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LEVEL 1 INSPECTION & TESTING RIVERWALK ESTATE, STAGE 20 – 23 WERRIBEE

Prepared for Development Victoria c/- SMEC Australia

Report Reference: GS4428.1 AA

Date: 9 April 2018

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PROJECT DETAILS

Project Reference	GS4428.1	Rev	AA
Project Title	Riverwalk Estate - Stages 20 - 23		
Project Location	Werribee	State	VIC
Date	9 April 2018		

CLIENT DETAILS

Prepared For (Client)	Development Victoria
Project Facilitator	SMEC Australia
Client Address	Level 9/8 Exhibition Street, Melbourne VIC 3000

DISTRIBUTION

Original Held By	Ground Science Pty Ltd
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This document presents the results of the Level 1 Inspection and Testing performed by Ground Science for the aforementioned project, as the nominated project Geotechnical Inspection & Testing Authority (GITA). This report is detailed for the sole use of the intended recipient(s). Should you have any questions related to this report please do not hesitate to contact the undersigned.

AUTHOR:

Ennis Soldin
Graduate Geotechnical Engineer

REVIEWED:

Gee Singh
Senior Geotechnical Engineer

Table of Contents

1. INTRODUCTION

This report presents the results of the inspection activities, compaction control and laboratory testing services performed by Ground Science Pty Ltd for the Riverwalk Estate residential development project, located in Werribee, Victoria (the site).

2. PROJECT UNDERSTANDING

It is understood that the project involves the construction of a residential development including internal access roads and associated service assets. Ground Science was engaged to provide Level 1 Inspection and Testing services for the construction of fill platforms to support the residential allotments. Authorisation to proceed was provided by Development Victoria (the 'Client'). Dalton Consulting Engineers (project facilitators) prepared the civil drawings for the project.

Level 1 Inspection & Testing, as defined in AS3798 (2007) 'Guidelines on Earthworks for Commercial and Residential Developments' provides for full time inspection of the construction of controlled fill and compaction testing in accordance with AS1289 'Methods of Testing Soils for Engineering Purposes' and AS1726 (1993) 'Geotechnical Site Investigations'.

Ground Science performed the role of the project Geotechnical Inspection & Testing Authority (GITA) with all Level 1 Inspection and Testing services described in this report undertaken by an experienced GITA site representative.

3. SCOPE OF WORK

3.1 AREAS OF WORK

Ground Science provided Level 1 Inspection and Testing services for the controlled fill placed on allotments. The areas requiring Level 1 Inspection & Testing are shown on the site plan, Figures 1.1 – 3.2, in Appendix A, which is based on plans prepared by Dalton Consulting Engineers (Drawing No. 10922DP01 Rev A Dated 24/8/17 and Drawing No. 10922DP02 Rev A Dated 24/8/17).

This report details the Level 1 earthworks process performed on site which commenced on 10th October 2017 and was completed on 21st February 2018; comprising of 68 full days and 2 half days of filling operations.

3.2 PLACEMENT METHODOLOGY

The placement of controlled fill on the above-mentioned areas was carried out in accordance with Level 1 fill procedures as detailed in AS3798 (2007) 'Guidelines on Earthworks for Commercial and Residential Developments'. The following fill placement guideline was adopted for the works:

- All existing loose surficial fill, topsoil, soft material, vegetation and materials containing significant organic matter were removed to expose the natural soil subgrade;
- Suitable fill material, sourced by the contractor and approved by Ground Science, was placed in loose horizontal layers not exceeding 250mm in thickness;
- The controlled fill material was compacted to achieve a target Dry Density Ratio of at least 95% Standard Compaction (AS 1289: 5.1.1, 5.4.1 or 5.7.1);
- The fill was moisture conditioned to within 85% – 115% of the standard optimum moisture content;
- The fill material was sorted and mixed to eliminate particles greater than 20% by volume, particles coarser than 37.5mm and no particle over 200mm in any dimension;
- The frequency of field density testing adopted for the project was generally in line with the requirements for large scale developments (Type 1), as detailed in AS3798 (2007), which nominates a frequency of not less than:

- 1 test per layer or 200mm per 2500m^2;
- 1 test per 500m^3 distributed reasonably evenly throughout the full depth and area; or
- 3 tests per site visit; whichever requires the most tests.

4. INSPECTION AND TESTING

4.1 SUBGRADE PREPARATION

Site stripping was conducted with the use of a grader prior to the placement of fill material. Observations of the stripped base indicated approximately 150mm of surface soils and vegetation/topsoil was removed until a suitable natural subgrade was achieved.

The above stripped subgrade was visually assessed using tactile methods described in AS1726 (1993) and approved by the GITA representative throughout the project. Typically, the subgrade soils were found to comprise of silty clay, medium to high plasticity, light brown. The moisture at subgrade level was assessed to be in a damp to moist condition.

Prior to the placement of fill material, the exposed subgrade was ripped, watered and compacted using a 815 compactor and padfoot roller in the presence of a geotechnician from Ground Science. Generally, no surface deflections and/or soft spots were observed and the subgrade was considered suitable for subsequent fill placement.

4.2 CONSTRUCTION MATERIALS

The fill material used in this project was generated from onsite stockpiles. The material was visually assessed to consist of silty clay/gravelly clay, medium to high plasticity, dark brown/brown, dry to moist and hauled to the fill placement areas using moxie dump trucks. Fill material was also sourced offsite from Woods road in Truganina and was observed to be a gravelly clay, medium to high plasticity, brown, dry and carted to fill placement zones by truck and trailers. Ground Science performed an assessment of the fill sources to identify the following material characteristics:

- Material suitability as an engineering property;
- Cohesiveness;
- Free of building debris and vegetative matter;
- Free of oversize rock particles.

Visual assessments on the above-mentioned properties were conducted on-site and the fill material used was considered acceptable for use on this project.

Oversize particles from onsite stockpiles and material imported from Truganina were observed throughout the fill material, typically measuring up to 150mm in size which were removed from the fill placement zones under the instruction of the GITA representative on site. The fill source was assessed to range from dry to wet of the optimum moisture content. Any material that was found to be dry was subsequently moisture conditioned prior and during placement.

4.3 FILL CONSTRUCTION

The contractor had the following plant available on site during the construction period for use in the fill placement;

- Padfoot Roller;
- Excavator;
- 815 Compactor;

- Grader;
- Moxy;
- Front End Loader;
- Watercart;
- Dump Truck and Trailers.

During fill placement, the weather conditions typically ranged from cool/wet conditions to hot/sunny. Showers and rainfall events were encountered throughout the project.

The filling process was generally consistent throughout the project and involved the approved fill sources being transported onto and adjacent to placement zones. A water truck was used to moisture condition any dry fill material that was placed. The material was spread into 200mm – 300mm layers using a Grader and 815 Compactor. Each layer was compacted with the use of a padfoot roller and 815 compactor, applying a minimum of 6-8 passes, performed per layer observed. Generally, up to 10 layers were placed and compacted within the deepest areas to achieve the required finished surface levels.

Throughout the filling process and/or at the completion of the day's production, compaction testing was performed to assess the achieved density ratio of each layer. Figures 1.1 to 3.2 provides a guide to the fill placement and is limited to the areas described in this report. Any fill placed as part of newly constructed drainage, sewer works or similar does not form part of this Level 1 report.

4.4 RESULTS OF COMPACTION CONTROL TESTING

Level 1 Inspection and Testing was undertaken by experienced technicians from Ground Science who attended the site for the duration of the construction phase and nominated the location of the in-situ density tests. Testing comprised a total of 219 in-situ density tests using a nuclear moisture-density gauge in accordance with Australian Standard (AS1289 5.8.1) together with 219 "Rapid HILF" Compaction tests (AS1289 5.7.1) which included associated re-tests of areas that did not achieve the target density ratio of 95% Standard Compaction.

A summary of the field density tests performed for the project, including failed tests and re-tests, is presented in Appendix B. Field density and compaction control testing report sheets are presented in Appendix C. It should be noted that the tests are a representation of the fill placed and support the visual assessment of the works completed. Tests #2, #54, #120, #139, #146, #149, #150, #151, #174, #180 and #181 failed to meet the required target density ratio. The areas of these tests were subsequently reworked, recompacted and retested with compliant test results achieved. Tests #54, #146 and #181 were found to have achieved target density ratios of 94.5% (0.5% below required target), were re-rolled and visually deemed acceptable prior to the next layer of fill placed. The HILF rapid compaction testing was undertaken in our NATA accredited Thomastown laboratory.

4.5 FINAL SURFACE LEVELS

Observations were made by a Ground Science staff member that filling had been complete up to the nominated finished levels as per confirmation provided from the contractor's site foreman. The observed final levels are the constructed finished surface levels of the controlled fill. It should be noted that the overall fill depths are estimated using onsite visual tactile methods and may not be a true representation of fill depths given that conditions on site may change over time. True fill depths should be obtained from the contractor's survey data.

5. COMPLIANCE

Ground Science Staff have undertaken Level 1 Inspection and Testing services of the construction of the controlled fill in the areas designated on Figures 1.1 – 3.2. Ground Science field staff have also observed that the prepared subgrade provided an adequate base for the subsequent placement of controlled fill.

Based on observations made by Ground Science staff and the results of density tests, we consider that the controlled fill placed has been constructed in accordance with the project intent and guidelines provided by AS3798 (2007) and AS2870 (2011).

It should be noted that the final fill layers may be subjected to adverse weather conditions resulting in either surface softening or drying and cracking over time; regardless of the compactive efforts and moisture conditioning applied during the works. The integrity of the top 200mm to 300mm of the fill will deteriorate with time and should be taken into account by the foundation engineer prior to the construction of dwellings or buildings. The levels nominated in this report are a guide to amounts of fill placed and do not necessarily reflect an accurate survey of the fill levels.

6. UNDERSTANDING LEVEL 1 INSPECTION & TESTING

The purpose of performing Level 1 Inspection and Testing is to ensure compliance of the fill with the specification. The engagement of a Geotechnical Inspection Testing Authority (GITA) allows the contractor to perform their role in the construction of the filling operation while the GITA monitors the quality control process of the fill placement. The visual observations of thorough processes and work practices by the contractor allows the GITA to approve the subsequent placement of fill without having to wait for the completion of testing and the extended time it takes to get a test result back. The GITA will however, carry out random spot checks of the filling operations throughout the day's production as confirmation that the placement procedures and the fill moisture content is appropriate. At the end of a day's production the GITA will sign off the completed works as satisfactory. Any failed tests will result in that particular area of operation requiring rectification in the following mornings activities. This may be as simple as extra rolling with compaction plant if moisture conditioning is suitable. Sometimes these areas may be retested if the GITA feels it is necessary.

While AS3798 (2007) is a guideline on the minimum requirements of filling on commercial and residential developments, some projects require a more detailed project specification to deal with site specific issues. While moisture conditioning of fill sources aids in the ease with which compaction is achieved, it is not necessarily a physical characteristic that determines if the placed fill is acceptable. In some situations, the moisture requirement is an extremely important function of the final constructed product. In these situations, a specific project specification should apply to the project as detailed by the designing geotechnical engineer. These are typical of clay liners for wet lands, dams, landfill liners and caps and an array of other engineering situations. Creating a consolidated platform of which is similar to equivalent surrounding natural conditions is the primary aim of level one processes, preventing the occurrence of differential ground movements to footing structures.

Level 1 Inspection & Testing requires full time inspection and testing of the fill placement undertaken on a site. Ground Science (project GITA), are notified daily (or at the completion of each day's work) by the project foreman where subsequent days of fill placement under Level 1 is to occur. On projects that rely upon the importation of a fill source, there can be delays in the receipt of sufficient materials to warrant fill placement works which may result in periods of time where a GITA representative is not required on site. It is the contractor's responsibility to notify the GITA when works proceed and their attendance on site is required again. A GITA relies upon the integrity of the contractor to advise when site attendance is required and makes all reasonable visual attempts to assess if the works are the same as the previous days attendance.

For & on behalf of
Ground Science Pty Ltd

AUTHOR:

Ennis Soldin
Graduate Geotechnical Engineer

REVIEWED:

Gee Singh
Senior Geotechnical Engineer

7. LIMITATIONS

This type of investigation (as per our commission) is not designed or capable of locating all soil conditions, (which can vary even over short distances). The advice given in this report is based on the assumption that the test results are representative of the overall soil conditions. However, it should be noted that actual conditions in some parts of the Site might differ from those found. If further sampling reveals soil conditions significantly different from those shown in our findings, Ground Science must be consulted. Maintenance and upkeep of finished fill placement must be regularly monitored as exposure to extended weather periods/other elements may cause surface drying which may lead to cracking. Conversely, excessive exposure to moisture may cause heaving/softening in the soils.

It is recognised that the passage of time affects the information and assessment provided in this document. Ground Science's assessment is based on information that existed at the time of the preparation of this document. It is understood that the services provided allowed Ground Science to form no more than an opinion of the actual site conditions observed during sampling and observations of the site visit and cannot be used to assess the effects of any subsequent changes in the quality of the site, or its surroundings, or any laws or regulations.

The scope and the period of Ground Science services are described in the proposal and are subject to restrictions and limitations. Ground Science did not perform a complete assessment of all possible conditions or circumstances that may exist at the Site. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Ground Science in regards to it.

Where data has been supplied by the client or a third party, it is assumed that the information is correct unless otherwise stated. No responsibility is accepted by Ground Science for incomplete or inaccurate data supplied by others.

Any drawings or figures presented in this report should be considered only as pictorial evidence of our work. Therefore, unless otherwise stated, any dimensions should not be used for accurate calculations or dimensioning.

8. REFERENCES

- AS3798 (2007) Guidelines on Earthworks for Residential and Commercial Developments.
- AS1289 Methods of Testing Soils for Engineering Purposes.
- AS1726 (1993): Geotechnical Site Investigations

APPENDIX A

Figure 1.1: Test Locations 1 – 37

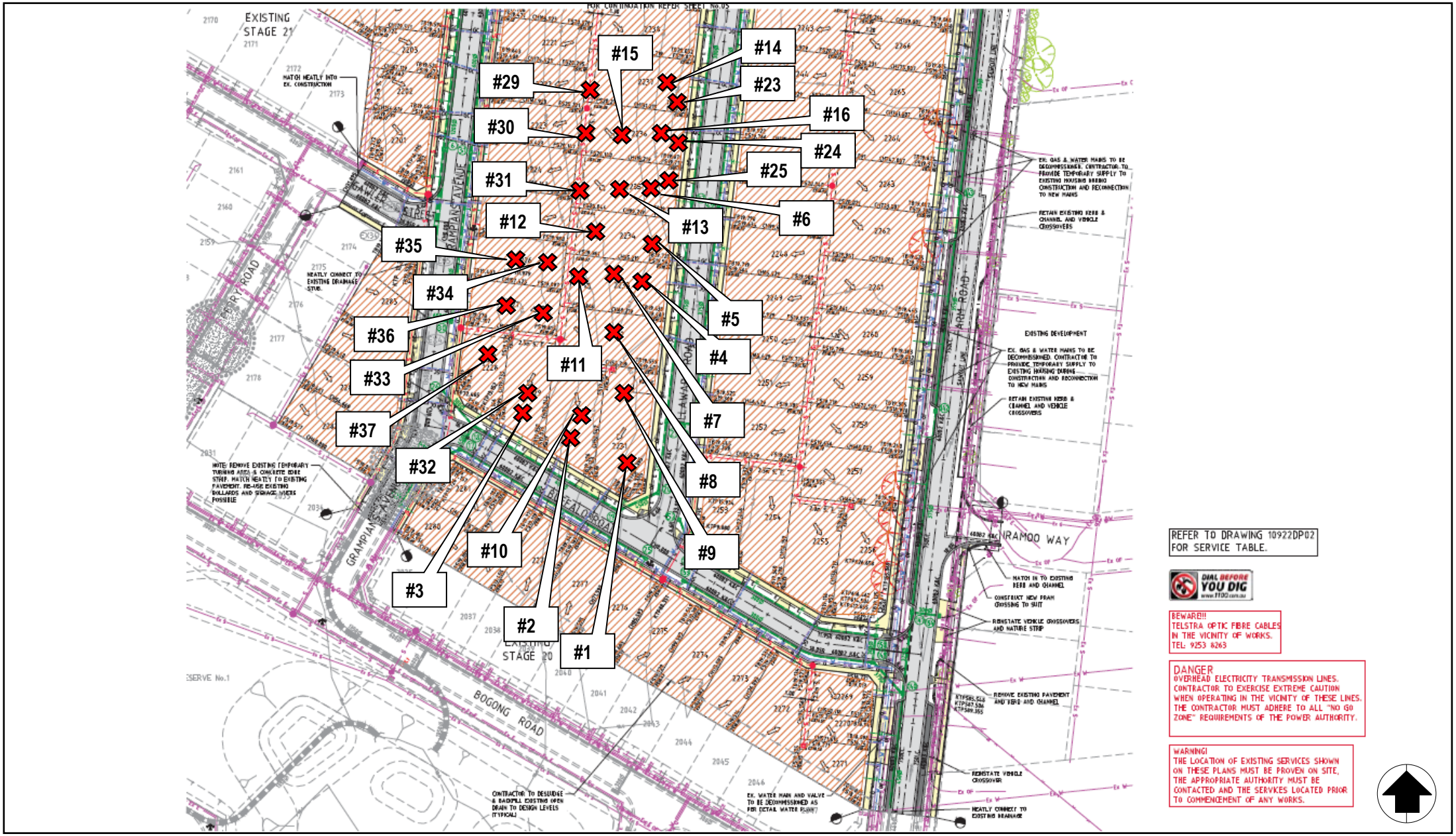
Figure 1.2: Test Locations 17 - 52

Figure 2.1: Test Locations 38 - 104

Figure 2.2: Test Locations 53 - 157

Figure 3.1: Test Locations 105 - 219

Figure 3.2: Test Locations 158 - 207



Rev		Drawn	Date	Checked	Scale
0	Figure 1.1: Tests 1 to 37	ES	05.04.18	GS	NTS

Legend

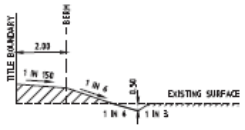
✖ Density Test Location (Approx.)

