of lot, F.L.		150	300	1.759	15.6	0	0		1.751	14.3	99.6				
N17303	R19-092	20/08/2019	Lot 879, Front of lot, F.L.		150	300	1.763	15.8	0	0		1.742	14.9	98.8				
N17304	R19-092	20/08/2019	Lot 880, Centre of lot, F.L.		150	300	1.763	15.9	0	0		1.764	13.9	100.1				
N17305	R19-092	20/08/2019	Lot 881, Front of lot, F.L.		150	300	1.766	15.9	0	0		1.759	14.1	99.6				
N17306	R19-092	20/08/2019	Lot 882, Front of lot, F.L.		150	300	1.781	15.5	0	0		1.757	14.2	98.6				
N17384	R19-092	26/08/2019	Lot 941, Front, F.L.		150	300	1.75	16.5	0	0		1.72	16.2	98.3				
N17385	R19-092	26/08/2019	Lot 942, Front, F.L.		150	300	1.759	17	0	0		1.703	16.5	96.8				
N17386	R19-092	26/08/2019	Lot 943, Front, F.L.		150	300	1.763	16.8	0	0		1.709	16.3	96.9				
N17387	R19-092	26/08/2019	Lot 944, Front, F.L.		150	300	1.763	16.8	0	0		1.711	16.5	97				
N17429	R19-092	28/08/2019	Road 60, CH 930, S.G.L		150	300	1.734	19.4	0	0		1.711	17.4	98.7				
N17559	R19-092	5/09/2019	Sewer, 12/1 - E/1E, 0.9m B.F.L.		150	300	2.227	6.4	0	0		2.212	5.4	99.3				
N17560	R19-092	5/09/2019	Sewer, 12/1 - E/1E, F.L.		150	300	2.242	5.7	0	0		2.229	5	99.4				
N17561	R19-092	5/09/2019	Sewer, 12/1 - E/11, 0.9m B.F.L.		150	300	1.756	18	0	0		1.691	16.8	96.3				
N17562	R19-092	5/09/2019	Sewer, 12/1 - E/11, F.L.		150	300	1.763	18.3	0	0		1.709	16.6	96.9				
N17563	R19-092	5/09/2019	Sewer, 13/1 - 12/1, 0.9m B.F.L.		150	300	1.755	17.9	0	0		1.709	16.5	97.4				
N17564	R19-092	5/09/2019	Sewer, 13/1 - 12/1, F.L.		150	300	1.75	17.5	0	0		1.718	16.1	98.2				
N17565	R19-092	5/09/2019	Sewer, 13/1 - 14/1, 0.9m B.F.L.		150	300	1.766	18	0	0		1.699	16.2	96.2				
N17566	R19-092	5/09/2019	Sewer, 13/1 - 14/1, F.L.		150	300	1.779	18	0	0		1.718	16.4	96.6				
N17567	R19-092	5/09/2019	Sewer, 14/1 - E/1F, 0.9m B.F.L.		150	300	2.262	5.4	0	0		2.237	5.2	98.9				

