

LEVEL ONE

Reference
No.: 9289-019

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out
By*



PREPARED FOR: -

SYMON BROS. CONSTRUCTIONS PTY LTD



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Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: Symon Bros. Constructions Pty Ltd

Project Name: Botanical Estate, Stage 27

Date: 31st of March 2025

Author: Mr. Thomas Crowe

Reference No.: 9289-019

Revision: 0

Project Manager: Mr. Nick Goutzamanis

1. Introduction & Scope

At the request of Symon Bros. Constructions Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site from the 26th of February 2025 to the 7th of March 2025 where a residential development is being constructed. Inspection and testing of stripping, material quality and compaction control tests were carried out to comply with the requirements of AS 3798 Appendix B, Level 1.

The following documentation was submitted to Geotechnical Laboratories by Symon Bros. Constructions Pty Ltd and was used to determine compliance of earthworks in conjunction with the requirements of AS 3798 – 2007 (See Appendix A).

(1). Road & Drainage Layout Plan Drawing No. 320591-000CR200 (Rev. 0)

General site works involved the placement of fill, using on-site derived clay, to bring the fill region to the required finished levels as indicated on the faceplan drawings.

2. Site Preparation

Initial inspections were undertaken on the 26th of February 2025 confirming that selected areas to be filled were completely stripped of topsoil prior to filling. The brown silty topsoils had been stockpiled around the site for later removal off-site.

Initial proof roll inspections were undertaken to ensure no significant soft areas were present prior to filling.

3. Fill Material

It is understood that the fill material used was sourced from on-site excavations, mainly drainage trenches and road boxing.



The fill material is best described as a silty CLAY, brown, pale brown, slightly moist to moist, medium to high plasticity with basalt gravel and occasional cobbles.

The fill material is consistent with the naturally occurring soils for this region.

Source material was deemed a **Suitable Material** in accordance with guidelines set out in AS 3798 - 2007 Section 4.4.

4. Fill Construction Procedure

The following plant (but not always limited to) were engaged in the fill placement process:

- Highway trucks
- A watercart
- A sheepsfoot compactor

The sheepsfoot compactor placed material in horizontal loose layers of approximately 250-300mm. The sheepsfoot compactor also performed compaction of the clay fill operating in a criss-cross pattern.

The moisture condition of the fill was closely monitored, and moisture conditioning procedures were applied to bring the material closer to its Standard Optimum Moisture Content (AS 1289 5.7.1).

5. Compaction Control Testing

Compaction control testing was performed on-site using a Nuclear Densometer in accordance with AS 1289 5.8.1. Laboratory reference densities were determined from material sampled at each test site location using the Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.

A total of nineteen compaction tests were performed on the fill construction. Results are presented in Appendix B of this report.

6. Testing Frequency

Testing frequencies were in accordance with **AS 3798 - 2007 Table 8.1 for Large Scale Operations.**

Acceptance of fill layers for compaction was based on the requirements of **AS 3798 - 2007 Table 5.1 Item 1. Residential.**

As a result, the compliance criteria adopted by Geotechnical Laboratories was a hilf density ratio not less than 95 percent of the maximum hilf density value as determined by the Standard Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.



Test results indicate that the above-mentioned requirements have been successfully achieved.

No moisture criterion was specified.

7. Statement of Compliance

So far as can be determined, Symon Bros. Constructions Pty Ltd has satisfactorily complied with the compaction and construction processes required for the structural filling of this site. As such, structural filling placed on this site by Symon Bros. Constructions Pty Ltd from the 26th of February 2025 to the 7th of March 2025 can be categorised as CONTROLLED FILL in accordance with AS 2870-2011.

8. Limitations and Liability of this Report

This report has been produced for and remains the property of Symon Bros Construction Pty Ltd.

The release of this report to a third party will only occur if Geotechnical Laboratories Pty Ltd has received, in writing, the authority to do so by our client.

Geotechnical Laboratories Pty Ltd will not engage in any third-party communication regarding this report.

Where information has been supplied by the client or third party, the assumption is made that this is correct. Geotechnical Laboratories Pty Ltd will not be held responsible for any inaccuracies supplied.

Test results and controlled fill compliance relates only to fill placed by Symon Bros. Constructions Pty Ltd and for earthworks completed at the time of inspection and testing. Any previous or subsequent earthworks will require a separate evaluation.