RIVERWALK ESTATE – STAGES 20 - 23
WERRIBEE, VICTORIA

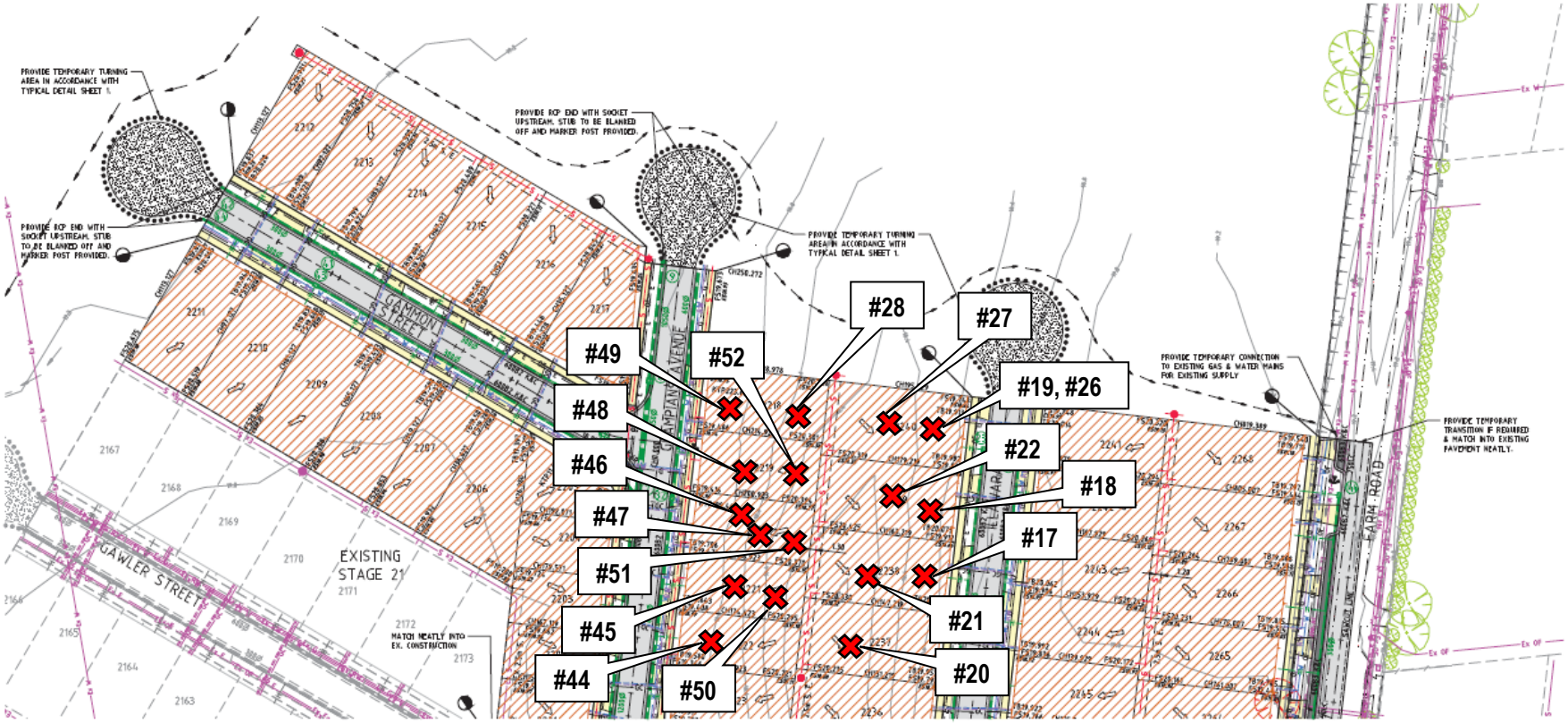
Prepared For: Development Victoria c/- SMEC Australia

Job No: GS4428.1 AA

GroundScience



TYPICAL OPEN EARTH DRAIN DETAIL



FOR CONTINUATION REFER SHEET No.04

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TABLE OF SERVICES LOCATIONS

STREET NAME	WATER	ND-WATER	GAS	COMMS	ELEC.	POLES	BOK
GAWLER STREET	2.90 N	2.50 N	2.10 N	1.725 S	2.15 S	±0.80 S	4.35
GRAMPIANS AVENUE	2.90 E	2.50 E	2.10 E	1.725 W	2.15 W	±0.80 W	4.35
BUFFALO ROAD	2.90 S	2.50 S	2.10 S	1.725 N	2.15 N	±0.80 N	4.35
ILLAWARA RDAD	2.90 E	2.50 E	2.10 E	1.725 W	2.15 W	±0.80 W	4.35
GAMMON STREET	2.90 S	2.50 S	2.10 S	1.725 N	2.15 N	±0.80 N	4.35
FARM ROAD	3.60 W	3.05 W	2.35 W	4.65 E	5.55 E	±0.80 E	8.35 W 6.35 E

* FROM BACK OF KERB

Rev		Drawn	Date	Checked	Scale
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✖ Density Test Location (Approx.)

RIVERWALK ESTATE – STAGES 20 - 23
WERRIBEE, VICTORIA

Prepared For: Development Victoria c/- SMEC Australia

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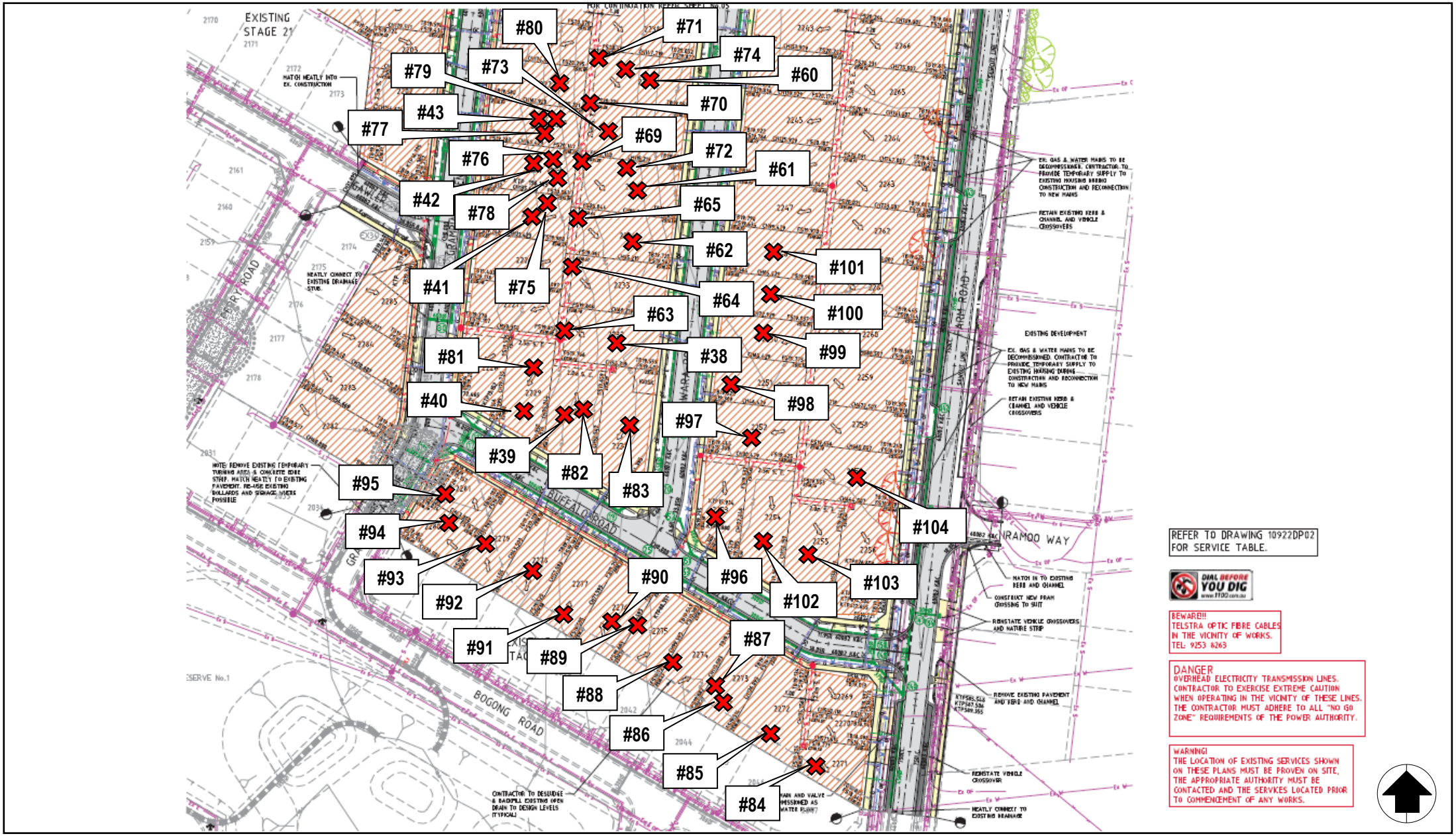

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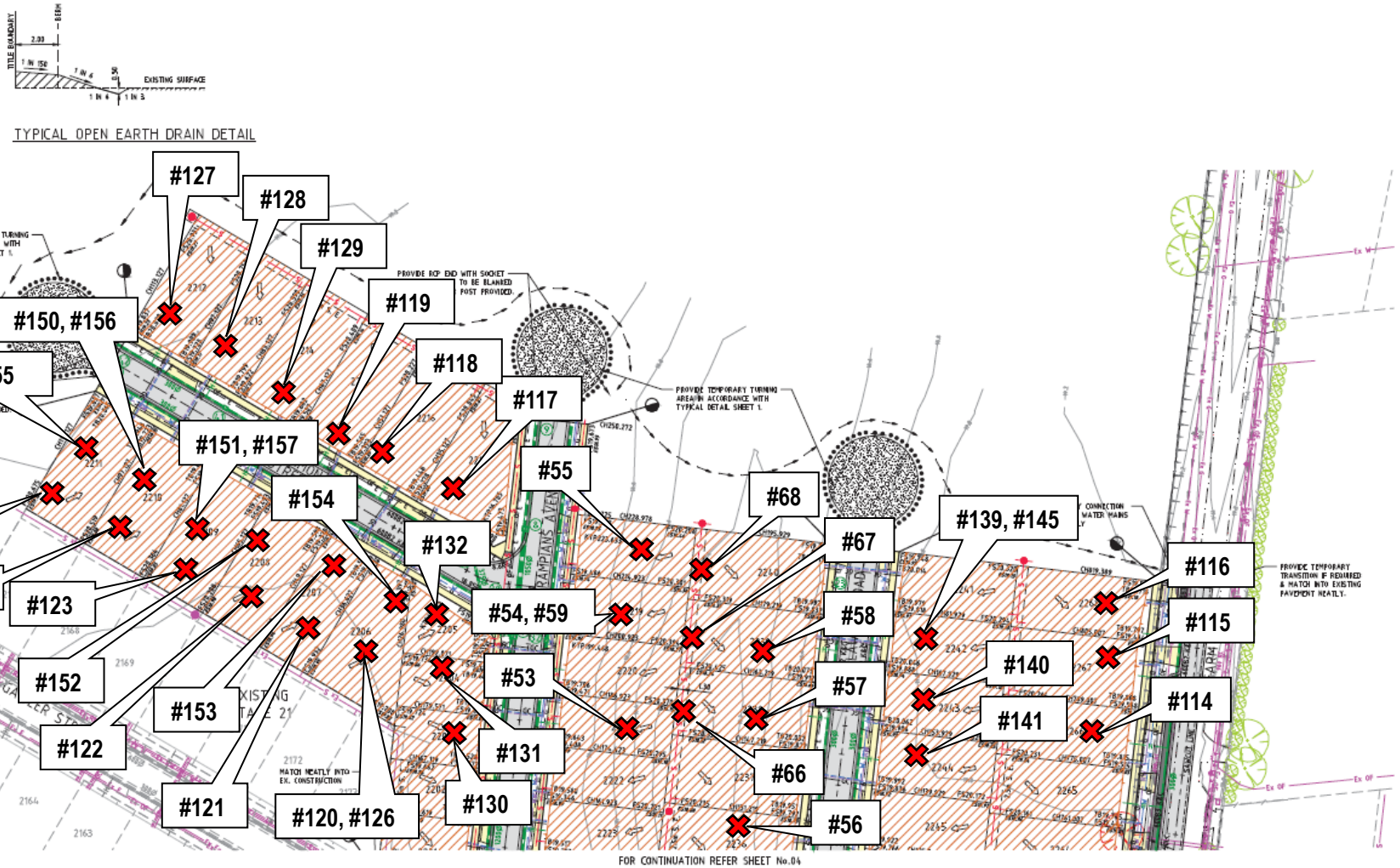
✖ Density Test Location (Approx.)

RIVERWALK ESTATE – STAGES 20 - 23
WERRIBEE, VICTORIA

Prepared For: Development Victoria c/- SMEC Australia

Job No: GS4428.1 AA

GroundScience



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FARM ROAD	3.80 W	3.05 W	2.35 W	4.65 E	5.55 E	+0.80 E	6.35 W 6.35 E

+ FROM BACK OF KERB

Rev		Drawn	Date	Checked	Scale
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Legend

✖ Density Test Location (Approx.)

RIVERWALK ESTATE – STAGES 20 - 23
WERRIBEE, VICTORIA

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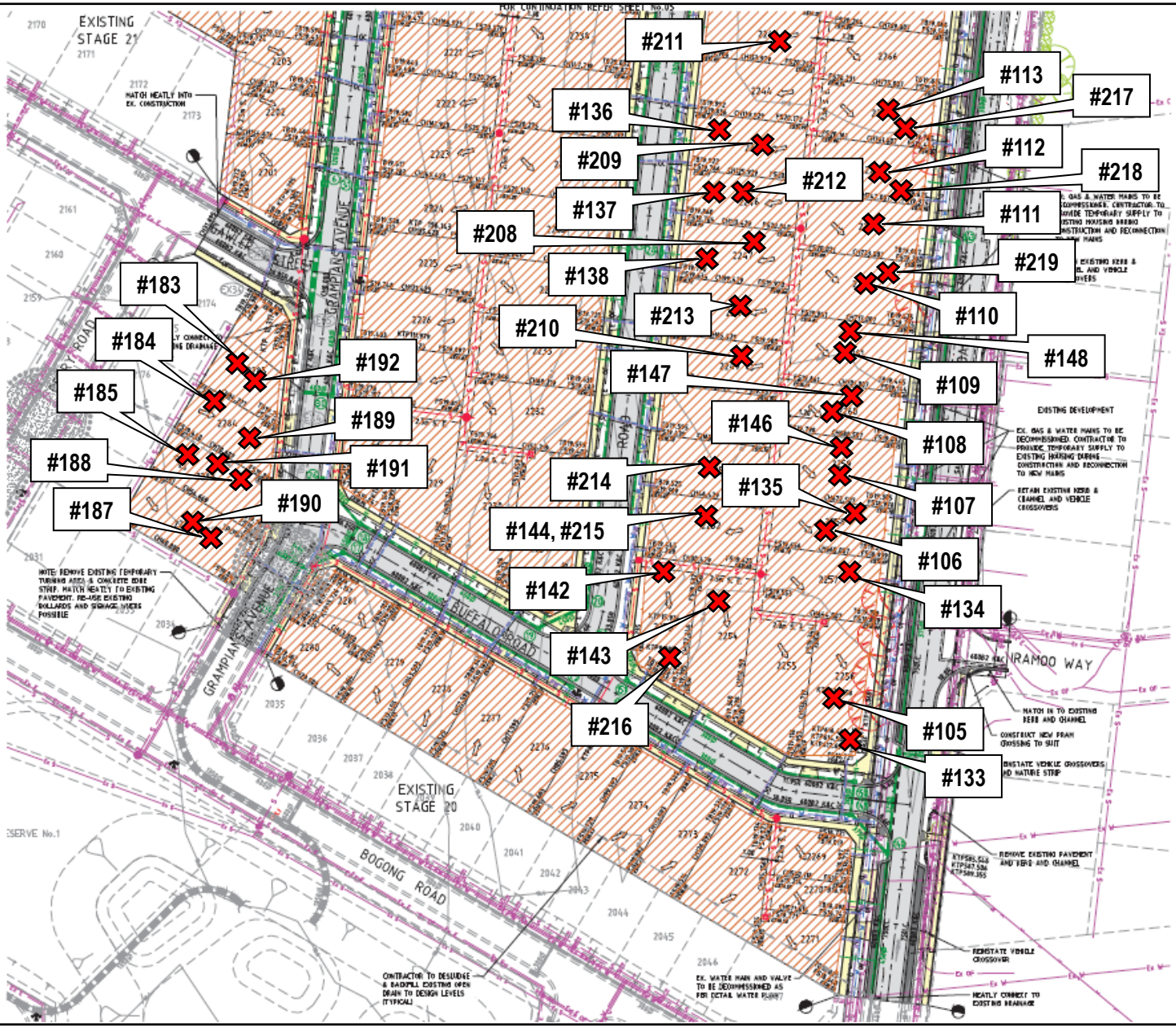

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✖ Density Test Location (Approx.)

