



31st January 2025

Ref No: 1813_SEE Civil_Level 1_Flagstone City Stage 4

REPORT ON LEVEL 1 EARTHWORKS INSPECTION AND TESTING



PROJECT: FLAGSTONE CITY STAGE 4

CONTRACTOR: SEE CIVIL PTY LTD

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1 INTRODUCTION

1.0 GENERAL

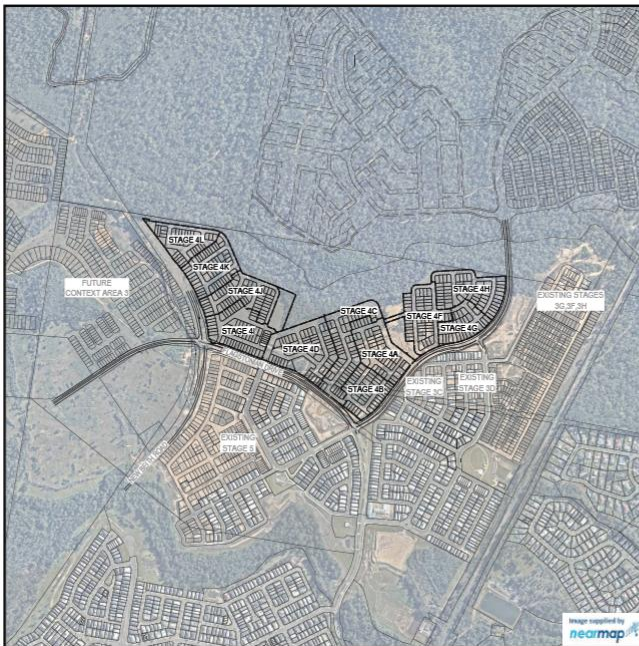
Australian Soil and Concrete Testing was commissioned by SEE Civil Pty Ltd to provide earthworks inspection and testing services on a 'Level 1' basis in accordance with Clause 8.2 of AS 3798-2007 '*Guidelines on Earthworks for Commercial and Residential Developments*'.

The fill placed on the development between 27/02/2024 and 15/01/2025 as detailed in this report is considered to be controlled Fill as defined in AS2870 – 2011 '*Residential Slabs & Footings*'.

1.1 SITE DESCRIPTION

The site is located at the Flagstone City Residential Estate off Flagstonian Drive in Queensland.

Drawing showing the Site Location.



2 WORKS AND SPECIFICATIONS

The earthworks generally comprised of Level 1 filling placed across the site and leveling and trimming of allotments. Filling was conducted by using site won materials. The fill materials were placed in layers not exceeding 200mm and moisture conditioned as required. Pad foot rollers were then utilised to compact the fill until the required density specifications were achieved. In addition to the design filling areas any allotments which fell into a cutting area were over excavated 500mm and refilled under level 1 supervision and testing.

Filling was carried out in accordance with AS3798-2007 '*Guidelines on Earthworks for Commercial and Residential Developments*' and with the project specification prepared for the project.

The specification requirements were that all fill was to be placed and compacted in layers to a density ratio of not less than 95% Standard Compaction. (AS 1289 5.8.1, 5.7.1 & 2.1.1).

3 PREVIOUS EARTHWORKS

No previous earthworks have previously been carried out at the site.

4 FILL FOUNDATION

The stripped surfaces of proposed fill areas were inspected and proof rolled prior to placement of fill. In general, the proof rolling was carried out with the equipment used to compact the fill and water truck. Compliance of the fill foundation and approval to commence filling was on the basis of:

- adequate removal of topsoil and organics
- adequate removal of soft compressible soils
- soundness (minimum deflection) under proof rolling
- Adequate benching into existing slopes/batters

5 COMPLIANCE TESTING

Test locations were randomly selected by the Geotechnical Testing Authority (GTA) Australian Soil and Concrete Testing. Compaction control tests were carried out at regular intervals throughout the placement of fill in accordance with the minimum test frequency recommendations included in the specifications. The table below summarises the test results. The test locations were not professionally surveyed and should be considered approximate.

All field density tests carried out on the structural fill meet the minimum specification requirements of 95% Standard Compaction (AS 1289 5.8.1, 5.7.1 & 2.1.1).

SUMMARY OF FIELD DENSITY TEST RESULTS

Test No	Test Date	Test Location		Test Level	Density Ratio %
109681	10/06/2024	E: 34898.288	N: 34874.366	RL: 47.942	99.0
109682	10/06/2024	E: 34874.366	N: 74546.169	RL: 48.016	97.5
109683	10/06/2024	E: 34896.161	N: 74561.530	RL: 48.234	100.5
109684	10/06/2024	E: 34881.612	N: 74553.602	RL: 48.302	96.5
109685	10/06/2024	E: 34875.228	N: 74565.668	RL: 47.703	99.5
109686	10/06/2024	E: 34895.539	N: 74588.737	RL: 48.55	102.0
109687	10/06/2024	E: 34885.135	N: 74540.675	RL: 47.883	98.0
109688	10/06/2024	E: 34876.123	N: 74532.614	RL: 47.916	103.0
109689	10/06/2024	E: 34906.161	N: 74526.161	RL: 47.111	97.0
109690	10/06/2024	E: 34911.614	N: 74544.161	RL: 48.614	95.5
109841	14/06/2024	E: 34843.116	N: 74509.113	RL: 48.819	99.5
109842	14/06/2024	E: 34849.146	N: 74516.319	RL: 48.813	99.0

109843	14/06/2024	E: 34884.613	N: 74542.169	RL: 48.961	97.5
109844	14/06/2024	E: 34876.119	N: 74542.169	RL: 48.991	101.0
109845	14/06/2024	E: 34833.189	N: 74449.613	RL: 49.963	100.0
109846	14/06/2024	E: 34863.161	N: 74506.361	RL: 48.612	97.5
109847	14/06/2024	E: 34961.119	N: 74543.624	RL: 49.693	101.0
109848	14/06/2024	E: 35419.614	N: 74625.693	RL: 46.349	99.0
109849	14/06/2024	E: 34813.528	N: 74462.563	RL: 50.230	99.0
109850	14/06/2024	E: 34821.973	N: 74478.369	RL: 50.461	98.0
110510	21/06/2024	E: 34867.443	N: 74502.658	RL: 48.612	97.5
110511	21/06/2024	E: 34863.697	N: 74514.548	RL: 48.601	100.5
110512	21/06/2024	E: 34897.016	N: 74513.691	RL: 48.788	102.0
110513	21/06/2024	E: 34898.133	N: 74543.698	RL: 49.060	98.5
110514	21/06/2024	E: 34874.832	N: 74548.407	RL: 48.690	98.5
110515	21/06/2024	E: 34836.253	N: 74442.873	RL: 49.998	99.0
110516	21/06/2024	E: 34814.951	N: 74429.080	RL: 50.686	97.0
110517	21/06/2024	E: 34837.499	N: 74527.546	RL: 47.674	97.5
110518	21/06/2024	E: 34847.896	N: 74514.369	RL: 47.694	98.5
110519	21/06/2024	E: 34868.626	N: 74534.729	RL: 47.900	97.5
110997	25/06/2024	E: 34867.443	N: 74502.658	RL: 48.612	95.5
110998	25/06/2024	E: 34669.612	N: 74566.321	RL: 48.601	96.5
110999	25/06/2024	E: 34881.412	N: 74549.612	RL: 48.743	97.5
111000	25/06/2024	E: 34961.614	N: 74543.776	RL: 49.136	95.0
111001	25/06/2024	E: 34886.121	N: 74546.113	RL: 48.701	100.0
111002	25/06/2024	E: 35414.624	N: 74637.144	RL: 46.961	101.0
111003	25/06/2024	E: 35381.730	N: 74649.617	RL: 47.721	101.5
111004	25/06/2024	E: 35436.421	N: 74611.421	RL: 51.363	99.0
111005	25/06/2024	E: 35411.418	N: 74624.63	RL: 46.184	100.5
111006	25/06/2024	E: 35446.114	N: 74659.24	RL: 46.193	100.0
111022	4/07/2024	E: 34846.125	N: 74456.847	RL: 50.535	97.5
111023	4/07/2024	E: 34831.465	N: 74458.681	RL: 50.320	99.5
111024	4/07/2024	E: 34813.528	N: 74462.597	RL: 50.230	98.5
111025	4/07/2024	E: 34809.683	N: 74475.752	RL: 49.898	100.5
111026	4/07/2024	E: 34799.726	N: 74486.885	RL: 49.935	102.5
111027	4/07/2024	E: 34778.800	N: 74495.921	RL: 49.607	98.0
111028	4/07/2024	E: 34783.567	N: 74514.151	RL: 49.353	99.5
111029	4/07/2024	E: 34700.466	N: 74529.556	RL: 49.180	100.5
111030	4/07/2024	E: 34788.403	N: 74474.406	RL: 50.114	101.5
111031	4/07/2024	E: 34821.979	N: 74473.275	RL: 50.095	101.5
111919	9/07/2024	E: 34668.297	N: 74511.892	RL: 53.663	99.0
111920	9/07/2024	E: 34662.143	N: 74518.613	RL: 53.651	97.5
111921	9/07/2024	E: 34677.315	N: 74486.842	RL: 53.885	99.5
111922	9/07/2024	E: 34673.196	N: 74481.739	RL: 53.872	96.5
111923	9/07/2024	E: 34685.583	N: 74464.436	RL: 54.237	97.0
111924	9/07/2024	E: 34681.960	N: 74451.614	RL: 54.229	99.5

111925	9/07/2024	E: 34698.934	N: 74457.566	RL: 54.452	99.5
111926	9/07/2024	E: 34693.163	N: 74451.614	RL: 54.397	98.0
111927	9/07/2024	E: 34674.242	N: 74454.998	RL: 54.213	99.0
111928	9/07/2024	E: 34678.234	N: 74461.616	RL: 54.363	98.0
112245	16/07/2024	E: 34824.935	N: 74434.775	RL: 51.630	103.5
112246	16/07/2024	E: 34829.614	N: 74461.611	RL: 51.814	102.5
112247	16/07/2024	E: 34809.356	N: 74435.735	RL: 51.546	95.5
112248	16/07/2024	E: 34802.614	N: 74441.324	RL: 51.399	99.5
112249	16/07/2024	E: 34792.167	N: 74438.683	RL: 51.392	98.0
112250	16/07/2024	E: 34794.425	N: 74456.342	RL: 51.427	98.0
112251	16/07/2024	E: 34776.329	N: 74454.965	RL: 51.287	101.0
112252	16/07/2024	E: 34770.222	N: 74467.145	RL: 51.209	95.5
112253	16/07/2024	E: 34763.184	N: 74457.619	RL: 51.196	101.5
112254	16/07/2024	E: 34751.814	N: 74453.614	RL: 52.111	95.5
112876	22/07/2024	E: 34831.614	N: 74432.164	RL: 51.461	98.5
112877	22/07/2024	E: 34816.436	N: 74449.614	RL: 51.696	95.0
112878	22/07/2024	E: 34792.816	N: 74442.161	RL: 51.513	96.0
112879	22/07/2024	E: 34790.613	N: 74459.637	RL: 51.639	98.0
112880	22/07/2024	E: 34776.219	N: 74469.613	RL: 52.021	97.5
112881	22/07/2024	E: 34776.161	N: 74459.163	RL: 51.493	97.5
112882	22/07/2024	E: 34439.613	N: 74581.619	RL: 51.269	101.5
112883	22/07/2024	E: 34424.699	N: 74581.663	RL: 50.984	99.5
112884	22/07/2024	E: 34449.003	N: 74588.581	RL: 50.346	97.5
112885	22/07/2024	E: 34466.703	N: 74580.492	RL: 49.903	98.5
112891	24/07/2024	E: 34465.881	N: 74596.144	RL: 50.196	97.0
112892	24/07/2024	E: 34372.699	N: 74568.654	RL: 56.611	97.0
112893	24/07/2024	E: 34389.811	N: 74576.161	RL: 55.994	95.5
112894	24/07/2024	E: 34383.623	N: 74577.411	RL: 54.614	100.0
112895	24/07/2024	E: 34420.261	N: 74561.362	RL: 53.061	96.5
112896	24/07/2024	E: 34389.146	N: 74592.111	RL: 55.096	97.5
112897	24/07/2024	E: 34679.632	N: 74561.636	RL: 53.694	99.0
112898	24/07/2024	E: 34696.241	N: 74492.614	RL: 53.919	96.0
112899	24/07/2024	E: 34699.616	N: 74472.779	RL: 54.616	98.0
112900	24/07/2024	E: 34698.911	N: 74464.612	RL: 54.463	96.0
113069	29/07/2024	E: 34459.88	N: 74581.20	RL: 50.19	98.0
113070	29/07/2024	E: 34452.15	N: 74584.01	RL: 49.94	95.5
113071	29/07/2024	E: 34434.07	N: 74584.58	RL: 50.14	95.0
113072	29/07/2024	E: 34431.87	N: 74572.99	RL: 50.72	95.5
113073	29/07/2024	E: 34418.68	N: 74573.23	RL: 51.06	95.5
113288	31/07/2024	E: 34372.686	N: 74568.654	RL: 56.561	100.5
113289	31/07/2024	E: 34382.864	N: 74580.668	RL: 55.936	97.0
113290	31/07/2024	E: 34396.058	N: 74562.162	RL: 54.584	98.5
113291	31/07/2024	E: 34415.201	N: 74564.259	RL: 53.070	97.5
113292	31/07/2024	E: 34394.910	N: 74596.428	RL: 55.031	99.5

115656	2/09/2024	E: 34584.113	N: 74322.164	RL: 59.196	98.0
115657	2/09/2024	E: 34602.139	N: 74334.181	RL: 66.136	101.0
115658	2/09/2024	E: 34618.990	N: 74329.636	RL: 67.026	99.0
115659	2/09/2024	E: 34627.184	N: 74325.614	RL: 67.461	98.0
115660	2/09/2024	E: 34632.161	N: 74303.161	RL: 66.261	101.0
115661	2/09/2024	E: 34596.081	N: 74347.244	RL: 60.327	101.5
115662	2/09/2024	E: 34614.001	N: 74339.133	RL: 67.844	102.5
115663	2/09/2024	E: 34628.161	N: 74321.015	RL: 67.424	98.0
115664	2/09/2024	E: 34630.185	N: 74332.965	RL: 67.713	100.5
115665	2/09/2024	E: 34639.212	N: 74310.626	RL: 66.680	99.5
115911	4/09/2024	E: 34580.780	N: 74397.507	RL: 60.183	98.0
115912	4/09/2024	E: 34577.353	N: 74410.786	RL: 60.606	99.5
115913	4/09/2024	E: 34565.548	N: 74400.433	RL: 60.465	97.0
115914	4/09/2024	E: 34565.653	N: 74421.460	RL: 59.411	96.0
115915	4/09/2024	E: 34552.535	N: 74414.186	RL: 59.430	96.0
117632	18/09/2024	E: 34572.612	N: 74413.463	RL: 60.461	100.0
117633	18/09/2024	E: 34561.363	N: 74405.184	RL: 60.481	97.0
117634	18/09/2024	E: 34569.184	N: 74425.613	RL: 59.434	99.5
117635	18/09/2024	E: 34552.514	N: 74417.630	RL: 59.612	98.0
117636	18/09/2024	E: 34557.612	N: 74414.463	RL: 59.612	100.5
117637	18/09/2024	E: 34592.614	N: 74340.327	RL: 60.426	98.5
117638	18/09/2024	E: 34629.163	N: 74335.241	RL: 67.921	99.0
117639	18/09/2024	E: 34614.263	N: 74325.161	RL: 67.532	100.5
117640	18/09/2024	E: 34621.422	N: 74330.612	RL: 67.512	99.0
117641	18/09/2024	E: 34632.422	N: 74315.121	RL: 66.724	98.0
117642	19/09/2024	E: 34543.312	N: 74481.713	RL: 56.332	97.5
117643	19/09/2024	E: 34543.443	N: 74496.744	RL: 55.841	99.5
117644	19/09/2024	E: 34538.025	N: 74505.507	RL: 55.292	99.5
117645	19/09/2024	E: 34533.425	N: 74519.634	RL: 54.841	99.0
117646	19/09/2024	E: 34530.078	N: 74529.675	RL: 54.156	97.5
117647	19/09/2024	E: 34527.253	N: 74537.830	RL: 53.728	98.5
117648	19/09/2024	E: 34511.610	N: 74478.451	RL: 57.282	96.0
117649	19/09/2024	E: 34463.131	N: 74505.470	RL: 55.937	99.5
117650	19/09/2024	E: 34439.614	N: 74516.341	RL: 55.96	96.5
117651	19/09/2024	E: 34518.126	N: 74475.361	RL: 57.312	97.0
120748	4/11/2024	E: 35215.931	N: 74713.933	RL: 49.142	100.5
120749	4/11/2024	E: 35142.617	N: 74579.452	RL: 49.808	102.0
120750	4/11/2024	E: 35078.643	N: 74547.132	RL: 50.166	100.5
120751	4/11/2024	E: 35095.643	N: 74542.806	RL: 49.902	101.5
120752	4/11/2024	E: 35107.606	N: 74555.314	RL: 49.827	98.0
120753	4/11/2024	E: 35127.814	N: 74559.232	RL: 49.717	99.5
120754	4/11/2024	E: 35114.863	N: 74541.612	RL: 49.463	98.0
120755	4/11/2024	E: 35136.918	N: 74556.613	RL: 49.612	95.0
120756	4/11/2024	E: 35149.602	N: 74569.321	RL: 49.843	97.0

120757	4/11/2024	E: 35163.121	N: 74576.123	RL: 49.861	96.0
121646	7/11/2024	E: 35034.507	N: 74710.186	RL: 51.894	101.5
121647	7/11/2024	E: 35034.678	N: 74695.202	RL: 52.429	98.5
121648	7/11/2024	E: 35038.086	N: 74678.182	RL: 52.747	98.5
121649	7/11/2024	E: 35041.938	N: 74657.494	RL: 53.051	100.0
121650	7/11/2024	E: 35059.307	N: 74652.216	RL: 52.434	96.5
121651	7/11/2024	E: 35231.764	N: 74736.266	RL: 49.143	101.0
121652	7/11/2024	E: 35162.143	N: 74611.913	RL: 49.564	96.5
121653	7/11/2024	E: 35196.423	N: 74649.423	RL: 49.623	98.0
121654	7/11/2024	E: 35200.261	N: 74663.614	RL: 49.216	96.5
121655	7/11/2024	E: 35216.964	N: 74679.613	RL: 49.234	102.0
122325	25/11/2024	E: 35041.514	N: 74721.627	RL: 51.961	97.5
122326	25/11/2024	E: 35031.611	N: 74991.212	RL: 52.612	98.0
122327	25/11/2024	E: 35059.619	N: 74991.212	RL: 52.911	100.0
122328	25/11/2024	E: 35042.614	N: 74662.349	RL: 53.426	97.5
122329	25/11/2024	E: 35063.186	N: 74679.880	RL: 52.622	99.0
122330	25/11/2024	E: 35226.702	N: 74741.006	RL: 49.563	99.0
122331	25/11/2024	E: 35229.613	N: 74636.266	RL: 49.863	97.0
122332	25/11/2024	E: 35187.029	N: 74671.611	RL: 49.881	96.5
122333	25/11/2024	E: 35211.216	N: 74671.614	RL: 49.863	100.5
122334	25/11/2024	E: 35204.216	N: 74663.789	RL: 49.361	98.0
122335	26/11/2024	E: 35226.143	N: 74723.964	RL: 49.169	97.5
122336	26/11/2024	E: 35229.614	N: 74709.318	RL: 49.263	95.0
122337	26/11/2024	E: 35236.141	N: 74720.323	RL: 49.061	97.5
122338	26/11/2024	E: 35226.163	N: 74722.632	RL: 48.961	96.0
122339	26/11/2024	E: 35201.612	N: 74714.612	RL: 49.102	99.5
122340	26/11/2024	E: 35166.216	N: 74566.261	RL: 49.961	97.5
122341	26/11/2024	E: 35163.126	N: 74569.247	RL: 49.896	97.0
122342	26/11/2024	E: 35126.161	N: 74587.142	RL: 49.912	98.0
122343	26/11/2024	E: 35096.161	N: 74546.163	RL: 50.169	96.5
122344	26/11/2024	E: 35082.003	N: 74549.614	RL: 49.996	97.0
122350	27/11/2024	E: 34165.096	N: 74739.423	RL: 53.642	98.0
122351	27/11/2024	E: 34181.263	N: 74761.261	RL: 53.001	97.5
122352	27/11/2024	E: 34190.612	N: 74785.337	RL: 51.861	95.5
122353	27/11/2024	E: 34172.213	N: 74787.290	RL: 52.018	98.5
122354	27/11/2024	E: 34142.263	N: 74789.261	RL: 52.861	96.5
122355	27/11/2024	E: 34135.263	N: 74750.616	RL: 53.489	96.0
122356	27/11/2024	E: 34127.677	N: 74732.800	RL: 54.361	98.5
122357	27/11/2024	E: 34143.229	N: 74725.618	RL: 54.632	96.0
122358	27/11/2024	E: 34163.161	N: 74719.613	RL: 55.029	98.0
122359	27/11/2024	E: 34112.621	N: 74708.118	RL: 55.750	96.5
122360	28/11/2024	E: 34841.613	N: 74596.161	RL: 48.361	95.5
122361	28/11/2024	E: 34826.143	N: 74583.902	RL: 48.163	96.5
122362	28/11/2024	E: 34806.342	N: 74568.761	RL: 48.416	98.5

