LEVEL ONE

Reference No.: 9003-021

SURVEILLANCE

# AND INSPECTION REPORT

Carried Out By



PREPARED FOR: -

SYMON BROS. CONSTRUCTIONS PTY LTD



# Table of Contents

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# **Appendices**

Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: Symon Bros. Constructions Pty Ltd Project Name: The Grove South West Precinct Stage 46 Date: 19<sup>th</sup> of January 2024 Author: Mr. Sam Loza Reference No.: 9003-021 Revision: 0 Project Manager: Mr. George Dimopoulos

# 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 11<sup>th</sup> of August 2022 to the 9<sup>th</sup> of September 2022 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.

(1) Road & Drainage Layout Plan Drawing No. 2190E-046-111 (Rev. 4)

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

Site inspections were undertaken on the 8<sup>th</sup> of August 2022 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 offsite.

Proof roll inspections were performed throughout the project duration 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 site cut areas.



The fill material is best described as a silty CLAY, brown, red brown, slightly moist to moist, medium to high plasticity with basalt gravels and 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:

- Dump trucks & highway trucks
- Scrapers
- A watercart
- A sheepsfoot compactor (815)
- A padfoot roller
- A dozer

The sheepsfoot compactor and dozer placed material in horizontal loose layers of approximately 250-300mm. The sheepsfoot compactor and padfoot roller 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. <u>Compaction Control Testing</u>

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 twenty-five 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 criteria was specified.

### 7. <u>Statement of Compliance</u>

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 11<sup>th</sup> of August 2022 to the 9<sup>th</sup> of September 2022 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. Constructions 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.

Sam Loza Laboratory Manager.



# LEVEL ONE

# SURVEILLANCE

# AND INSPECTION REPORT

# APPENDIX A



© SMEC 2021. Digital information supplied by this office is for information only, in the event of any discrepancies this should be discussed with the superintendent. Set out should be carried out in accordance with Relevant Authority standard drawings or as nominated by SMEC.

LEGEND - LAY	OUT PLAN
ALL PROPOSED, FUTURI	E & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY
	& PROPERTY INLET
	MAIN DRAIN SWALE DRAIN
•	SEWER & MAINTENANCE STRUCTURES
— — — — —H	HOUSE DRAIN
——— E ———	
G	GAS
— T —	TELSTRA
0	
W	RECYCLE WATER
—— Ag ——	AG. DRAIN
	SERVICE CONDUITS
	TACTILE PAVERS
	EXISTING MAIN DRAIN
>>	EXISTING SWALE DRAIN
<u>Ө-Ех S</u>	EXISTING SEWER & MAINTENANCE STRUCTURES
——————————————————————————————————————	EXISTING HOUSE DRAIN
0/H E	EXISTING ELECTRICITY OVERHEAD
——Ex G ——	EXISTING GAS
Ex 1	EXISTING OPTIC FIBRE
——Ex W ——	EXISTING WATER
Ex RW	EXISTING RECYCLED WATER
GWR	EXISTING SERVICE CONDUITS
	EXISTING TACTILE PAVERS
-Fut D	FUTURE STORMWATER DRAIN
	FUTURE SEWER & MAINTENANCE
G+01 S	
— — — — — H	FUTURE HOUSE DRAIN FUTURE ELECTRICITY (UNDER GROUND)
<del>-F</del> ut0/H E —	FUTURE ELECTRICITY OVERHEAD
—Fut G —	FUTURE GAS
	FUTURE TELSTRA
—Fut W —	FUTURE WATER
—Fut RW —	FUTURE RECYCLED WATER
	FUTURE AG. DRAIN
	FUTURE TACTILE PAVERS
	ZERO LOT LINES
141.34	
FS 140.35 FR157.40	FINISHED BOILDING LINE LEVEL
CH270.00	CHAINAGE
TW159.60	
BW 139.00	EXISTING RETAINING WALL
	RETAINING WALL
	FILL > 200mm DEEP
$\sum$	CUT > 200mm DEEP
$\rightarrow$	
	GRADED IN DIRECTION OF FALL
木	
	"NO ROAD" SIGN & BARRIER
$(\cdot)$	TO BE RETAINED
$\odot$	EXISTING TREE TO BE REMOVED
$\overline{\mathbf{\cdot}}$	INDICATIVE TREE LOCATION
<b>A</b>	PERMANENT SURVEY MARK
*	TEMPORARY BENCH MARK
	PROPOSED DRIVEWAY & FOOTPATH
	PROPOSED INDUSTRIAL DRIVEWAY
	PROPOSED SHARED FOOTPATH
	PROPOSED ROAD PAVING
	EXISTING ROAD PAVING