Client: Naric Civil Pty Ltd
Project: Riverbank Estate Stage 18B

Project Number: R19-092

Project Location: Lot 1008 Market Drive
Suburb: Caboolture South

Sample	Businest Number	Date	Lasation	Test Number		Layer			Oversize	Oversize	Oversize	Dry	Field MC	Density				
Number :	Project Number :	Sampled :	Location	:	Test Depth	Depth	MDD (t/m³)	OMC (%)	Wet (%)	Dry (%)	Density (t/m³)	Density (t/m³)	(%)	Ratio (%)				Report No.
N17568	R19-092	5/09/2019	Sewer, 14/1 - E/1F, F.L.		150	300	1.779	18.4	0	0		1.692	16.4	95.1				
N17569	R19-092	5/09/2019	Sewer, 14/1 - 15/1, 0.9m B.F.L.		150	300	1.78	17.8	0	0		1.695	16.9	95.2				
N17570	R19-092	5/09/2019	Sewer, 14/1 - 15/1, F.L.		150	300	1.748	20.1	0	0		1.676	18.1	95.9				
N17571	R19-092	5/09/2019	Sewer, 15/1 - E/1G, 0.9m B.F.L.		150	300	2.254	5.9	0	0		2.249	5.7	99.8				
N17572	R19-092	5/09/2019	Sewer, 15/1 - E/1G, F.L.		150	300	1.729	20.3	0	0		1.663	18.5	96.2				
N17573	R19-092	5/09/2019	Sewer, 15/1 - 16/1, 0.9m B.F.L.		150	300	2.266	6.4	0	0		2.243	6.1	99				
N17574	R19-092	5/09/2019	Sewer, 15/1 - 16/1, F.L.		150	300	1.732	20.4	0	0		1.672	18.6	96.5				
N17575	R19-092	5/09/2019	Sewer, 16/1 - End, 0.9m B.F.L.		150	300	1.747	20.4	0	0		1.662	18.8	95.1				
N17576	R19-092	5/09/2019	Sewer, 16/1 - End, F.L.		150	300	1.732	20.4	0	0		1.66	18.4	95.8				
N17619	R19-092	10/09/2019	Lot 885, Centre of lot, F.L.		150	300	1.785	17.1	0	0		1.714	16.7	96				
N17620	R19-092	10/09/2019	Lot 884, Centre of lot, F.L.		150	300	1.785	17.4	0	0		1.714	16.9	96				
N17657	R19-092	5/09/2019	Stormwater, 3/D - 4/D		150		1.337	38.8	0	0		1.32	36.8	98.7				
N17658	R19-092	5/09/2019	Stormwater, 4/D - 5/D		150		1.335	40.2	0	0		1.305	38.2	97.8				
N17659	R19-092	2/09/2019	Sewer, 5/8 - End Cap, 900 B.F.L		150	300	1.988	18.8	0	0		1.9	17	95.6				
N17660	R19-092	2/09/2019	Sewer, 5/8 - End Cap, F.L.		150	300	2.012	18.8	0	0		1.934	17.3	96.1				
N17661	R19-092	2/09/2019	Sewer, 5/8 - E/8D, 900 B.F.L		150	300	2.378	8.1	0	0		2.266	7.4	95.3				
N17662	R19-092	2/09/2019	Sewer, 5/8 - E/8D, F.L.		150	300	2.329	7.4	0	0		2.231	6	95.8				
N17663	R19-092	2/09/2019	Sewer, 5/8 - 4/8, 900 B.F.L		150	300	1.991	18.8	0	0		1.926	17.1	96.7				
N17664	R19-092	2/09/2019	Sewer, 5/8 - 4/8, F.L.		150	300	2.044	18.9	0	0		1.958	17.4	95.8				
N17665	R19-092	2/09/2019	Sewer, 4/8 - E/8C, 900 B.F.L		150	300	2.407	8.1	0	0		2.313	7.4	96.1				