RIVERWALK ESTATE – STAGES 20 - 23
WERRIBEE, VICTORIA

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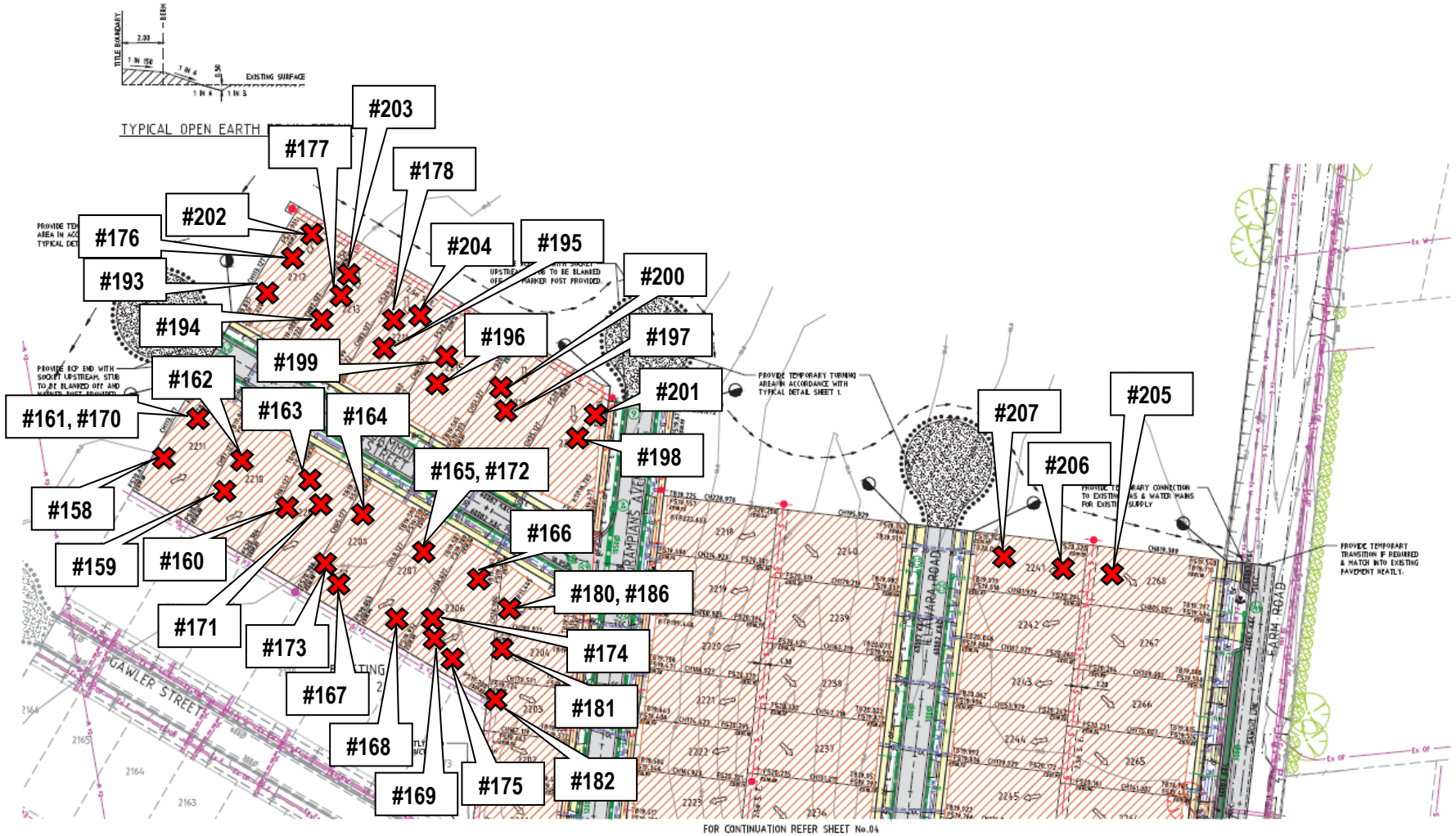

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ILLAWARA ROAD	2.90 E	2.50 E	2.10 E	1.725 W	2.15 W	+0.80 W	4.35
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FARM ROAD	3.80 W	3.05 W	2.35 W	4.65 E	5.55 E	+0.80 E	4.35 W 6.35 E

* FROM BACK OF KERB

Rev		Drawn	Date	Checked	Scale
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Legend

✖ Density Test Location (Approx.)

RIVERWALK ESTATE – STAGES 20 - 23
STAWELL, VICTORIA

Prepared For: Development Victoria c/- SMEC Australia

Job No: GS4428.1 AA

GroundScience

APPENDIX B

Field Density Test Summary

LEVEL 1 - COMPACTION TEST SUMMARY

Client:	DEVELOPMENT VICTORIA (MELBOURNE) C/- SMEC AUSTRALIA	Job No:	GS4428/1
Project:	RIVERWALK ESTATE - STAGES 20 - 23	Tech:	BE
Location:	WERRIBEE		

Date	Test No.	Location	Layer No.	Density Ratio (%)	Moisture Ratio (%)	Moisture variation	(P) Pass (F) Fail	Comments
10/10/2017	1	Lot 2231 / S.E Corner 5m North, 5m West	1	96.0	87.0	-2.5	P	
10/10/2017	2	Lot 2230 / S.E Corner 2m North, 8m West	1	93.5	88.0	-2.0	F	
10/10/2017	3	Lot 2232 / S.E Corner 3m North, 3m West	1	96.0	97.0	-0.5	P	
11/10/2017	4	Lot 2233 / S.E Corner 10m North, 4m West	2	104.5	92.0	-2.0	P	
11/10/2017	5	Lot 2234 / S.E Corner 3m North, 3m West	2	105.5	88.0	-3.0	P	
11/10/2017	6	Lot 2235 / S.E Corner 8m North, 10m West	2	104.5	90.0	-2.5	P	
12/10/2017	7	Lot 2233 / S.E Corner 10m North, 15m West	4	104.5	87.0	-3.5	P	
12/10/2017	8	Lot 2232 / S.E Corner 10m North, 17m West	4	108.0	87.0	-3.0	P	
12/10/2017	9	Lot 2231 / S.E Corner 20m North, 12m West	4	104.5	88.0	-3.0	P	
12/10/2017	10	Retest of #2	4	107.0	88.0	-3.0	P	
13/10/2017	11	Lot 2233 / S.E Corner 20m West, 8m North	6	104.0	90.0	-2.0	P	
13/10/2017	12	Lot 2234 / S.E Corner 18m West, 5m North	4	99.0	90.0	-2.0	P	
13/10/2017	13	Lot 2235 / S.E Corner 15m West, 8m North	4	100.5	83.0	-3.5	P	
14/10/2018	14	Lot 2237 / S.E Corner 8m North, 10m West	1	100.5	75.0	-4.0	P	
14/10/2018	15	Lot 2236 / S.E Corner 5m North, 20m West	1	95.5	82.0	-3.0	P	
14/10/2018	16	Lot 2236 / S.E Corner 5m North, 8m West	2	96.0	88.0	-2.0	P	
17/10/2017	17	Lot 2238 / S.E Corner 5m West, 5m North	2	100.5	87.0	-2.0	P	
17/10/2017	18	Lot 2239 / S.E Corner 6m West, 5m North	2	100.5	79.0	-2.5	P	
17/10/2017	19	Lot 2240 / S.E Corner 6m West, 6m North	1	106.0	83.0	-2.0	P	
18/10/2017	20	Lot 2237 / S.E Corner 20m West, 8m North	4	98.0	93.0	-1.5	P	
18/10/2017	21	Lot 2238 / S.E Corner 20m West, 5m North	4	103.5	85.0	-3.0	P	
18/10/2017	22	Lot 2239 / S.E Corner 15m West, 8m North	3	100.0	90.0	-2.0	P	
20/10/2017	23	Lot 2237 / S.E Corner 2m West, 2m North	6	99.0	87.0	-2.5	P	
20/10/2017	24	Lot 2236 / S.E Corner 1m West, 8m North	6	103.0	83.0	-3.5	P	
20/10/2017	25	Lot 2235 / S.E Corner 1m West, 10m North	6	101.0	83.0	-3.5	P	
21/10/2017	26	Lot 2240 / S.E Corner 10m West, 8m North	3	101.0	87.0	-2.5	P	
21/10/2017	27	Lot 2240 / S.E Corner 20m West, 8m North	4	100.5	86.0	-2.5	P	
21/10/2017	28	Lot 2218 / S.E Corner 5m West, 5m North	1	100.5	86.0	-2.5	P	
23/10/2017	29	Lot 2237 / S.E Corner 30m West, 2m North	8.0	100.0	86.0	-2.5	P	
23/10/2017	30	Lot 2236 / S.E Corner 30m West, 3m North	8.0	103.0	82.0	-3.0	P	

LEVEL 1 - COMPACTION TEST SUMMARY

Client:	DEVELOPMENT VICTORIA (MELBOURNE) C/- SMEC AUSTRALIA	Job No:	GS4428/1
Project:	RIVERWALK ESTATE - STAGES 20 - 23	Tech:	BE
Location:	WERRIBEE		

Date	Test No.	Location	Layer No.	Density Ratio (%)	Moisture Ratio (%)	Moisture variation	(P) Pass (F) Fail	Comments
23/10/2017	31	Lot 2235 / S.E Corner 30m West, 3m North	8	96.5	100.0	0.0	P	
24/10/2017	32	Lot 2229 / S.E Corner 20m North, 3m West	2	100.0	85.0	-3.0	P	
24/10/2017	33	Lot 2227 / S.E Corner 5m North, 1m West	2	107.0	87.0	-3.0	P	
24/10/2017	34	Lot 2226 / S.E Corner 5m North, 2m West	2	106.5	82.0	-4.0	P	
25/10/2017	35	Lot 2226 / S.E Corner 15m West, 5m North	4	102.5	91.0	-2.0	P	
25/10/2017	36	Lot 2227 / S.E Corner 15m West, 5m North	4	97.5	100.0	0.0	P	
25/10/2017	37	Lot 2228 / S.E Corner 3m West, 20m North	4	102.0	91.0	-2.0	P	
26/10/2017	38	Lot 2232 / S.E Corner 20m West, 5m North	6	99.0	91.0	-2.0	P	
26/10/2017	39	Lot 2230 / S.E Corner 15m West, 25m North	5	97.5	98.0	-0.5	P	
26/10/2017	40	Lot 2229 / S.E Corner 8m West, 5m North	6	102.0	96.0	-1.0	P	
27/10/2017	41	Lot 2225 / S.E Corner 20m West, 5m North	3	104.0	74.0	-4.0	P	
27/10/2017	42	Lot 2224 / S.E Corner 20m West, 7m North	3	98.5	69.0	-4.0	P	
27/10/2017	43	Lot 2223 / S.E Corner 20m West, 8m North	3	103.0	75.0	-2.5	P	
28/10/2017	44	Lot 2222 / S.E Corner 25m West, 8m North	2	104.0	89.0	-2.5	P	
28/10/2017	45	Lot 2221 / S.E Corner 20m West, 8m North	2	96.5	91.0	-1.5	P	
28/10/2017	46	Lot 2220 / S.E Corner 20m West, 10m North	2	99.5	88.0	-2.0	P	
30/10/2017	47	Lot 2220 / S.E Corner 15m West, 5m North	4	98.5	89.0	-2.0	P	
30/10/2017	48	Lot 2219 / S.E Corner 20m West, 5m North	2	97.0	90.0	-2.0	P	
30/10/2017	49	Lot 2218 / S.E Corner 25m West, 4m North	2	97.0	92.0	-1.5	P	
31/10/2017	50	Lot 2221 / S.E Corner 5m West, 5m North	4	100.0	77.0	-4.5	P	
31/10/2017	51	Lot 2220 / S.E Corner 3m West, 2m North	4	102.0	87.0	-2.5	P	
31/10/2017	52	Lot 2219 / S.E Corner 5m West, 5m North	4	100.0	87.0	-2.5	P	
1/11/2017	53	Lot 2221 / S.E Corner 15m West, 5m North	4	96.0	97.0	-0.5	P	
1/11/2017	54	Lot 2219 / S.E Corner 20m West, 5m North	5	94.5	87.0	-2.0	P	
1/11/2017	55	Lot 2218 / S.E Corner 15m West, 8m North	5	104.0	84.0	-3.0	P	
2/11/2017	56	Lot 2236 / S.E Corner 12m West, 15m North	9	100.5	89.0	-2.0	P	
2/11/2017	57	Lot 2238 / S.E Corner 15m West, 4m North	6	104.0	76.0	-5.5	P	
2/11/2017	58	Lot 2239 / S.E Corner 15m West, 7m North	6	104.5	86.0	-3.0	P	
2/11/2017	59	Lot 2219 / S.E Corner 18m West, 8m North	5	101.5	88.0	-2.5	P	
3/02/2018	60	Lot 2237 / S.E Corner 15m West, 15m North	9	101.0	88.0	-2.5	P	

LEVEL 1 - COMPACTION TEST SUMMARY

Client:	DEVELOPMENT VICTORIA (MELBOURNE) C/- SMEC AUSTRALIA	Job No:	GS4428/1
Project:	RIVERWALK ESTATE - STAGES 20 - 23	Tech:	BE
Location:	WERRIBEE		