# WARNING

BEWARE OF UNDERGROUND SERVICES he locations of underground services are approximate only and their exact position should be proven on site. No guarantee is given that all existing services are shown. ocate all underground services before commencement of works DIAL 1100 BEFORE YOU DIG www.**1100**.com.au

The Grove West - Stage 46 Wyndham City Council Road and Drainage Layout Plan - 1

PROJECT / DRAWING No. 2190E-046-111

SHEET No. REVISION 02 of 24 4



# LEVEL ONE

# SURVEILLANCE

# AND INSPECTION REPORT

# APPENDIX B



### **GEOTECHNICAL LABORATORIES**

ACN 102 571 077

REPORT NO.: # 9008/003A

14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au PH: (03) 8361-9140 LOCATION: SYMON BROS - The Grove SWP - Stage 51

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARI FR OPT MOIS CON	ATION OM IMUM STURE TENT %)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
1/07/22	1		1.81	26.0	97.5	1.86	27.5	175	1.5	Drier	94.5	0	0	1000
1/07/22	2		1.80	28.5	97.0	1.85	30.0	175	2.0	Drier	94.0	0	0	1000
1/07/22	3	Refer to #9008/004A	1.84	32.0	98.0	1.87	30.0	175	2.5	Wetter	108.0	0	0	900
1/07/22	4	for approx. lest sue locations.	1.87	29.5	96.5	1.94	28.5	175	1.0	Wetter	102.5	0	0	900
-	-		-	-	-	-	-	-	-		-	-	-	-
-	-		-	-	-	-	-	-	-		-	-	-	-
NOTES:	Claye	ey Fill Ex. Onsite				Compaction	n specimens	s sampled	lafter	comp	action.			
	Test s	ites located - Geolab Procedure 4, F	Part 4.4.			Start Time:	9:00am I	-inish Tim	e:9:4	0am				
A Hilf Rap	id Cor	mpaction test was carried out on	a sample	taken from	each Field I	Density loca	tion to obtai	n the Con	npacti	ion Pa	rameters ta	bulated	l on this	Report.
This Repo	ort Sup	ersedes Report # 9008/003				Moistu	re Content:	AS 1289	2.1.1					
Soil Layer	Layer thickness: 200mm Compaction Test: AS 1289 5.7.1 MLQ													
Hilf Densit	ty Rati	o and Hilf Moisture Variation ,Hil	f Adjusted	(APCWD)	& Peak (PC	WD) Conve	erted Wet De	ensity AS	1289	5.7.1		1		
Field Den	sity, N	uclear Gauge: AS 1289 5.8.1				Accredited	l for complian	ce with ISO	IEC.			MIC	K CROV	/E
Materials	Sampl	ed: AS 1289 1.2.1 Clause 6.4(b	))		NATA	<u>17025 - Te</u>	esting	<u>ee min 190/</u>	120			(Approv	ed Sign	atory)
¥						<u>NATA Acc</u>	redited Labor	atory Numb	er 1450	<u>51</u>		Issue D	ate: 23/10/	2023
*					ACCREDITATIO	ED N								



GEOTECHNICAL LABORATORIES	GEOTECHNI ACN 14 Ravenhall W Email: info@geolab	CAL LABORATORIES 102 571 077 /ay, Ravenhall, Vic 3023 .com.au PH: (03) 8361-9140
CLIENT: SYMON BROS	DATE: 01/07/2022	JOB No.: 9008/004A
LOCATION: The Grove South West Precinct, Stage 51	<b>OPERATOR: PV</b>	CHECKED: DM
Sketch indicating compaction test locations	SCALE: NTS	FIGURE No: -