122363	28/11/2024	E: 34849.614	N: 74566.361	RL: 48.513	97.5
122364	28/11/2024	E: 34859.623	N: 74596.629	RL: 48.562	97.5
122365	28/11/2024	E: 34535.161	N: 74562.197	RL: 51.861	100.0
122366	28/11/2024	E: 34575.416	N: 74475.362	RL: 54.951	99.5
122367	28/11/2024	E: 34525.143	N: 74447.663	RL: 58.031	100.5
122368	28/11/2024	E: 34492.161	N: 74492.161	RL: 55.561	98.0
122369	28/11/2024	E: 34475.116	N: 74532.163	RL: 53.369	99.0
122370	29/11/2024	E: 34852.813	N: 74596.226	RL: 48.861	100.5
122371	29/11/2024	E: 34820.890	N: 74584.290	RL: 48.714	96.5
122372	29/11/2024	E: 34817.740	N: 74564.039	RL: 48.968	100.0
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122374	29/11/2024	E: 34856.555	N: 74584.593	RL: 48.939	100.0
122375	29/11/2024	E: 34539.665	N: 74564.363	RL: 52.084	100.5
122376	29/11/2024	E: 34570.649	N: 74479.566	RL: 55.222	98.5
122377	29/11/2024	E: 34529.225	N: 74444.069	RL: 58.264	99.0
122378	29/11/2024	E: 34488.273	N: 74491.481	RL: 55.720	97.5
122379	29/11/2024	E: 34471.607	N: 74537.845	RL: 53.568	100.0
122652	6/12/2024	CH: 960	Centre Line	0.5m Below FL	101.0
122653	6/12/2024	CH: 940	Centre Line	0.5m Below FL	101.0
122654	6/12/2024	CH: 920	Centre Line	0.5m Below FL	99.5
122655	6/12/2024	CH:900	Centre Line	0.5m Below FL	101.5
122656	6/12/2024	CH:880	Centre Line	0.5m Below FL	101.5
122657	6/12/2024	CH:860	Centre Line	0.5m Below FL	99.5
122658	6/12/2024	CH:840	Centre Line	0.5m Below FL	101.0
122659	6/12/2024	CH:820	Centre Line	0.5m Below FL	100.0
122660	6/12/2024	CH:800	Centre Line	0.5m Below FL	101.0
122661	6/12/2024	CH:780	Centre Line	0.5m Below FL	100.5
122930	9/12/2024	E: 34160.047	N: 74732.998	RL: 54.025	95.0
122931	9/12/2024	E: 34175.489	N: 74756.620	RL: 53.245	99.5
122932	9/12/2024	E: 34194.180	N: 74780.086	RL: 52.149	99.0
122933	9/12/2024	E: 34165.502	N: 74790.978	RL: 52.589	98.5
122934	9/12/2024	E: 34147.622	N: 74777.576	RL: 53.353	98.0
122935	9/12/2024	E: 34143.042	N: 74754.903	RL: 53.961	99.0
122936	9/12/2024	E: 34123.538	N: 74737.612	RL: 54.765	98.0
122937	9/12/2024	E: 34130.328	N: 74727.245	RL: 55.021	97.0
122938	9/12/2024	E: 34114.073	N: 74722.615	RL: 55.336	100.0
122939	9/12/2024	E: 34117.161	N: 74709.670	RL: 55.754	96.0
123579	7/01/2025	E: 34164.237	N: 74819.951	RL: 50.348	97.5
123580	7/01/2025	E: 34171.348	N: 74831.770	RL: 49.648	96.0
123581	7/01/2025	E: 34173.939	N: 74821.301	RL: 49.476	95.5
123582	7/01/2025	E: 34183.456	N: 74816.213	RL: 49.476	98.0
123583	7/01/2025	E: 34167.764	N: 74808.823	RL: 50.776	97.5
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124183	8/01/2025	E: 34201.391	N: 74835.299	RL: 47.367	100.0

124184	8/01/2025	E: 34211.197	N: 74849.249	RL: 47.025	98.5
124185	8/01/2025	E: 34214.674	N: 74865.793	RL: 46.864	99.0
124186	8/01/2025	E: 34221.163	N: 74855.243	RL: 46.819	98.0
124188	15/01/2025	E: 34124.648	N: 74704.599	RL: 56.413	99.5
124189	15/01/2025	E: 34117.121	N: 74716.123	RL: 56.369	101.0
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124195	15/01/2025	E: 34102.897	N: 74709.239	RL: 56.894	99.5
124196	15/01/2025	E: 34123.621	N: 74723.102	RL: 56.912	99.0
124197	15/01/2025	E: 34113.161	N: 74736.142	RL: 56.166	97.5

No. of Tests: 245 Mean: 98.6 %

6 CONCLUSION

Based on the observations made by Australian Soil and Concrete Testing and the test results obtained during construction, as far as we have been able to determine, the structural fill placed between the 27/02/2024 and 15/01/2025 is considered to have been carried out in general accordance with AS 3798-2007 *'Guidelines on Earthworks for Commercial and Residential Developments'*.

7 LIMITATIONS

Unless otherwise stated in this report, this report does not include: Backfill behind retaining structures, Backfill to service trenches, Road Pavements, Any Topsoil placed on the site, Slope Stability or Site Drainage.

Please do not hesitate to contact me if you have any queries.

Yours faithfully








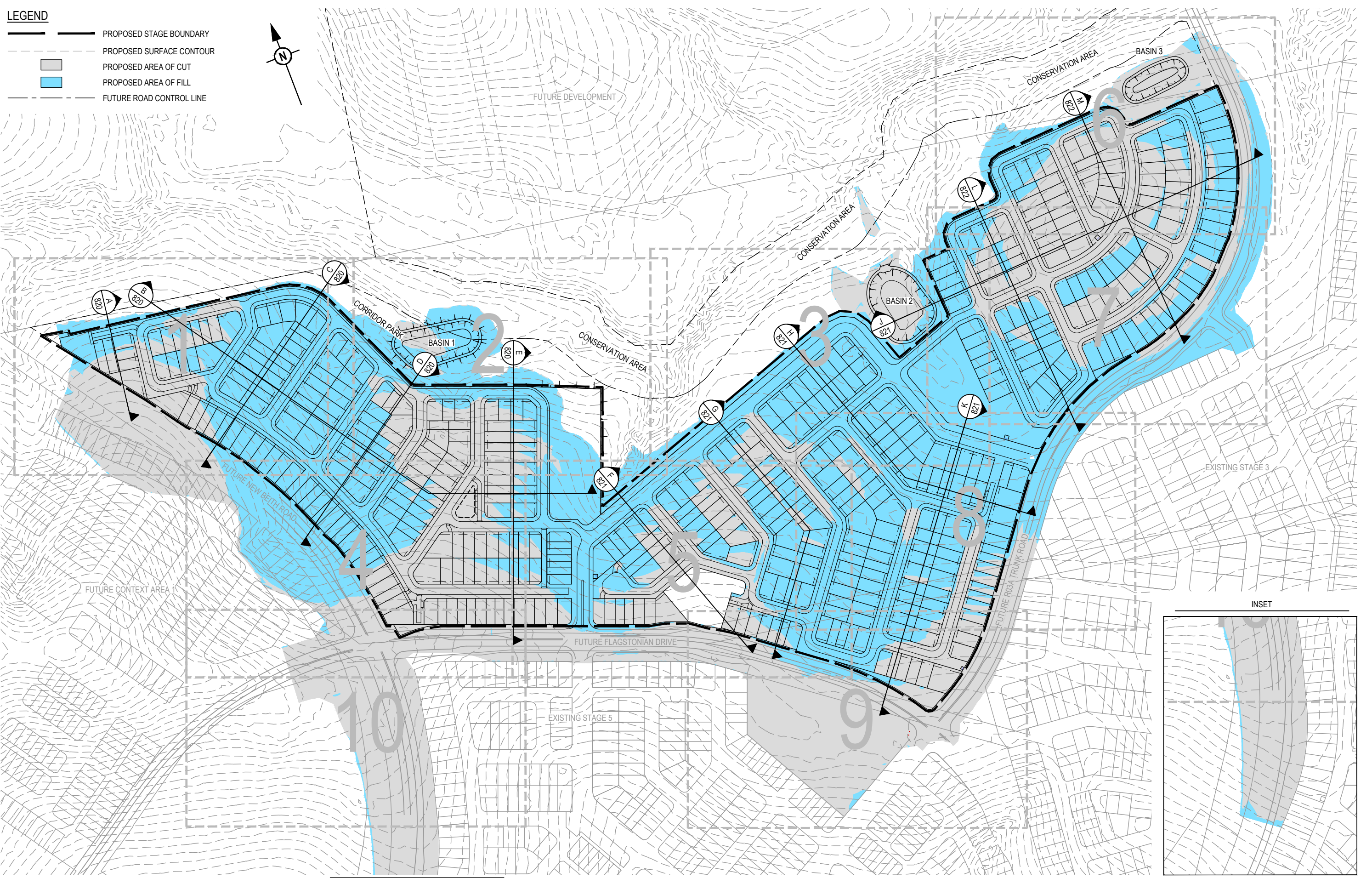
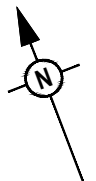
Jason Mckenna
 Laboratory Manager
 ASCT Brisbane South

Appendix A

Earthworks Drawings

LEGEND

-  PROPOSED STAGE BOUNDARY
-  PROPOSED SURFACE CONTOUR
-  PROPOSED AREA OF CUT
-  PROPOSED AREA OF FILL
-  FUTURE ROAD CONTROL LINE

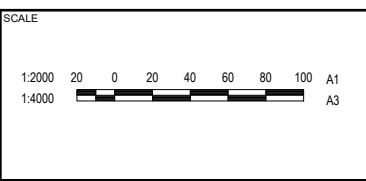


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DESIGN	APPROVED
TR	DANIEL COLLINS RPEQ 18631
FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD	



CLIENT
PEET FLAGSTONE CITY Pty. Ltd.





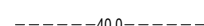

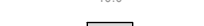



ASSOCIATED CONSULTANT
VERIS
PHONE: (07) 3666 4700

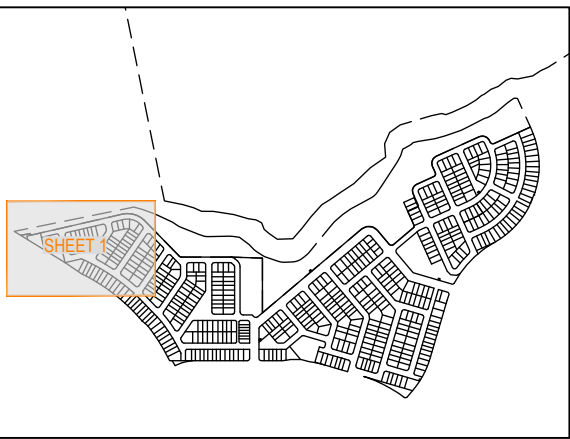
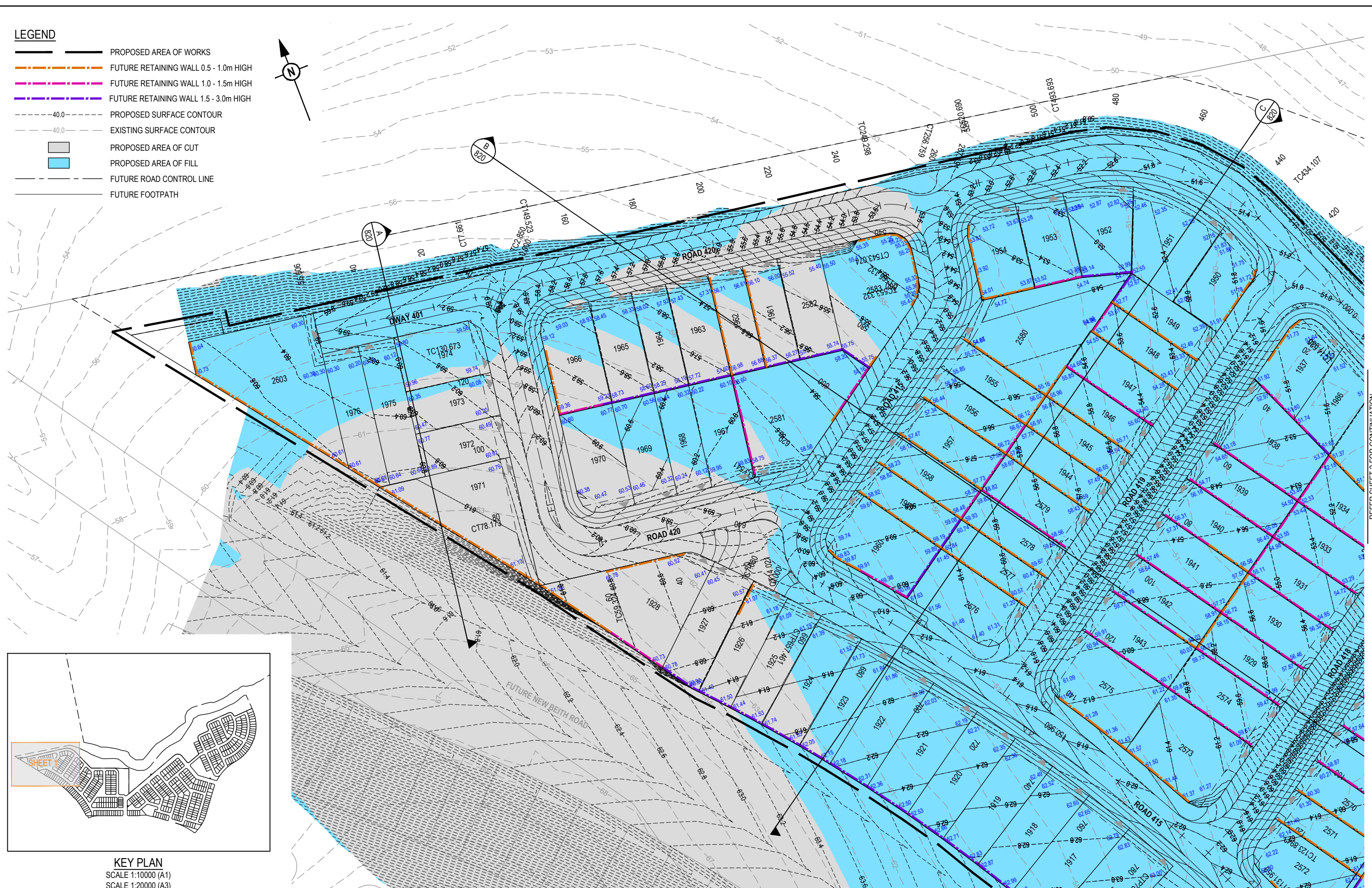
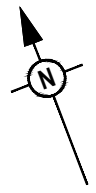
PROJECT NAME
**BULK EARTHWORKS
FLAGSTONE STAGE 4**

FLAGSTONIAN DRIVE
FLAGSTONE

DRAWING TITLE BULK EARTHWORKS OVERALL LAYOUT PLAN		
PROJECT No. 23-0202	DRAWING No. 810	REVISION 0

LEGEND

-  PROPOSED AREA OF WORKS
-  FUTURE RETAINING WALL 0.5 - 1.0m HIGH
-  FUTURE RETAINING WALL 1.0 - 1.5m HIGH
-  FUTURE RETAINING WALL 1.5 - 3.0m HIGH
-  40.0 PROPOSED SURFACE CONTOUR
-  40.0 EXISTING SURFACE CONTOUR
-  PROPOSED AREA OF CUT
-  PROPOSED AREA OF FILL
-  FUTURE ROAD CONTROL LINE
-  FUTURE FOOTPATH



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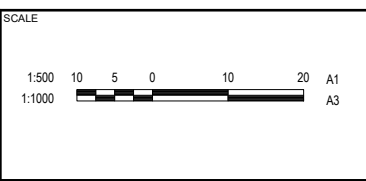
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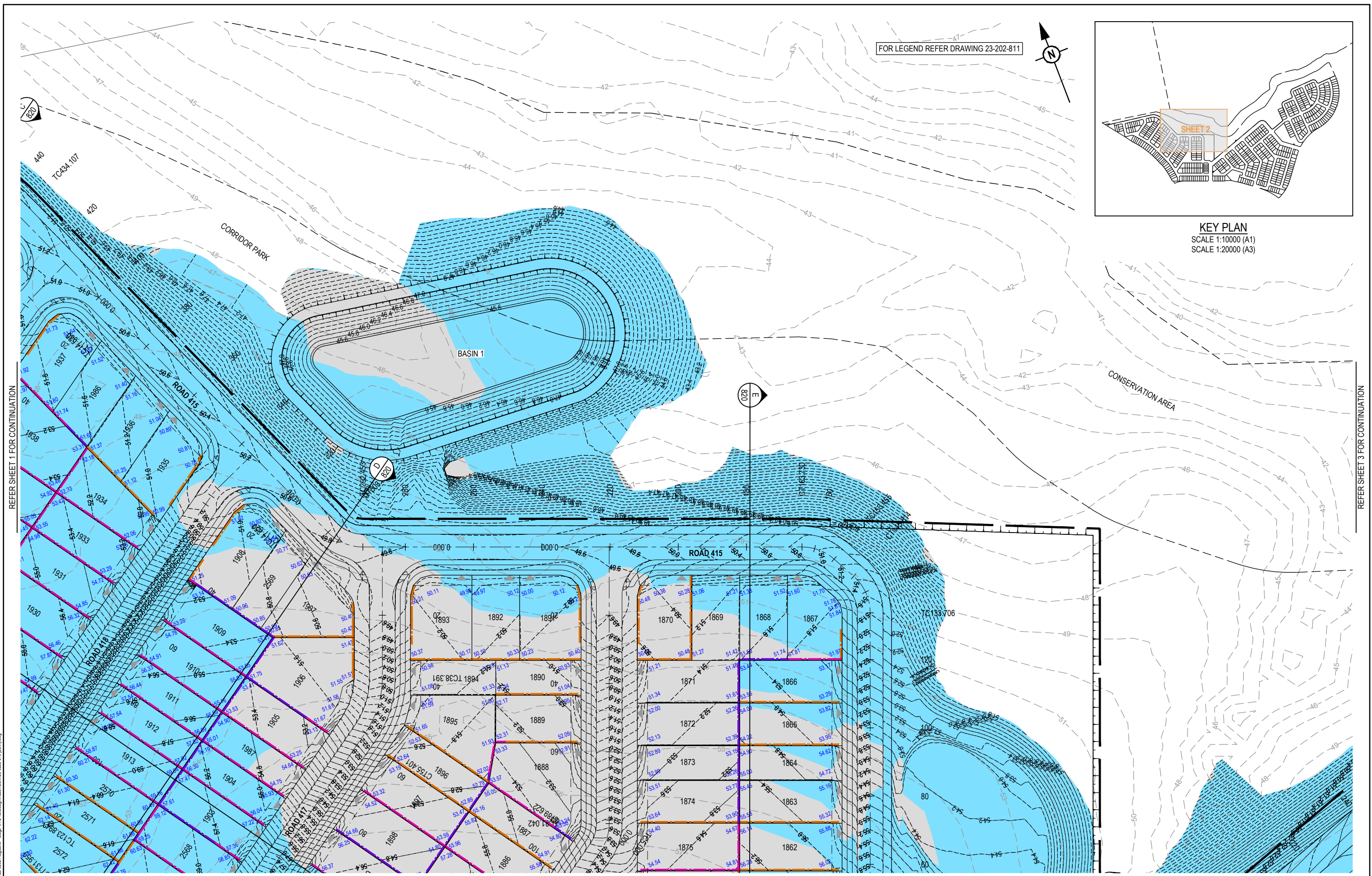
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TR	DANIEL COLLINS RPEQ 18631



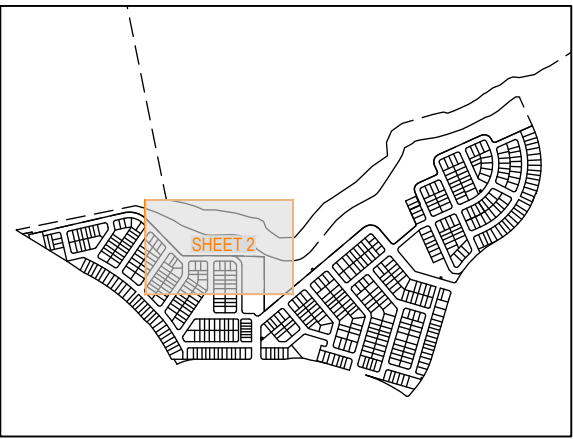
CLIENT	PEET FLAGSTONE CITY Pty. Ltd.
ASSOCIATED CONSULTANT	VERIS PHONE: (07) 3666 4700