Date	Test No.	Location	Layer No.	Density Ratio (%)	Moisture Ratio (%)	Moisture variation	(P) Pass (F) Fail	Comments
3/11/2017	61	Lot 2235 / S.E Corner 15m West, 8m North	9	99.5	87.0	-3.0	P	
3/11/2017	62	Lot 2234 / S.E Corner 15m West, 7m North	7	101.5	89.0	-2.5	P	
8/11/2017	63	Lot 2232 / S.E Corner 30m West, 10m North	7	107.5	86.0	-3.0	P	
8/11/2017	64	Lot 2233 / S.E Corner 30m West, 12m North	7	103.0	87.0	-3.0	P	
8/11/2017	65	Lot 2234 / S.E Corner 30m West, 12m North	7	104.0	85.0	-3.5	P	
9/11/2017	66	Lot 2238 / S.E Corner 30m West, 5m North	7	97.5	87.0	-2.5	P	
9/11/2017	67	Lot 2239 / S.E Corner 30m West, 7m North	7	107.0	72.0	-5.0	P	
9/11/2017	68	Lot 2240 / S.E Corner 30m West, 7m North	7	100.5	93.0	-1.5	P	
13/11/2017	69	Lot 2235 / S.E Corner 30m West, 15m North	10	97.5	83.0	-3.0	P	
13/11/2017	70	Lot 2236 / S.E Corner 30m West, 20m North	10	101.5	100.0	0.0	P	
13/11/2017	71	Lot 2237 / S.E Corner 30m West, 20m North	10	106.0	84.0	-3.0	P	
14/11/2017	72	Lot 2235 / S.E Corner 15m West, 15m North	10	105.0	77.0	-4.5	P	
14/11/2017	73	Lot 2236 / S.E Corner 17m West, 6m North	10	98.0	88.0	-2.0	P	
14/11/2017	74	Lot 2237 / S.E Corner 15m West, 10m North	10	98.0	86.0	-2.5	P	
15/11/2017	75	Lot 2225 / S.E Corner 5m West, 10m North	4	101.0	84.0	-3.5	P	
15/11/2017	76	Lot 2224 / S.E Corner 5m West, 8m North	4	102.5	83.0	-3.0	P	
15/11/2017	77	Lot 2223 / S.E Corner 6m West, 5m North	4	102.0	76.0	-5.0	P	
16/11/2017	78	Lot 2224 / S.E Corner 10m West, 10m North	4	100.5	89.0	-2.0	P	
16/11/2017	79	Lot 2223 / S.E Corner 12m West, 10m North	5	96.0	103.0	0.5	P	
16/11/2017	80	Lot 2222 / S.E Corner 5m West, 5m North	5	103.0	90.0	-2.0	P	
17/11/2017	81	Lot 2229 / S.E Corner 20m North, 5m West	F.S.L	96.5	100.0	0.0	P	
17/11/2017	82	Lot 2230 / S.E Corner 15 North, 4m West	F.S.L	96.0	104.0	0.5	P	
17/11/2017	83	Lot 2231 / S.E Corner 25m North, 5m West	F.S.L	98.5	89.0	-2.0	P	
20/11/2017	84	Lot 2271 / S.E Corner 20m West, 5m North	2	97.5	84.0	-2.5	P	
20/11/2017	85	Lot 2272 / S.E Corner 15m West, 5m North	2	96.0	83.0	-2.5	P	
20/11/2017	86	Lot 2273 / S.E Corner 12m West, 5m North	2	96.5	80.0	-3.0	P	
21/11/2017	87	Lot 2273 / S.E Corner 15m West, 8m North	1	97.5	76.0	-5.0	P	
21/11/2017	88	Lot 2274 / S.E Corner 15m West, 8m North	1	101.0	80.0	-4.5	P	
21/11/2017	89	Lot 2275 / S.E Corner 15m West, 12m North	1	105.5	84.0	-3.0	P	
22/11/2017	90	Lot 2276 / S.E Corner 8m North, 8m West	2	101.0	88.0	-2.0	P	

LEVEL 1 - COMPACTION TEST SUMMARY

Client:	DEVELOPMENT VICTORIA (MELBOURNE) C/- SMEC AUSTRALIA	Job No:	GS4428/1
Project:	RIVERWALK ESTATE - STAGES 20 - 23	Tech:	BE
Location:	WERRIBEE		

Date	Test No.	Location	Layer No.	Density Ratio (%)	Moisture Ratio (%)	Moisture variation	(P) Pass (F) Fail	Comments
22/11/2017	91	Lot 2279 / S.E Corner 5m North 8m West	2	99.0	88.0	-2.5	P	
22/01/2017	92	Lot 2278 / S.E Corner 5m North, 10m West	2	100.5	92.0	-2.0	P	
23/11/2017	93	Lot 2279 / S.E Corner 10m North 10m West	F.S.L	100.0	75.0	-4.5	P	
23/11/2017	94	Lot 2280 / S.E Corner 10m West, 15m North	F.S.L	100.0	79.0	-5.0	P	
23/11/2017	95	Lot 2281 / S.E Corner 17m West, 5m North	F.S.L	105.0	89.0	-2.5	P	
24/11/2017	96	Lot 2253 / S.E Corner 10m West, 15m North	1	98.5	78.0	-3.0	P	
24/11/2017	97	Lot 2252 / S.E Corner 20m West, 5m North	1	98.5	78.0	-4.0	P	
24/11/2017	98	Lot 2251 / S.E Corner 25m West, 3m North	1	95.5	86.0	-3.0	P	
25/11/2017	99	Lot 2250 / S.E Corner 15m West, 7m North	1	100.0	90.0	-2.0	P	
25/11/2017	100	Lot 2249 / S.E Corner 15m West, 9m North	1	96.5	98.0	-0.5	P	
25/11/2017	101	Lot 2248 / S.E Corner 15m West, 11m North	1	97.0	88.0	-2.0	P	
27/11/2017	102	Lot 2254 / S.E Corner 10m West, 18m North	1	98.0	100.0	0.0	P	
27/11/2017	103	Lot 2255 / S.E Corner 22m North, 15m West	1	99.5	86.0	-3.0	P	
27/11/2017	104	Lot 2257 / S.E Corner 20m West, 8m North	1	97.5	100.0	0.0	P	
28/11/2017	105	Lot 2256 / S.E Corner 18m North, 7m West	1	100.0	90.0	-2.0	P	
28/11/2017	106	Lot 2258 / S.E Corner 5m North, 20m West	1	102.0	92.0	-2.0	P	
28/11/2017	107	Lot 2259 / S.E Corner 5m North, 20m West	1	96.0	91.0	-1.5	P	
29/11/2017	108	Lot 2260 / S.E Corner 20m West, 8m North	1	100.5	86.0	-3.5	P	
29/11/2017	109	Lot 2261 / S.E Corner 18m West, 13m North	1	96.5	75.0	-4.5	P	
29/11/2017	110	Lot 2262 / S.E Corner 15m West, 15m North	1	95.5	84.0	-2.0	P	
30/11/2017	111	Lot 2263 / S.E Corner 22m West, 10m North	1	102.5	83.0	-4.0	P	
30/11/2017	112	Lot 2264 / S.E Corner 20m West, 12m North	1	103.5	73.0	-5.0	P	
30/11/2017	113	Lot 2265 / S.E Corner 20m West, 12m North	1	95.0	78.0	-3.5	P	
1/12/2017	114	Lot 2266 / S.E Corner 12m West, 7m North	1	102.0	83.0	-3.5	P	
1/12/2017	115	Lot 2267 / S.E Corner 8m West, 12m North	1	106.5	85.0	-3.0	P	
1/12/2017	116	Lot 2268 / S.E Corner 10m West, 10m North	1	97.5	85.0	-3.0	P	
6/12/2017	117	Lot 2217 / S.E Corner 20m West, 2m North	1	97.0	100.0	0.0	P	
6/12/2017	118	Lot 2216 / S.E Corner 18m West, 3m North	1	97.5	98.0	-0.5	P	
6/12/2017	119	Lot 2215 / S.E Corner 5m West, 3m North	1	100.5	103.0	0.5	P	
7/12/2017	120	Lot 2206 / S.E Corner 12m West, 8m North	1	91.0	103.0	0.5	F	

LEVEL 1 - COMPACTION TEST SUMMARY

Client:	**DEVELOPMENT VICTORIA (MELBOURNE) C/- SMEC AUSTRALIA**	**Job No:**	**GS4428/1**
Project:	**RIVERWALK ESTATE - STAGES 20 - 23**	**Tech:**	**BE**
Location:	**WERRIBEE**		

Date	Test No.	Location	Layer No.	Density Ratio (%)	Moisture Ratio (%)	Moisture variation	(P) Pass (F) Fail	Comments
7/12/2017	121	Lot 2207 / S.E Corner 6m West, 8m North	1	101.0	98.0	-0.5	P	
7/12/2017	122	Lot 2208 / S.E Corner 8m West, 10m North	1	99.0	100.0	0.0	P	
11/12/2017	123	Lot 2209 / S.E Corner 8m West, 8m North	1	99.0	88.0	-2.0	P	
11/12/2017	124	Lot 2210 / S.E Corner 12m West, 8m North	1	100.5	88.0	-2.0	P	
11/12/2017	125	Lot 2211 / S.E Corner 12m West, 6m North	1	100.0	91.0	-1.5	P	
11/12/2017	126	Retest of #120	1	97.5	100.0	0.0	P	
12/12/2017	127	Lot 2212 / S.E Corner 8m West, 8m North	1	107.0	86.0	-2.5	P	
12/12/2017	128	Lot 2213 / S.E Corner 8m West, 5m North	1	100.0	98.0	-0.5	P	
12/12/2017	129	Lot 2214 / S.E Corner 8m West, 3m North	1	104.0	77.0	-4.0	P	
13/12/2017	130	Lot 2203 / S.E Corner 5m West, 7m North	1	101.0	87.0	-3.0	P	
13/12/2017	131	Lot 2204 / S.E Corner 8m West, 10m North	1	99.5	90.0	-2.0	P	
13/12/2017	132	Lot 2205 / S.E Corner 12m West, 12m North	1	99.0	103.0	0.5	P	
14/12/2017	133	Lot 2256 / S.E Corner 3m West, 3m North	2	99.5	103.0	0.5	P	
14/12/2017	134	Lot 2257 / S.E Corner 5m West, 12m North	2	96.0	97.0	-0.5	P	
14/12/2017	135	Lot 2258 / S.E Corner 5m West, 11m North	2	98.5	86.0	-2.5	P	
18/12/2017	136	Lot 2245 / S.E Corner 18m West, 10m North	2	106.5	86.0	-2.5	P	
18/12/2017	137	Lot 2246 / S.E Corner 20m West, 10m North	2	100.0	97.0	-0.5	P	
18/12/2017	138	Lot 2247 / S.E Corner 20m West, 6m North	2	101.5	83.0	-3.0	P	
19/12/2017	139	Lot 2242 / S.E Corner 15m West, 6m North	2	91.0	94.0	-1.0	F	
19/12/2017	140	Lot 2243 / S.E Corner 15m West, 8m North	2	99.0	97.0	-0.5	P	
19/12/2017	141	Lot 2244 / S.E Corner 15m West, 10m North	2	95.0	86.0	-2.5	P	
20/12/2017	142	Lot 2253 / S.E Corner 5m West, 25m North	2	96.0	87.0	-2.0	P	
20/12/2017	143	Lot 2254 / S.E Corner 10m West, 25m North	2	96.5	91.0	-1.5	P	
20/12/2017	144	Lot 2255 / S.E Corner 10m West, 10m North	2	95.0	97.0	-0.5	P	
20/12/2017	145	Retest of #139	2	97.0	90.0	-2.0	P	
21/12/2017	146	Lot 2259 / S.E Corner 8m West, 10m North	2	94.5	85.0	-2.5	P	
21/12/2017	147	Lot 2260 / S.E Corner 10m West, 8m North	2	96.0	97.0	-0.5	P	
21/12/2017	148	Lot 2261 / S.E Corner 10m West, 13m North	2	97.5	88.0	-2.0	P	
15/01/2018	149	Lot 2211 / S.E Corner 10m West, 15m North	2	93.0	79.0	-3.0	F	
15/01/2018	150	Lot 2210 / S.E Corner 10m West, 15m North	2	94.0	93.0	-1.0	F	

LEVEL 1 - COMPACTION TEST SUMMARY

Client:	**DEVELOPMENT VICTORIA (MELBOURNE) C/- SMEC AUSTRALIA**	**Job No:**	**GS4428/1**
Project:	**RIVERWALK ESTATE - STAGES 20 - 23**	**Tech:**	**BE**
Location:	**WERRIBEE**		

Date	Test No.	Location	Layer No.	Density Ratio (%)	Moisture Ratio (%)	Moisture variation	(P) Pass (F) Fail	Comments
15/01/2018	151	Lot 2209 / S.E Corner 8m West, 13m North	2	91.0	100.0	0.0	F	
16/01/2018	152	Lot 22 08 / S.E Corner 15m West, 20m North	2	102.5	81.0	-2.5	P	
16/01/2018	153	Lot 2207 / S.E Corner 8m West, 18m North	2	103.0	87.0	-1.5	P	
16/01/2018	154	Lot 2206 / S.E Corner 8m West, 22m North	2	105.0	82.0	-3.0	P	
16/01/2018	155	Retest of #149	2	108.0	71.0	-4.5	P	
16/01/2018	156	Retest of #150	2	105.0	70.0	-4.5	P	
16/01/2018	157	Retest of #151	2	111.0	69.0	-5.0	P	
17/01/2018	158	Lot 2211 / S.E Corner 15m West, 10m North	3	108.0	78.0	-5.5	P	
17/01/2018	159	Lot 2210 / S.E Corner 10m West, 10m North	3	107.5	76.0	-5.0	P	
17/01/2018	160	Lot 2209 / S.E Corner 12m West, 15m North	3	106.5	84.0	-3.5	P	
18/01/2018	161	Lot 2211 / S.E Corner 10m West, 22m North	3	99.5	100.0	0.0	P	
18/01/2018	162	Lot 2210 / S.E Corner 12m West, 20m North	3	98.0	94.0	-1.5	P	
18/01/2018	163	Lot 2209 / S.E Corner 11m West, 23m North	3	100.0	100.0	0.0	P	
19/01/2018	164	Lot 2208 / S.E Corner 10m West, 20m North	3	99.0	98.0	-0.5	P	
19/01/2018	165	Lot 2207 / S.E Corner 7m West, 20m North	3	103.5	81.0	-4.5	P	
19/01/2018	166	Lot 2206 / S.E Corner 12m West, 22m North	3	99.0	106.0	1.5	P	
20/01/2018	167	Lot 2208 / S.E Corner 5m West, 3m North	4	109.5	79.0	-4.5	P	
20/01/2018	168	Lot 2207 / S. E Corner 4m West, 4m North	4	107.0	74.0	-5.5	P	
20/01/2018	169	Lot 2206 / S.E Corner 15m West, 3m North	4	108.5	75.0	-5.5	P	
22/01/2018	170	Lot 2211 / S.E Corner 15m West, 20m North	F.S.L	96.0	103.0	0.5	P	
22/01/2018	171	Lot 2209 / S. E Corner 8m West, 18m North	F.S.L	98.5	92.0	-2.0	P	
22/01/2018	172	Lot 2207 / S. E Corner 5m West, 18m North	F.S.L	97.0	96.0	-1.0	P	
23/01/2018	173	Lot 2208 / S. E Corner 15m North, 6m West	F.S.L	99.5	83.0	-3.0	P	
23/01/2018	174	Lot 2206 / S.E Corner 20m North, 5m West	F.S.L	93.0	100.0	0.0	F	
23/01/2018	175	Lot 2206 / S.E Corner 18m North, 4m West	F.S.L	98.0	107.0	1.5	P	
24/01/2018	176	Lot 2212 / S.E Corner 12m West, 17m North	2	97.0	100.0	0.0	P	
24/01/2018	177	Lot 2213 / S.E Corner 10m West, 17m North	2	96.0	100.0	0.0	P	
24/01/2018	178	Lot 2214 / S.E Corner 15m West, 20m North	2	101.0	94.0	-1.5	P	
24/01/2018	179	Retest of #174	F.S.L	95.0	100.0	0.0	P	
25/01/2018	180	Lot 2205 / S.E Corner 15m West, 7m North	2	93.0	111.0	2.0	F	

LEVEL 1 - COMPACTION TEST SUMMARY

Client:	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS	Job No:	GS4428/1
Project:	RIVERWALK ESTATE - STAGES 20 - 23	Tech:	BE
Location:	WERRIBEE		