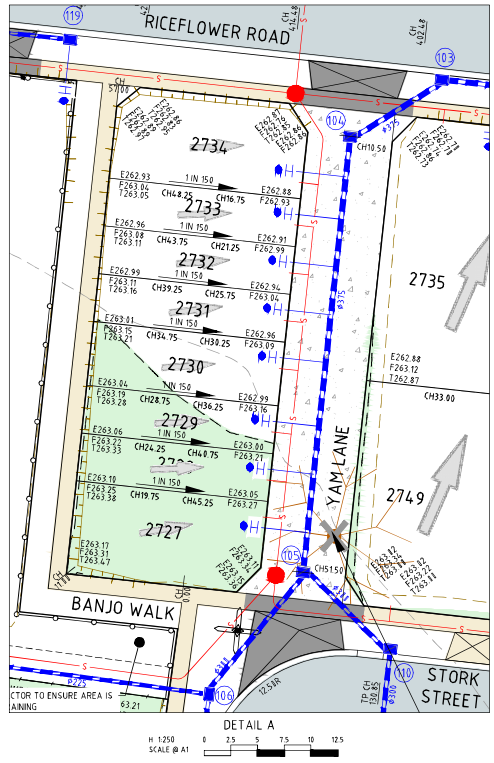
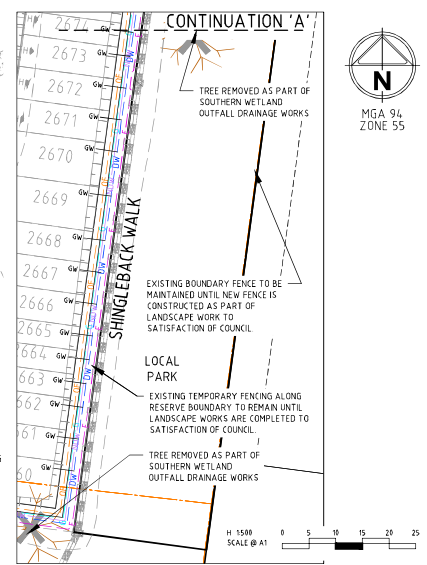
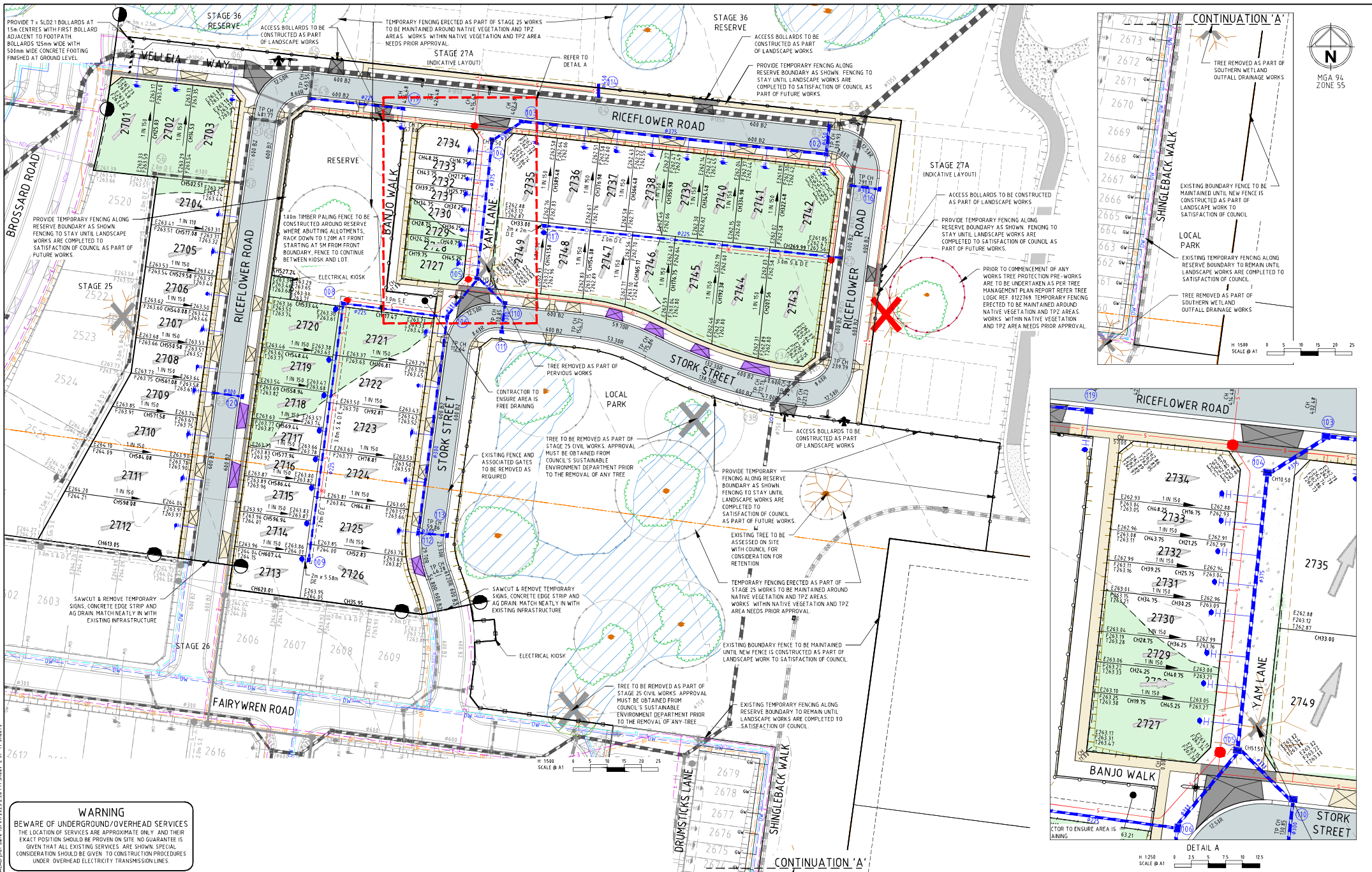
For & on behalf of
Geotechnical Laboratories Pty Ltd.