PROJECT NAME	BULK EARTHWORKS FLAGSTONE STAGE 4
FLAGSTONIAN DRIVE FLAGSTONE	

DRAWING TITLE		
BULK EARTHWORKS LAYOUT PLAN SHEET 1 OF 10		
PROJECT No.	DRAWING No.	REVISION
23-0202	811	0



FOR LEGEND REFER DRAWING 23-202-811



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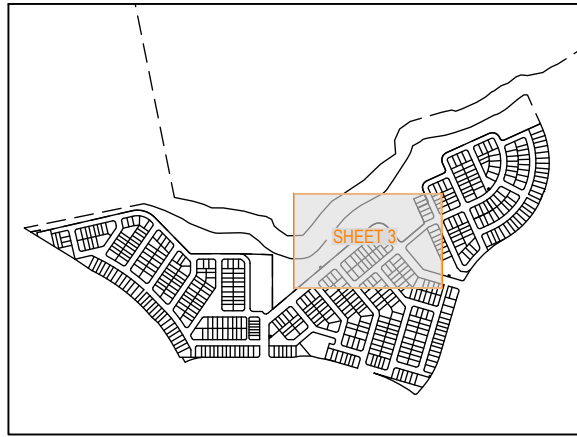
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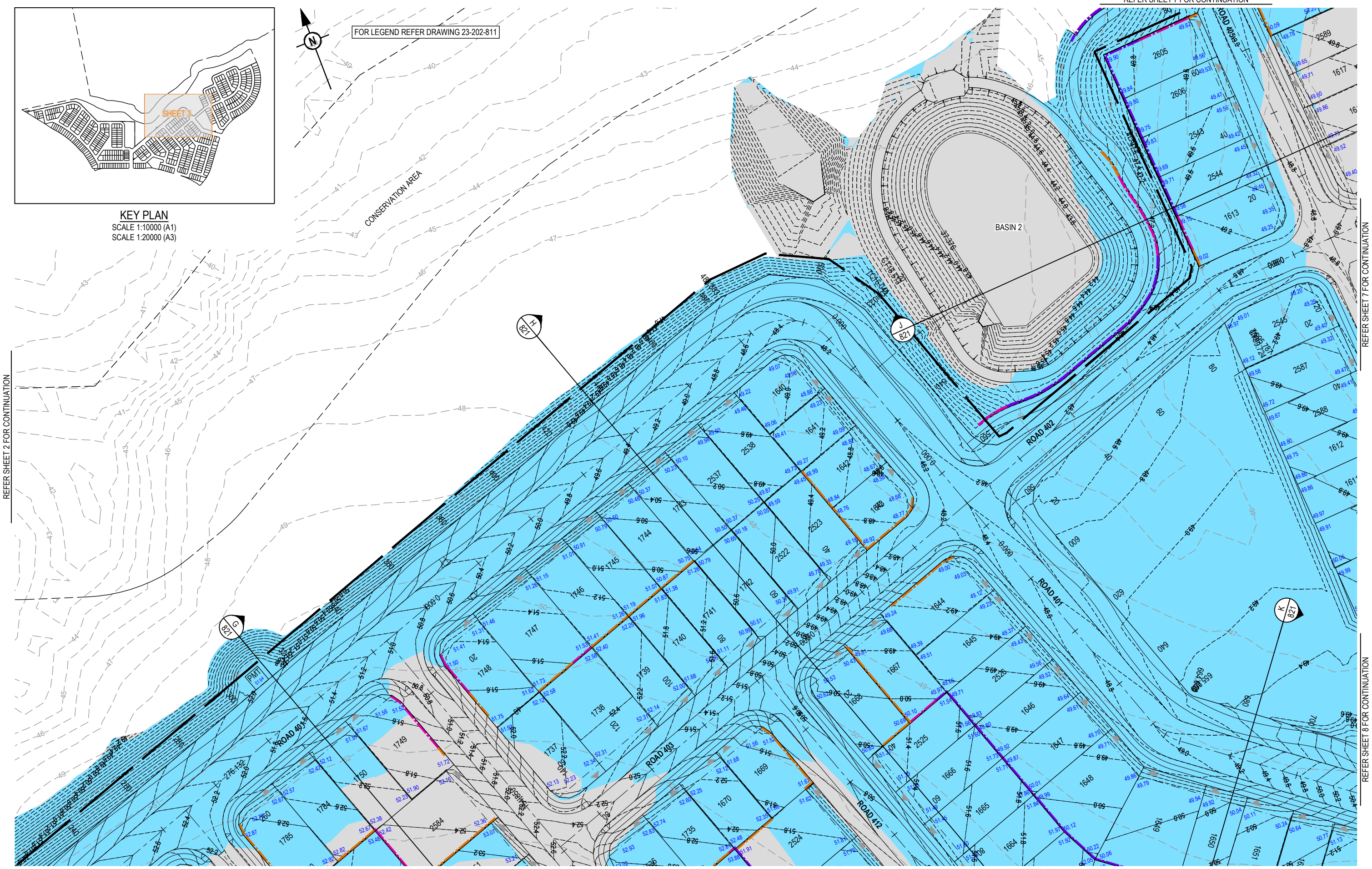
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CONSERVATION AREA

BASIN 2

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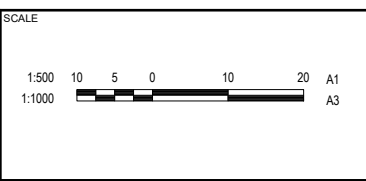
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DESIGN	APPROVED
TR	DANIEL COLLINS RPEQ 18631



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PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT
VERIS
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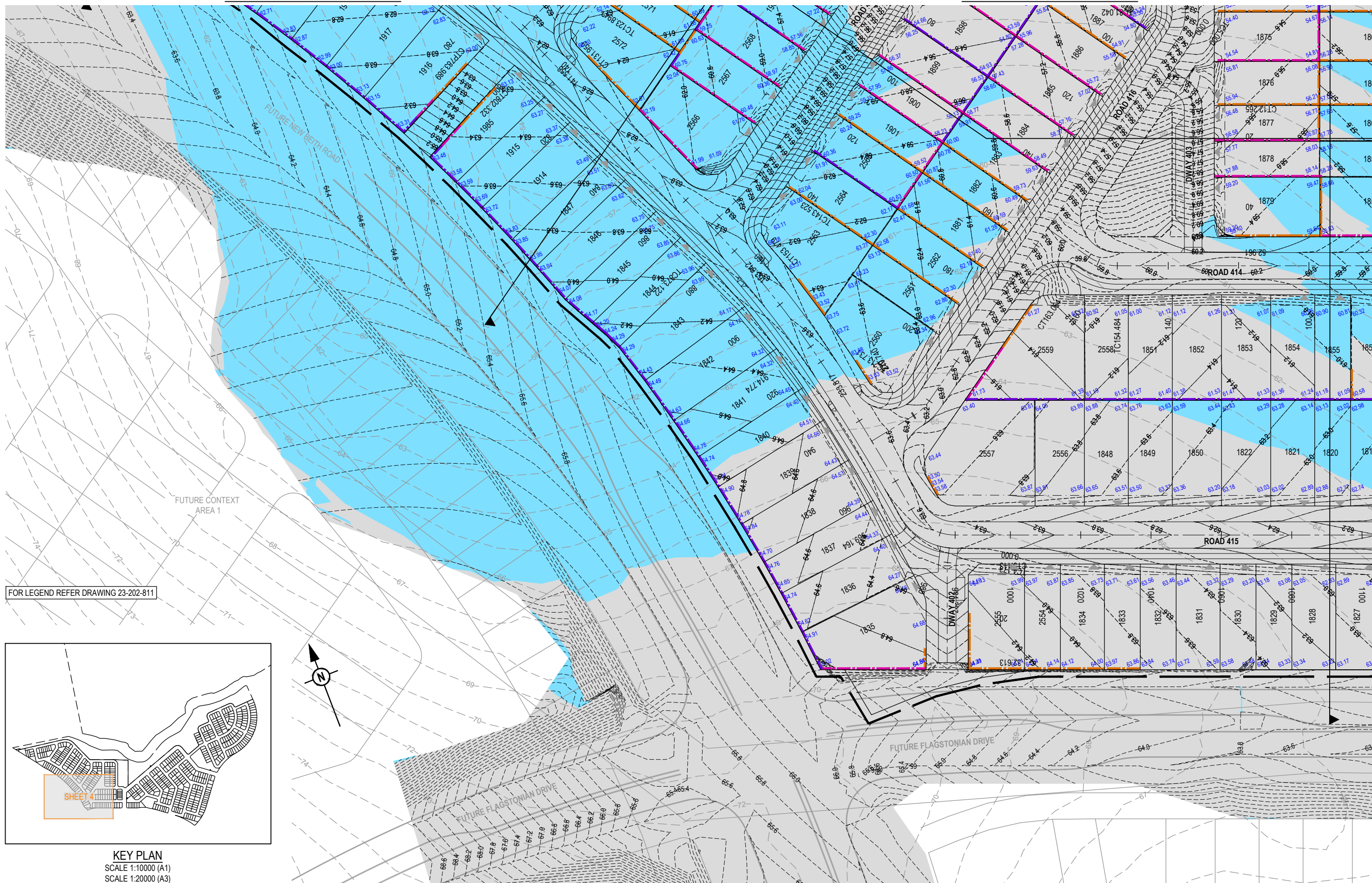
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FLAGSTONE STAGE 4**

FLAGSTONIAN DRIVE
FLAGSTONE

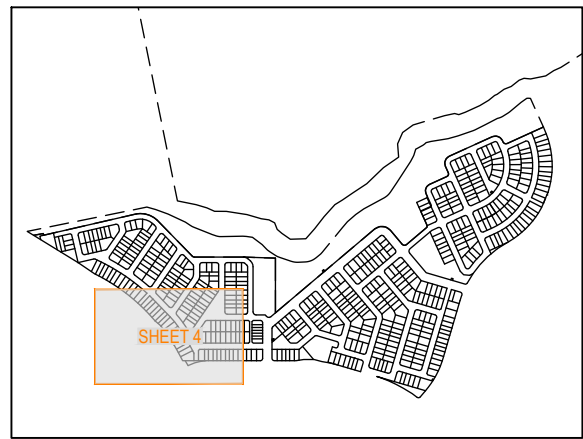
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FOR LEGEND REFER DRAWING 23-202-811



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DESIGN	APPROVED
TR	DANIEL COLLINS RPEQ 18631



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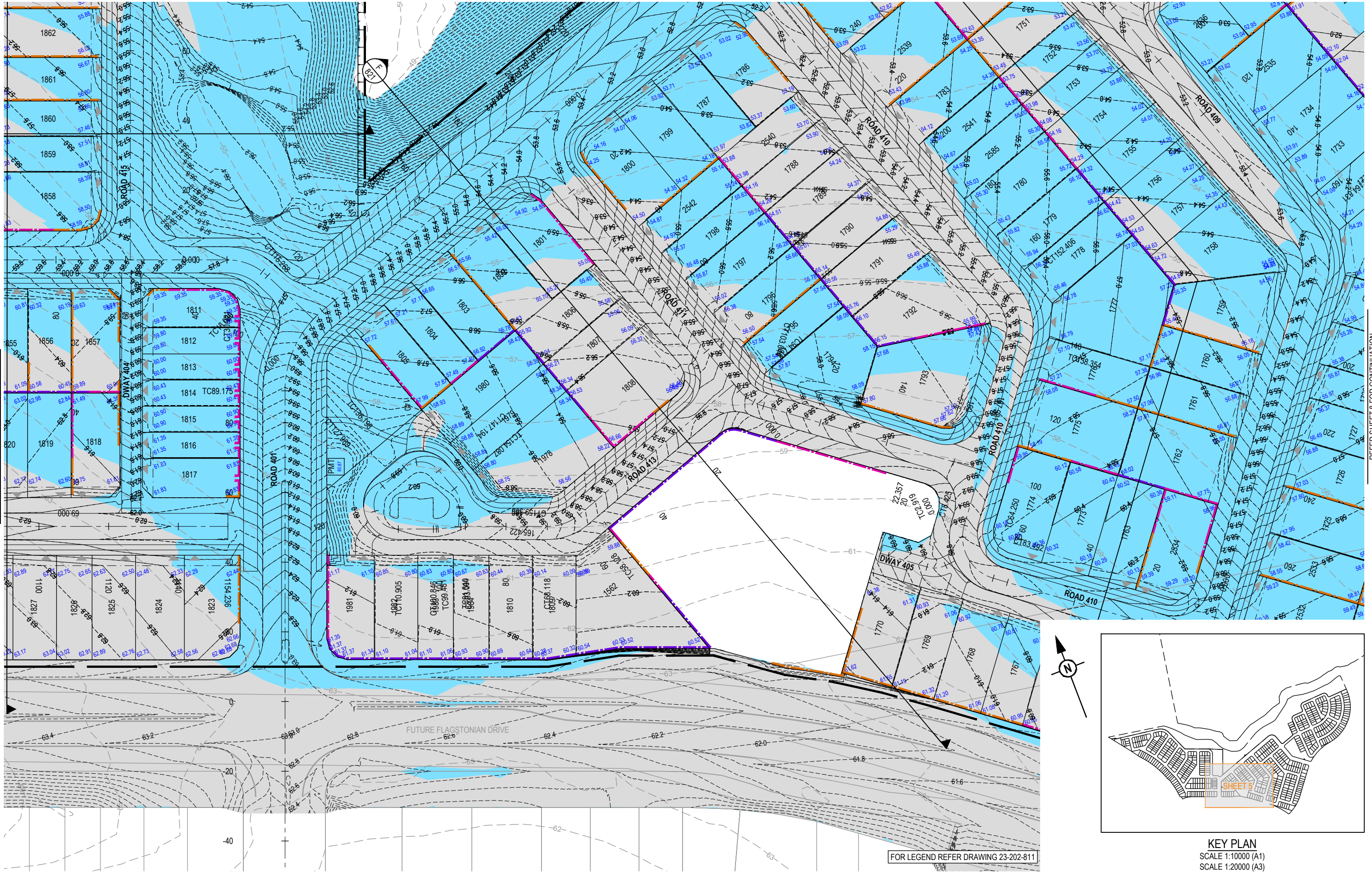
CLIENT
PEET FLAGSTONE CITY Pty. Ltd.
ASSOCIATED CONSULTANT
VERIS PHONE: (07) 3666 4700

PROJECT NAME
BULK EARTHWORKS FLAGSTONE STAGE 4
PROJECT No.
23-0202
DRAWING No.
814
REVISION
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DRAWING TITLE
BULK EARTHWORKS LAYOUT PLAN SHEET 4 OF 10

REFER SHEET 2 FOR CONTINUATION

REFER SHEET 3 FOR CONTINUATION



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DESIGN	APPROVED DANIEL COLLINS RPEQ 18631
TR	FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD



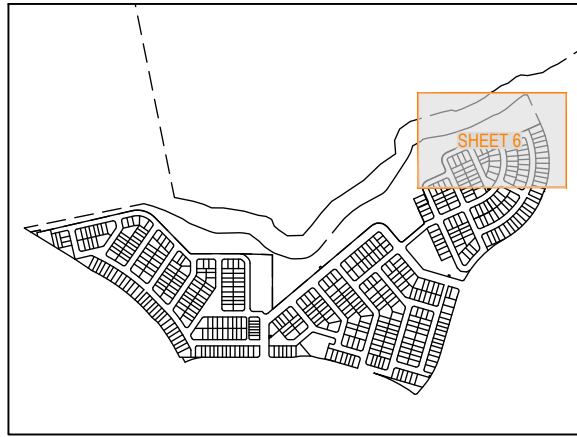
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CLIENT
PEET FLAGSTONE CITY Pty. Ltd.
ASSOCIATED CONSULTANT
VERIS PHONE: (07) 3666 4700

PROJECT NAME
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DRAWING TITLE
BULK EARTHWORKS LAYOUT PLAN SHEET 5 OF 10

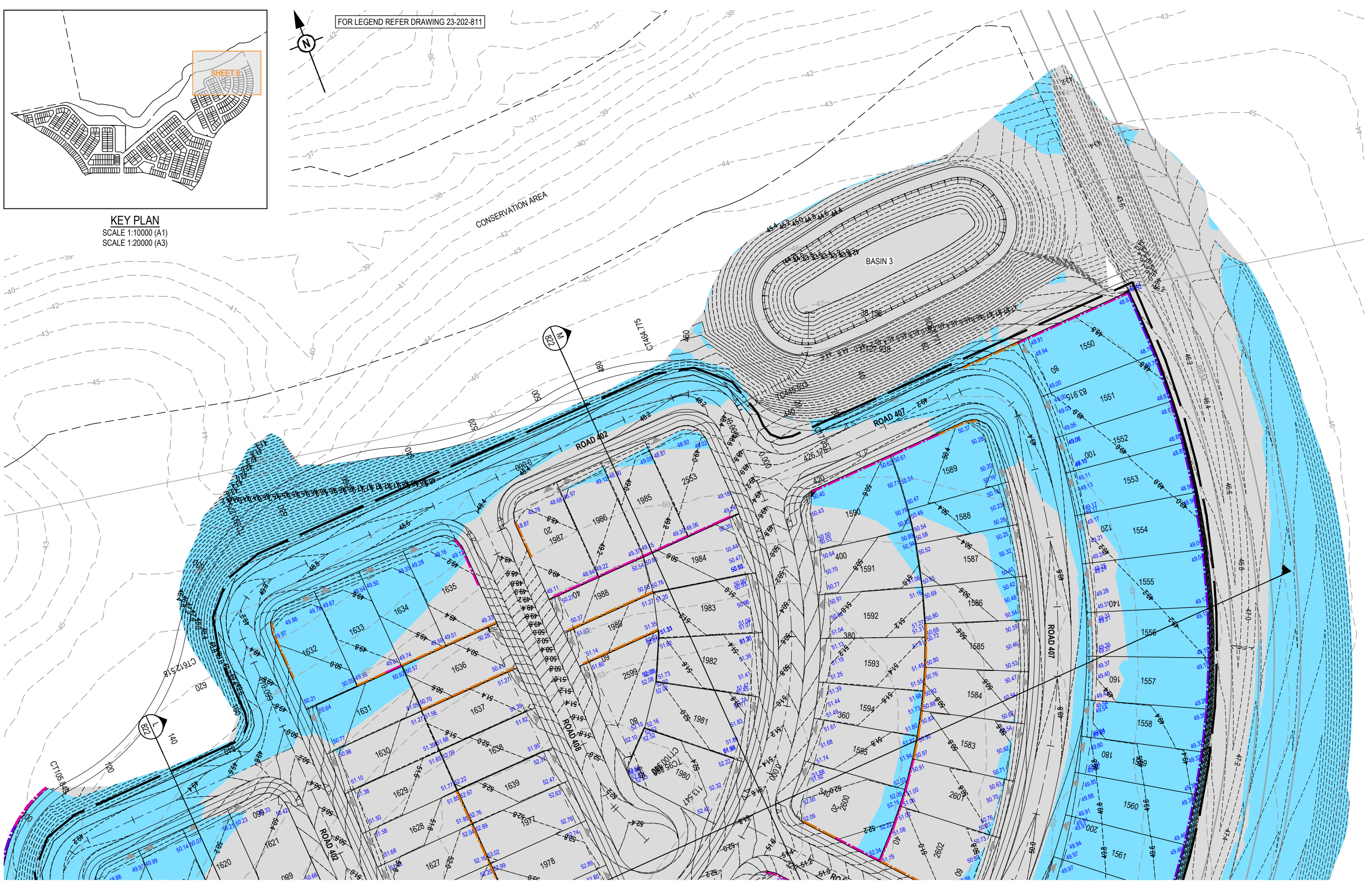
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DESIGN	APPROVED
TR	DANIEL COLLINS RPEQ 18631