Client: Naric Civil Pty Ltd
Project: Riverbank Estate Stage 18B

Project Number: R19-092

Project Location: Lot 1008 Market Drive
Suburb: Caboolture South

Sample Number :	Project Number :	Date Sampled :	Location	Test Number	Test Depth	Layer Depth	MDD (t/m³)	OMC (%)	Oversize Wet (%)	Oversize Dry (%)	Oversize Density (t/m³)	Dry Density (t/m³)	Field MC (%)	Density Ratio (%)				Report No.
N17666	R19-092	2/09/2019	Sewer, 4/8 - E/8C, F.L.		150	300	2.421	7.3	0	0		2.302	6.8	95.1				
N17667	R19-092	2/09/2019	Sewer, 4/8 - HB1/8, 900 B.F.L		150	300	2.382	8.1	0	0		2.3	7.3	96.6				
N17668	R19-092	2/09/2019	Sewer, 4/8 - HB1/8, F.L.		150	300	2.376	7.7	0	0		2.265	6.2	95.3				
N17669	R19-092	2/09/2019	Sewer, HB1/8 - 2/8, 900 B.F.L.		150	300	1.962	18.9	0	0		1.878	16.9	95.7				
N17670	R19-092	2/09/2019	Sewer, HB1/8 - 2/8, F.L.		150	300	1.984	18.8	0	0		1.915	17.3	96.5				
N17671	R19-092	2/09/2019	Sewer, 2/8 - E/8B, 900 B.F.L		150	300	2.335	7.2	0	0		2.251	5.9	96.4				
N17672	R19-092	2/09/2019	Sewer, 2/8 - E/8B, F.L.		150	300	2.392	7.5	0	0		2.291	5.8	95.8				
N17673	R19-092	2/09/2019	Sewer, 2/8 - 1/8, 900 B.F.L		150	300	2.002	18.9	0	0		1.96	17.3	97.9				
N17674	R19-092	2/09/2019	Sewer, 2/8 - 1/8, F.L.		150	150	1.971	18.9	0	0		1.884	17.2	95.6				
N17675	R19-092	2/09/2019	Sewer, 1/8 - E/8A, 900 B.F.L		150	300	2.395	8.1	0	0		2.312	6.9	96.5				
N17676	R19-092	2/09/2019	Sewer, 1/8 - E/8A, F.L.		150	300	2.355	7.7	0	0		2.254	6.7	95.7				
N17677	R19-092	2/09/2019	Sewer, 1/8 - 13/1, 900 B.F.L		150	300	2.014	18.8	0	0		1.922	17.3	95.4				
N17678	R19-092	2/09/2019	Sewer, 1/8 - 13/1, F.L.		150	300	1.991	18.8	0	0		1.897	17.5	95.3				
N17680	R19-092	3/09/2019	Stormwater, 1/E - 2/E		150		1.35	39.1	0	0		1.294	38.1	95.8				
N17681	R19-092	3/09/2019	Stormwater, G58/EB - 2/E		150		1.331	40	0	0		1.28	38	96.2				
N17682	R19-092	3/09/2019	Stormwater, G59/EC - 2/E		150		1.34	40.7	0	0		1.271	38.8	94.8				
N17683	R19-092	3/09/2019	Stormwater, G60/ED - 4/E		150		1.353	40	0	0		1.293	38.8	95.6				
N17684	R19-092	3/09/2019	Stormwater, G61/EE - 4/E		150		1.329	40.2	0	0		1.291	39.3	97.1				
N17695	R19-092	6/09/2019	Stormwater , G36/DD - 4/D		150		1.41	33.3	0	0		1.369	31.3	97.1				
N17696	R19-092	6/09/2019	Stormwater , G37/DE - 4/D		150		1.46	32.7	0	0		1.405	30.7	96.2				