Date	Test No.	Location	Layer No.	Density Ratio (%)	Moisture Ratio (%)	Moisture variation	(P) Pass (F) Fail	Comments
25/01/2018	181	Lot 2204 / S.E Corner 17m West, 7m North	2	94.5	111.0	2.0	P	
25/01/2018	182	Lot 2203 / S.E Corner 15m West, 7m North	2	97.0	106.0	1.0	P	
2/02/2018	183	Lot 2285 / S.E Corner 15m West, 6m North	1	98.5	100.0	0.0	P	
2/02/2018	184	Lot 2284 / S.E Corner 23m West, 10m North	1	102.0	88.0	-2.0	P	
2/02/2018	185	Lot 2283 / S.E Corner 24m West, 8m North	1	102.5	86.0	-2.5	P	
2/02/2018	186	Retest of #180	2	98.5	97.0	-0.5	P	
3/02/2018	187	Lot 2282 / S.E Corner 8m West, 8m North	2	101.0	105.0	1.0	P	
3/02/2018	188	Lot 2283 / S.E Corner 8m West, 10m North	2	98.0	111.0	2.0	P	
3/02/2018	189	Lot 2284 / S.E Corner 6m West, 6m North	2	99.5	97.0	-0.5	P	
5/02/2018	190	Lot 2282 / S.E Corner 10m West, 7m North	F.S.L	101.0	91.0	-2.0	P	
5/02/2018	191	Lot 2283 / S.E Corner 15m West, 8m North	F.S.L	107.5	86.0	-3.5	P	
5/02/2018	192	Lot 2284 / S.E Corner 10m West, 6m North	1	108.5	94.0	-1.5	P	
6/02/2018	193	Lot 2212 / S.E Corner 12m North, 8m West	2	108.0	87.0	-3.0	P	
6/02/2018	194	Lot 2213 / S.E Corner 14m North, 10m West	2	108.0	84.0	-3.0	P	
6/02/2018	195	Lot 2214 / S.E Corner 10m North, 8m West	2	103.0	87.0	-2.5	P	
7/02/2018	196	Lot 2215 / S.E Corner 11m West, 10m North	3	103.0	80.0	-3.0	P	
7/02/2018	197	Lot 2216 / S.E Corner 8m West, 13m North	3	105.5	71.0	-4.0	P	
7/02/2018	198	Lot 2217 / S.E Corner 10m West, 11m North	3	98.0	83.0	-2.0	P	
8/02/2018	199	Lot 2215 / S.E Corner 18m North 10m West	3	109.5	79.0	-5.0	P	
8/02/2018	200	Lot 2216 / S.E Corner 18m North, 12m West	3	107.0	91.0	-2.0	P	
8/02/2018	201	Lot 2217 / S.E Corner 20m North, 9m West	3	108.0	87.0	-3.0	P	
9/02/2018	202	Lot 2212 / S.E Corner 26m North, 7m West	F.S.L	101.5	76.0	-4.0	P	
9/02/2018	203	Lot 2213 / S.E Corner 20m West, 12m West	F.S.L	103.0	78.0	-3.5	P	
9/02/2018	204	Lot 2214 / S.E Corner 18m West, 5m West	F.S.L	98.0	90.0	-1.5	P	
13/02/2018	205	Lot 2268 / S.E Corner 22m West, 6m North	3	104.0	70.0	-3.5	P	
13/02/2018	206	Lot 2241 / S.E Corner 4m West, 7m North	3	107.0	74.0	-3.5	P	
13/02/2018	207	Lot 2241 / S.E Corner 18m West, 8m North	F.S.L	104.0	71.0	-4.0	P	
15/02/2018	208	Lot 2247 / S.E Corner 8m North, 9m West	F.S.L	106.0	83.0	-3.0	P	
15/02/2018	209	Lot 2245 / S.E Corner 7m North, 10m West	F.S.L	106.0	68.0	-3.0	P	
15/02/2018	210	Lot 2249 / S.E Corner 6m North, 8m West	F.S.L	101.5	76.0	-3.0	P	

LEVEL 1 - COMPACTION TEST SUMMARY

Client:	**DEVELOPMENT VICTORIA (MELBOURNE) C/- SMEC AUSTRALIA**	**Job No:**	**GS4428/1**
Project:	**RIVERWALK ESTATE - STAGES 20 - 23**	**Tech:**	**BE**
Location:	**WERRIBEE**		

Date	Test No.	Location	Layer No.	Density Ratio (%)	Moisture Ratio (%)	Moisture variation	(P) Pass (F) Fail	Comments
16/02/2018	211	Lot 2243 / S.E Corner 6m West, 4m North	F.S.L	104.0	83.0	-4.0	P	
16/02/2018	212	Lot 2246 / S.E Corner 11m West, 7m North	F.S.L	103.5	81.0	-4.5	P	
16/02/2018	213	Lot 2248 / S.E Corner 8m West, 7m North	F.S.L	108.5	78.0	-5.5	P	
19/02/2018	214	Lot 2251 / S.E Corner 7m West, 6m North	F.S.L	104.0	94.0	-1.0	P	
19/02/2018	215	Lot 2252 / S.E Corner 9m West, 8m North	F.S.L	100.5	69.0	-5.5	P	
19/02/2018	216	Lot 2253 / S.E Corner 1m West, 5m North	F.S.L	107.0	74.0	-5.0	P	
21/02/2018	217	Lot 2265 / S.E Corner 9m West, 5m North	F.S.L	99.0	100.0	0.0	P	
21/02/2018	218	Lot 2264 / S.E Corner 6m West, 1m North	F.S.L	105.0	88.0	-2.5	P	
21/02/2018	219	Lot 2262 / S.E Corner 7m West, 11m North	F.S.L	105.0	90.0	-2.0	P	

APPENDIX C

Field Density Test Report Sheets

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AA**
location :	**WERRIBEE**	test date:	**10-Oct-17**

Test Number		1	2	3			
Test location taken from		Lot 2231	Lot 2230	Lot 2232			
S.E Corner of each Lot.		5m North	2m North	3m North			
Offset (m)		5m West	8m West	3m West			
Layer Number		1	1	1			
Time of tests		14:45:00	14:51:00	14:59:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.91	1.94	1.93			
*Field Moisture Content	%	17.0	14.5	17.5			
Oversize Material	Wet %	0	8	10			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.992	2.071	2.010			
*Optimum Moisture Content	%	19.5	16.5	18.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**87**	**88**	**97**			
Moisture Variation	%	**-2.5**	**-2.0**	**-0.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**96.0**	**93.5**	**96.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AB**
location :	**WERRIBEE**	test date:	**11-Oct-17**

Test Number		4	5	6			
Test location taken from		Lot 2233	Lot 2234	Lot 2235			
S.E Corner of each Lot.		10m North	3m North	8m North			
Offset (m)		4m West	3m West	10m West			
Layer Number		2	2	2			
Time of tests		14:00:00	14:06:00	14:13:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	2.01	1.97	1.98			
*Field Moisture Content	%	22.5	21.0	22.0			
Oversize Material	Wet %	8	5	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.922	1.862	1.898			
*Optimum Moisture Content	%	24.5	24.0	24.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**92**	**88**	**90**			
Moisture Variation	%	**-2.0**	**-3.0**	**-2.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**104.5**	**105.5**	**104.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AC**
location :	**WERRIBEE**	test date:	**12-Oct-17**

Test Number		7	8	9	10		
Test location taken from		Lot 2233	Lot 2232	Lot 2231	Lot 2230		
S.E Corner of each Lot.		10m North	10m North	20m North	10m North		
Offset (m)		15m West	17m West	12m West	5m West		
					Retest of #2		
Layer Number		4	4	4	4		
Time of tests		13:29:00	13:35:00	13:41:00	13:50:00		
Depth of Layer	mm	200	200	200	200		
Depth of Test	mm	175	175	175	175		
Field Wet Density	t/m^3	1.91	1.96	1.97	2.00		
*Field Moisture Content	%	23.5	20.5	21.5	21.0		
Oversize Material	Wet %	0	0	0	0		
Sieve Size	mm	19.0	19.0	19.0	19.0		
Peak Converted Wet Density	t/m^3	1.829	1.810	1.887	1.869		
*Optimum Moisture Content	%	27.0	23.5	24.5	24.0		
Compactive Effort Used	std / mod	STD	STD	STD	STD		
Moisture Ratio	%	**87**	**87**	**88**	**88**		
Moisture Variation	%	**-3.5**	**-3.0**	**-3.0**	**-3.0**		
Moisture Variation		**DRY**	**DRY**	**DRY**	**DRY**		
Density Ratio	%	**104.5**	**108.0**	**104.5**	**107.0**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY (fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 09-Apr-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AD**
location :	**WERRIBEE**	test date:	**13-Oct-17**

Test Number		11	12	13			
Test location taken from		Lot 2233	Lot 2234	Lot 2235			
S.E Corner of each Lot.		20m West	18m West	15m West			
Offset (m)		8m North	5m North	8m North			
Layer Number		6	4	4			
Time of tests		14:18:00	14:23:00	14:30:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.98	1.95	1.97			
*Field Moisture Content	%	17.5	17.0	17.0			
Oversize Material	Wet %	5	0	9			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.900	1.966	1.954			
*Optimum Moisture Content	%	19.5	19.0	20.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**90**	**90**	**83**			
Moisture Variation	%	**-2.0**	**-2.0**	**-3.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**104.0**	**99.0**	**100.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AE**
location :	**WERRIBEE**	test date:	**14-Oct-17**

Test Number		14	15	16			
Test location taken from		Lot 2237	Lot 2236	Lot 2236			
S.E Corner of each Lot.		8m North	5m North	5m North			
Offset (m)		10m West	20m West	8m West			
Layer Number		1	1	2			
Time of tests		10:30:00	10:35:00	10:42:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.94	1.89	1.93			
*Field Moisture Content	%	12.0	13.0	15.0			
Oversize Material	Wet %	11	15	16			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.929	1.976	2.011			
*Optimum Moisture Content	%	16.0	16.0	17.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**75**	**82**	**88**			
Moisture Variation	%	**-4.0**	**-3.0**	**-2.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**100.5**	**95.5**	**96.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AF**
location :	**WERRIBEE**	test date:	**17-Oct-17**

Test Number		17	18	19			
Test location taken from		Lot 2238	Lot 2239	Lot 2240			
S.E Corner of each Lot.		5m West	6m West	6m West			
Offset (m)		5m North	5m North	6m North			
Layer Number		2	2	1			
Time of tests		14:10:00	14:15:00	14:22:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m³	1.96	1.95	2.01			
*Field Moisture Content	%	13.0	9.5	9.5			
Oversize Material	Wet %	6	7	3			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.944	1.943	1.894			
*Optimum Moisture Content	%	15.0	12.0	11.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**87**	**79**	**83**			
Moisture Variation	%	**-2.0**	**-2.5**	**-2.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**100.5**	**100.5**	**106.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AG**
location :	**WERRIBEE**	test date:	**18-Oct-17**

Test Number		20	21	22			
Test location taken from		Lot 2237	Lot 2238	Lot 2239			
S.E Corner of each Lot.		20m West	20m West	15m West			
Offset (m)		8m North	5m North	8m North			
Layer Number		4	4	3			
Time of tests		-	-	-			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.95	1.98	1.93			
*Field Moisture Content	%	18.5	17.0	18.0			
Oversize Material	Wet %	5	6	3			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.989	1.907	1.932			
*Optimum Moisture Content	%	20.0	20.0	20.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**93**	**85**	**90**			
Moisture Variation	%	**-1.5**	**-3.0**	**-2.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**98.0**	**103.5**	**100.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AH**
location :	**WERRIBEE**	test date:	**20-Oct-17**

Test Number		23	24	25			
Test location taken from		Lot 2237	Lot 2236	Lot 2235			
S.E Corner of each Lot.		2m West	1m West	1m West			
Offset (m)		2m North	8m North	10m North			
Layer Number		6	6	6			
Time of tests		14:00:00	14:06:00	14:12:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.93	1.95	1.92			
*Field Moisture Content	%	16.5	16.5	17.0			
Oversize Material	Wet %	14	4	6			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.945	1.892	1.899			
*Optimum Moisture Content	%	19.0	20.0	20.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**87**	**83**	**83**			
Moisture Variation	%	**-2.5**	**-3.5**	**-3.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**99.0**	**103.0**	**101.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (Fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	**DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSUL**	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AI**
location :	**WERRIBEE**	test date:	**21-Oct-17**

Test Number		26	27	28			
Test location taken from		Lot 2240	Lot 2240	Lot 2218			
S.E Corner of each Lot.		10m West	20m West	5m West			
Offset (m)		8m North	8m North	5m North			
Layer Number		3	4	1			
Time of tests		11:10:00	11:15:00	11:22:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.99	1.98	1.97			
*Field Moisture Content	%	16.5	15.5	15.0			
Oversize Material	Wet %	6	6	3			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.964	1.972	1.961			
*Optimum Moisture Content	%	19.0	18.0	17.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**87**	**86**	**86**			
Moisture Variation	%	**-2.5**	**-2.5**	**-2.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**101.0**	**100.5**	**100.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 09-Apr-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AJ**
location :	**WERRIBEE**	test date:	**23-Oct-17**

Test Number		29	30	31			
Test location taken from		Lot 2237	Lot 2236	Lot 2235			
S.E Corner of each Lot.		30m West	30m West	30m West			
Offset (m)		2m North	3m North	3m North			
Layer Number		8	8	8			
Time of tests		13:45:00	13:50:00	13:57:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.96	1.98	1.95			
*Field Moisture Content	%	14.5	13.5	18.0			
Oversize Material	Wet %	0	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.956	1.925	2.023			
*Optimum Moisture Content	%	17.0	16.5	18.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**86**	**82**	**100**			
Moisture Variation	%	**-2.5**	**-3.0**	**0.0**			
Moisture Variation		**DRY**	**DRY**	**-**			
Density Ratio	%	**100.0**	**103.0**	**96.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY (fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AK**
location :	**WERRIBEE**	test date:	**24-Oct-17**

Test Number		32	33	34			
Test location taken from		Lot 2229	Lot 2227	Lot 2226			
S.E Corner of each Lot.		20m North	5m North	5m North			
Offset (m)		3m West	1m West	2m West			
Layer Number		2	2	2			
Time of tests		13:50:00	13:56:00	14:03:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.93	1.93	1.96			
*Field Moisture Content	%	17.0	19.0	18.0			
Oversize Material	Wet %	0	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.932	1.800	1.842			
*Optimum Moisture Content	%	20.0	22.0	22.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**85**	**87**	**82**			
Moisture Variation	%	**-3.0**	**-3.0**	**-4.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**100.0**	**107.0**	**106.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY (fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AL**
location :	**WERRIBEE**	test date:	**25-Oct-17**

Test Number		35	36	37			
Test location taken from		Lot 2226	Lot 2227	Lot 2228			
S.E Corner of each Lot.		15m West	15m West	3m West			
Offset (m)		5m North	5m North	20m North			
Layer Number		4	4	4			
Time of tests		13:55:00	14:01:00	14:08:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.94	1.94	1.95			
*Field Moisture Content	%	19.5	17.0	20.5			
Oversize Material	Wet %	6	4	6			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.895	1.991	1.912			
*Optimum Moisture Content	%	21.5	17.0	22.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**91**	**100**	**91**			
Moisture Variation	%	**-2.0**	**0.0**	**-2.0**			
Moisture Variation		**DRY**	**-**	**DRY**			
Density Ratio	%	**102.5**	**97.5**	**102.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill)

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AM**
location :	**WERRIBEE**	test date:	**26-Oct-17**

Test Number		38	39	40		
Test location taken from		Lot 2232	Lot 2230	Lot 2229		
S.E Corner of each Lot.		20m West	15m West	8m West		
Offset (m)		5m North	25m North	5m North		
Layer Number		6	5	6		
Time of tests		13:55:00	14:01:00	14:10:00		
Depth of Layer	mm	200	200	200		
Depth of Test	mm	175	175	175		
Field Wet Density	t/m³	1.94	1.92	1.99		
*Field Moisture Content	%	20.0	19.5	21.5		
Oversize Material	Wet %	8	5	4		
Sieve Size	mm	19.0	19.0	19.0		
Peak Converted Wet Density	t/m³	1.962	1.976	1.949		
*Optimum Moisture Content	%	22.0	20.0	22.5		
Compactive Effort Used	std / mod	STD	STD	STD		
Moisture Ratio	%	**91**	**98**	**96**		
Moisture Variation	%	**-2.0**	**-0.5**	**-1.0**		
Moisture Variation		**DRY**	**DRY**	**DRY**		
Density Ratio	%	**99.0**	**97.5**	**102.0**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY (fill), medium to high plasticity, brown/dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AN**
location :	**WERRIBEE**	test date:	**27-Oct-17**

Test Number		41	42	43			
Test location taken from		Lot 2225	Lot 2224	Lot 2223			
S.E Corner of each Lot.		20m West	20m West	20m West			
Offset (m)		5m North	7m North	8m North			
Layer Number		3	3	3			
Time of tests		14:00:00	14:06:00	14:12:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.94	1.91	1.93			
*Field Moisture Content	%	11.0	9.0	7.5			
Oversize Material	Wet %	0	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.870	1.934	1.875			
*Optimum Moisture Content	%	15.0	13.0	10.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**74**	**69**	**75**			
Moisture Variation	%	**-4.0**	**-4.0**	**-2.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**104.0**	**98.5**	**103.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Clayey SILTSTONE, medium plasticity, brown / light brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AO**
location :	**WERRIBEE**	test date:	**28-Oct-17**

Test Number		44	45	46			
Test location taken from		Lot 2222	Lot 2221	Lot 2220			
S.E Corner of each Lot.		25m West	20m West	20m West			
Offset (m)		8m North	8m North	10m North			
Layer Number		2	2	2			
Time of tests		11:10:00	11:15:00	11:21:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m³	1.96	1.93	1.95			
*Field Moisture Content	%	19.0	14.5	14.5			
Oversize Material	Wet %	0	4	2			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.880	2.009	1.958			
*Optimum Moisture Content	%	21.5	16.0	16.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**89**	**91**	**88**			
Moisture Variation	%	**-2.5**	**-1.5**	**-2.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**104.0**	**96.5**	**99.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plasticity, brown / dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AP**
location :	**WERRIBEE**	test date:	**30-Oct-17**