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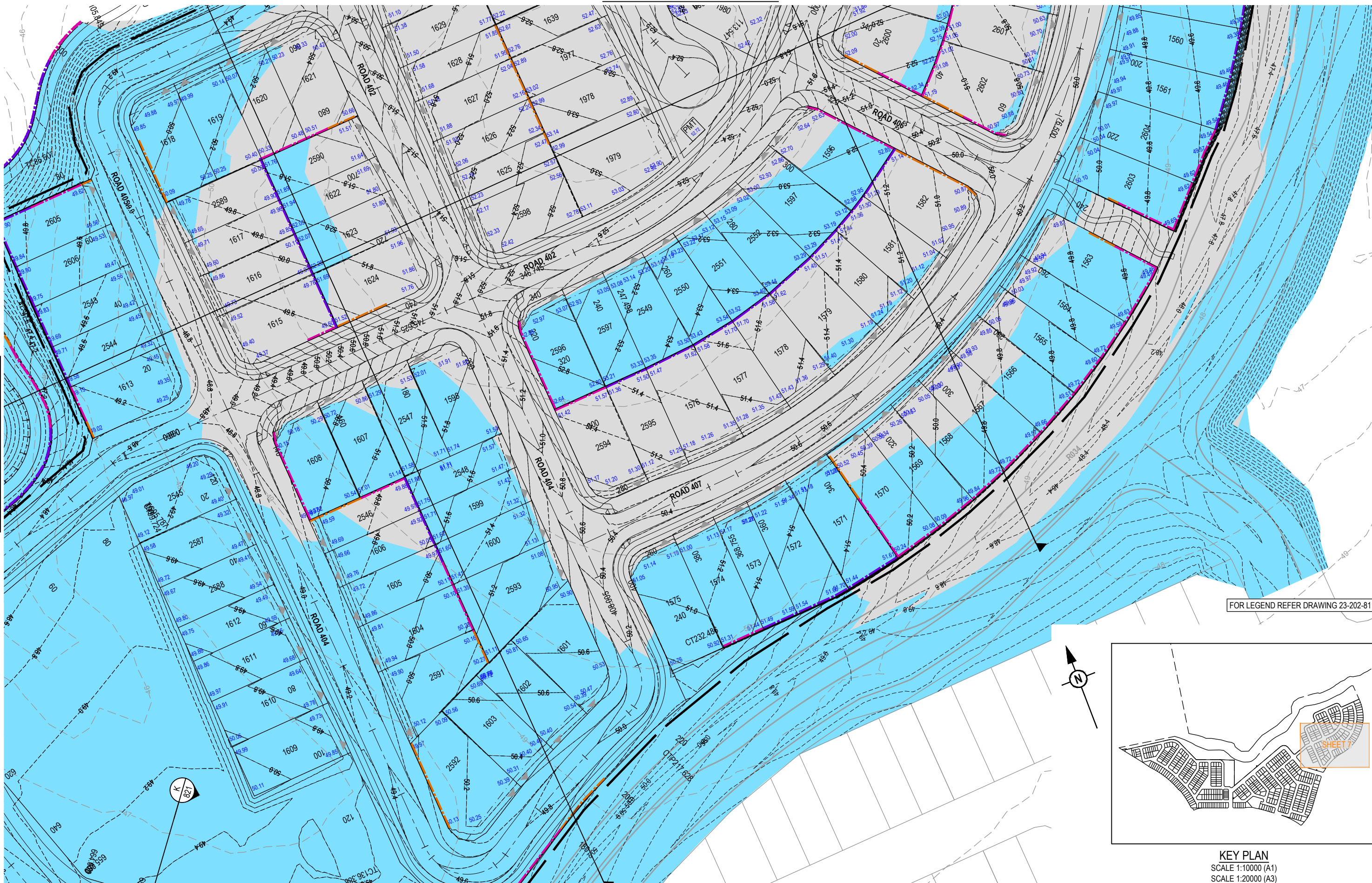
CLIENT
PEET FLAGSTONE CITY Pty. Ltd.
ASSOCIATED CONSULTANT
VERIS PHONE: (07) 3666 4700

PROJECT NAME
BULK EARTHWORKS FLAGSTONE STAGE 4
LOCATION
FLAGSTONIAN DRIVE FLAGSTONE

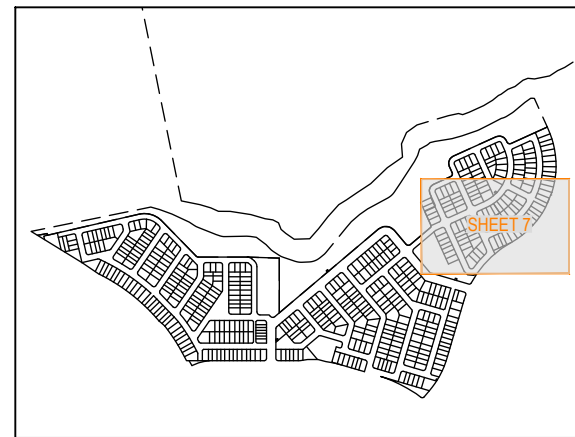
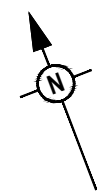
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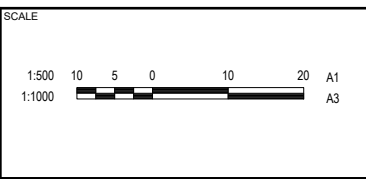
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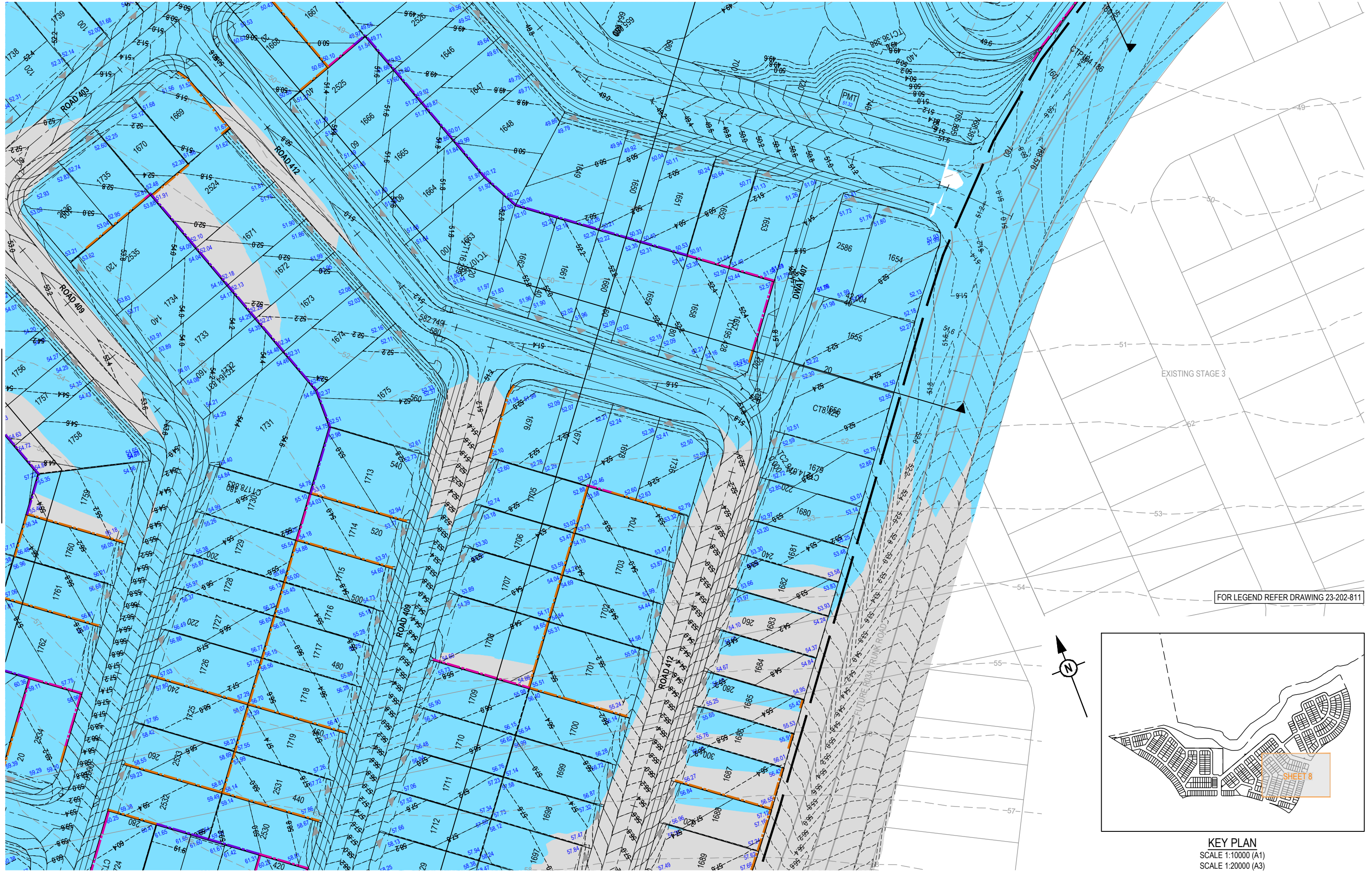
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DESIGN	APPROVED DANIEL COLLINS RPEQ 18631
TR	FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD



CLIENT	PEET FLAGSTONE CITY Pty. Ltd.
ASSOCIATED CONSULTANT	VERIS PHONE: (07) 3666 4700

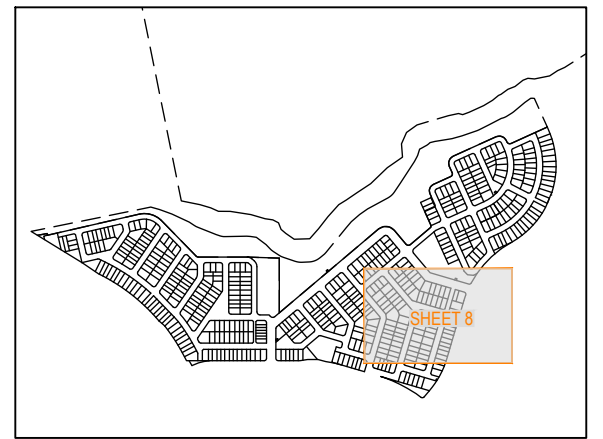
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PROJECT No.	23-0202
DRAWING No.	817
REVISION	0



EXISTING STAGE 3

FOR LEGEND REFER DRAWING 23-202-811



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DESIGN	APPROVED
TR	DANIEL COLLINS RPEQ 18631
FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD	



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CLIENT	PEET FLAGSTONE CITY Pty. Ltd.
ASSOCIATED CONSULTANT	VERIS PHONE: (07) 3666 4700

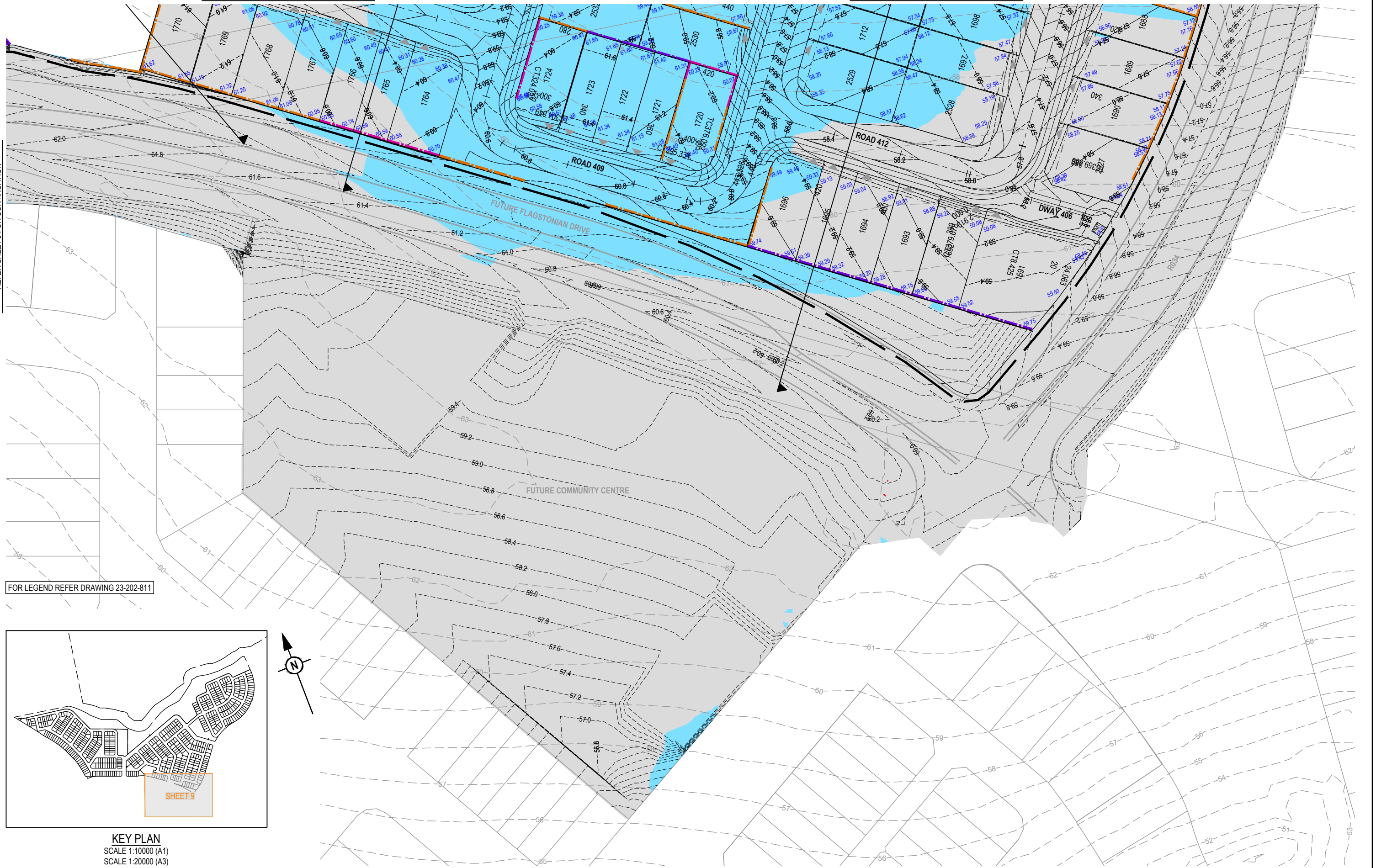
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FLAGSTONIAN DRIVE FLAGSTONE	

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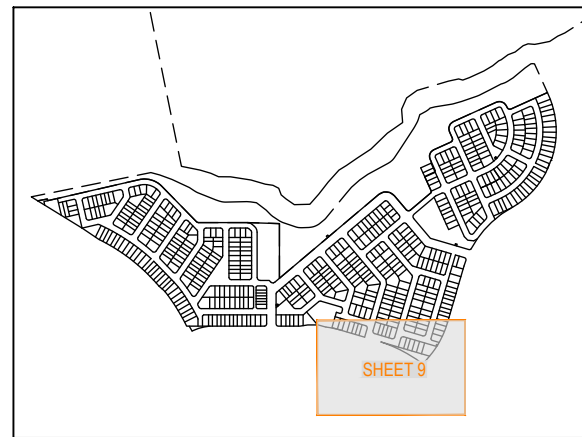
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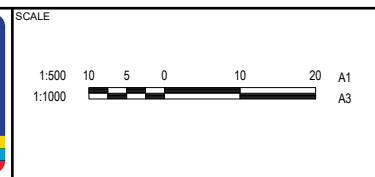
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TR	FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD



CLIENT
PEET FLAGSTONE CITY Pty. Ltd.
ASSOCIATED CONSULTANT VERIS PHONE: (07) 3666 4700

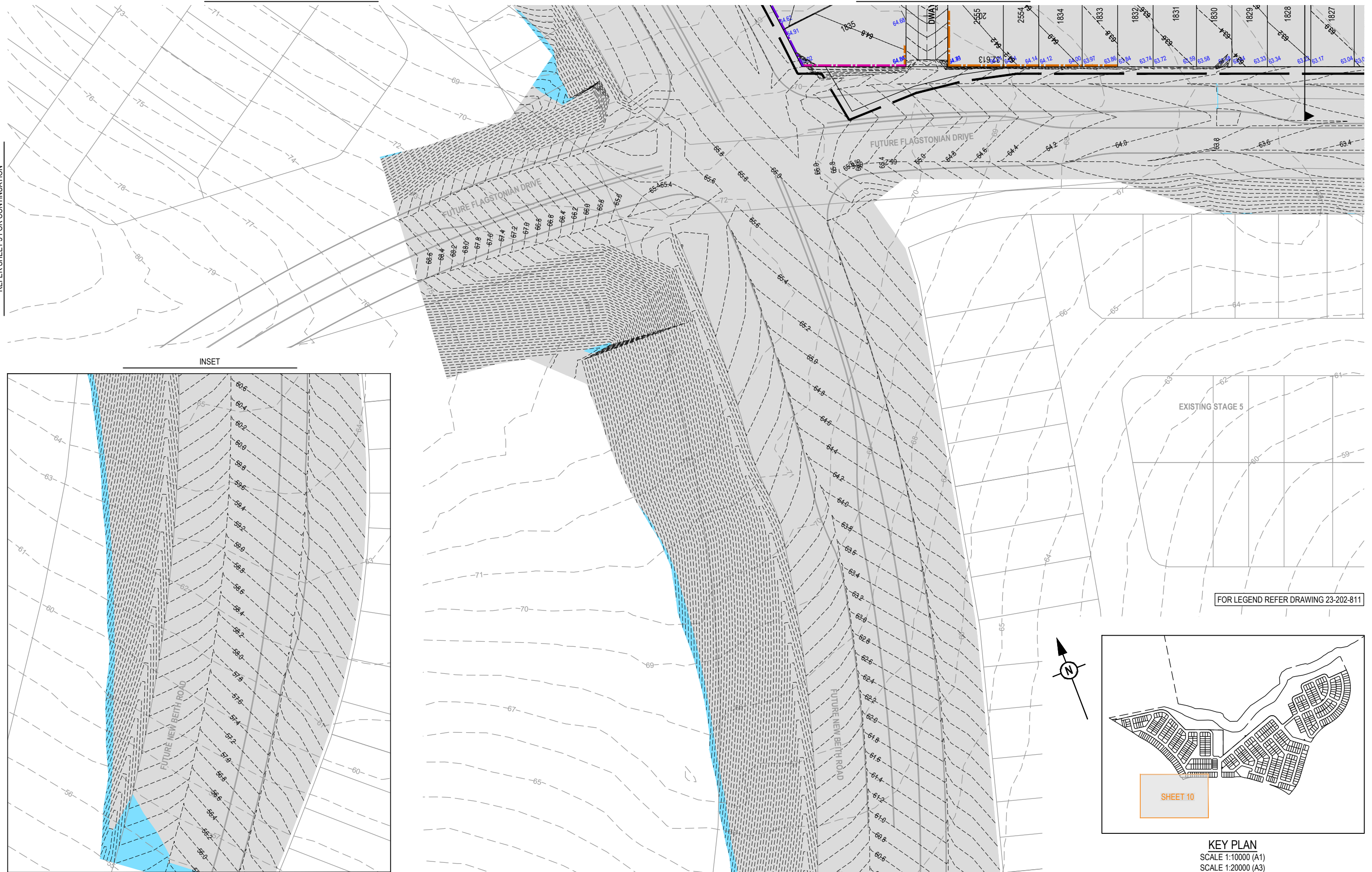
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BULK EARTHWORKS FLAGSTONE STAGE 4
FLAGSTONIAN DRIVE FLAGSTONE

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BULK EARTHWORKS LAYOUT PLAN SHEET 9 OF 10		
PROJECT No. 23-0202	DRAWING No. 819	REVISION 0

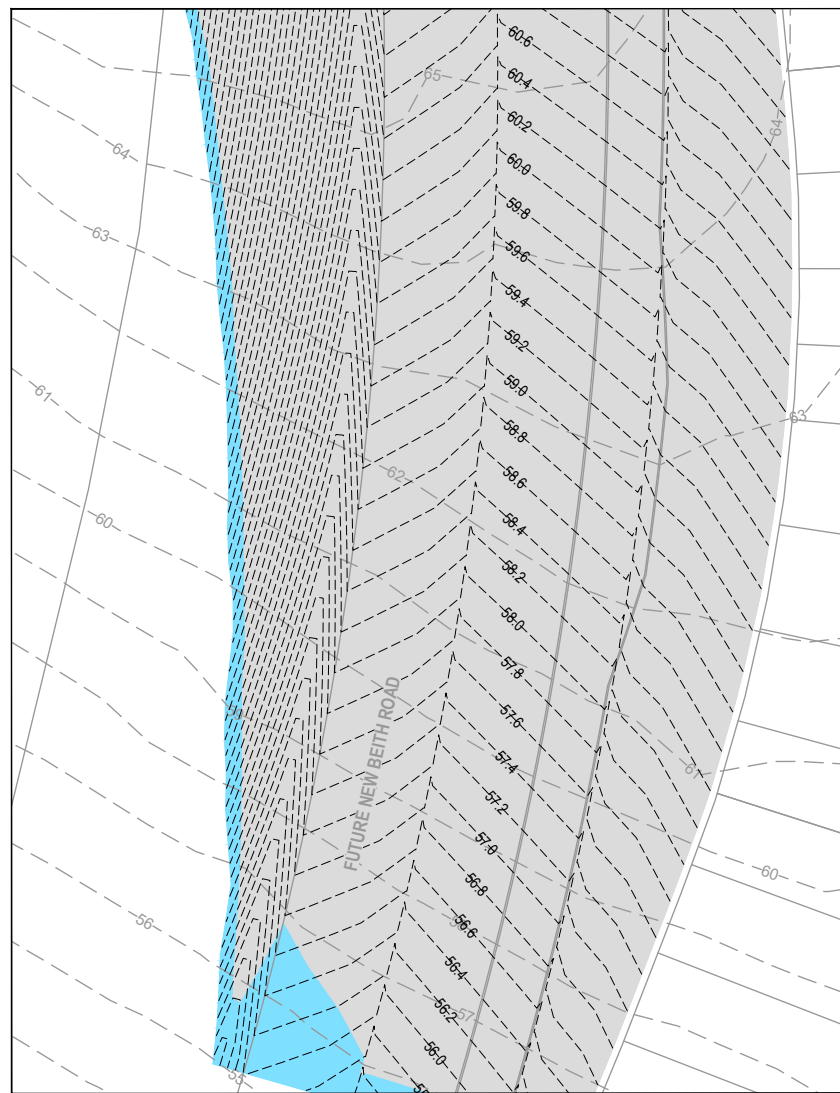
REFER SHEET 5 FOR CONTINUATION

REFER SHEET 8 FOR CONTINUATION

REFER SHEET 5 FOR CONTINUATION

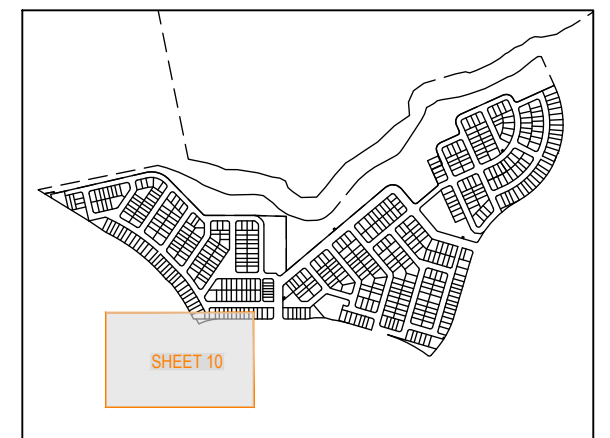


INSET



EXISTING STAGE 5

FOR LEGEND REFER DRAWING 23-202-811

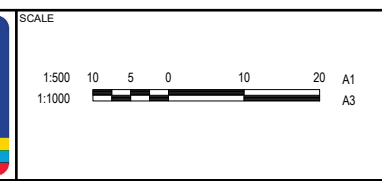


KEY PLAN
 SCALE 1:10000 (A1)
 SCALE 1:20000 (A3)

PLOT: 20 Dec 2024 10:52 AM LOCATION: H:\23-202-811\Flagstone - Stage 4 & 8B\Design\Asst\48E\W23-202-810 BE\W1.dwg

REV	DATE	DESIGN	DRAWN	REVISION DETAILS
0	20.12.24	TR	JR	ISSUED FOR CONSTRUCTION

DRAWN	STATUS
JR	ISSUED FOR CONSTRUCTION
DESIGN	APPROVED DANIEL COLLINS RPEQ 18631
TR	FOR AND ON BEHALF OF COLLIER'S INTERNATIONAL ENGINEERING & DESIGN PTY LTD



CLIENT
PEET FLAGSTONE CITY Pty. Ltd.