Client: Naric Civil Pty Ltd
Project: Riverbank Estate Stage 18B

Project Number: R19-092

Project Location: Lot 1008 Market Drive
Suburb: Caboolture South

Sample Number :	Project Number :	Date Sampled :	Location	Test Number	Test Depth	Layer Depth	MDD (t/m³)	OMC (%)	Oversize Wet (%)	Oversize Dry (%)	Oversize Density (t/m³)	Dry Density (t/m³)	Field MC (%)	Density Ratio (%)				Report No.
N17697	R19-092	6/09/2019	Stormwater , G38/DF - 6/D		150		1.446	31.5	0	0		1.385	29.9	95.8				
N17698	R19-092	6/09/2019	Stormwater , G39/DG - 6/D		150		1.41	31.9	0	0		1.377	29.9	97.7				
N17700	R19-092	2/09/2019	Stormwater, 2/E - 3/E		150		1.393	34	0	0		1.355	32	97.3				
N17701	R19-092	2/09/2019	Stormwater, 3/E - 4/E		150		1.381	34.5	0	0		1.35	32.5	97.8				
N17702	R19-092	2/09/2019	Stormwater, 4/E - 7/D		150		1.424	32.5	0	0		1.363	30.6	95.7				
N17703	R19-092	4/09/2019	Stormwater, 5/D - 6/D		150		1.437	31.4	0	0		1.389	29.4	96.7				
N17704	R19-092	4/09/2019	Stormwater, 6/D - 7/D		150		1.414	31.8	0	0		1.386	29.8	98				
N17712	R19-092	9/09/2019	Lot 965 & 964 Boundary, 500 Below F.L.		150	300	1.748	15.6	0	0		1.728	15	98.9				
N17713	R19-092	9/09/2019	Lot 963 & 962 Boundary, 500 Below F.L.		150	300	1.764	15.7	0	0		1.724	15.3	97.7				
N17714	R19-092	9/09/2019	Stormwater, 1/E - 2/E, F.L.		150	300	2.181	10.9	0	0		2.183	9.1	100.1				
N17715	R19-092	9/09/2019	Stormwater, 2/E - 3/E, F.L.		150	300	2.167	11.3	0	0		2.182	9.4	100.7				
N17716	R19-092	9/09/2019	Stormwater, 3/E - 4/E, F.L.		150	300	2.192	11	0	0		2.19	9.3	99.9				
N17717	R19-092	9/09/2019	Stormwater, 4/E - 7/D, F.L.		150	300	2.176	11.1	0	0		2.19	9.2	100.6				
N17718	R19-092	9/09/2019	Stormwater, 7/D - 6/D, F.L.		150	300	2.16	10.8	0	0		2.169	8.9	100.4				
N17719	R19-092	9/09/2019	Stormwater, 6/D - 5/D, F.L.		150	300	2.203	11.1	0	0		2.208	8.5	100.2				
N17720	R19-092	9/09/2019	Stormwater, 5/D - 4/D, F.L.		150	300	2.189	10.9	0	0		2.185	9.8	99.8				
N17721	R19-092	9/09/2019	Stormwater, 4/D - 3/D, F.L.		150	300	2.167	11.1	0	0		2.176	9.6	100.4				
N17757	R19-092	16/09/2019	Lot 965, Centre of lot, F.L.		150	300	1.97	11.3	0	0		1.872	10.4	95				
N17758	R19-092	16/09/2019	Lot 964, Centre of lot, F.L.		150	300	1.973	11.5	0	0		1.875	10.8	95				
N17759	R19-092	16/09/2019	Lot 963, Front of lot, F.L.		150	300	1.976	11.5	0	0		1.887	10.2	95.5				