Test Number		47	48	49			
Test location taken from		Lot 2220	Lot 2219	Lot 2218			
S.E Corner of each Lot.		15m West	20m West	25m West			
Offset (m)		5m North	5m North	4m North			
Layer Number		4	2	2			
Time of tests		13:20:00	13:25:00	13:31:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m³	1.98	1.93	1.96			
*Field Moisture Content	%	16.5	17.0	17.0			
Oversize Material	Wet %	3	0	2			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	2.005	1.989	2.021			
*Optimum Moisture Content	%	18.5	19.0	18.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**89**	**90**	**92**			
Moisture Variation	%	**-2.0**	**-2.0**	**-1.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**98.5**	**97.0**	**97.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plasticity, brown / dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AQ**
location :	**WERRIBEE**	test date:	**31-Oct-17**

Test Number		50	51	52			
Test location taken from		Lot 2221	Lot 2220	Lot 2219			
S.E Corner of each Lot.		5m West	3m West	5m West			
Offset (m)		5m North	2m North	5m North			
Layer Number		4	4	4			
Time of tests		14:18:00	14:24:00	14:30:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m³	1.94	1.98	1.97			
*Field Moisture Content	%	14.5	16.5	17.0			
Oversize Material	Wet %	4	0	4			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.943	1.939	1.965			
*Optimum Moisture Content	%	19.0	19.0	19.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**77**	**87**	**87**			
Moisture Variation	%	**-4.5**	**-2.5**	**-2.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**100.0**	**102.0**	**100.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plasticity, brown / light brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AR**
location :	**WERRIBEE**	test date:	**1-Nov-17**

Test Number		53	54	55			
Test location taken from		Lot 2221	Lot 2219	Lot 2218			
S.E Corner of each Lot.		15m West	20m West	15m West			
Offset (m)		5m North	5m North	8m North			
Layer Number		4	5	5			
Time of tests		13:40:00	13:46:00	13:53:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.93	1.93	1.94			
*Field Moisture Content	%	16.5	13.0	15.5			
Oversize Material	Wet %	5	15	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	2.007	2.042	1.866			
*Optimum Moisture Content	%	17.0	15.0	18.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**97**	**87**	**84**			
Moisture Variation	%	**-0.5**	**-2.0**	**-3.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**96.0**	**94.5**	**104.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plasticity, brown / light brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AS**
location :	**WERRIBEE**	test date:	**2-Nov-17**

Test Number		56	57	58	59		
Test location taken from		Lot 2236	Lot 2238	Lot 2239	Lot 2219		
S.E Corner of each Lot.		12m West	15m West	15m West	18m West		
Offset (m)		15m North	4m North	7m North	8m North		
Layer Number		9	6	6	5		
Time of tests		13:45:00	13:50:00	13:56:00	14:05:00		
Depth of Layer	mm	200	200	200	200		
Depth of Test	mm	175	175	175	175		
Field Wet Density	t/m^3	1.97	1.93	2.00	1.96		
*Field Moisture Content	%	16.5	17.5	18.5	18.0		
Oversize Material	Wet %	6	2	0	1		
Sieve Size	mm	19.0	19.0	19.0	19.0		
Peak Converted Wet Density	t/m^3	1.966	1.863	1.912	1.936		
*Optimum Moisture Content	%	18.5	23.0	21.5	20.5		
Compactive Effort Used	std / mod	STD	STD	STD	STD		
Moisture Ratio	%	**89**	**76**	**86**	**88**		
Moisture Variation	%	**-2.0**	**-5.5**	**-3.0**	**-2.5**		
Moisture Variation		**DRY**	**DRY**	**DRY**	**DRY**		
Density Ratio	%	**100.5**	**104.0**	**104.5**	**101.5**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plasticity, brown / light brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AT**
location :	**WERRIBEE**	test date:	**3-Nov-17**

Test Number		60	61	62			
Test location taken from		Lot 2237	Lot 2235	Lot 2234			
S.E Corner of each Lot.		15m West	15m West	15m West			
Offset (m)		15m North	8m North	7m North			
Layer Number		9	9	7			
Time of tests		13:35:00	13:40:00	13:47:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.94	1.94	1.95			
*Field Moisture Content	%	18.0	20.5	19.5			
Oversize Material	Wet %	0	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.916	1.944	1.913			
*Optimum Moisture Content	%	20.5	23.5	22.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**88**	**87**	**89**			
Moisture Variation	%	**-2.5**	**-3.0**	**-2.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**101.0**	**99.5**	**101.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY (fill), medium to high plasticity, brown / dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AU**
location :	**WERRIBEE**	test date:	**8-Nov-17**

Test Number		63	64	65			
Test location taken from		Lot 2232	Lot 2233	Lot 2234			
S.E Corner of each Lot.		30m West	30m West	30m West			
Offset (m)		10m North	12m North	12m North			
Layer Number		7	7	7			
Time of tests		13:35:00	13:41:00	13:48:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.92	1.94	1.93			
*Field Moisture Content	%	17.5	20.5	19.0			
Oversize Material	Wet %	0	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.784	1.891	1.851			
*Optimum Moisture Content	%	20.5	23.5	22.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**86**	**87**	**85**			
Moisture Variation	%	**-3.0**	**-3.0**	**-3.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**107.5**	**103.0**	**104.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Gravelly CLAY, medium to high plasticity, brown / dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AV**
location :	**WERRIBEE**	test date:	**9-Nov-17**

Test Number		66	67	68		
Test location taken from		Lot 2238	Lot 2239	Lot 2240		
S.E Corner of each Lot.		30m West	30m West	30m West		
Offset (m)		5m North	7m North	7m North		
Layer Number		7	7	7		
Time of tests		12:45:00	12:50:00	12:58:00		
Depth of Layer	mm	200	200	200		
Depth of Test	mm	175	175	175		
Field Wet Density	t/m^3	1.93	1.94	1.99		
*Field Moisture Content	%	16.0	13.0	18.5		
Oversize Material	Wet %	2	3	0		
Sieve Size	mm	19.0	19.0	19.0		
Peak Converted Wet Density	t/m^3	1.976	1.816	1.976		
*Optimum Moisture Content	%	18.5	18.0	20.0		
Compactive Effort Used	std / mod	STD	STD	STD		
Moisture Ratio	%	**87**	**72**	**93**		
Moisture Variation	%	**-2.5**	**-5.0**	**-1.5**		
Moisture Variation		**DRY**	**DRY**	**DRY**		
Density Ratio	%	**97.5**	**107.0**	**100.5**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AW**
location :	**WERRIBEE**	test date:	**13-Nov-17**

Test Number		69	70	71			
Test location taken from		Lot 2235	Lot 2236	Lot 2237			
S.E Corner of each Lot.		30m West	30m West	30m West			
Offset (m)		15m North	20m North	20m North			
Layer Number		10	10	10			
Time of tests		13:40:00	23:46:00	13:53:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.92	1.95	1.94			
*Field Moisture Content	%	14.0	19.0	16.0			
Oversize Material	Wet %	10	0	11			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.966	1.922	1.826			
*Optimum Moisture Content	%	17.0	19.0	19.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**83**	**100**	**84**			
Moisture Variation	%	**-3.0**	**0.0**	**-3.0**			
Moisture Variation		**DRY**	**-**	**DRY**			
Density Ratio	%	**97.5**	**101.5**	**106.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plasticity, brown / dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AX**
location :	**WERRIBEE**	test date:	**14-Nov-17**

Test Number		72	73	74		
Test location taken from		Lot 2235	Lot 2236	Lot 2237		
S.E Corner of each Lot.		15m West	17m West	15m West		
Offset (m)		15m North	6m North	10m North		
Layer Number		10	10	10		
Time of tests		13:35:00	13:41:00	13:48:00		
Depth of Layer	mm	200	200	200		
Depth of Test	mm	175	175	175		
Field Wet Density	t/m^3	1.99	1.94	1.96		
*Field Moisture Content	%	15.0	14.0	15.5		
Oversize Material	Wet %	5	10	4		
Sieve Size	mm	19.0	19.0	19.0		
Peak Converted Wet Density	t/m^3	1.896	1.977	1.995		
*Optimum Moisture Content	%	19.5	16.0	18.0		
Compactive Effort Used	std / mod	STD	STD	STD		
Moisture Ratio	%	**77**	**88**	**86**		
Moisture Variation	%	**-4.5**	**-2.0**	**-2.5**		
Moisture Variation		**DRY**	**DRY**	**DRY**		
Density Ratio	%	**105.0**	**98.0**	**98.0**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plasticity, medium brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AY**
location :	**WERRIBEE**	test date:	**15-Nov-17**

Test Number		75	76	77			
Test location taken from		Lot 2225	Lot 2224	Lot 2223			
S.E Corner of each Lot.		5m West	5m West	6m West			
Offset (m)		10m North	8m North	5m North			
Layer Number		4	4	4			
Time of tests		11:20:00	11:26:00	11:33:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m³	1.95	1.91	1.93			
*Field Moisture Content	%	18.0	14.5	15.5			
Oversize Material	Wet %	0	5	4			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.936	1.855	1.890			
*Optimum Moisture Content	%	21.5	17.5	20.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**84**	**83**	**76**			
Moisture Variation	%	**-3.5**	**-3.0**	**-5.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**101.0**	**102.5**	**102.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plasticity, brown / pale brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**AZ**
location :	**WERRIBEE**	test date:	**16-Nov-17**

Test Number		78	79	80		
Test location taken from		Lot 2224	Lot 2223	Lot 2222		
S.E Corner of each Lot.		10m West	12m West	5m West		
Offset (m)		10m North	10m North	5m North		
Layer Number		4	5	5		
Time of tests		14:05:00	14:10:00	14:17:00		
Depth of Layer	mm	200	200	200		
Depth of Test	mm	175	175	175		
Field Wet Density	t/m³	1.89	1.86	1.88		
*Field Moisture Content	%	16.5	17.0	17.5		
Oversize Material	Wet %	3	0	0		
Sieve Size	mm	19.0	19.0	19.0		
Peak Converted Wet Density	t/m³	1.884	1.941	1.829		
*Optimum Moisture Content	%	18.5	16.5	19.5		
Compactive Effort Used	std / mod	STD	STD	STD		
Moisture Ratio	%	**89**	**103**	**90**		
Moisture Variation	%	**-2.0**	**0.5**	**-2.0**		
Moisture Variation		**DRY**	**WET**	**DRY**		
Density Ratio	%	**100.5**	**96.0**	**103.0**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Silty CLAY, medium to high plasticity, brown / pale brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICH	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BA**
location :	**WERRIBEE**	test date:	**17-Nov-17**

Test Number		81	82	83			
Test location taken from		Lot 2229	Lot 2230	Lot 2231			
S.E Corner of each Lot.		20m North	15m North	25m North			
Offset (m)		5m West	4m West	5m West			
Layer Number		Finish Surface	Finish Surface	Finish Surface			
Time of tests		13:10:00	13:15:00	13:22:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.93	1.93	1.95			
*Field Moisture Content	%	17.5	14.5	16.5			
Oversize Material	Wet %	6	8	8			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.998	2.015	1.975			
*Optimum Moisture Content	%	17.5	14.0	18.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**100**	**104**	**89**			
Moisture Variation	%	**0.0**	**0.5**	**-2.0**			
Moisture Variation		**-**	**WET**	**DRY**			
Density Ratio	%	**96.5**	**96.0**	**98.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Silty CLAY (fill), medium to high plasticity, light brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BB**
location :	**WERRIBEE**	test date:	**20-Nov-17**

Test Number		84	85	86			
Test location taken from		Lot 2271	Lot 2272	Lot 2273			
S.E Corner of each Lot.		20m West	15m West	12m West			
Offset (m)		5m North	5m North	5m North			
Layer Number		2	2	2			
Time of tests		14:00:00	14:06:00	14:13:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.92	1.94	1.93			
*Field Moisture Content	%	13.0	12.0	11.5			
Oversize Material	Wet %	2	4	4			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.971	2.022	1.995			
*Optimum Moisture Content	%	15.5	14.5	14.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**84**	**83**	**80**			
Moisture Variation	%	**-2.5**	**-2.5**	**-3.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**97.5**	**96.0**	**96.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plasticity, brown / pale brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BB**
location :	**WERRIBEE**	test date:	**21-Nov-17**

Test Number		87	88	89			
Test location taken from		Lot 2273	Lot 2274	Lot 2275			
S.E Corner of each Lot.		15m North	15m North	15m North			
Offset (m)		8m West	8m West	12m West			
Layer Number		1	1	1			
Time of tests		13:00:00	13:06:00	13:13:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	1.89	1.91	1.96			
*Field Moisture Content	%	16.0	17.5	16.0			
Oversize Material	Wet %	7	3	4			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.938	1.891	1.852			
*Optimum Moisture Content	%	21.0	22.0	19.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**76**	**80**	**84**			
Moisture Variation	%	**-5.0**	**-4.5**	**-3.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**97.5**	**101.0**	**105.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Gravelly CLAY (fill), medium to high plasticity, brown / dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BD**
location :	**WERRIBEE**	test date:	**22-Nov-17**

Test Number		90	91	92			
Test location taken from		Lot 2276	Lot 2279	Lot 2278			
S.E Corner of each Lot.		8m North	5m North	5m North			
Offset (m)		8m West	8m West	10m West			
Layer Number		2	2	2			
Time of tests		12:35:00	12:40:00	12:47:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	1.96	1.89	1.91			
*Field Moisture Content	%	14.0	17.5	21.5			
Oversize Material	Wet %	9	6	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.941	1.913	1.893			
*Optimum Moisture Content	%	16.0	20.0	23.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**88**	**88**	**92**			
Moisture Variation	%	**-2.0**	**-2.5**	**-2.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**101.0**	**99.0**	**100.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Gravelly CLAY, medium to high plasticfity, brown / dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BE**
location :	**WERRIBEE**	test date:	**23-Nov-17**

Test Number		93	94	95			
Test location taken from		Lot 2279	Lot 2280	Lot 2281			
S.E Corner of each Lot.		10m West	10m West	17m West			
Offset (m)		10m North	15m North	5m North			
Layer Number		Finish Surface	Finish Surface	Finish Surface			
Time of tests		13:50:00	13:55:00	14:02:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	1.94	1.88	1.90			
*Field Moisture Content	%	13.5	19.0	19.0			
Oversize Material	Wet %	5	3	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.932	1.885	1.803			
*Optimum Moisture Content	%	18.0	24.0	21.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**75**	**79**	**89**			
Moisture Variation	%	**-4.5**	**-5.0**	**-2.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**100.0**	**100.0**	**105.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plasticity, brown / grey

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BF**
location :	**WERRIBEE**	test date:	**24-Nov-17**

Test Number		96	97	98			
Test location taken from		Lot 2253	Lot 2252	Lot 2251			
S.E Corner of each Lot.		10m West	20m West	25m West			
Offset (m)		15m North	5m North	3m North			
Layer Number		1	1	1			
Time of tests		13:30:00	13:38:00	13:44:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	1.93	1.90	1.90			
*Field Moisture Content	%	10.5	14.0	18.5			
Oversize Material	Wet %	0	6	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.952	1.919	1.984			
*Optimum Moisture Content	%	13.5	18.0	21.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**78**	**78**	**86**			
Moisture Variation	%	**-3.0**	**-4.0**	**-3.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**98.5**	**98.5**	**95.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Silty CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 09-Apr-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BG**
location :	**WERRIBEE**	test date:	**25-Nov-17**

Test Number		99	100	101			
Test location taken from		Lot 2250	Lot 2249	Lot 2248			
S.E Corner of each Lot.		15m West	15m West	15m West			
Offset (m)		7m North	9m North	11m North			
Layer Number		1	1	1			
Time of tests		11:45:00	11:50:00	11:57:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	1.90	1.87	1.90			
*Field Moisture Content	%	18.0	18.0	15.0			
Oversize Material	Wet %	6	2	3			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.903	1.938	1.965			
*Optimum Moisture Content	%	20.0	18.5	17.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**90**	**98**	**88**			
Moisture Variation	%	**-2.0**	**-0.5**	**-2.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**100.0**	**96.5**	**97.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY (fill), medium to high plsaticity, brown / dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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NATA Accredited Laboratory No. 15055
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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BH**
location :	**WERRIBEE**	test date:	**27-Nov-17**

Test Number		102	103	104			
Test location taken from		Lot 2254	Lot 2255	Lot 2257			
South East Corner		10m West	22m North	20m West			
		18m North	15m West	8m North			
Layer Number		1	1	1			
Time of tests		14:30:00	14:36:00	14:42:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.88	1.89	1.94			
*Field Moisture Content	%	24.5	18.0	19.0			
Oversize Material	Wet %	4	2	5			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.922	1.903	1.989			
*Optimum Moisture Content	%	24.5	21.0	19.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**100**	**86**	**100**			
Moisture Variation	%	**0.0**	**-3.0**	**0.0**			
Moisture Variation		**-**	**DRY**	**-**			
Density Ratio	%	**98.0**	**99.5**	**97.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY, medium to high plasticity, mottled brown and light brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BI**
location :	**WERRIBEE**	test date:	**28-Nov-17**