ASSOCIATED CONSULTANT
 VERIS
 PHONE: (07) 3666 4700

PROJECT NAME
**BULK EARTHWORKS
 FLAGSTONE STAGE 4**

FLAGSTONIAN DRIVE
 FLAGSTONE

DRAWING TITLE		
BULK EARTHWORKS LAYOUT PLAN SHEET 10 OF 10		
PROJECT No.	DRAWING No.	REVISION
23-0202	820	0



Appendix B

Test Reports

**ASCT Brisbane South**

Postal: PO Box 1232 Park Ridge QLD 4125
 Laboratory: 15 Elliott Court Hillcrest, QLD 4118
 Telephone: (07) 3800 7314
 E-Mail: brisbane.south@asct.com.au
 Mobile: 0437 776 582
 A.B.N. 28 608 830 306

Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client: See Civil Pty Ltd
 Client Address: 108 Siganto Drive, Helensvale QLD 4210
 Project: Flagstone - Stage 4 BEW
 Component: Level 1 Fill
 Lot Number: -

Report No: 1
 Report Date: 3/07/2024
 Project No: 1813
 Test Request: -
 ITP/PCP:

Sample Information & Location

Sample Number:	109681	109682	109683	109684	109685
Field Test Number:	1	2	3	4	5
Date - Field Tested:	10/06/2024	10/06/2024	10/06/2024	10/06/2024	10/06/2024
Time - Field Tested:	1400	1410	1420	1430	1440
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34898.288	E: 34874.366	E: 34896.161	E: 34881.612	E: 34875.228
Position/Offset/Northing:	(m) N: 34874.366	N: 74546.169	N: 74561.530	N: 74553.602	N: 74565.668
Level/Layer/R.L.	RL: 47.942	RL: 48.016	RL: 48.234	RL: 48.302	RL: 47.703
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³) 2.13	2.12	2.20	2.13	2.15
Field Dry Density:	(t/m ³) 1.93	1.93	2.00	1.95	1.97
Retained Oversize (Wet basis):	(%) 1% on 19.0mm	2% on 19.0mm	3% on 19.0mm	3% on 19.0mm	3% on 19.0mm
Material Description:	-	-	-	-	-
Moisture Content Method:	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%) 10.0	9.5	10.5	9.5	9.0
Adjusted Lab OMC:	(%) 11.8	11.0	11.7	10.3	10.6
Fraction Tested:	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³) 2.14	2.17	2.18	2.20	2.16
Adjusted Lab Max CWD:	(t/m ³) 2.14	2.18	2.19	2.21	2.17
Compactive Effort:	Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%) 1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC	1.0% Drier than OMC	1.5% Drier than OMC
Moisture Ratio	(%) 86.0	87.5	88.5	91.5	85.5
Density Ratio	(%) 99.0	97.5	100.5	96.5	99.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.9	10	98.87	2.42	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 19/06/2024 to 21/06/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
 Approved Signatory

**ASCT Brisbane South**

Postal: PO Box 1232 Park Ridge QLD 4125
 Laboratory: 15 Elliott Court Hillcrest, QLD 4118
 Telephone: (07) 3800 7314
 E-Mail: brisbane.south@asct.com.au
 Mobile: 0437 776 582
 A.B.N. 28 608 830 306

Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	1
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	3/07/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

	109686	109687	109688	109689	109690
Sample Number:	6	7	8	9	10
Field Test Number:	10/06/2024	10/06/2024	10/06/2024	10/06/2024	10/06/2024
Date - Field Tested:	1450	1500	1510	1520	1530
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34895.539	E: 34885.135	E: 34876.123	E: 34906.161	E: 34911.614
Position/Offset/Northing:	(m) N: 74588.737	N: 74540.675	N: 74532.614	N: 74526.161	N: 74544.161
Level/Layer/R.L.	RL: 48.55	RL: 47.883	RL: 47.916	RL: 47.111	RL: 48.614
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.15	2.12	2.20	2.09	2.07
Field Dry Density:	(t/m ³)	1.98	1.93	2.01	1.89	1.87
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	3% on 19.0mm	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	9.0	9.5	9.5	10.5	10.5
Adjusted Lab OMC:	(%)	10.6	11.1	11.0	10.9	10.3
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.10	2.15	2.13	2.14	2.15
Adjusted Lab Max CWD:	(t/m ³)	2.11	2.16	2.14	2.15	2.16
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC	0.5% Drier than OMC	At OMC
Moisture Ratio	(%)	86.0	86.0	85.5	95.0	100.5
Density Ratio	(%)	102.0	98.0	103.0	97.0	95.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.9	10	98.87	2.42	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 19/06/2024 to 21/06/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

**ASCT Brisbane South**

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 Laboratory: 15 Elliott Court Hillcrest, QLD 4118
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 Mobile: 0437 776 582
 A.B.N. 28 608 830 306

Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client: See Civil Pty Ltd
 Client Address: 108 Siganto Drive, Helensvale QLD 4210
 Project: Flagstone - Stage 4 BEW
 Component: Level 1 Fill
 Lot Number: -

Report No: 2
 Report Date: 10/07/2024
 Project No: 1813
 Test Request: -
 ITP/PCP:

Sample Information & Location

Sample Number:	111022	111023	111024	111025	111026
Field Test Number:	1	2	3	4	5
Date - Field Tested:	4/07/2024	4/07/2024	4/07/2024	4/07/2024	4/07/2024
Time - Field Tested:	1200	1210	1220	1230	1240
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34846.125	E: 34831.465	E: 34813.528	E: 34809.683	E: 34799.726
Position/Offset/Northing:	(m) N: 74456.847	N: 74458.681	N: 74462.597	N: 74475.752	N: 74486.885
Level/Layer/R.L.	RL: 50.535	RL: 50.320	RL: 50.230	RL: 49.898	RL: 49.935
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	151	152	153	154

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.05	2.11	2.07	2.14	2.17
Field Dry Density:	(t/m ³)	1.89	1.93	1.90	1.96	1.99
Retained Oversize (Wet basis):	(%)	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	9.0	9.0	9.0	9.0	9.5
Adjusted Lab OMC:	(%)	10.5	10.7	10.3	10.8	10.4
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.11	2.12	2.10	2.13	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.11	2.12	2.10	2.13	2.12
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC	2.0% Drier than OMC	1.0% Drier than OMC
Moisture Ratio	(%)	85.0	86.0	86.5	84.0	88.5
Density Ratio	(%)	97.5	99.5	98.5	100.5	102.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	99.3	10	99.94	1.61	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 05/07/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
Approved Signatory

**ASCT Brisbane South**

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 A.B.N. 28 608 830 306

Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	2
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	10/07/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	111027	111028	111029	111030	111031
Sample Number:	6	7	8	9	10
Field Test Number:	4/07/2024	4/07/2024	4/07/2024	4/07/2024	4/07/2024
Date - Field Tested:	1250	1300	1310	1320	1330
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34778.800	E: 34783.567	E: 34700.466	E: 34788.403	E: 34821.979
Position/Offset/Northing:	(m) N: 74495.921	N: 74514.151	N: 74529.556	N: 74474.406	N: 74473.275
Level/Layer/R.L.	RL: 49.607	RL: 49.353	RL: 49.180	RL: 50.114	RL: 50.095
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 155	156	157	158	159

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.06	2.09	2.13	2.14	2.15
Field Dry Density:	(t/m ³)	1.89	1.91	1.96	1.97	1.96
Retained Oversize (Wet basis):	(%)	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	8.5	9.0	8.5	9.0	9.5
Adjusted Lab OMC:	(%)	10.2	10.4	10.4	10.6	11.0
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.10	2.10	2.12	2.11	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.10	2.10	2.12	2.11	2.12
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC
Moisture Ratio	(%)	86.0	86.5	84.0	86.0	85.5
Density Ratio	(%)	98.0	99.5	100.5	101.5	101.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	99.3	10	99.94	1.61	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), , AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 05/07/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

**ASCT Brisbane South**

Postal: PO Box 1232 Park Ridge QLD 4125
 Laboratory: 15 Elliott Court Hillcrest, QLD 4118
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 A.B.N. 28 608 830 306

Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	3
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	23/07/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	110510	110511	110512	110513	110514
Field Test Number:	1	2	3	4	5
Date - Field Tested:	20/06/2024	20/06/2024	20/06/2024	20/06/2024	20/06/2024
Time - Field Tested:	1000	1010	1020	1030	1040
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34867.443	E: 34863.697	E: 34897.016	E: 34898.133	E: 34874.832
Position/Offset/Northing:	(m) N: 74502.658	N: 74514.548	N: 74513.691	N: 74543.698	N: 74548.407
Level/Layer/R.L.	RL: 48.612	RL: 48.601	RL: 48.788	RL: 49.060	RL: 48.690
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.07	2.11	2.09	2.11	2.10
Field Dry Density:	(t/m ³)	1.75	1.80	1.78	1.78	1.78
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	3% on 19.0mm	1% on 19.0mm	3% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	18.5	17.0	17.5	18.5	18.0
Adjusted Lab OMC:	(%)	18.0	18.3	19.2	18.4	17.3
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.12	2.09	2.05	2.13	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.13	2.10	2.05	2.14	2.13
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Wetter than OMC	1.5% Drier than OMC	1.5% Drier than OMC	At OMC	0.5% Wetter than OMC
Moisture Ratio	(%)	103.5	92.0	91.0	101.0	104.5
Density Ratio	(%)	97.5	100.5	102.0	98.5	98.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.0	10	98.60	1.51	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 28/06/2024 to 29/06/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
Approved Signatory

**ASCT Brisbane South**

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	3
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	23/07/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	110515	110516	110517	110518	110519
Sample Number:	6	7	8	9	10
Field Test Number:	20/06/2024	20/06/2024	20/06/2024	20/06/2024	20/06/2024
Date - Field Tested:	1050	1100	1110	1120	1130
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34836.253	E: 34814.951	E: 34837.499	E: 34847.896	E: 34868.626
Position/Offset/Northing:	(m) N: 74442.873	N: 74429.080	N: 74527.546	N: 74514.369	N: 74534.729
Level/Layer/R.L.	RL: 49.998	RL: 50.686	RL: 47.674	RL: 47.694	RL: 47.900
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.05	2.06	2.05	2.04	2.04
Field Dry Density:	(t/m ³)	1.86	1.79	1.80	1.77	1.82
Retained Oversize (Wet basis):	(%)	1% on 19.0mm	4% on 19.0mm	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	10.0	15.0	13.5	15.0	12.0
Adjusted Lab OMC:	(%)	11.6	14.1	15.2	16.8	13.7
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.07	2.11	2.09	2.07	2.08
Adjusted Lab Max CWD:	(t/m ³)	2.07	2.12	2.10	2.07	2.09
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.5% Drier than OMC	0.5% Wetter than OMC	1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC
Moisture Ratio	(%)	86.5	105.0	89.5	90.0	87.5
Density Ratio	(%)	99.0	97.0	97.5	98.5	97.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.0	10	98.60	1.51	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 28/06/2024 to 29/06/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client: See Civil Pty Ltd
 Client Address: 108 Siganto Drive, Helensvale QLD 4210
 Project: Flagstone - Stage 4 BEW
 Component: Level 1 Fill
 Lot Number: -

Report No: 4
 Report Date: 24/07/2024
 Project No: 1813
 Test Request: -
 ITP/PCP:

Sample Information & Location

Sample Number:	109841	109842	109843	109844	109845
Field Test Number:	1	2	3	4	5
Date - Field Tested:	14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Time - Field Tested:	1400	1410	1420	1430	1440
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34843.116	E: 34849.146	E: 34884.613	E: 34876.119	E: 34833.189
Position/Offset/Northing:	(m) N: 74509.113	N: 74516.319	N: 74542.169	N: 74542.169	N: 74449.613
Level/Layer/R.L.	RL: 48.819	RL: 48.813	RL: 48.961	RL: 48.991	RL: 49.963
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³) 2.09	2.12	2.10	2.14	2.10
Field Dry Density:	(t/m ³) 1.88	1.87	1.87	1.92	1.88
Retained Oversize (Wet basis):	(%) 3% on 19.0mm	5% on 19.0mm	2% on 19.0mm	3% on 19.0mm	1% on 19.0mm
Material Description:	-	-	-	-	-
Moisture Content Method:	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%) 11.5	13.5	12.0	11.5	12.0
Adjusted Lab OMC:	(%) 12.7	13.4	12.5	12.9	13.4
Fraction Tested:	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³) 2.09	2.12	2.14	2.11	2.10
Adjusted Lab Max CWD:	(t/m ³) 2.10	2.13	2.15	2.12	2.10
Compactive Effort:	Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%) 1.5% Drier than OMC	At OMC	0.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC
Moisture Ratio	(%) 89.0	100.5	96.5	88.0	88.0
Density Ratio	(%) 99.5	99.0	97.5	101.0	100.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.6	10	99.13	1.23	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 24/06/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
 Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	4
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	24/07/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	109846	109847	109848	109849	109850
Sample Number:	6	7	8	9	10
Field Test Number:	14/06/2024	14/06/2024	14/06/2024	14/06/2024	14/06/2024
Date - Field Tested:	1450	1500	1510	1520	1530
Time - Field Tested:	On Site - General Fill				
Material Source / Type:	-				
Remarks / Notes:	-				
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34863.161	E: 34961.119	E: 35419.614	E: 34813.528	E: 34821.973
Position/Offset/Northing:	(m) N: 74506.361	N: 74543.624	N: 74625.693	N: 74462.563	N: 74478.369
Level/Layer/R.L.	RL: 48.612	RL: 49.693	RL: 46.349	RL: 50.230	RL: 50.461
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.07	2.16	2.12	2.13	2.10
Field Dry Density:	(t/m ³)	1.87	1.92	1.91	1.89	1.87
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	4% on 19.0mm	2% on 19.0mm	4% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	11.0	12.5	10.5	12.5	12.0
Adjusted Lab OMC:	(%)	12.6	12.7	12.1	12.4	12.5
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.12	2.13	2.13	2.14	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.13	2.14	2.14	2.15	2.14
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.5% Drier than OMC	0.5% Drier than OMC	1.5% Drier than OMC	At OMC	0.5% Drier than OMC
Moisture Ratio	(%)	88.0	97.0	87.0	100.0	96.5
Density Ratio	(%)	97.5	101.0	99.0	99.0	98.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.6	10	99.13	1.23	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 24/06/2024



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Accreditation number: 19902

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	5
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	30/07/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	110997	110998	110999	111000	111001
Field Test Number:	1	2	3	4	5
Date - Field Tested:	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024
Time - Field Tested:	1000	1010	1020	1030	1040
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34867.443	E: 34669.612	E: 34881.412	E: 34961.614	E: 34886.121
Position/Offset/Northing:	(m) N: 74502.658	N: 74566.321	N: 74549.612	N: 74543.776	N: 74546.113
Level/Layer/R.L.	RL: 48.612	RL: 48.601	RL: 48.743	RL: 49.136	RL: 48.701
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	1.94	1.94	1.96	1.93	2.03
Field Dry Density:	(t/m ³)	1.75	1.73	1.78	1.67	1.80
Retained Oversize (Wet basis):	(%)	4% on 19.0mm	3% on 19.0mm	1% on 19.0mm	4% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	10.5	12.5	10.0	15.5	12.5
Adjusted Lab OMC:	(%)	11.9	11.7	11.6	13.8	14.5
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.00	2.01	2.01	2.01	2.02
Adjusted Lab Max CWD:	(t/m ³)	2.02	2.02	2.01	2.03	2.02
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.5% Drier than OMC	1.0% Wetter than OMC	1.5% Drier than OMC	2.0% Wetter than OMC	2.0% Drier than OMC
Moisture Ratio	(%)	88.5	106.5	87.0	113.0	84.5
Density Ratio	(%)	95.5	96.5	97.5	95.0	100.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.7	10	98.68	2.34	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 08/07/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	5
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	30/07/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	111002	111003	111004	111005	111006
Sample Number:	6	7	8	9	10
Field Test Number:	25/06/2024	25/06/2024	25/06/2024	25/06/2024	25/06/2024
Date - Field Tested:	1050	1100	1110	1120	1130
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 35414.624	E: 35381.730	E: 35436.421	E: 35411.418	E: 35446.114
Position/Offset/Northing:	(m) N: 74637.144	N: 74649.617	N: 74611.421	N: 74624.63	N: 74659.24
Level/Layer/R.L.	RL: 46.961	RL: 47.721	RL: 51.363	RL: 46.184	RL: 46.193
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.05	2.03	2.10	2.04	2.10
Field Dry Density:	(t/m ³)	1.83	1.83	1.84	1.85	1.82
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	2% on 19.0mm	4% on 19.0mm	4% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	11.5	10.5	14.5	10.0	15.5
Adjusted Lab OMC:	(%)	12.9	12.4	14.3	11.8	13.4
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.01	1.99	2.10	2.02	2.09
Adjusted Lab Max CWD:	(t/m ³)	2.02	2.00	2.12	2.03	2.10
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.5% Drier than OMC	1.5% Drier than OMC	At OMC	1.5% Drier than OMC	2.0% Wetter than OMC
Moisture Ratio	(%)	89.0	86.5	100.0	86.0	114.0
Density Ratio	(%)	101.0	101.5	99.0	100.5	100.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.7	10	98.68	2.34	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), , AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 08/07/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902



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Compaction Control Test Report (Nuclear Gauge & Hilf) Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	6
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	15/08/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	111919	111920	111921	111922	111923
Field Test Number:	1	2	3	4	5
Date - Field Tested:	9/07/2024	9/07/2024	9/07/2024	9/07/2024	9/07/2024
Time - Field Tested:	1000	1010	1020	1030	1040
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34668.297	E: 34662.143	E: 34677.315	E: 34673.196	E: 34685.583
Position/Offset/Northing:	(m) N: 74511.892	N: 74518.613	N: 74486.842	N: 74481.739	N: 74464.436
Level/Layer/R.L.	RL: 53.663	RL: 53.651	RL: 53.885	RL: 53.872	RL: 54.237
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.06	2.05	2.09	2.04	2.04
Field Dry Density:	(t/m ³)	1.77	1.70	1.72	1.70	1.67
Retained Oversize (Wet basis):	(%)	2% on 19.0mm	4% on 19.0mm	3% on 19.0mm	1% on 19.0mm	4% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	16.5	20.0	21.0	20.0	22.5
Adjusted Lab OMC:	(%)	17.8	19.9	20.9	19.4	22.3
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.07	2.08	2.09	2.11	2.09
Adjusted Lab Max CWD:	(t/m ³)	2.08	2.10	2.10	2.11	2.11
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.5% Drier than OMC	At OMC	At OMC	0.5% Wetter than OMC	At OMC
Moisture Ratio	(%)	91.5	101.0	101.0	103.5	100.0
Density Ratio	(%)	99.0	97.5	99.5	96.5	97.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.9	10	98.38	1.12	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 05/08/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	6
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	15/08/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	111924	111925	111926	111927	111928
Sample Number:	6	7	8	9	10
Field Test Number:	6	7	8	9	10
Date - Field Tested:	9/07/2024	9/07/2024	9/07/2024	9/07/2024	9/07/2024
Time - Field Tested:	1050	1100	1110	1120	1130
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34681.960	E: 34698.934	E: 34693.163	E: 34674.242	E: 34678.234
Position/Offset/Northing:	(m) N: 74451.614	N: 74457.566	N: 74451.614	N: 74454.998	N: 74461.616
Level/Layer/R.L.	RL: 54.229	RL: 54.452	RL: 54.397	RL: 54.213	RL: 54.363
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.09	2.05	2.01	2.08	2.04
Field Dry Density:	(t/m ³)	1.71	1.74	1.65	1.70	1.65
Retained Oversize (Wet basis):	(%)	4% on 19.0mm	2% on 19.0mm	4% on 19.0mm	2% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	22.5	18.0	21.5	22.0	23.5
Adjusted Lab OMC:	(%)	21.7	19.6	21.5	22.1	25.0
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.09	2.06	2.03	2.09	2.07
Adjusted Lab Max CWD:	(t/m ³)	2.10	2.06	2.05	2.10	2.08
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