Client: Naric Civil Pty Ltd
Project: Riverbank Estate Stage 18B

Project Number: R19-092

Project Location: Lot 1008 Market Drive
Suburb: Caboolture South

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Sample Number :	Project Number :	Date Sampled :	Location	Test Number :	Test Depth	Layer Depth	MDD (t/m³)	OMC (%)	Oversize Wet (%)	Oversize Dry (%)	Density (t/m³)	Density (t/m³)	Field MC (%)	Density Ratio (%)				Report No.
N17760	R19-092	16/09/2019	Lot 962, Front of lot, F.L.		150	300	1.988	11.6	0	0		1.898	10	95.5				
N17807	R19-092	18/09/2019	Road 60, CH 770, 1m Right C.L.		150		1.905	12.1	0	0		1.929	11	101.3				
N17808	R19-092	18/09/2019	Road 60, CH 1630, 1m Left C.L.		150		1.903	12.2	0	0		1.906	10.4	100.2				
N17809	R19-092	18/09/2019	Road 60, CH 830, C.L.		150		1.916	11.6	0	0		1.95	10.6	101.8				
N17810	R19-092	18/09/2019	Road 51, CH 20, C.L.		150		1.898	13.3	0	0		1.978	11.3	104.2				
N17811	R19-092	18/09/2019	Road 60, CH 920, 1m Right of C.L.		150		1.936	11.6	0	0		1.953	9.6	100.9				
N17812	R19-092	18/09/2019	Road 63, CH 70, 1m Left of C.L.		150		1.935	11.6	0	0		1.932	9.6	99.8				
N17813	R19-092	18/09/2019	Stormwater, 4/E - G6/EE, F.L.		150	300	2.168	8.2	0	0		2.182	8.1	100.6				
N17814	R19-092	18/09/2019	Stormwater, 6/D - G39/DG, F.L.		150	300	2.181	8.3	0	0		2.192	8	100.5				
N17815	R19-092	18/09/2019	Stormwater, 2/E - G58/EB, F.L.		150	300	2.181	8.6	0	0		2.177	7.9	99.8				
N17816	R19-092	18/09/2019	Stormwater, 2/E - G59/EC, F.L.		150	300	2.186	8.4	0	0		2.193	7.2	100.3				
N17817	R19-092	18/09/2019	Stormwater, 4/D - G36/DD, F.L.		150	300	2.177	8.6	0	0		2.174	8.6	99.9				
N17818	R19-092	18/09/2019	Stormwater, 4/D - G37/DE, F.L.		150	300	2.173	8.6	0	0		2.18	8.6	100.3				
N17958	R19-092	24/09/2019	Centre of lot 957, F.L.		150	300	1.748	16.3	0	0		1.753	16	100.3				
N17959	R19-092	24/09/2019	Lot 958, Back of lot, RHS, F.L.		150	300	1.742	17.8	0	0		1.721	16.8	98.8				
N17960	R19-092	24/09/2019	Lot 959, Front of lot, LHS, F.L.		150	300	1.76	16.8	0	0		1.754	16.3	99.7				
N17961	R19-092	24/09/2019	Lot 960, Centre of lot, RHS, F.L.		150	300	1.758	16	0	0		1.729	15.5	98.4				
N17962	R19-092	24/09/2019	Lot 961, Centre of lot, F.L.		150	300	1.749	15.8	0	0		1.711	14.7	97.8				
N17963	R19-092	24/09/2019	Road 60, CH 1140		150	300	1.741	16.6	0	0		1.801	16.1	103.4				
N17964	R19-092	24/09/2019	Road 60, CH 1050		150	300	1.762	16.6	0	0		1.788	16.3	101.5				

Client: Naric Civil Pty Ltd
Project: Riverbank Estate Stage 18B

Project Number: R19-092

Project Location: Lot 1008 Market Drive
Suburb: Caboolture South

Sample Number :	Project Number :	Date Sampled :	Location	Test Number	Test Depth	Layer Depth	MDD (t/m³)	OMC (%)	Oversize Wet (%)	Oversize Dry (%)	Oversize Density (t/m³)	Dry Density (t/m³)	Field MC (%)	Density Ratio (%)				Report No.
N17979	R19-092	26/09/2019	Road 60, CH 1137		150	300	2.311	5	0	0		2.315	3.2	100.2				
N17980	R19-092	26/09/2019	Road 60, CH 1050		150	300	2.326	4.2	0	0		2.323	2.8	99.9				
N17981	R19-092	26/09/2019	Sewer, HB1/3 - 4/2, Crossing, F.L.		150	300	2.335	3.8	0	0		2.275	3.1	97.4				
N17982	R19-092	26/09/2019	Sewer, 5/2 - E/2C, Crossing, F.L.		150	300	2.318	4.7	0	0		2.267	3.8	97.8				
N17983	R19-092	26/09/2019	Sewer, 6/2 - E/2D, Crossing, F.L.		150	300	2.297	4.2	0	0		2.313	3.5	100.7				
N17984	R19-092	26/09/2019	Sewer, 8/2 - E/2E, Crossing, F.L.		150	300	2.293	5.2	0	0		2.267	4.3	98.9				
N17985	R19-092	26/09/2019	Sewer, 3/3 - E/3, Crossing, F.L.		150	300	2.298	4.3	0	0		2.287	3.2	99.5				
N17986	R19-092	26/09/2019	Sewer, 3/3 - 2/3, Crossing, F.L.		150	300	1.692	18.9	0	0		1.66	17.8	98.1				
N17987	R19-092	26/09/2019	Sewer, 2/3 - E/3A, Crossing, F.L.		150	300	2.268	4.8	0	0		2.29	4.3	101				
N17988	R19-092	26/09/2019	Sewer, 2/3 - HB1/3, Crossing, F.L.		150	300	1.708	17.9	0	0		1.679	17.4	98.3				
N17989	R19-092	26/09/2019	Sewer, 3/2 - 4/2, 900 Below F.L.		150	300	1.708	18.4	0	0		1.662	17.4	97.3				
N17990	R19-092	26/09/2019	Sewer, 3/2 - 4/2, F.L.		150	300	1.709	18.5	0	0		1.68	17.6	98.3				
N17991	R19-092	26/09/2019	Sewer, 4/2 - 5/2, 900 Below F.L.		150	300	1.71	18.5	0	0		1.667	18	97.5				
N17992	R19-092	26/09/2019	Sewer, 4/2 - 5/2, F.L.		150	300	1.707	19.6	0	0		1.642	18.6	96.2				
N17993	R19-092	26/09/2019	Sewer, 5/2 - 6/2, 900 Below F.L.		150	300	1.698	19.5	0	0		1.657	17.9	97.6				
N17994	R19-092	26/09/2019	Sewer, 5/2 - 6/2, F.L.		150	300	1.708	18.4	0	0		1.675	17.4	98.1				
N17995	R19-092	26/09/2019	Sewer, 6/2 - 7/2, 900 Below F.L.		150	300	1.734	18.1	0	0		1.692	17.6	97.6				
N17996	R19-092	26/09/2019	Sewer, 6/2 - 7/2, F.L.		150	300	1.739	17.6	0	0		1.668	17	95.9				
N17997	R19-092	26/09/2019	Sewer, 7/2 - 8/2, 900 Below F.L.		150	300	1.703	18.2	0	0		1.649	17.5	96.8				
N17998	R19-092	26/09/2019	Sewer, 7/2 - 8/2, F.L.		150	300	1.736	17.3	0	0		1.713	16.8	98.7				