Test Number		105	106	107			
Test location taken from South East Corner		Lot 2256 18m North 7m West	Lot 2258 5m North 20m West	Lot 2259 5m North 20m West			
Layer Number		1	1	1			
Time of tests		12:45:00	12:52:00	13:00:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.94	1.89	1.86			
*Field Moisture Content	%	18.0	22.0	15.0			
Oversize Material	Wet %	5	4	7			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.937	1.849	1.935			
*Optimum Moisture Content	%	20.0	24.0	16.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**90**	**92**	**91**			
Moisture Variation	%	**-2.0**	**-2.0**	**-1.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**100.0**	**102.0**	**96.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY, medium to high plasticity, mottled brown and dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BJ**
location :	**WERRIBEE**	test date:	**29-Nov-17**

Test Number		108	109	110			
Test location taken from		Lot 2260	Lot 2261	Lot 2262			
South East Corner		20m West	18m West	15m West			
		8m North	13m North	15m North			
Layer Number		1	1	1			
Time of tests		13:30:00	13:36:00	13:42:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.88	1.87	1.89			
*Field Moisture Content	%	20.5	13.5	10.0			
Oversize Material	Wet %	2	6	5			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.869	1.929	1.983			
*Optimum Moisture Content	%	24.0	18.0	12.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**86**	**75**	**84**			
Moisture Variation	%	**-3.5**	**-4.5**	**-2.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**100.5**	**96.5**	**95.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BK**
location :	**WERRIBEE**	test date:	**30-Nov-17**

Test Number		111	112	113			
Test location taken from		Lot 2263	Lot 2264	Lot 2265			
South East Corner		22m West	20m West	20m West			
		10m North	12m North	12m North			
Layer Number		1	1	1			
Time of tests		14:00:00	14:06:00	14:13:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.91	1.89	1.86			
*Field Moisture Content	%	19.5	13.5	12.0			
Oversize Material	Wet %	5	3	4			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.869	1.821	1.959			
*Optimum Moisture Content	%	23.5	18.5	15.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**83**	**73**	**78**			
Moisture Variation	%	**-4.0**	**-5.0**	**-3.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**102.5**	**103.5**	**95.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BL**
location :	**WERRIBEE**	test date:	**1-Dec-17**

Test Number		114	115	116			
Test location taken from		Lot 2266	Lot 2267	Lot 2268			
South East Corner		12m West 7m North	8m West 12m North	10m West 10m North			
Layer Number		1	1	1			
Time of tests		7:30:00	7:36:00	7:44:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	1.92	1.91	1.90			
*Field Moisture Content	%	17.0	17.0	17.0			
Oversize Material	Wet %	0	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.880	1.791	1.950			
*Optimum Moisture Content	%	20.5	20.0	20.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**83**	**85**	**85**			
Moisture Variation	%	**-3.5**	**-3.0**	**-3.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**102.0**	**106.5**	**97.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Silty CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BM**
location :	**WERRIBEE**	test date:	**6-Dec-17**

Test Number		117	118	119			
Test location taken from		Lot 2217	Lot 2216	Lot 2215			
South East Corner		20m West	18m West	5m West			
		2m North	3m North	3m North			
Layer Number		1	1	1			
Time of tests		14:05:00	14:12:00	14:20:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.91	1.97	1.95			
*Field Moisture Content	%	22.0	22.0	17.0			
Oversize Material	Wet %	5	5	5			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.974	2.021	1.939			
*Optimum Moisture Content	%	22.0	22.5	16.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**100**	**98**	**103**			
Moisture Variation	%	**0.0**	**-0.5**	**0.5**			
Moisture Variation		**-**	**DRY**	**WET**			
Density Ratio	%	**97.0**	**97.5**	**100.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, mottled brown and dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BN**
location :	**WERRIBEE**	test date:	**7-Dec-17**

Test Number		120	121	122			
Test location taken from		Lot 2206	Lot 2207	Lot 2208			
South East Corner		12m West 8m North	6m West 8m North	8m West 10m North			
Layer Number		1	1	1			
Time of tests		14:00:00	14:10:00	14:21:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	1.93	1.91	1.94			
*Field Moisture Content	%	18.0	27.5	21.5			
Oversize Material	Wet %	0	2	2			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	2.126	1.893	1.953			
*Optimum Moisture Content	%	17.5	28.0	21.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**103**	**98**	**100**			
Moisture Variation	%	**0.5**	**-0.5**	**0.0**			
Moisture Variation		**WET**	**DRY**	**-**			
Density Ratio	%	**91.0**	**101.0**	**99.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BO**
location :	**WERRIBEE**	test date:	**11-Dec-17**

Test Number		123	124	125	126		
Test location taken from		Lot 2209	Lot 2210	Lot 2211	Retest of #120		
South East Corner		8m West	12m West	12m West			
		8m North	8m North	6m North			
Layer Number		1	1	1	1		
Time of tests		13:00:00	13:10:00	13:20:00	13:33:00		
Depth of Layer	mm	300	300	300	300		
Depth of Test	mm	275	275	275	275		
Field Wet Density	t/m^3	1.96	2.02	2.00	1.97		
*Field Moisture Content	%	14.0	14.5	15.5	18.0		
Oversize Material	Wet %	0	0	0	3		
Sieve Size	mm	19.0	19.0	19.0	19.0		
Peak Converted Wet Density	t/m^3	1.979	2.006	1.998	2.017		
*Optimum Moisture Content	%	16.0	16.5	17.0	18.0		
Compactive Effort Used	std / mod	STD	STD	STD	STD		
Moisture Ratio	%	**88**	**88**	**91**	**100**		
Moisture Variation	%	**-2.0**	**-2.0**	**-1.5**	**0.0**		
Moisture Variation		**DRY**	**DRY**	**DRY**	**-**		
Density Ratio	%	**99.0**	**100.5**	**100.0**	**97.5**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, mottled light brown and dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BP**
location :	**WERRIBEE**	test date:	**12-Dec-17**

Test Number		127	128	129			
Test location taken from		Lot 2212	Lot 2213	Lot 2214			
South East Corner		8m West	8m West	8m West			
		8m North	5m North	3m North			
Layer Number		1	1	1			
Time of tests		13:30:00	13:40:00	13:52:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.99	1.98	1.97			
*Field Moisture Content	%	15.5	18.0	13.0			
Oversize Material	Wet %	3	4	6			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.855	1.981	1.891			
*Optimum Moisture Content	%	18.0	18.5	17.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**86**	**98**	**77**			
Moisture Variation	%	**-2.5**	**-0.5**	**-4.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**107.0**	**100.0**	**104.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY, medium to high plasticity, mottled brown and pale brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BQ**
location :	**WERRIBEE**	test date:	**13-Dec-17**

Test Number		130	131	132			
Test location taken from		Lot 2203	Lot 2204	Lot 2205			
South East Corner		5m West 7m North	8m West 10m North	12m West 12m North			
Layer Number		1	1	1			
Time of tests		10:00:00	10:10:00	10:23:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.95	1.94	1.94			
*Field Moisture Content	%	20.0	18.0	22.0			
Oversize Material	Wet %	0	7	10			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.932	1.947	1.958			
*Optimum Moisture Content	%	23.0	20.0	21.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**87**	**90**	**103**			
Moisture Variation	%	**-3.0**	**-2.0**	**0.5**			
Moisture Variation		**DRY**	**DRY**	**WET**			
Density Ratio	%	**101.0**	**99.5**	**99.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY, medium to high plasticity, mottled brown and dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BR**
location :	**WERRIBEE**	test date:	**14-Dec-17**

Test Number		133	134	135			
Test location taken from		Lot 2256	Lot 2257	Lot 2258			
South East Corner		3m West	5m West	5m West			
		3m North	12m North	11m North			
Layer Number		2	2	2			
Time of tests		14:00:00	14:10:00	14:22:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.99	1.94	1.96			
*Field Moisture Content	%	19.0	13.0	15.0			
Oversize Material	Wet %	0	5	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	2.002	2.017	1.989			
*Optimum Moisture Content	%	18.5	13.5	17.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**103**	**97**	**86**			
Moisture Variation	%	**0.5**	**-0.5**	**-2.5**			
Moisture Variation		**WET**	**DRY**	**DRY**			
Density Ratio	%	**99.5**	**96.0**	**98.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BS**
location :	**WERRIBEE**	test date:	**18-Dec-17**

Test Number		136	137	138			
Test location taken from		Lot 2245	Lot 2246	Lot 2247			
South East Corner		18m West	20m West	20m West			
		10m North	10m North	6m North			
Layer Number		2	2	2			
Time of tests		13:00:00	13:10:00	13:21:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.97	1.95	1.95			
*Field Moisture Content	%	14.5	15.5	14.0			
Oversize Material	Wet %	5	6	8			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.847	1.950	1.914			
*Optimum Moisture Content	%	17.0	16.0	17.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**86**	**97**	**83**			
Moisture Variation	%	**-2.5**	**-0.5**	**-3.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**106.5**	**100.0**	**101.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY, medium to high plasticity, mottled grey and brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BT**
location :	**WERRIBEE**	test date:	**19-Dec-17**

Test Number		139	140	141			
Test location taken from		Lot 2242	Lot 2243	Lot 2244			
South East Corner		15m West	15m West	15m West			
		6m North	8m North	10m North			
Layer Number		2	2	2			
Time of tests		14:00:00	14:10:00	14:20:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	1.93	1.95	1.92			
*Field Moisture Content	%	15.5	17.5	15.5			
Oversize Material	Wet %	7	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	2.119	1.970	2.017			
*Optimum Moisture Content	%	16.5	18.0	18.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**94**	**97**	**86**			
Moisture Variation	%	**-1.0**	**-0.5**	**-2.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**91.0**	**99.0**	**95.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BU**
location :	**WERRIBEE**	test date:	**20-Dec-17**

Test Number		142	143	144	145		
Test location taken from		Lot 2253	Lot 2254	Lot 2255	Retest of #139		
South East Corner		5m West 25m North	10m West 25m North	10m West 10m North			
Layer Number		2	2	2	2		
Time of tests		13:30:00	13:40:00	13:50:00	14:05:00		
Depth of Layer	mm	300	300	300	300		
Depth of Test	mm	275	275	275	275		
Field Wet Density	t/m³	1.93	1.96	1.95	1.94		
*Field Moisture Content	%	13.5	14.0	14.0	17.0		
Oversize Material	Wet %	4	3	6	2		
Sieve Size	mm	19.0	19.0	19.0	19.0		
Peak Converted Wet Density	t/m³	2.017	2.030	2.046	1.995		
*Optimum Moisture Content	%	15.5	15.5	14.5	19.0		
Compactive Effort Used	std / mod	STD	STD	STD	STD		
Moisture Ratio	%	**87**	**91**	**97**	**90**		
Moisture Variation	%	**-2.0**	**-1.5**	**-0.5**	**-2.0**		
Moisture Variation		**DRY**	**DRY**	**DRY**	**DRY**		
Density Ratio	%	**96.0**	**96.5**	**95.0**	**97.0**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BV**
location :	**WERRIBEE**	test date:	**21-Dec-17**

Test Number		146	147	148			
Test location taken from		Lot 2259	Lot 2260	Lot 2261			
South East Corner		8m West	10m West	10m West			
		10m North	8m North	13m North			
Layer Number		2	2	2			
Time of tests		11:00:00	11:10:00	11:20:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.93	1.94	1.95			
*Field Moisture Content	%	14.0	17.5	15.0			
Oversize Material	Wet %	4	0	9			
Sieve Size	mm	19.0	19.0	0.0			
Peak Converted Wet Density	t/m³	2.035	2.022	2.004			
*Optimum Moisture Content	%	16.5	18.0	17.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**85**	**97**	**88**			
Moisture Variation	%	**-2.5**	**-0.5**	**-2.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**94.5**	**96.0**	**97.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Gravelly CLAY, medium to high plasticity, mottled brown and dark brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BW**
location :	**WERRIBEE**	test date:	**15-Jan-18**

Test Number		149	150	151			
Test location taken from South East corner of Lot		Lot 2211 10m West 15m North	Lot 2210 10m West 15m North	Lot 2209 8m West 13m North			
Layer Number		2	2	2			
Time of tests		12:30:00	12:40:00	12:52:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.95	1.99	1.97			
*Field Moisture Content	%	11.0	12.5	13.5			
Oversize Material	Wet %	2	4	5			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	2.096	2.111	2.160			
*Optimum Moisture Content	%	14.0	13.5	13.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**79**	**93**	**100**			
Moisture Variation	%	**-3.0**	**-1.0**	**0.0**			
Moisture Variation		**DRY**	**DRY**	**-**			
Density Ratio	%	**93.0**	**94.0**	**91.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BX**
location :	**WERRIBEE**	test date:	**16-Jan-18**

Test Number		152	153	154	155	156	157
Test location taken from		Lot 2208	Lot 2207	Lot 2206	Retest of #149	Retest of #150	Retest of #151
South East Corner		15m West 20m North	8m West 18m North	8m West 22m North			
Layer Number		2	2	2	2	2	2
Time of tests		13:30:00	13:40:00	13:50:00	14:03:00	14:15:00	14:26:00
Depth of Layer	mm	300	300	300	300	300	300
Depth of Test	mm	275	275	275	275	275	275
Field Wet Density	t/m^3	2.00	1.99	1.98	2.03	1.99	2.03
*Field Moisture Content	%	10.5	9.5	13.0	11.0	10.5	11.0
Oversize Material	Wet %	5	7	0	0	0	0
Sieve Size	mm	19.0	19.0	19.0	19.0	19.0	19.0
Peak Converted Wet Density	t/m^3	1.946	1.932	1.880	1.872	1.887	1.830
*Optimum Moisture Content	%	13.0	11.0	16.0	15.5	15.0	16.0
Compactive Effort Used	std / mod	STD	STD	STD	STD	STD	STD
Moisture Ratio	%	**81**	**87**	**82**	**71**	**70**	**69**
Moisture Variation	%	**-2.5**	**-1.5**	**-3.0**	**-4.5**	**-4.5**	**-5.0**
Moisture Variation		**DRY**	**DRY**	**DRY**	**DRY**	**DRY**	**DRY**
Density Ratio	%	**102.5**	**103.0**	**105.0**	**108.0**	**105.0**	**111.0**

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, mottled orange and brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BY**
location :	**WERRIBEE**	test date:	**17-Jan-18**

Test Number		158	159	160		
Test location taken from		Lot 2211	Lot 2210	Lot 2209		
South East Corner		15m West	10m West	12m West		
		10m North	10m North	15m North		
Layer Number		3	3	3		
Time of tests		12:00:00	12:10:00	12:22:00		
Depth of Layer	mm	300	300	300		
Depth of Test	mm	275	275	275		
Field Wet Density	t/m^3	1.95	1.91	1.94		
*Field Moisture Content	%	19.0	15.5	18.0		
Oversize Material	Wet %	0	0	0		
Sieve Size	mm	19.0	19.0	19.0		
Peak Converted Wet Density	t/m^3	1.803	1.777	1.816		
*Optimum Moisture Content	%	24.5	20.5	21.5		
Compactive Effort Used	std / mod	STD	STD	STD		
Moisture Ratio	%	**78**	**76**	**84**		
Moisture Variation	%	**-5.5**	**-5.0**	**-3.5**		
Moisture Variation		**DRY**	**DRY**	**DRY**		
Density Ratio	%	**108.0**	**107.5**	**106.5**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**BZ**
location :	**WERRIBEE**	test date:	**18-Jan-18**

Test Number		161	162	163			
Test location taken from		Lot 2211	Lot 2210	Lot 2209			
South East Corner		10m West	12m West	11m West			
		22m North	20m North	23m North			
Layer Number		3	3	3			
Time of tests		12:00:00	12:10:00	12:22:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.88	1.91	1.92			
*Field Moisture Content	%	20.5	21.5	21.0			
Oversize Material	Wet %	0	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.892	1.946	1.918			
*Optimum Moisture Content	%	20.5	23.0	21.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**100**	**94**	**100**			
Moisture Variation	%	**0.0**	**-1.5**	**0.0**			
Moisture Variation		**-**	**DRY**	**-**			
Density Ratio	%	**99.5**	**98.0**	**100.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CA**
location :	**WERRIBEE**	test date:	**19-Jan-18**

Test Number		164	165	166			
Test location taken from		Lot 2208	Lot 2207	Lot 2206			
South East Corner		10m West 20m North	7m West 20m North	12m West 22m North			
Layer Number		3	3	3			
Time of tests		11:00:00	11:10:00	11:23:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	1.89	1.91	1.91			
*Field Moisture Content	%	23.0	19.0	28.0			
Oversize Material	Wet %	3	6	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.916	1.847	1.930			
*Optimum Moisture Content	%	23.5	23.5	26.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**98**	**81**	**106**			
Moisture Variation	%	**-0.5**	**-4.5**	**1.5**			
Moisture Variation		**DRY**	**DRY**	**WET**			
Density Ratio	%	**99.0**	**103.5**	**99.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CB**
location :	**WERRIBEE**	test date:	**20-Jan-18**