	(%)	1.0% Wetter than OMC	1.5% Drier than OMC	At OMC	At OMC	1.5% Drier than OMC
Moisture Variation	(%)					
Moisture Ratio	(%)	104.0	91.5	100.0	100.0	93.5
Density Ratio	(%)	99.5	99.5	98.0	99.0	98.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.9	10	98.38	1.12	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), , AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 05/08/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

**ASCT Brisbane South**

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client: See Civil Pty Ltd
 Client Address: 108 Siganto Drive, Helensvale QLD 4210
 Project: Flagstone - Stage 4 BEW
 Component: Level 1 Fill
 Lot Number: -

Report No: 7
 Report Date: 15/08/2024
 Project No: 1813
 Test Request: -
 ITP/PCP:

Sample Information & Location

Sample Number:	112245	112246	112247	112248	112249
Field Test Number:	1	2	3	4	5
Date - Field Tested:	16/07/2024	16/07/2024	16/07/2024	16/07/2024	16/07/2024
Time - Field Tested:	0850	0900	0910	0920	0930
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34824.935	E: 34829.614	E: 34809.356	E: 34802.614	E: 34792.167
Position/Offset/Northing:	(m) N: 74434.775	N: 74461.611	N: 74435.735	N: 74441.324	N: 74438.683
Level/Layer/R.L.	RL: 51.630	RL: 51.814	RL: 51.546	RL: 51.399	RL: 51.392
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.24	2.21	2.05	2.10	2.09
Field Dry Density:	(t/m ³)	2.07	2.02	1.91	1.95	1.92
Retained Oversize (Wet basis):	(%)	4% on 19.0mm	3% on 19.0mm	1% on 19.0mm	1% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	8.0	9.5	7.5	8.0	8.5
Adjusted Lab OMC:	(%)	9.5	10.8	9.0	9.4	10.0
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.15	2.15	2.14	2.11	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.17	2.16	2.14	2.11	2.12
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC
Moisture Ratio	(%)	83.0	88.0	83.5	83.5	86.0
Density Ratio	(%)	103.5	102.5	95.5	99.5	98.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.8	10	99.01	2.91	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 23/07/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
 Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	7
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	15/08/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	112250	112251	112252	112253	112254
Sample Number:	6	7	8	9	10
Field Test Number:	16/07/2024	16/07/2024	16/07/2024	16/07/2024	16/07/2024
Date - Field Tested:	0940	0950	1000	1010	1020
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34794.425	E: 34776.329	E: 34770.222	E: 34763.184	E: 34751.814
Position/Offset/Northing:	(m) N: 74456.342	N: 74454.965	N: 74467.145	N: 74457.619	N: 74453.614
Level/Layer/R.L.	RL: 51.427	RL: 51.287	RL: 51.209	RL: 51.196	RL: 52.111
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.09	2.22	2.06	2.22	2.04
Field Dry Density:	(t/m ³)	1.92	2.05	1.91	2.04	1.91
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	4% on 19.0mm	3% on 19.0mm	1% on 19.0mm	4% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	9.0	8.0	7.5	8.5	7.0
Adjusted Lab OMC:	(%)	9.4	8.5	9.0	8.3	8.5
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.13	2.19	2.14	2.19	2.13
Adjusted Lab Max CWD:	(t/m ³)	2.14	2.20	2.15	2.19	2.14
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

	(%)	0.5% Dryer than OMC	0.5% Dryer than OMC	1.5% Dryer than OMC	At OMC	1.5% Dryer than OMC
Moisture Variation	(%)	95.0	95.0	85.5	102.0	84.0
Moisture Ratio	(%)	98.0	101.0	95.5	101.5	95.5
Density Ratio	(%)					

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.8	10	99.01	2.91	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 23/07/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 1

Client:	See Civil Pty Ltd	Report No:	8
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	15/08/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	113069	113070	113071	113072	113073
Field Test Number:	1	2	3	4	5
Date - Field Tested:	29/07/2024	29/07/2024	29/07/2024	29/07/2024	29/07/2024
Time - Field Tested:	1430	1440	1450	1500	1510
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34459.88	E: 34452.15	E: 34434.07	E: 34431.87	E: 34418.68
Position/Offset/Northing:	(m) N: 74581.20	N: 74584.01	N: 74584.58	N: 74572.99	N: 74573.23
Level/Layer/R.L.	RL: 50.19	RL: 49.94	RL: 50.14	RL: 50.72	RL: 51.06
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³) 2.06	1.90	1.93	1.99	1.99
Field Dry Density:	(t/m ³) 1.80	1.68	1.71	1.76	1.76
Retained Oversize (Wet basis):	(%) 1% on 19.0mm	2% on 19.0mm	2% on 19.0mm	1% on 19.0mm	2% on 19.0mm
Material Description:	-				
Moisture Content Method:	AS1289.2.1.1 - Oven				
Field Moisture Content:	(%) 14.0	13.5	12.5	13.0	12.5
Adjusted Lab OMC:	(%) 15.3	14.9	14.4	14.6	14.2
Fraction Tested:	Passing 19.0mm				
Lab Max Converted Wet Density:	(t/m ³) 2.10	1.99	2.03	2.07	2.07
Adjusted Lab Max CWD:	(t/m ³) 2.10	2.00	2.03	2.08	2.08
Compactive Effort:	Standard				

Relative Compaction & Moisture

Moisture Variation	(%) 1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC	1.5% Drier than OMC
Moisture Ratio	(%) 91.0	89.0	88.0	88.5	89.5
Density Ratio	(%) 98.0	95.5	95.0	95.5	95.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	95.3	5	95.96	1.18	0.572
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 07/08/2024 to 09/08/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

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Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 1

Client:	See Civil Pty Ltd	Report No:	9
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	19/08/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	113288	113289	113290	113291	113292
Field Test Number:	1	2	3	4	5
Date - Field Tested:	31/07/2024	31/07/2024	31/07/2024	31/07/2024	31/07/2024
Time - Field Tested:	1010	1020	1030	1040	1050
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34372.686	E: 34382.864	E: 34396.058	E: 34415.201	E: 34394.910
Position/Offset/Northing:	(m) N: 74568.654	N: 74580.668	N: 74562.162	N: 74564.259	N: 74596.428
Level/Layer/R.L.	RL: 56.561	RL: 55.936	RL: 54.584	RL: 53.070	RL: 55.031
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.17	2.03	2.06	2.08	2.13
Field Dry Density:	(t/m ³)	1.93	1.80	1.82	1.83	1.88
Retained Oversize (Wet basis):	(%)	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	12.5	13.0	13.0	13.5	13.0
Adjusted Lab OMC:	(%)	13.1	13.4	13.8	13.8	13.9
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.16	2.10	2.09	2.13	2.14
Adjusted Lab Max CWD:	(t/m ³)	2.16	2.10	2.09	2.13	2.14
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Drier than OMC	1.0% Drier than OMC
Moisture Ratio	(%)	95.5	96.0	95.5	96.0	94.0
Density Ratio	(%)	100.5	97.0	98.5	97.5	99.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.7	5	98.50	1.48	0.572
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 16/08/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client: See Civil Pty Ltd
 Client Address: 108 Siganto Drive, Helensvale QLD 4210
 Project: Flagstone - Stage 4 BEW
 Component: Level 1 Fill
 Lot Number: -

Report No: 11
 Report Date: 6/09/2024
 Project No: 1813
 Test Request: -
 ITP/PCP:

Sample Information & Location

Sample Number:	112876	112877	112878	112879	112880
Field Test Number:	1	2	3	4	5
Date - Field Tested:	22/07/2024	22/07/2024	22/07/2024	22/07/2024	22/07/2024
Time - Field Tested:	1000	1010	1020	1030	1040
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34831.614	E: 34816.436	E: 34792.816	E: 34790.613	E: 34776.219
Position/Offset/Northing:	(m) N: 74432.164	N: 74449.614	N: 74442.161	N: 74459.637	N: 74469.613
Level/Layer/R.L.	RL: 51.461	RL: 51.696	RL: 51.513	RL: 51.639	RL: 52.021
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.16	2.05	2.05	2.08	2.08
Field Dry Density:	(t/m ³)	1.93	1.85	1.83	1.87	1.86
Retained Oversize (Wet basis):	(%)	2% on 19.0mm	3% on 19.0mm	3% on 19.0mm	5% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	11.5	11.0	12.5	11.5	12.0
Adjusted Lab OMC:	(%)	11.5	11.1	12.2	11.0	14.0
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.18	2.15	2.12	2.11	2.13
Adjusted Lab Max CWD:	(t/m ³)	2.18	2.16	2.13	2.13	2.13
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	At OMC	At OMC	At OMC	0.5% Wetter than OMC	2.0% Drier than OMC
Moisture Ratio	(%)	100.5	98.5	101.0	106.0	84.0
Density Ratio	(%)	98.5	95.0	96.0	98.0	97.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.3	10	97.99	1.70	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 07/08/2024 to 08/08/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
 Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	11
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	6/09/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

	112881	112882	112883	112884	112885
Sample Number:	6	7	8	9	10
Field Test Number:	22/07/2024	22/07/2024	22/07/2024	22/07/2024	22/07/2024
Date - Field Tested:	1400	1410	1420	1430	1440
Time - Field Tested:	On Site - General Fill				
Material Source / Type:	-				
Remarks / Notes:	-				
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34776.161	E: 34439.613	E: 34424.699	E: 34449.003	E: 34466.703
Position/Offset/Northing:	(m) N: 74459.163	N: 74581.619	N: 74581.663	N: 74588.581	N: 74580.492
Level/Layer/R.L.	RL: 51.493	RL: 51.269	RL: 50.984	RL: 50.346	RL: 49.903
Layer Depth:	(mm) 0	0	0	0	0
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.07	2.15	2.15	2.14	2.11
Field Dry Density:	(t/m ³)	1.87	1.94	1.91	1.91	1.88
Retained Oversize (Wet basis):	(%)	2% on 19.0mm	4% on 19.0mm	1% on 19.0mm	1% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	10.5	11.0	12.5	11.5	12.0
Adjusted Lab OMC:	(%)	12.5	11.1	12.7	12.1	12.1
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.11	2.11	2.15	2.18	2.13
Adjusted Lab Max CWD:	(t/m ³)	2.11	2.13	2.16	2.19	2.14
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	2.0% Drier than OMC	At OMC	0.5% Drier than OMC	0.5% Drier than OMC	At OMC
Moisture Ratio	(%)	82.5	101.0	96.5	97.0	100.0
Density Ratio	(%)	97.5	101.5	99.5	97.5	98.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.3	10	97.99	1.70	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 07/08/2024 to 08/08/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client: See Civil Pty Ltd
 Client Address: 108 Siganto Drive, Helensvale QLD 4210
 Project: Flagstone - Stage 4 BEW
 Component: Level 1 Fill
 Lot Number: -

Report No: 12
 Report Date: 6/09/2024
 Project No: 1813
 Test Request: -
 ITP/PCP:

Sample Information & Location

Sample Number:	112891	112892	112893	112894	112895
Field Test Number:	1	2	3	4	5
Date - Field Tested:	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024
Time - Field Tested:	1000	1010	1020	1030	1040
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34465.881	E: 34372.699	E: 34389.811	E: 34383.623	E: 34420.261
Position/Offset/Northing:	(m) N: 74596.144	N: 74568.654	N: 74576.161	N: 74577.411	N: 74561.362
Level/Layer/R.L.	RL: 50.196	RL: 56.611	RL: 55.994	RL: 54.614	RL: 53.061
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.10	2.07	2.06	2.15	2.07
Field Dry Density:	(t/m ³)	1.89	1.83	1.85	1.94	1.85
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	11.0	12.5	11.5	10.5	12.0
Adjusted Lab OMC:	(%)	10.8	13.0	10.5	11.0	11.7
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.15	2.12	2.15	2.14	2.13
Adjusted Lab Max CWD:	(t/m ³)	2.16	2.12	2.16	2.15	2.14
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	At OMC	0.5% Drier than OMC	1.0% Wetter than OMC	0.5% Drier than OMC	At OMC
Moisture Ratio	(%)	101.0	96.5	107.5	97.0	101.5
Density Ratio	(%)	97.0	97.0	95.5	100.0	96.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	96.8	10	97.34	1.38	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 07/08/2024 to 08/08/2024



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Approved By:

A. Lenkeit
 Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	12
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	6/09/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

	112896	112897	112898	112899	112900
Sample Number:	6	7	8	9	10
Field Test Number:	24/07/2024	24/07/2024	24/07/2024	24/07/2024	24/07/2024
Date - Field Tested:	1410	1420	1430	1440	1450
Time - Field Tested:	On Site - General Fill				
Material Source / Type:	-				
Remarks / Notes:	-				
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34389.146	E: 34679.632	E: 34696.241	E: 34699.616	E: 34698.911
Position/Offset/Northing:	(m) N: 74592.111	N: 74561.636	N: 74492.614	N: 74472.779	N: 74464.612
Level/Layer/R.L.	RL: 55.096	RL: 53.694	RL: 53.919	RL: 54.616	RL: 54.463
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.09	2.11	2.07	2.14	2.05
Field Dry Density:	(t/m ³)	1.89	1.91	1.84	1.91	1.82
Retained Oversize (Wet basis):	(%)	2% on 19.0mm	2% on 19.0mm	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	10.5	10.5	12.5	11.5	12.5
Adjusted Lab OMC:	(%)	10.8	10.4	12.2	11.0	12.3
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.14	2.13	2.14	2.17	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.14	2.13	2.15	2.18	2.13
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Drier than OMC	At OMC	At OMC	0.5% Wetter than OMC	At OMC
Moisture Ratio	(%)	96.5	101.5	101.0	106.5	101.0
Density Ratio	(%)	97.5	99.0	96.0	98.0	96.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	96.8	10	97.34	1.38	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 07/08/2024 to 08/08/2024



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Compaction Control Test Report (Nuclear Gauge & Hilf) Page: 1 of 1

Client:	See Civil Pty Ltd	Report No:	13
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	12/09/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	115911	115912	115913	115914	115915
Field Test Number:	1	2	3	4	5
Date - Field Tested:	4/09/2024	4/09/2024	4/09/2024	4/09/2024	4/09/2024
Time - Field Tested:	1000	1010	1020	1030	1040
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34580.780	E: 34577.353	E: 34565.548	E: 34565.653	E: 34552.535
Position/Offset/Northing:	(m) N: 74397.507	N: 74410.786	N: 74400.433	N: 74421.460	N: 74414.186
Level/Layer/R.L.	RL: 60.183	RL: 60.606	RL: 60.465	RL: 59.411	RL: 59.430
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.14	2.23	2.09	2.12	2.08
Field Dry Density:	(t/m ³)	1.98	2.07	1.94	1.97	1.94
Retained Oversize (Wet basis):	(%)	1% on 19.0mm	3% on 19.0mm	2% on 19.0mm	1% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	7.5	7.5	7.5	7.5	7.5
Adjusted Lab OMC:	(%)	8.5	8.5	8.4	8.0	8.4
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.18	2.24	2.14	2.20	2.16
Adjusted Lab Max CWD:	(t/m ³)	2.18	2.24	2.15	2.21	2.17
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.0% Drier than OMC	1.0% Drier than OMC	1.0% Drier than OMC	0.5% Drier than OMC	1.0% Drier than OMC
Moisture Ratio	(%)	89.5	89.5	89.5	93.0	89.0
Density Ratio	(%)	98.0	99.5	97.0	96.0	96.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	96.4	5	97.28	1.48	0.572
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 11/09/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	14
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	27/09/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	115656	115657	115658	115659	115660
Field Test Number:	1	2	3	4	5
Date - Field Tested:	2/09/2024	2/09/2024	2/09/2024	2/09/2024	2/09/2024
Time - Field Tested:	0810	0820	0830	0840	0850
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34584.113	E: 34602.139	E: 34618.990	E: 34627.184	E: 34632.161
Position/Offset/Northing:	(m) N: 74322.164	N: 74334.181	N: 74329.636	N: 74325.614	N: 74303.161
Level/Layer/R.L.	RL: 59.196	RL: 66.136	RL: 67.026	RL: 67.461	RL: 66.261
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.12	2.15	2.14	2.11	2.15
Field Dry Density:	(t/m ³)	1.92	1.93	1.91	1.91	1.92
Retained Oversize (Wet basis):	(%)	2% on 19.0mm	4% on 19.0mm	0% on 19.0mm	4% on 19.0mm	1% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	10.5	11.5	12.0	10.5	11.5
Adjusted Lab OMC:	(%)	10.5	12.7	11.5	9.5	11.4
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.16	2.12	2.16	2.14	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.17	2.13	2.16	2.15	2.12
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	At OMC	1.5% Drier than OMC	0.5% Wetter than OMC	1.0% Wetter than OMC	At OMC
Moisture Ratio	(%)	100.5	89.0	105.5	109.5	101.5
Density Ratio	(%)	98.0	101.0	99.0	98.0	101.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	99.2	10	99.91	1.69	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 12/09/2024



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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	14
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	27/09/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	115661	115662	115663	115664	115665
Sample Number:	6	7	8	9	10
Field Test Number:	2/09/2024	2/09/2024	2/09/2024	2/09/2024	2/09/2024
Date - Field Tested:	1300	1310	1320	1330	1340
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34596.081	E: 34614.001	E: 34628.161	E: 34630.185	E: 34639.212
Position/Offset/Northing:	(m) N: 74347.244	N: 74339.133	N: 74321.015	N: 74332.965	N: 74310.626
Level/Layer/R.L.	RL: 60.327	RL: 67.844	RL: 67.424	RL: 67.713	RL: 66.680
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.15	2.19	2.10	2.14	2.13
Field Dry Density:	(t/m ³)	1.93	1.95	1.87	1.91	1.91
Retained Oversize (Wet basis):	(%)	5% on 19.0mm	2% on 19.0mm	3% on 19.0mm	3% on 19.0mm	1% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	11.5	12.0	12.0	12.0	11.5
Adjusted Lab OMC:	(%)	10.7	11.3	12.0	11.7	10.7
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.11	2.13	2.14	2.12	2.13
Adjusted Lab Max CWD:	(t/m ³)	2.12	2.13	2.14	2.13	2.14
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.0% Wetter than OMC	1.0% Wetter than OMC	At OMC	At OMC	1.0% Wetter than OMC
Moisture Ratio	(%)	108.0	107.0	100.0	101.0	108.0
Density Ratio	(%)	101.5	102.5	98.0	100.5	99.5

<i>Specified Density Ratio</i>		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
<i>Minimum (%)</i>	95	99.2	10	99.91	1.69	0.405
<i>Maximum (%)</i>		-	-	-	-	-
<i>Specified Moisture Ratio</i>		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
<i>Minimum (%)</i>		-	-	-	-	-
<i>Maximum (%)</i>		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), , AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 12/09/2024



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Compaction Control Test Report (Nuclear Gauge & Hilf) Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	15
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	11/10/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	117632	117633	117634	117635	117636
Field Test Number:	1	2	3	4	5
Date - Field Tested:	18/09/2024	18/09/2024	18/09/2024	18/09/2024	18/09/2024
Time - Field Tested:	0100	1010	1020	1030	1040
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34572.612	E: 34561.363	E: 34569.184	E: 34552.514	E: 34557.612
Position/Offset/Northing:	(m) N: 74413.463	N: 74405.184	N: 74425.613	N: 74417.630	N: 74414.463
Level/Layer/R.L.	RL: 60.461	RL: 60.481	RL: 59.434	RL: 59.612	RL: 59.612
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.12	2.08	2.12	2.11	2.14
Field Dry Density:	(t/m ³)	1.95	1.89	1.90	1.93	1.96
Retained Oversize (Wet basis):	(%)	2% on 19.0mm	2% on 19.0mm	3% on 19.0mm	4% on 19.0mm	1% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	9.0	10.0	11.5	9.5	9.5
Adjusted Lab OMC:	(%)	9.9	10.5	11.9	9.9	10.9
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.12	2.13	2.11	2.14	2.13
Adjusted Lab Max CWD:	(t/m ³)	2.13	2.14	2.12	2.15	2.13
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Drier than OMC	1.5% Drier than OMC
Moisture Ratio	(%)	92.5	97.0	95.0	96.0	86.0
Density Ratio	(%)	100.0	97.0	99.5	98.0	100.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.5	10	98.96	1.06	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 24/09/2024 to 25/09/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	15
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	11/10/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	117637	117638	117639	117640	117641
Sample Number:	6	7	8	9	10
Field Test Number:	18/09/2024	18/09/2024	18/09/2024	18/09/2024	18/09/2024
Date - Field Tested:	1400	1410	1420	1430	1440
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	0	0	0	0	0
Location/Chainage/Easting:	(m) E: 34592.614	E: 34629.163	E: 34614.263	E: 34621.422	E: 34632.422
Position/Offset/Northing:	(m) N: 74340.327	N: 74335.241	N: 74325.161	N: 74330.612	N: 74315.121
Level/Layer/R.L.	RL: 60.426	RL: 67.921	RL: 67.532	RL: 67.512	RL: 66.724
Layer Depth:	(mm) -	0	0	0	0
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.07	2.10	2.15	2.14	2.08
Field Dry Density:	(t/m ³)	1.89	1.91	1.97	1.97	1.91
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	2% on 19.0mm	2% on 19.0mm	3% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	9.5	10.5	9.0	8.5	8.5
Adjusted Lab OMC:	(%)	10.8	10.2	10.5	9.9	10.4
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.10	2.12	2.13	2.15	2.10
Adjusted Lab Max CWD:	(t/m ³)	2.11	2.13	2.14	2.16	2.11
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