Client: Naric Civil Pty Ltd
Project: Riverbank Estate Stage 18B

Project Number: R19-092

Project Location: Lot 1008 Market Drive
Suburb: Caboolture South

Sample Number :	Project Number :	Date Sampled :	Location	Test Number	Test Depth	Layer Depth	MDD (t/m³)	OMC (%)	Oversize Wet (%)	Oversize Dry (%)	Oversize Density (t/m³)	Dry Density (t/m³)	Field MC (%)	Density Ratio (%)				Report No.
N17999	R19-092	26/09/2019	Sewer, 8/2 - End Cap, 900 Below F.L.		150	300	1.71	16.9	0	0		1.686	15.3	98.6				
N18000	R19-092	26/09/2019	Sewer, 8/2 - End Cap, F.L.		150	300	1.702	17	0	0		1.621	16.5	95.2				
N18196	R19-092	10/10/2019	Road 60, CH 1629, C.L.		150	150	2.222	4.9	0	0		2.205	4.7	99.2				
N18197	R19-092	10/10/2019	Road 60, CH 780, 1m Left of C.L.		150	150	2.224	5.5	0	0		2.192	5.4	98.6				
N18198	R19-092	10/10/2019	Road 60, CH 880, 1m Right of C.L.		150	150	2.218	5.8	0	0		2.193	5.5	98.9				
N18199	R19-092	10/10/2019	Road 60, CH 960, 1.4m Left of C.L.		150	150	2.21	5.4	0	0		2.202	5.3	99.6				
N18200	R19-092	10/10/2019	Road 51, CH 20, C.L.		150	150	2.24	5.2	0	0		2.208	4.8	98.6				
N18201	R19-092	10/10/2019	Road 63, CH 24, C.L.		150	150	2.235	5.4	0	0		2.223	4.3	99.5				
N18219	R19-092	11/10/2019	Road 60, CH 1620, C.L.		150	150	2.379	5.3	0	0		2.368	5	99.5				
N18220	R19-092	11/10/2019	Road 60, CH 800, 1m Right of C.L.		150	150	2.351	5.4	0	0		2.35	4.5	100				
N18221	R19-092	11/10/2019	Road 60, CH 880, 1m Left of C.L.		150	150	2.345	5.8	0	0		2.344	5	100				
N18222	R19-092	11/10/2019	Road 60, CH 960, 1m Right of C.L.		150	150	2.364	5.6	0	0		2.352	4.6	99.5				
N18223	R19-092	11/10/2019	Road 51, CH 21, C.L.		150	150	2.375	5.7	0	0		2.377	4.1	100.1				
N18224	R19-092	11/10/2019	Road 63, CH 24, C.L.		150	150	2.365	5.6	0	0		2.361	5	99.8				
N18253	R19-092	14/10/2019	Stormwater Stage 18A, G1/A - G2/A, 4m Off G1/A, F.L.		150	300	2.249	7	0	0		2.248	5.6	100				
N18254	R19-092	14/10/2019	Stormwater Stage 18A, G2/A - G3/A, 25m Off G2/A, F.L.		150	300	2.274	6.7	0	0		2.271	4.7	99.9				
N18255	R19-092	14/10/2019	Stormwater Stage 18A, G2/A - G3/A, 20m Off G3/A, F.L.		150	300	2.265	6.2	0	0		2.272	5	100.3				
N18256	R19-092	14/10/2019	Stormwater Stage 18A, G3/A - 1/A, 10m Off G3/A, 0.6m Below F.L.		150	300	2.24	6.9	0	0		2.241	6.8	100				
N18257	R19-092	14/10/2019	Stormwater Stage 18A, G3/A - 1/A, 5m Off 1/A, F.L.		150	300	2.267	6.7	0	0		2.275	5.2	100.4				
N18258	R19-092	14/10/2019	Stormwater Stage 18A, G4/AB - G3/A, 4m Off G4/AB, F.L.		150	300	2.272	6.5	0	0		2.271	4.8	100				