Test Number		167	168	169		
Test location taken from South East Corner		Lot 2208 5m West 3m North	Lot 2207 4m West 4m North	Lot 2206 15m West 3m North		
Layer Number		4	4	4		
Time of tests		11:30:00	11:40:00	11:51:00		
Depth of Layer	mm	300	300	300		
Depth of Test	mm	275	275	275		
Field Wet Density	t/m³	1.90	1.82	1.89		
*Field Moisture Content	%	16.5	15.5	16.5		
Oversize Material	Wet %	2	0	0		
Sieve Size	mm	19.0	19.0	19.0		
Peak Converted Wet Density	t/m³	1.732	1.703	1.740		
*Optimum Moisture Content	%	21.0	21.0	22.0		
Compactive Effort Used	std / mod	STD	STD	STD		
Moisture Ratio	%	**79**	**74**	**75**		
Moisture Variation	%	**-4.5**	**-5.5**	**-5.5**		
Moisture Variation		**DRY**	**DRY**	**DRY**		
Density Ratio	%	**109.5**	**107.0**	**108.5**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CC**
location :	**WERRIBEE**	test date:	**22-Jan-18**

Test Number		170	171	172			
Test location taken from		Lot 2211	Lot 2209	Lot 2207			
South East Corner		15m West	8m West	5m West			
		20m North	18m North	18m North			
Layer Number		F.S.L	F.S.L	F.S.L			
Time of tests		13:30:00	13:40:00	13:54:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.87	1.88	1.87			
*Field Moisture Content	%	22.5	21.0	21.0			
Oversize Material	Wet %	2	3	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.955	1.913	1.931			
*Optimum Moisture Content	%	22.0	23.0	22.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**103**	**92**	**96**			
Moisture Variation	%	**0.5**	**-2.0**	**-1.0**			
Moisture Variation		**WET**	**DRY**	**DRY**			
Density Ratio	%	**96.0**	**98.5**	**97.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, mottled orange and brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CD**
location :	**WERRIBEE**	test date:	**23-Jan-18**

Test Number		173	174	175			
Test location taken from		Lot 2208	Lot 2206	Lot 2206			
South East Corner		15m North 6m West	20m North 5m West	18m North 4m West			
Layer Number		F.S.L	F.S.L	F.S.L			
Time of tests		14:30:00	14:40:00	14:50:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.85	1.83	1.84			
*Field Moisture Content	%	14.0	20.0	24.0			
Oversize Material	Wet %	4	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.858	1.974	1.880			
*Optimum Moisture Content	%	17.0	20.0	22.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**83**	**100**	**107**			
Moisture Variation	%	**-3.0**	**0.0**	**1.5**			
Moisture Variation		**DRY**	**-**	**WET**			
Density Ratio	%	**99.5**	**93.0**	**98.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CE**
location :	**WERRIBEE**	test date:	**24-Jan-18**

Test Number		176	177	178	179		
Test location taken from		Lot 2212	Lot 2213	Lot 2214	Lott 2206		
South East Corner		12m West 17m North	10m West 17m North	15m West 20m North	5m West 15m North		
Layer Number		2	2	2	F.S.L		
Time of tests		14:15:00	14:23:00	14:31:00	14:40:00		
Depth of Layer	mm	300	300	300	300		
Depth of Test	mm	275	275	275	275		
Field Wet Density	t/m^3	1.88	1.84	1.91	1.86		
*Field Moisture Content	%	21.5	21.5	24.0	20.5		
Oversize Material	Wet %	4	3	0	3		
Sieve Size	mm	19.0	19.0	19.0	19.0		
Peak Converted Wet Density	t/m^3	1.943	1.913	1.889	1.961		
*Optimum Moisture Content	%	21.5	21.5	25.5	20.5		
Compactive Effort Used	std / mod	STD	STD	STD	STD		
Moisture Ratio	%	**100**	**100**	**94**	**100**		
Moisture Variation	%	**0.0**	**0.0**	**-1.5**	**0.0**		
Moisture Variation		**-**	**-**	**DRY**	**-**		
Density Ratio	%	**97.0**	**96.0**	**101.0**	**95.0**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: gravelly CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CF**
location :	**WERRIBEE**	test date:	**25-Jan-18**

Test Number		180	181	182			
Test location taken from South East Corner		Lot 2205 15m West 7m North	Lot 2204 17m West 7m North	Lot 2203 15m West 7m North			
Layer Number		2	2	2			
Time of tests		14:00:00	14:10:00	14:20:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	1.93	1.95	1.99			
*Field Moisture Content	%	20.5	20.0	19.0			
Oversize Material	Wet %	0	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	2.079	2.068	2.047			
*Optimum Moisture Content	%	18.5	18.0	18.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**111**	**111**	**106**			
Moisture Variation	%	**2.0**	**2.0**	**1.0**			
Moisture Variation		**WET**	**WET**	**WET**			
Density Ratio	%	**93.0**	**94.5**	**97.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, mottled orange and brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CG**
location :	**WERRIBEE**	test date:	**2-Feb-18**

Test Number		183	184	185	186		
Test location taken from		Lot 2285	Lot 2284	Lot 2283	Retest of #180		
Chainage		15m West	23m West	24m West	Lot 2205		
Offset (m)		6m North	10m North	8m North	17m West 6m North		
Layer Number		1	1	1	2		
Time of tests		14:00:00	14:10:00	14:20:00	14:35:00		
Depth of Layer	mm	300	300	300	300		
Depth of Test	mm	275	275	275	275		
Field Wet Density	t/m^3	2.06	2.04	1.99	2.01		
*Field Moisture Content	%	15.5	14.5	14.5	15.5		
Oversize Material	Wet %	0	0	0	0		
Sieve Size	mm	19.0	19.0	19.0	19.0		
Peak Converted Wet Density	t/m^3	2.097	1.996	1.943	2.038		
*Optimum Moisture Content	%	15.5	16.5	17.0	16.0		
Compactive Effort Used	std / mod	STD	STD	STD	STD		
Moisture Ratio	%	**100**	**88**	**86**	**97**		
Moisture Variation	%	**0.0**	**-2.0**	**-2.5**	**-0.5**		
Moisture Variation		**-**	**DRY**	**DRY**	**DRY**		
Density Ratio	%	**98.5**	**102.0**	**102.5**	**98.5**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Silty CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CH**
location :	**WERRIBEE**	test date:	**3-Feb-18**

Test Number		187	188	189			
Test location taken from South East Corner		Lot 2282 8m West 8m North	Lot 2283 8m West 10m North	Lot 2284 6m West 6m North			
Layer Number		2	2	2			
Time of tests		12:00:00	12:10:00	12:21:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	2.04	2.00	2.03			
*Field Moisture Content	%	21.0	20.5	15.5			
Oversize Material	Wet %	0	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	2.022	2.044	2.037			
*Optimum Moisture Content	%	20.0	18.5	16.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**105**	**111**	**97**			
Moisture Variation	%	**1.0**	**2.0**	**-0.5**			
Moisture Variation		**WET**	**WET**	**DRY**			
Density Ratio	%	**101.0**	**98.0**	**99.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Silty CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CI**
location :	**WERRIBEE**	test date:	**5-Feb-18**

Test Number		190	191	192			
Test location taken from		Lot 2282	Lot 2283	Lot 2284			
South East Corner		10m West	15m West	10m West			
		7m North	8m North	6m North			
Layer Number		F.S.L	F.S.L	1			
Time of tests		14:00:00	14:10:00	14:21:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.89	1.92	1.96			
*Field Moisture Content	%	20.0	21.0	22.0			
Oversize Material	Wet %	4	3	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.876	1.779	1.799			
*Optimum Moisture Content	%	22.0	24.5	23.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**91**	**86**	**94**			
Moisture Variation	%	**-2.0**	**-3.5**	**-1.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**101.0**	**107.5**	**108.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CJ**
location :	**WERRIBEE**	test date:	**6-Feb-18**

Test Number		193	194	195			
Test location taken from		Lot 2212	Lot 2213	Lot 2214			
South East Corner		12m North 8m West	14m North 10m West	10m North 8m West			
Layer Number		2	2	2			
Time of tests		14:00:00	14:12:00	14:25:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m^3	1.97	2.00	1.92			
*Field Moisture Content	%	20.5	15.0	16.5			
Oversize Material	Wet %	6	0	5			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.827	1.851	1.865			
*Optimum Moisture Content	%	23.5	18.0	19.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**87**	**84**	**87**			
Moisture Variation	%	**-3.0**	**-3.0**	**-2.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**108.0**	**108.0**	**103.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Silty CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CK**
location :	**WERRIBEE**	test date:	**7-Feb-18**

Test Number		196	197	198		
Test location taken from		Lot 2215	Lot 2216	Lot 2217		
South East Corner		11m West	8m West	10m West		
		10m North	13m North	11m North		
Layer Number		3	3	3		
Time of tests		12:00:00	12:10:00	12:22:00		
Depth of Layer	mm	200	200	200		
Depth of Test	mm	175	175	175		
Field Wet Density	t/m^3	2.04	2.09	2.03		
*Field Moisture Content	%	11.5	9.5	9.5		
Oversize Material	Wet %	0	0	0		
Sieve Size	mm	19.0	19.0	19.0		
Peak Converted Wet Density	t/m^3	1.981	1.987	2.065		
*Optimum Moisture Content	%	14.5	13.5	11.5		
Compactive Effort Used	std / mod	STD	STD	STD		
Moisture Ratio	%	**80**	**71**	**83**		
Moisture Variation	%	**-3.0**	**-4.0**	**-2.0**		
Moisture Variation		**DRY**	**DRY**	**DRY**		
Density Ratio	%	**103.0**	**105.5**	**98.0**		

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Silty CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CL**
location :	**WERRIBEE**	test date:	**8-Feb-18**

Test Number		199	200	201			
Test location taken from South East Corner		Lot 2215 18m North 10m West	Lot 2216 18m North 12m West	Lot 2217 20m North 9m West			
Layer Number		3	3	3			
Time of tests		12:10:00	12:20:00	12:30:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.96	1.95	1.99			
*Field Moisture Content	%	18.0	19.5	19.5			
Oversize Material	Wet %	3	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.789	1.823	1.840			
*Optimum Moisture Content	%	23.0	21.5	22.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**79**	**91**	**87**			
Moisture Variation	%	**-5.0**	**-2.0**	**-3.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**109.5**	**107.0**	**108.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CM**
location :	**WERRIBEE**	test date:	**9-Feb-18**

Test Number		202	203	204			
Test location taken from		Lot 2212	Lot 2213	Lot 2214			
South East Corner		26m North	20m West	18m West			
		7m West	12m West	5m West			
Layer Number		F.S.L	F.S.L	F.S.L			
Time of tests		12:15:00	12:26:00	12:35:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	1.99	2.00	1.98			
*Field Moisture Content	%	12.5	12.0	13.5			
Oversize Material	Wet %	0	0	1			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.961	1.935	2.018			
*Optimum Moisture Content	%	16.5	15.5	15.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**76**	**78**	**90**			
Moisture Variation	%	**-4.0**	**-3.5**	**-1.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**101.5**	**103.0**	**98.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CN**
location :	**WERRIBEE**	test date:	**13-Feb-18**

Test Number		205	206	207			
Test location taken from		Lot 2268	Lot 2241	Lot 2241			
South East Corner		22m West	4m West	18m West			
		6m North	7m North	8m North			
Layer Number		3	3	F.S.L			
Time of tests		13:30:00	13:40:00	13:52:00			
Depth of Layer	mm	300	300	300			
Depth of Test	mm	275	275	275			
Field Wet Density	t/m³	1.99	2.01	2.00			
*Field Moisture Content	%	8.0	10.0	9.5			
Oversize Material	Wet %	3	0	3			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.913	1.874	1.918			
*Optimum Moisture Content	%	11.5	13.5	13.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**70**	**74**	**71**			
Moisture Variation	%	**-3.5**	**-3.5**	**-4.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**104.0**	**107.0**	**104.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Silty CLAY, medium to high plasticity, mottled orange and brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CO**
location :	**WERRIBEE**	test date:	**15-Feb-18**

Test Number		208	209	210			
Test location taken from		Lot 2247	Lot 2245	Lot 2249			
South East Corner		8m North 9m West	7m North 10m West	6m North 8m West			
Layer Number		F.S.L	F.S.L	F.S.L			
Time of tests		13:00:00	13:09:00	13:15:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m^3	2.06	1.92	1.99			
*Field Moisture Content	%	14.0	13.5	9.5			
Oversize Material	Wet %	0	0	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m^3	1.944	1.812	1.962			
*Optimum Moisture Content	%	17.0	20.0	12.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**83**	**68**	**76**			
Moisture Variation	%	**-3.0**	**-6.5**	**-3.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**106.0**	**106.0**	**101.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Silty CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CP**
location :	**WERRIBEE**	test date:	**16-Feb-18**

Test Number		211	212	213			
Test location taken from		Lot 2243	Lot 2246	Lot 2248			
South East Corner		6m West	11m West	8m West			
		4m North	7m North	7m North			
Layer Number		F.S.L	F.S.L	F.S.L			
Time of tests		13:30:00	13:40:00	12:28:48			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m³	1.87	1.90	1.94			
*Field Moisture Content	%	19.0	19.0	19.0			
Oversize Material	Wet %	5	2	2			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.799	1.834	1.790			
*Optimum Moisture Content	%	23.0	23.5	24.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**83**	**81**	**78**			
Moisture Variation	%	**-4.0**	**-4.5**	**-5.5**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**104.0**	**103.5**	**108.5**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Gravelly CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

NATA ACCREDITED FOR TECHNICAL COMPETENCE

NATA Accredited Laboratory No. 15055
Accredited for compliance with ISO/IEC 17025 - Testing
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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CQ**
location :	**WERRIBEE**	test date:	**19-Feb-18**

Test Number		214	215	216			
Test location taken from		Lot 2251	Lot 2252	Lot 2253			
South East Corner		7m West	9m West	1m West			
		6m North	8m North	5m North			
Layer Number		F.S.L	F.S.L	F.S.L			
Time of tests		13:00:00	13:10:00	13:22:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m³	1.98	1.92	1.90			
*Field Moisture Content	%	14.5	12.0	14.0			
Oversize Material	Wet %	6	9	5			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.907	1.915	1.776			
*Optimum Moisture Content	%	15.5	17.5	19.0			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**94**	**69**	**74**			
Moisture Variation	%	**-1.0**	**-5.5**	**-5.0**			
Moisture Variation		**DRY**	**DRY**	**DRY**			
Density Ratio	%	**104.0**	**100.5**	**107.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Gravelly CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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Tim Senserrick
Approved Signatory
Date 28-Feb-18

field density test results

A C N 105 704 078
13 Brock Street Thomastown Vic, **P** 03 9464 4617 **F** 9464 4618

client :	DEVELOPMENT VICTORIA (MELBOURNE) C/- DALTON CONSULTING ENGINEERS (RICHMOND)	job No:	**GS4428/1**
project :	**RIVERWALK ESTATE - STAGES 20 - 23 (LEVEL 1)**	report No.	**CR**
location :	**WERRIBEE**	test date:	**21-Feb-18**
	5897		

Test Number		217	218	219			
Test location taken from		Lot 2265	Lot 2264	Lot 2262			
South East Corner		9m West	6m West	7m West			
		5m North	1m North	11m North			
Layer Number		F.S.L	F.S.L	F.S.L			
Time of tests		14:00:00	14:11:00	14:23:00			
Depth of Layer	mm	200	200	200			
Depth of Test	mm	175	175	175			
Field Wet Density	t/m³	1.95	2.07	2.04			
*Field Moisture Content	%	25.5	18.5	18.5			
Oversize Material	Wet %	2	3	0			
Sieve Size	mm	19.0	19.0	19.0			
Peak Converted Wet Density	t/m³	1.963	1.977	1.942			
*Optimum Moisture Content	%	25.5	21.0	20.5			
Compactive Effort Used	std / mod	STD	STD	STD			
Moisture Ratio	%	**100**	**88**	**90**			
Moisture Variation	%	**0.0**	**-2.5**	**-2.0**			
Moisture Variation		**-**	**DRY**	**DRY**			
Density Ratio	%	**99.0**	**105.0**	**105.0**			

Specification Requirements: 95% Standard compaction

Notes: Moisture Variation: (-) indicates dry; (+) indicates wet

Material description: Gravelly CLAY, medium to high plasticity, brown.

Test Methods: AS1289 5.8.1 5.7.1 2.1.1 1.2.1 (6.4)

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APPENDIX D

Site Photographs