Thomas Crowe
Technical Manager



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX A



WARNING
BEWARE OF UNDERGROUND/OVERHEAD SERVICES
THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.

Rev	Amendments	Approved	Date	Scale
0	ISSUED FOR CONSTRUCTION	J.P.P.	15/01/25	AS SHOWN
E	PRAM CROSSING ADDED, ROAD NAMES & DRAINAGE LOT CONNECTION UPDATED	J.P.P.	20/12/24	
D	DRIVEWAY LOCATION AMENDED & DRAINAGE POINT ADDED	J.P.P.	28/08/24	
C	TITLES, LEVELS, SEWER AND SWD AMENDED	J.P.P.	15/07/24	
B	COUNCIL COMMENTS	J.P.P.	28/02/24	
A	ISSUED TO COUNCIL	J.P.P.	22/10/24	



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Designed W. ONG
Authorised J. POYNER
Checked J. POYNER
Date 22/01/24

**BOTANICAL ESTATE
STAGE 27
ROAD AND DRAINAGE
ROAD LAYOUT PLAN
HUME CITY COUNCIL
SATTERLEY PROPERTY GROUP**

CONSTRUCTION 320591-000CR200 0



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX B

FIELD DENSITY TESTING SUMMARY
REPORT NO: 9289/003

PROJECT: SYMON BROS - Botanical Estate, Stage 27

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
26/02/25	1	<i>Refer to #9289/004 for approx. test site locations.</i>	2.03	18.5	97.5	✱ 2.08	19.0	175	0.5 Drier	96.5	7	0	400	
26/02/25	2		1.99	19.5	97.0	2.05	19.5	175	0.0 Drier	100.0	0	0	200	
26/02/25	3		1.96	18.0	96.0	2.04	18.5	175	0.5 Drier	97.5	0	0	0	
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NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12:30pm Finish Time: 1:30pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation, Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled: AS 1289 1.2.1 Clause 6.4(b)


✱ Indicates APCWD


Accredited for compliance with ISO/IEC
17025 - Testing
NATA Accredited Laboratory Number 14561


 MICK CROWE
 (Approved Signatory)