Client: Naric Civil Pty Ltd
Project: Riverbank Estate Stage 18B

Project Number: R19-092

Project Location: Lot 1008 Market Drive
Suburb: Caboolture South

Sample Number :	Project Number :	Date Sampled :	Location	Test Number	Test Depth	Layer Depth	MDD (t/m³)	OMC (%)	Oversize Wet (%)	Oversize Dry (%)	Oversize Density (t/m³)	Dry Density (t/m³)	Field MC (%)	Density Ratio (%)				Report No.
N18259	R19-092	14/10/2019	Stormwater Stage 18A, G5/B - G6/B, 4m Off G5/B, F.L.		150	300	2.267	6.7	0	0		2.273	5	100.3				
N18260	R19-092	14/10/2019	Stormwater Stage 18A, G6/B - 1/A, 6m Off 1/A, F.L.		150	300	2.273	6.8	0	0		2.282	5	100.4				
N18261	R19-092	14/10/2019	Stormwater Stage 18A, G54/BB - 1/A, 6m Off G54/BB, F.L.		150	300	2.265	5.9	0	0		2.266	5.6	100				
N18369	R19-092	4/10/2019	Stormwater, G3/A - 1/A, Base of pit		150		1.896	12.4	0	0		1.835	11.6	96.8				
N18370	R19-092	4/10/2019	Stormwater, G4/AB - G3/A, Base of pit		150		1.897	14	0	0		1.816	12.1	95.7				
N18371	R19-092	8/10/2019	Stormwater, G2/A - G3/A, Base of pit		150		1.885	13.3	0	0		1.834	11.8	97.3				
N18372	R19-092	9/10/2019	Stormwater, G1/A - G2/A, Base of pit		150		1.877	13.4	0	0		1.817	12.6	96.8				
N18395	R19-092	27/09/2019	Stormwater, G54/BB - 1/A, Base of pit		150		1.897	12.9	0	0		1.828	11.3	96.4				



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Appendix C

Individual Lot Certificates

October 2019

Loganholme

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BULK FILL OPERATIONS TESTING CERTIFICATE (As per AS3798-2007 - Level 1)

Riverbank Estate Stage 18A Lot 1008 Market Drive, Caboolture South

Lot 941

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 "Guidelines on Earthworks for Commercial and Residential Development".