	(%)	1.5% Drier than OMC	At OMC	1.5% Drier than OMC	1.0% Drier than OMC	2.0% Drier than OMC
Moisture Variation	(%)	88.0	101.0	87.5	88.0	83.0
Moisture Ratio	(%)	98.5	99.0	100.5	99.0	98.0
Density Ratio	(%)					

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.5	10	98.96	1.06	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 24/09/2024 to 25/09/2024



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Accreditation number: 19902

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Compaction Control Test Report (Nuclear Gauge & Hilf) Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	16
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	11/10/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	117642	117643	117644	117645	117646
Field Test Number:	1	2	3	4	5
Date - Field Tested:	19/09/2024	19/09/2024	19/09/2024	19/09/2024	19/09/2024
Time - Field Tested:	1000	1010	1020	1030	1040
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34543.312	E: 34543.443	E: 34538.025	E: 34533.425	E: 34530.078
Position/Offset/Northing:	(m) N: 74481.713	N: 74496.744	N: 74505.507	N: 74519.634	N: 74529.675
Level/Layer/R.L.	RL: 56.332	RL: 55.841	RL: 55.292	RL: 54.841	RL: 54.156
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.10	2.14	2.13	2.15	2.07
Field Dry Density:	(t/m ³)	1.89	1.94	1.94	1.93	1.87
Retained Oversize (Wet basis):	(%)	1% on 19.0mm	2% on 19.0mm	2% on 19.0mm	3% on 19.0mm	1% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	11.0	10.5	9.5	11.5	10.5
Adjusted Lab OMC:	(%)	11.0	11.9	11.0	11.3	10.2
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.15	2.15	2.14	2.16	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.15	2.16	2.14	2.17	2.13
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	At OMC	1.5% Drier than OMC	1.5% Drier than OMC	At OMC	0.5% Wetter than OMC
Moisture Ratio	(%)	100.5	88.5	87.5	100.5	102.5
Density Ratio	(%)	97.5	99.5	99.5	99.0	97.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.4	10	97.98	1.36	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 03/10/2024 to 05/10/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

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Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	16
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	11/10/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	117647	117648	117649	117650	117651
Sample Number:	6	7	8	9	10
Field Test Number:	19/09/2024	19/09/2024	19/09/2024	19/09/2024	19/09/2024
Date - Field Tested:	1400	1410	1420	1430	1440
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	0	0	0	0	0
Location/Chainage/Easting:	(m) E: 34527.253	E: 34511.610	E: 34463.131	E: 34439.614	E: 34518.126
Position/Offset/Northing:	(m) N: 74537.830	N: 74478.451	N: 74505.470	N: 74516.341	N: 74475.361
Level/Layer/R.L.	RL: 53.728	RL: 57.282	RL: 55.937	RL: 55.96	RL: 57.312
Layer Depth:	(mm) -	0	0	0	0
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.09	2.07	2.14	2.08	2.09
Field Dry Density:	(t/m ³)	1.89	1.87	1.91	1.86	1.86
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	3% on 19.0mm	3% on 19.0mm	4% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	10.0	10.5	12.0	12.0	12.5
Adjusted Lab OMC:	(%)	11.8	11.0	11.4	11.5	12.4
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.11	2.15	2.14	2.14	2.14
Adjusted Lab Max CWD:	(t/m ³)	2.12	2.16	2.15	2.16	2.15
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.5% Drier than OMC	0.5% Drier than OMC	0.5% Wetter than OMC	0.5% Wetter than OMC	At OMC
Moisture Ratio	(%)	85.5	96.0	106.5	102.5	100.5
Density Ratio	(%)	98.5	96.0	99.5	96.5	97.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.4	10	97.98	1.36	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 03/10/2024 to 05/10/2024



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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	17
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	19/11/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	120748	120749	120750	120751	120752
Field Test Number:	1	2	3	4	5
Date - Field Tested:	4/11/2024	4/11/2024	4/11/2024	4/11/2024	4/11/2024
Time - Field Tested:	1000	1010	1020	1030	1040
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 35215.931	E: 35142.617	E: 35078.643	E: 35095.643	E: 35107.606
Position/Offset/Northing:	(m) N: 74713.933	N: 74579.452	N: 74547.132	N: 74542.806	N: 74555.314
Level/Layer/R.L.	RL: 49.142	RL: 49.808	RL: 50.166	RL: 49.902	RL: 49.827
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.13	2.13	2.10	2.14	2.09
Field Dry Density:	(t/m ³)	1.95	1.97	1.94	1.95	1.93
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	3% on 19.0mm	2% on 19.0mm	1% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	9.0	8.5	8.5	10.0	8.5
Adjusted Lab OMC:	(%)	9.9	9.4	9.2	10.3	9.6
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.11	2.08	2.09	2.10	2.13
Adjusted Lab Max CWD:	(t/m ³)	2.12	2.09	2.10	2.11	2.14
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.0% Drier than OMC	1.0% Drier than OMC	1.0% Drier than OMC	0.5% Drier than OMC	1.0% Drier than OMC
Moisture Ratio	(%)	92.0	90.5	92.0	95.5	90.0
Density Ratio	(%)	100.5	102.0	100.5	101.5	98.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.8	10	98.75	2.34	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 05/11/2024 to 07/11/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	17
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	19/11/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	120753	120754	120755	120756	120757
Sample Number:	6	7	8	9	10
Field Test Number:	4/11/2024	4/11/2024	4/11/2024	4/11/2024	4/11/2024
Date - Field Tested:	1050	1100	1110	1120	1130
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 35127.814	E: 35114.863	E: 35136.918	E: 35149.602	E: 35163.121
Position/Offset/Northing:	(m) N: 74559.232	N: 74541.612	N: 74556.613	N: 74569.321	N: 74576.123
Level/Layer/R.L.	RL: 49.717	RL: 49.463	RL: 49.612	RL: 49.843	RL: 49.861
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.10	2.11	2.01	2.04	2.05
Field Dry Density:	(t/m ³)	1.93	1.93	1.82	1.83	1.86
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	3% on 19.0mm	4% on 19.0mm	3% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	8.5	9.5	10.5	11.5	10.5
Adjusted Lab OMC:	(%)	9.4	9.5	9.9	11.0	9.6
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.10	2.14	2.10	2.09	2.13
Adjusted Lab Max CWD:	(t/m ³)	2.11	2.16	2.11	2.11	2.14
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

	(%)	1.0% Drier than OMC	At OMC	0.5% Wetter than OMC	0.5% Wetter than OMC	1.0% Wetter than OMC
Moisture Variation	(%)	91.5	98.0	104.0	106.0	108.0
Moisture Ratio	(%)	99.5	98.0	95.0	97.0	96.0
Density Ratio	(%)					

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.8	10	98.75	2.34	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 05/11/2024 to 07/11/2024



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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	18
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	20/11/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	121646	121647	121648	121649	121650
Field Test Number:	1	2	3	4	5
Date - Field Tested:	7/11/2024	7/11/2024	7/11/2024	7/11/2024	7/11/2024
Time - Field Tested:	1000	1010	1020	1030	1040
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 35034.507	E: 35034.678	E: 35038.086	E: 35041.938	E: 35059.307
Position/Offset/Northing:	(m) N: 74710.186	N: 74695.202	N: 74678.182	N: 74657.494	N: 74652.216
Level/Layer/R.L.	RL: 51.894	RL: 52.429	RL: 52.747	RL: 53.051	RL: 52.434
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.17	2.13	2.11	2.15	2.07
Field Dry Density:	(t/m ³)	1.96	1.95	1.92	1.94	1.89
Retained Oversize (Wet basis):	(%)	4% on 19.0mm	4% on 19.0mm	2% on 19.0mm	2% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	10.5	9.0	10.0	10.5	10.0
Adjusted Lab OMC:	(%)	11.0	9.6	10.4	11.1	9.8
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.13	2.16	2.14	2.14	2.13
Adjusted Lab Max CWD:	(t/m ³)	2.14	2.17	2.15	2.14	2.14
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Drier than OMC	At OMC
Moisture Ratio	(%)	96.5	95.5	97.0	96.5	100.5
Density Ratio	(%)	101.5	98.5	98.5	100.0	96.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.0	10	98.89	2.13	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 12/11/2024 to 14/11/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	18
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	20/11/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	121651	121652	121653	121654	121655
Sample Number:	6	7	8	9	10
Field Test Number:	7/11/2024	7/11/2024	7/11/2024	7/11/2024	7/11/2024
Date - Field Tested:	1050	1100	1110	1120	1130
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 35231.764	E: 35162.143	E: 35196.423	E: 35200.261	E: 35216.964
Position/Offset/Northing:	(m) N: 74736.266	N: 74611.913	N: 74649.423	N: 74663.614	N: 74679.613
Level/Layer/R.L.	RL: 49.143	RL: 49.564	RL: 49.623	RL: 49.216	RL: 49.234
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.15	2.07	2.09	2.09	2.13
Field Dry Density:	(t/m ³)	1.93	1.88	1.86	1.86	1.91
Retained Oversize (Wet basis):	(%)	4% on 19.0mm	3% on 19.0mm	4% on 19.0mm	4% on 19.0mm	1% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	11.5	10.5	12.5	12.5	11.0
Adjusted Lab OMC:	(%)	10.8	10.7	12.5	12.0	12.4
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.11	2.14	2.12	2.15	2.08
Adjusted Lab Max CWD:	(t/m ³)	2.13	2.15	2.13	2.17	2.08
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

	(%)	0.5% Wetter than OMC	0.5% Drier than OMC	At OMC	0.5% Wetter than OMC	1.5% Drier than OMC
Moisture Variation	(%)					
Moisture Ratio	(%)	105.5	97.5	100.0	106.0	89.5
Density Ratio	(%)	101.0	96.5	98.0	96.5	102.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.0	10	98.89	2.13	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 12/11/2024 to 14/11/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	20
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	12/12/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	122335	122336	122337	122338	122339
Field Test Number:	1	2	3	4	5
Date - Field Tested:	26/11/2024	26/11/2024	26/11/2024	26/11/2024	26/11/2024
Time - Field Tested:	1400	1410	1420	1430	1440
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 35226.143	E: 35229.614	E: 35236.141	E: 35226.163	E: 35201.612
Position/Offset/Northing:	(m) N: 74723.964	N: 74709.318	N: 74720.323	N: 74722.632	N: 74714.612
Level/Layer/R.L.	RL: 49.169	RL: 49.263	RL: 49.061	RL: 48.961	RL: 49.102
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.09	2.07	2.07	2.05	2.11
Field Dry Density:	(t/m ³)	1.89	1.83	1.83	1.83	1.91
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	1% on 19.0mm	1% on 19.0mm	1% on 19.0mm	1% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	10.5	13.0	13.5	12.0	10.5
Adjusted Lab OMC:	(%)	11.0	12.3	12.9	12.1	11.0
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.13	2.17	2.12	2.13	2.11
Adjusted Lab Max CWD:	(t/m ³)	2.14	2.18	2.13	2.13	2.12
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Drier than OMC	1.0% Wetter than OMC	0.5% Wetter than OMC	At OMC	0.5% Drier than OMC
Moisture Ratio	(%)	97.5	106.5	104.5	100.0	95.5
Density Ratio	(%)	97.5	95.0	97.5	96.0	99.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	96.7	10	97.16	1.19	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 27/11/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	20
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	12/12/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	122340	122341	122342	122343	122344
Sample Number:	6	7	8	9	10
Field Test Number:	26/11/2024	26/11/2024	26/11/2024	26/11/2024	26/11/2024
Date - Field Tested:	1450	1500	1510	1520	1530
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 35166.216	E: 35163.126	E: 35126.161	E: 35096.161	E: 35082.003
Position/Offset/Northing:	(m) N: 74566.261	N: 74569.247	N: 74587.142	N: 74546.163	N: 74549.614
Level/Layer/R.L.	RL: 49.961	RL: 49.896	RL: 49.912	RL: 50.169	RL: 49.996
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.09	2.08	2.09	2.06	2.05
Field Dry Density:	(t/m ³)	1.86	1.86	1.86	1.85	1.85
Retained Oversize (Wet basis):	(%)	2% on 19.0mm	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	12.5	12.0	12.5	11.0	10.5
Adjusted Lab OMC:	(%)	12.5	11.2	11.7	10.9	11.2
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.14	2.14	2.13	2.12	2.11
Adjusted Lab Max CWD:	(t/m ³)	2.15	2.15	2.14	2.13	2.12
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

		At OMC	0.5% Wetter than OMC	0.5% Wetter than OMC	At OMC	0.5% Drier than OMC
Moisture Variation	(%)					
Moisture Ratio		101.0	105.5	105.0	102.0	96.0
Density Ratio	(%)	97.5	97.0	98.0	96.5	97.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	96.7	10	97.16	1.19	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 27/11/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	21
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	12/12/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	122350	122351	122352	122353	122354
Field Test Number:	1	2	3	4	5
Date - Field Tested:	27/11/2024	27/11/2024	27/11/2024	27/11/2024	27/11/2024
Time - Field Tested:	1400	1410	1420	1430	1440
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34165.096	E: 34181.263	E: 34190.612	E: 34172.213	E: 34142.263
Position/Offset/Northing:	(m) N: 74739.423	N: 74761.261	N: 74785.337	N: 74787.290	N: 74789.261
Level/Layer/R.L.	RL: 53.642	RL: 53.001	RL: 51.861	RL: 52.018	RL: 52.861
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.11	2.11	2.08	2.09	2.05
Field Dry Density:	(t/m ³)	1.91	1.87	1.87	1.88	1.85
Retained Oversize (Wet basis):	(%)	4% on 19.0mm	3% on 19.0mm	3% on 19.0mm	2% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	10.5	13.0	11.5	11.0	10.5
Adjusted Lab OMC:	(%)	11.2	12.0	11.3	11.7	10.8
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.14	2.14	2.16	2.12	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.16	2.16	2.18	2.13	2.13
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Drier than OMC	1.0% Wetter than OMC	At OMC	0.5% Drier than OMC	At OMC
Moisture Ratio	(%)	95.5	106.5	99.5	96.0	98.0
Density Ratio	(%)	98.0	97.5	95.5	98.5	96.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	96.7	10	97.11	1.10	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 04/12/2024 to 05/12/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

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Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	21
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	12/12/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

	122355	122356	122357	122358	122359
Sample Number:	6	7	8	9	10
Field Test Number:	27/11/2024	27/11/2024	27/11/2024	27/11/2024	27/11/2024
Date - Field Tested:	1450	1500	1510	1520	1530
Time - Field Tested:	On Site - General Fill				
Material Source / Type:	-				
Remarks / Notes:	-				
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34135.263	E: 34127.677	E: 34143.229	E: 34163.161	E: 34112.621
Position/Offset/Northing:	(m) N: 74750.616	N: 74732.800	N: 74725.618	N: 74719.613	N: 74708.118
Level/Layer/R.L.	RL: 53.489	RL: 54.361	RL: 54.632	RL: 55.029	RL: 55.750
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.05	2.10	2.05	2.08	2.10
Field Dry Density:	(t/m ³)	1.85	1.90	1.85	1.87	1.86
Retained Oversize (Wet basis):	(%)	2% on 19.0mm	3% on 19.0mm	2% on 19.0mm	4% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	11.0	10.5	10.5	11.5	12.5
Adjusted Lab OMC:	(%)	11.6	10.8	11.0	11.2	11.8
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.13	2.12	2.12	2.11	2.16
Adjusted Lab Max CWD:	(t/m ³)	2.14	2.13	2.13	2.12	2.17
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Drier than OMC	At OMC	1.0% Wetter than OMC
Moisture Ratio	(%)	96.0	95.0	95.5	101.5	107.0
Density Ratio	(%)	96.0	98.5	96.0	98.0	96.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	96.7	10	97.11	1.10	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 04/12/2024 to 05/12/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	22
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	12/12/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	122360	122361	122362	122363	122364
Field Test Number:	1	2	3	4	5
Date - Field Tested:	28/11/2024	28/11/2024	28/11/2024	28/11/2024	28/11/2024
Time - Field Tested:	1400	1410	1420	1430	1440
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34841.613	E: 34826.143	E: 34806.342	E: 34849.614	E: 34859.623
Position/Offset/Northing:	(m) N: 74596.161	N: 74583.902	N: 74568.761	N: 74566.361	N: 74596.629
Level/Layer/R.L.	RL: 48.361	RL: 48.163	RL: 48.416	RL: 48.513	RL: 48.562
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.08	2.06	2.09	2.07	2.08
Field Dry Density:	(t/m ³)	1.85	1.82	1.86	1.86	1.85
Retained Oversize (Wet basis):	(%)	4% on 19.0mm	1% on 19.0mm	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	12.5	13.5	12.0	11.0	12.5
Adjusted Lab OMC:	(%)	11.9	12.7	11.9	10.9	12.7
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.16	2.13	2.10	2.11	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.17	2.13	2.12	2.12	2.13
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Wetter than OMC	0.5% Wetter than OMC	At OMC	At OMC	At OMC
Moisture Ratio	(%)	104.5	104.5	101.5	102.0	98.0
Density Ratio	(%)	95.5	96.5	98.5	97.5	97.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.7	10	98.34	1.53	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 04/12/2024 to 05/12/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	22
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	12/12/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	122365	122366	122367	122368	122369
Sample Number:	6	7	8	9	10
Field Test Number:	28/11/2024	28/11/2024	28/11/2024	28/11/2024	28/11/2024
Date - Field Tested:	1450	1500	1510	1520	1530
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34535.161	E: 34575.416	E: 34525.143	E: 34492.161	E: 34475.116
Position/Offset/Northing:	(m) N: 74562.197	N: 74475.362	N: 74447.663	N: 74492.161	N: 74532.163
Level/Layer/R.L.	RL: 51.861	RL: 54.951	RL: 58.031	RL: 55.561	RL: 53.369
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.10	2.09	2.10	2.06	2.11
Field Dry Density:	(t/m ³)	1.89	1.88	1.87	1.82	1.86
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	3% on 19.0mm	3% on 19.0mm	1% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	10.5	11.5	12.5	13.0	13.5
Adjusted Lab OMC:	(%)	11.1	11.1	12.0	12.5	12.9
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.08	2.08	2.08	2.09	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.09	2.10	2.10	2.10	2.13
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Drier than OMC	At OMC	0.5% Wetter than OMC	0.5% Wetter than OMC	0.5% Wetter than OMC
Moisture Ratio	(%)	96.0	101.5	105.0	105.0	104.5
Density Ratio	(%)	100.0	99.5	100.5	98.0	99.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.7	10	98.34	1.53	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 04/12/2024 to 05/12/2024



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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client: See Civil Pty Ltd
 Client Address: 108 Siganto Drive, Helensvale QLD 4210
 Project: Flagstone - Stage 4 BEW
 Component: Level 1 Fill
 Lot Number: -

Report No: 23
 Report Date: 12/12/2024
 Project No: 1813
 Test Request: -
 ITP/PCP:

Sample Information & Location

Sample Number:	122370	122371	122372	122373	122374
Field Test Number:	1	2	3	4	5
Date - Field Tested:	29/11/2024	29/11/2024	29/11/2024	29/11/2024	29/11/2024
Time - Field Tested:	1400	1410	1420	1430	1440
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 34852.813	E: 34820.890	E: 34817.740	E: 34895.525	E: 34856.555
Position/Offset/Northing:	(m) N: 74596.226	N: 74584.290	N: 74564.039	N: 74573.633	N: 74584.593
Level/Layer/R.L.	RL: 48.861	RL: 48.714	RL: 48.968	RL: 48.962	RL: 48.939
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.10	2.05	2.11	2.07	2.10
Field Dry Density:	(t/m ³)	1.88	1.86	1.88	1.86	1.90
Retained Oversize (Wet basis):	(%)	2% on 19.0mm	1% on 19.0mm	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	11.5	10.5	12.5	11.5	10.5
Adjusted Lab OMC:	(%)	11.3	10.0	11.6	11.3	11.2
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.08	2.12	2.10	2.09	2.09
Adjusted Lab Max CWD:	(t/m ³)	2.09	2.12	2.11	2.10	2.10
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

	(%)	At OMC	0.5% Wetter than OMC	1.0% Wetter than OMC	At OMC	0.5% Drier than OMC
Moisture Variation	(%)	101.5	103.0	108.0	100.0	94.5
Moisture Ratio	(%)	100.5	96.5	100.0	98.5	100.0
Density Ratio	(%)					

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.6	10	99.13	1.28	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 04/12/2024 to 05/12/2024