Issue Date: 5/3/2025



 GEOTECHNICAL LABORATORIES	GEOTECHNICAL LABORATORIES ACN 102 571 077 14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au Phone: (03) 8361 9140	
	CLIENT: SYMON BROS LOCATION: Botanical, Stage 27 Sketch indicating compaction test locations	DATE: 27/02/2025 OPERATOR: CC/MU SCALE: NTS

FIELD DENSITY TESTING SUMMARY
REPORT NO: 9289/005

PROJECT: SYMON BROS - Botanical Estate, Stage 27

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
28/02/25	4	<i>Refer to #9289/006 for approx. test site locations.</i>	1.95	16.5	95.0	2.05	17.5	175	1.5 Drier	92.0	0	0	0	
28/02/25	5		2.03	17.5	97.5	2.08	17.5	175	0.5 Drier	97.5	0	0	0	
28/02/25	6		2.03	18.0	95.5	✘ 2.13	18.5	175	0.0 Drier	98.5	7	0	150	
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NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 2:15pm Finish Time: 3:00pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation, Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled: AS 1289 1.2.1 Clause 6.4(b)


✘ Indicates APCWD


Accredited for compliance with ISO/IEC
17025 - Testing
NATA Accredited Laboratory Number 14561



 MICK CROWE
 (Approved Signatory)

Issue Date: 7/3/2025



 GEOTECHNICAL LABORATORIES	GEOTECHNICAL LABORATORIES ACN 102 571 077 14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au Phone: (03) 8361 9140	
	CLIENT: SYMON BROS LOCATION: Botanical, Stage 27 Sketch indicating compaction test locations	DATE: 28/02/2025 OPERATOR: CC/MU SCALE: NTS



 GEOTECHNICAL LABORATORIES	GEOTECHNICAL LABORATORIES ACN 102 571 077 14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au Phone: (03) 8361 9140	
	CLIENT: SYMON BROS LOCATION: Botanical, Stage 27 Sketch indicating compaction test locations	DATE: 3/03/2025 OPERATOR: CC/MU SCALE: NTS

FIELD DENSITY TESTING SUMMARY
REPORT NO: 9289/013

PROJECT: SYMON BROS - Botanical Estate, Stage 27

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
5/03/25	10	<i>Refer to #9289/015 for approx. test site locations.</i>	2.02	17.0	98.0	2.06	18.0	175	1.0 Drier	95.0	0	0	100
5/03/25	11		2.07	16.5	98.0	2.11	17.0	175	0.5 Drier	97.5	0	0	0
5/03/25	12		2.03	18.5	99.5	2.04	19.0	175	0.5 Drier	96.5	0	0	300
5/03/25	13		1.95	19.5	97.0	✘ 2.01	19.5	175	0.0 Drier	100.0	8	0	0
5/03/25	14		2.00	18.5	97.0	2.06	19.0	175	0.5 Drier	97.5	0	0	0
5/03/25	15		1.97	17.5	96.0	✘ 2.05	18.0	175	0.0 Drier	98.5	6	0	100

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9:30am Finish Time: 1:40pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation, Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled: AS 1289 1.2.1 Clause 6.4(b)


✘ Indicates APCWD


Accredited for compliance with ISO/IEC
17025 - Testing
NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 13/3/2025



 GEOTECHNICAL LABORATORIES	GEOTECHNICAL LABORATORIES ACN 102 571 077 14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au Phone: (03) 8361 9140	
	CLIENT: SYMON BROS LOCATION: Botanical, Stage 27 Sketch indicating compaction test locations	DATE: 5/03/2025 OPERATOR: CC SCALE: NTS

FIELD DENSITY TESTING SUMMARY
REPORT NO: 9289/016

PROJECT: SYMON BROS - Botanical Estate, Stage 27

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
7/03/25	17	Refer to #9289/017 for approx. test site locations.	2.02	17.5	98.0	2.06	18.5	175	0.5 Drier	96.0	0	0	0	
7/03/25	18		1.99	18.0	96.0	2.07	18.0	175	0.0 Drier	98.5	0	0	0	
7/03/25	19		2.02	19.5	97.0	2.08	19.0	175	0.0 Wetter	101.0	0	0	0	
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NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9:45am Finish Time: 10:25am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation, Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled: AS 1289 1.2.1 Clause 6.4(b)

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MICK CROWE

(Approved Signatory)

Issue Date: 19/3/2025