This level one certificate verifies that up to approximately 0.8m of supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.1 – 200 Revision 2

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

C. Wilmington for and on behalf of RYAN & ASSOCIATES GEOTECHNICIAL

Enc. Drawing showing lateral extent of controlled filling

October 2019

Loganholme

9/8 Riverland Drive Loganholme QLD 4129. Ph (07) 3209 8152 Fax (07) 3209 8153 Email: s.hunter@ryangeotech.com.au www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE (As per AS3798-2007 - Level 1)

Riverbank Estate Stage 18A Lot 1008 Market Drive, Caboolture South

Lot 942

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 "Guidelines on Earthworks for Commercial and Residential Development".

This level one certificate verifies that up to approximately 0.8m of supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.1 - 200 Revision 2

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

C. Wilmington for and on behalf of RYAN & ASSOCIATES GEOTECHNICIAL

Enc. Drawing showing lateral extent of controlled filling

October 2019

Loganholme

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BULK FILL OPERATIONS TESTING CERTIFICATE (As per AS3798-2007 - Level 1)

Riverbank Estate Stage 18A Lot 1008 Market Drive. Caboolture South

Lot 943

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 "Guidelines on Earthworks for Commercial and Residential Development".

This level one certificate verifies that up to approximately 0.8m of supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.1 - 200 Revision 2

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

C. Wilmington for and on behalf of RYAN & ASSOCIATES GEOTECHNICIAL

Enc. Drawing showing lateral extent of controlled filling

October 2019



Loganholme

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BULK FILL OPERATIONS TESTING CERTIFICATE (As per AS3798-2007 - Level 1)

Riverbank Estate Stage 18A Lot 1008 Market Drive, Caboolture South

Lot 944

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 "Guidelines on Earthworks for Commercial and Residential Development".

This level one certificate verifies that up to approximately 0.8m of supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.1 - 200 Revision 2

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

This Level 1 Certification does not include backfill to service trenches or retaining walls.

A full geotechnical site investigation/classification and foundation design for the specific ground conditions should be carried out by a suitably qualified and experienced professional, prior to building when the structure type and location is known.

C. Wilmington for and on behalf of RYAN & ASSOCIATES GEOTECHNICIAL

Enc. Drawing showing lateral extent of controlled filling

October 2019

Loganholme

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BULK FILL OPERATIONS TESTING CERTIFICATE (As per AS3798-2007 - Level 1)

Riverbank Estate Stage 18A Lot 1008 Market Drive, Caboolture South

Lot 957

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 "Guidelines on Earthworks for Commercial and Residential Development".

This level one certificate verifies that up to approximately 0.8m of supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.1 – 200 Revision 2

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

This level one certificate does not cover any fill placed by others prior to or after Ryan & Associates controlled filling works.

Unless otherwise stated, this Level 1 Certification does not address any other geotechnical issues which may be relevant to building construction and serviceability.

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C. Wilmington for and on behalf of RYAN & ASSOCIATES GEOTECHNICIAL

Enc. Drawing showing lateral extent of controlled filling

October 2019

Loganholme

9/8 Riverland Drive Loganholme QLD 4129. Ph (07) 3209 8152 Fax (07) 3209 8153 Email: s.hunter@ryangeotech.com.au www.ryangeotech.com.au

BULK FILL OPERATIONS TESTING CERTIFICATE (As per AS3798-2007 - Level 1)

Riverbank Estate Stage 18A Lot 1008 Market Drive, Caboolture South

Lot 958

The results obtained from compaction control testing together with onsite supervision made during earthworks operations indicate that fill materials were consistently placed in a controlled manner and in accordance with good engineering practice. As far as could be determined the earthworks have been carried out to meet the requirements of the drawings and specifications.

The earthworks at the time of completion have been carried out to meet the requirements of Level 1 Certification as per AS3798 – 2007 "Guidelines on Earthworks for Commercial and Residential Development".

This level one certificate verifies that up to approximately 0.8m of supervised fill was placed and meets the minimum requirements of 95% standard compaction where applicable as per drawing numbered 17-002277.1 - 200 Revision 2

This level one certificate makes no reference to previous filling works if any or natural ground and its suitability to future design beyond its acceptance of passing proof rolling.

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Lot 959

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Lot 960

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Lot 961

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Lot 962

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Lot 963

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