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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	23
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	12/12/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	122375	122376	122377	122378	122379
Sample Number:	6	7	8	9	10
Field Test Number:	29/11/2024	29/11/2024	29/11/2024	29/11/2024	29/11/2024
Date - Field Tested:	1450	1500	1510	1520	1530
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 34539.665	E: 34570.649	E: 34529.225	E: 34488.273	E: 34471.607
Position/Offset/Northing:	(m) N: 74564.363	N: 74479.566	N: 74444.069	N: 74491.481	N: 74537.845
Level/Layer/R.L.	RL: 52.084	RL: 55.222	RL: 58.264	RL: 55.720	RL: 53.568
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.11	2.10	2.07	2.10	2.10
Field Dry Density:	(t/m ³)	1.90	1.88	1.85	1.86	1.86
Retained Oversize (Wet basis):	(%)	2% on 19.0mm	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	11.0	12.0	11.5	12.5	13.0
Adjusted Lab OMC:	(%)	10.9	11.5	11.3	11.7	12.2
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.10	2.12	2.08	2.13	2.09
Adjusted Lab Max CWD:	(t/m ³)	2.11	2.13	2.08	2.15	2.10
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

	(%)	At OMC	0.5% Wetter than OMC	0.5% Wetter than OMC	1.0% Wetter than OMC	1.0% Wetter than OMC
Moisture Variation						
Moisture Ratio		100.5	105.0	102.5	107.0	107.5
Density Ratio		100.5	98.5	99.0	97.5	100.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.6	10	99.13	1.28	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 04/12/2024 to 05/12/2024



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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	24
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	12/12/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	122930	122931	122932	122933	122934
Field Test Number:	1	2	3	4	5
Date - Field Tested:	9/12/2024	9/12/2024	9/12/2024	9/12/2024	9/12/2024
Time - Field Tested:	1330	1340	1350	1400	1410
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	SP2	SP2	SP2	SP2	SP2
Location/Chainage/Easting:	(m) E: 34160.047	E: 34175.489	E: 34194.180	E: 34165.502	E: 34147.622
Position/Offset/Northing:	(m) N: 74732.998	N: 74756.620	N: 74780.086	N: 74790.978	N: 74777.576
Level/Layer/R.L.	RL: 54.025	RL: 53.245	RL: 52.149	RL: 52.589	RL: 53.353
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.01	2.07	2.07	2.08	2.06
Field Dry Density:	(t/m ³)	1.70	1.74	1.79	1.78	1.80
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	4% on 19.0mm	1% on 19.0mm	4% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	18.0	19.0	15.5	17.0	14.5
Adjusted Lab OMC:	(%)	18.1	18.2	16.3	17.3	15.1
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.10	2.06	2.08	2.09	2.10
Adjusted Lab Max CWD:	(t/m ³)	2.12	2.08	2.09	2.11	2.11
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	At OMC	1.0% Wetter than OMC	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Drier than OMC
Moisture Ratio	(%)	100.0	105.5	96.0	97.0	96.5
Density Ratio	(%)	95.0	99.5	99.0	98.5	98.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.4	10	98.01	1.60	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 11/12/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

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Approved Signatory



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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	24
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	12/12/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

	122935	122936	122937	122938	122939
Sample Number:	6	7	8	9	10
Field Test Number:	9/12/2024	9/12/2024	9/12/2024	9/12/2024	9/12/2024
Date - Field Tested:	1420	1430	1440	1450	1500
Time - Field Tested:	On Site - General Fill				
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	SP2	SP2	SP2	SP2	SP2
Location/Chainage/Easting:	(m) E: 34143.042	E: 34123.538	E: 34130.328	E: 34114.073	E: 34117.161
Position/Offset/Northing:	(m) N: 74754.903	N: 74737.612	N: 74727.245	N: 74722.615	N: 74709.670
Level/Layer/R.L.	RL: 53.961	RL: 54.765	RL: 55.021	RL: 55.336	RL: 55.754
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.08	2.07	2.05	2.09	2.01
Field Dry Density:	(t/m ³)	1.78	1.78	1.73	1.78	1.68
Retained Oversize (Wet basis):	(%)	1% on 19.0mm	3% on 19.0mm	2% on 19.0mm	2% on 19.0mm	1% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	16.5	16.0	18.0	17.5	20.0
Adjusted Lab OMC:	(%)	16.9	16.0	17.2	17.2	19.3
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.09	2.10	2.10	2.09	2.09
Adjusted Lab Max CWD:	(t/m ³)	2.09	2.11	2.11	2.10	2.10
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

	(%)	0.5% Drier than OMC	At OMC	1.0% Wetter than OMC	0.5% Wetter than OMC	1.0% Wetter than OMC
Moisture Variation	(%)	97.5	100.5	105.5	102.5	104.5
Moisture Ratio	(%)	99.0	98.0	97.0	100.0	96.0
Density Ratio	(%)					

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.4	10	98.01	1.60	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 11/12/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client: See Civil Pty Ltd
 Client Address: 108 Siganto Drive, Helensvale QLD 4210
 Project: Flagstone - Stage 4 BEW
 Component: Level 1 Fill
 Lot Number: -

Report No: 26
 Report Date: 18/12/2024
 Project No: 1813
 Test Request: -
 ITP/PCP:

Sample Information & Location

Sample Number:	122652	122653	122654	122655	122656
Field Test Number:	1	2	3	4	5
Date - Field Tested:	6/12/2024	6/12/2024	6/12/2024	6/12/2024	6/12/2024
Time - Field Tested:	1140	1150	1200	1210	1220
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	Road 34	Road 34	Road 34	Road 34	Road 34
Location/Chainage/Easting: (m)	CH: 960	CH: 940	CH: 920	CH:900	CH:880
Position/Offset/Northing: (m)	Centre Line	Centre Line	Centre Line	Centre Line	Centre Line
Level/Layer/R.L.	0.5m Below FL	0.5m Below FL	0.5m Below FL	0.5m Below FL	0.5m Below FL
Layer Depth: (mm)	-	-	-	-	-
Depth Tested: (mm)	150	150	150	150	150

Field & Laboratory Results

Field Wet Density: (t/m ³)	2.22	2.24	2.21	2.25	2.27
Field Dry Density: (t/m ³)	2.03	2.04	2.02	2.06	2.07
Retained Oversize (Wet basis): (%)	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm	1% on 19.0mm	2% on 19.0mm
Material Description:	-	-	-	-	-
Moisture Content Method:	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content: (%)	9.5	10.0	9.5	9.5	9.5
Adjusted Lab OMC: (%)	10.0	10.4	9.8	9.7	9.3
Fraction Tested:	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density: (t/m ³)	2.19	2.22	2.21	2.21	2.23
Adjusted Lab Max CWD: (t/m ³)	2.20	2.22	2.22	2.22	2.23
Compactive Effort:	Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation (%)	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Drier than OMC	At OMC
Moisture Ratio (%)	94.0	96.0	95.5	97.5	101.0
Density Ratio (%)	101.0	101.0	99.5	101.5	101.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	100.3	10	100.68	0.85	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), , AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 12/12/2024 to 17/12/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
 Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	26
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	18/12/2024
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	122657	122658	122659	122660	122661
Sample Number:	6	7	8	9	10
Field Test Number:	6	7	8	9	10
Date - Field Tested:	6/12/2024	6/12/2024	6/12/2024	6/12/2024	6/12/2024
Time - Field Tested:	1230	1240	1250	0100	0110
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	Road 34	Road 34	Road 34	Road 34	Road 34
Location/Chainage/Easting:	(m) CH:860	CH:840	CH:820	CH:800	CH:780
Position/Offset/Northing:	(m) Centre Line	Centre Line	Centre Line	Centre Line	Centre Line
Level/Layer/R.L.	0.5m Below FL	0.5m Below FL	0.5m Below FL	0.5m Below FL	0.5m Below FL
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.23	2.28	2.27	2.25	2.25
Field Dry Density:	(t/m ³)	2.04	2.08	2.07	2.05	2.05
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	2% on 19.0mm	1% on 19.0mm	3% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	9.5	9.5	9.5	9.5	9.5
Adjusted Lab OMC:	(%)	9.3	10.0	9.8	10.1	9.2
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.24	2.26	2.27	2.22	2.23
Adjusted Lab Max CWD:	(t/m ³)	2.24	2.26	2.27	2.23	2.23
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

	(%)	At OMC	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Drier than OMC	0.5% Wetter than OMC
Moisture Variation	(%)					
Moisture Ratio	(%)	102.0	96.5	95.0	96.5	104.5
Density Ratio	(%)	99.5	101.0	100.0	101.0	100.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	100.3	10	100.68	0.85	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 12/12/2024 to 17/12/2024



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Compaction Control Test Report (Nuclear Gauge & Hilf) Page: 1 of 1

Client:	See Civil Pty Ltd	Report No:	29
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	9/01/2025
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	123579	123580	123581	123582	123583
Field Test Number:	1	2	3	4	5
Date - Field Tested:	7/01/2025	7/01/2025	7/01/2025	7/01/2025	7/01/2025
Time - Field Tested:	1400	1410	1420	1430	1440
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	SP2	SP2	SP2	SP2	SP2
Location/Chainage/Easting:	(m) E: 34164.237	E: 34171.348	E: 34173.939	E: 34183.456	E: 34167.764
Position/Offset/Northing:	(m) N: 74819.951	N: 74831.770	N: 74821.301	N: 74816.213	N: 74808.823
Level/Layer/R.L.	RL: 50.348	RL: 49.648	RL: 49.476	RL: 49.476	RL: 50.776
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.08	2.06	2.06	2.14	2.14
Field Dry Density:	(t/m ³)	1.92	1.91	1.91	1.98	1.97
Retained Oversize (Wet basis):	(%)	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm	0% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	8.0	8.0	8.0	8.0	8.5
Adjusted Lab OMC:	(%)	7.5	6.9	7.3	7.5	7.7
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.13	2.14	2.15	2.18	2.19
Adjusted Lab Max CWD:	(t/m ³)	2.13	2.14	2.15	2.18	2.19
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Wetter than OMC	1.0% Wetter than OMC	0.5% Wetter than OMC	0.5% Wetter than OMC	0.5% Wetter than OMC
Moisture Ratio	(%)	108.5	113.5	107.5	109.0	108.0
Density Ratio	(%)	97.5	96.0	95.5	98.0	97.5

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	96.3	5	96.88	1.04	0.572
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 08/01/2025



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
Approved Signatory

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	31
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	20/01/2025
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	124188	124189	124190	124191	124192
Field Test Number:	1	2	3	4	5
Date - Field Tested:	15/01/2025	15/01/2025	15/01/2025	15/01/2025	15/01/2025
Time - Field Tested:	1340	1350	1400	1410	1420
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	SP2	SP2	SP2	SP2	SP2
Location/Chainage/Easting:	(m) E: 34124.648	E: 34117.121	E: 34124.023	E: 34109.613	E: 34099.008
Position/Offset/Northing:	(m) N: 74704.599	N: 74716.123	N: 74688.591	N: 74676.369	N: 74684.163
Level/Layer/R.L.	RL: 56.413	RL: 56.369	RL: 56.692	RL: 56.634	RL: 57.413
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.21	2.25	2.07	2.14	2.19
Field Dry Density:	(t/m ³)	2.04	2.02	1.86	1.94	1.95
Retained Oversize (Wet basis):	(%)	9% on 19.0mm	6% on 19.0mm	7% on 19.0mm	11% on 19.0mm	7% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	8.5	11.0	11.5	10.5	12.5
Adjusted Lab OMC:	(%)	8.9	11.1	11.8	10.3	12.2
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.20	2.20	2.11	2.13	2.17
Adjusted Lab Max CWD:	(t/m ³)	2.22	2.22	2.14	2.18	2.19
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Drier than OMC	At OMC	0.5% Drier than OMC	At OMC	0.5% Wetter than OMC
Moisture Ratio	(%)	93.5	99.5	97.5	100.0	104.5
Density Ratio	(%)	99.5	101.0	97.0	98.5	100.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.8	10	99.34	1.46	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 16/01/2025 to 17/01/2025



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

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Approved By:

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	31
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	20/01/2025
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	124193	124194	124195	124196	124197
Sample Number:	6	7	8	9	10
Field Test Number:	15/01/2025	15/01/2025	15/01/2025	15/01/2025	15/01/2025
Date - Field Tested:	1430	1440	1450	1500	1510
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	SP2	SP2	SP2	SP2	SP2
Location/Chainage/Easting:	(m) E: 34107.277	E: 34116.124	E: 34102.897	E: 34123.621	E: 34113.161
Position/Offset/Northing:	(m) N: 74671.293	N: 74624.161	N: 74709.239	N: 74723.102	N: 74736.142
Level/Layer/R.L.	RL: 57.242	RL: 56.163	RL: 56.894	RL: 56.912	RL: 56.166
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.23	2.21	2.10	2.18	2.06
Field Dry Density:	(t/m ³)	2.02	2.05	1.89	1.93	1.85
Retained Oversize (Wet basis):	(%)	8% on 19.0mm	4% on 19.0mm	5% on 19.0mm	9% on 19.0mm	6% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	10.5	8.0	11.5	13.0	11.5
Adjusted Lab OMC:	(%)	10.8	8.8	10.9	13.5	11.8
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.18	2.18	2.10	2.17	2.10
Adjusted Lab Max CWD:	(t/m ³)	2.21	2.19	2.12	2.20	2.12
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	0.5% Drier than OMC	1.0% Drier than OMC	0.5% Wetter than OMC	0.5% Drier than OMC	At OMC
Moisture Ratio	(%)	96.0	91.0	105.0	96.5	99.0
Density Ratio	(%)	101.0	101.0	99.5	99.0	97.5

<i>Specified Density Ratio</i>		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
<i>Minimum (%)</i>	95	98.8	10	99.34	1.46	0.405
<i>Maximum (%)</i>		-	-	-	-	-
<i>Specified Moisture Ratio</i>		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
<i>Minimum (%)</i>		-	-	-	-	-
<i>Maximum (%)</i>		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 16/01/2025 to 17/01/2025



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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 1 of 2

Client:	See Civil Pty Ltd	Report No:	32
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	21/01/2025
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	122325	122326	122327	122328	122329
Field Test Number:	1	2	3	4	5
Date - Field Tested:	25/11/2024	25/11/2024	25/11/2024	25/11/2024	25/11/2024
Time - Field Tested:	1400	1410	1420	1430	1440
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	-				
Location/Chainage/Easting:	(m) E: 35041.514	E: 35031.611	E: 35059.619	E: 35042.614	E: 35063.186
Position/Offset/Northing:	(m) N: 74721.627	N: 74991.212	N: 74991.212	N: 74662.349	N: 74679.880
Level/Layer/R.L.	RL: 51.961	RL: 52.612	RL: 52.911	RL: 53.426	RL: 52.622
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.10	2.05	2.10	2.07	2.11
Field Dry Density:	(t/m ³)	1.88	1.85	1.85	1.84	1.86
Retained Oversize (Wet basis):	(%)	4% on 19.0mm	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm	4% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	12.0	11.0	13.5	12.0	13.5
Adjusted Lab OMC:	(%)	11.2	11.5	12.6	12.5	13.3
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.14	2.08	2.10	2.11	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.15	2.09	2.10	2.12	2.13
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	1.0% Wetter than OMC	0.5% Drier than OMC	0.5% Wetter than OMC	0.5% Drier than OMC	At OMC
Moisture Ratio	(%)	108.5	97.0	106.0	96.5	101.5
Density Ratio	(%)	97.5	98.0	100.0	97.5	99.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	97.7	10	98.25	1.30	0.405
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 26/11/2024 to 28/11/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

A. Lenkeit
Approved Signatory

**ASCT Brisbane South**

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Compaction Control Test Report (Nuclear Gauge & Hilf)

Page: 2 of 2

Client:	See Civil Pty Ltd	Report No:	32
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	21/01/2025
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	

Sample Information & Location

	122330	122331	122332	122333	122334
Sample Number:	6	7	8	9	10
Field Test Number:	25/11/2024	25/11/2024	25/11/2024	25/11/2024	25/11/2024
Date - Field Tested:	1450	1500	1510	1520	1530
Time - Field Tested:	On Site - General Fill				
Material Source / Type:					
Remarks / Notes:					
Control Line:	-	-	-	-	-
Location/Chainage/Easting:	(m) E: 35226.702	E: 35229.613	E: 35187.029	E: 35211.216	E: 35204.216
Position/Offset/Northing:	(m) N: 74741.006	N: 74636.266	N: 74671.611	N: 74671.614	N: 74663.789
Level/Layer/R.L.	RL: 49.563	RL: 49.863	RL: 49.881	RL: 49.863	RL: 49.361
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.07	2.05	2.05	2.11	2.05
Field Dry Density:	(t/m ³)	1.82	1.82	1.82	1.88	1.82
Retained Oversize (Wet basis):	(%)	3% on 19.0mm	3% on 19.0mm	2% on 19.0mm	2% on 19.0mm	2% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	13.5	12.5	12.5	12.5	12.5
Adjusted Lab OMC:	(%)	13.0	11.8	13.0	12.0	12.1
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.08	2.11	2.12	2.10	2.08
Adjusted Lab Max CWD:	(t/m ³)	2.10	2.12	2.13	2.10	2.09
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

	(%)	0.5% Wetter than OMC	1.0% Wetter than OMC	0.5% Drier than OMC	0.5% Wetter than OMC	At OMC
Moisture Variation	(%)					
Moisture Ratio	(%)	105.0	106.5	96.0	106.0	101.5
Density Ratio	(%)	99.0	97.0	96.5	100.5	98.0

<i>Specified Density Ratio</i>		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
<i>Minimum (%)</i>	95	97.7	10	98.25	1.30	0.405
<i>Maximum (%)</i>		-	-	-	-	-
<i>Specified Moisture Ratio</i>		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
<i>Minimum (%)</i>		-	-	-	-	-
<i>Maximum (%)</i>		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, Cl 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 26/11/2024 to 28/11/2024



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902



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Compaction Control Test Report (Nuclear Gauge & Hilf) Page: 1 of 1

Client:	See Civil Pty Ltd	Report No:	33
Client Address:	108 Siganto Drive, Helensvale QLD 4210	Report Date:	23/01/2025
Project:	Flagstone - Stage 4 BEW	Project No:	1813
Component:	Level 1 Fill	Test Request:	-
Lot Number:	-	ITP/PCP:	-

Sample Information & Location

Sample Number:	124182	124183	124184	124185	124186
Field Test Number:	1	2	3	4	5
Date - Field Tested:	8/01/2025	8/01/2025	8/01/2025	8/01/2025	8/01/2025
Time - Field Tested:	1400	1410	1420	1430	1440
Material Source / Type:	On Site - General Fill				
Remarks / Notes:					
Control Line:	SP2	SP2	SP2	SP2	SP2
Location/Chainage/Easting:	(m) E: 34197.137	E: 34201.391	E: 34211.197	E: 34214.674	E: 34221.163
Position/Offset/Northing:	(m) N: 74848.325	N: 74835.299	N: 74849.249	N: 74865.793	N: 74855.243
Level/Layer/R.L.	RL: 47.250	RL: 47.367	RL: 47.025	RL: 46.864	RL: 46.819
Layer Depth:	(mm) -	-	-	-	-
Depth Tested:	(mm) 150	150	150	150	150

Field & Laboratory Results

Field Wet Density:	(t/m ³)	2.12	2.07	2.07	2.10	2.09
Field Dry Density:	(t/m ³)	1.89	1.84	1.82	1.84	1.83
Retained Oversize (Wet basis):	(%)	2% on 19.0mm	3% on 19.0mm	2% on 19.0mm	3% on 19.0mm	4% on 19.0mm
Material Description:		-	-	-	-	-
Moisture Content Method:		AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven	AS1289.2.1.1 - Oven
Field Moisture Content:	(%)	12.0	12.5	13.5	14.0	14.5
Adjusted Lab OMC:	(%)	12.0	12.4	12.7	13.3	13.6
Fraction Tested:		Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm	Passing 19.0mm
Lab Max Converted Wet Density:	(t/m ³)	2.07	2.06	2.09	2.10	2.12
Adjusted Lab Max CWD:	(t/m ³)	2.08	2.08	2.10	2.11	2.14
Compactive Effort:		Standard	Standard	Standard	Standard	Standard

Relative Compaction & Moisture

Moisture Variation	(%)	At OMC	At OMC	1.0% Wetter than OMC	1.0% Wetter than OMC	0.5% Wetter than OMC
Moisture Ratio	(%)	101.0	100.5	107.0	106.0	105.0
Density Ratio	(%)	102.0	100.0	98.5	99.0	98.0

Specified Density Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)	95	98.7	5	99.58	1.57	0.572
Maximum (%)		-	-	-	-	-
Specified Moisture Ratio		Characteristic Value	Number of Tests	Mean	Standard Deviation	Constant k
Minimum (%)		-	-	-	-	-
Maximum (%)		-	-	-	-	-

Test Methods Used.

AS1289.1.1 (Prep), AS1289.5.4.1 - (Moisture Ratio), AS1289.5.7.1 - (Hilf Density/Moisture Ratio (Rapid Method)), AS1289.5.8.1 (Nuclear Gauge, Direct Transmission), AS 1289.1.2.1, CI 6.4(b) (Sampling), CV calculations derived from Austroads NTR-09 publication (Not Included in Nata endorsement)

Remarks Regarding the Lot.

Laboratory testing 14/01/2025 to 16/01/2025



Accredited for compliance with ISO/IEC 17025 - Testing. The results relate only to the items sampled/tested.

Accreditation number: 19902

Approved By:

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