### **GEOTECHNICAL LABORATORIES**

ACN 102 571 077

REPORT NO.: # 9003/004A

14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au PH: (03) 8361-9140

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARI FR OPT MOIS CON	ATION OM IMUM STURE TENT %)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
12/08/22	5		2.07	22.0	104.0	2.00	22.0	175	0.0	Drier	99.0	0	0	300
12/08/22	6		2.17	23.0	104.5	2.08	22.5	175	0.0	Wetter	101.0	0	0	300
12/08/22	7	Refer to #9003/005A	2.09	20.0	102.5	2.04	20.0	175	0.0	Wetter	101.0	0	0	300
12/08/22	8	locations.	2.12	19.5	105.0	2.02	20.0	175	0.5	Drier	97.5	0	0	300
-	-		-	-	-	-	-	-	-		-	-	-	-
-	-		-	-	-	-	-	-	-		-	-	-	-
NOTES:	Claye	y Fill Ex. Onsite				Compaction	n specimens	s sampled	lafter	comp	action.			
	l est s	ites located - Geolab Procedure 4, F	'art 4.4.			Start Time:	10:15am	Finish I II	me: 1	0:50ai	n			
A Hilf Rap	id Cor	npaction test was carried out on	a sample	taken from	each Field I	Density loca	tion to obtai	n the Con	npacti	ion Pa	rameters ta	abulated	l on this	Report.
This Repo	ort Sup	ersedes Report # 9003/004				Moistu	re Content:	AS 1289	2.1.1					
Soil Layer	yer thickness: 200mm Compaction Test: AS 1289 5.7.1 Million													
Hilf Densit	ensity Ratio and Hilf Moisture Variation, Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1													
Field Den	sity, N	uclear Gauge: AS 1289 5.8.1				Accredited	l for complian	ce with ISO	/IEC			MIC	K CROW	/E
Materials	Sampl	ed: AS 1289 1.2.1 Clause 6.4(b	)		NATA	<u>17025 - Te</u>	e <u>sting</u>	<u>ce wiin 150/</u>	<u>ILC</u>			(Approv	ed Sign	atory)
₩	<u>NATA Accredited Laboratory Number 14561</u> Issue Date: 9/10/2023													
*					WORLD RECOGNIS	ED IN								



# SCALE: NTS FIGURE No: -



### **GEOTECHNICAL LABORATORIES**

ACN 102 571 077

REPORT NO.: # 9003/011A

14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au PH: (03) 8361-9140

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARI FF OPT MOIS CON	ATION ROM TIMUM STURE ITENT %)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
24/08/22	9		1.83	23.0	97.0	<b>∞</b> 1.89	24.5	175	1.5	Drier	94.0	4	0	0
24/08/22	10		1.96	25.0	102.0	1.92	24.5	175	0.5	Wetter	102.0	0	0	0
24/08/22	11	Refer to #9003/012A	1.87	28.0	96.0	1.95	24.5	175	3.0	Wetter	112.5	0	0	0
24/08/22	12	for approx. test sue locations.	1.88	28.5	97.0	1.93	26.0	175	3.0	Wetter	111.0	0	0	0
-	-		-	-	-	-	-	-	I		-	-	-	-
-	-		-	-	-	-	-	-	-		-	-	-	-
NOTES:	Claye	ey Fill Ex. Onsite				Compaction	n specimens	s sampled	after	<sup>.</sup> comp	action.			
	Test s	ites located - Geolab Procedure 4, F	Part 4.4.			Start Time:	10:10am	Finish Tir	me: 1	0:50aı	n			
A Hilf Rap	id Co	mpaction test was carried out on	a sample	taken from	each Field	Density loca	tion to obtai	n the Con	npact	ion Pa	rameters ta	bulated	l on this	Report.
This Repo	ort Sup	ersedes Report # 9003/011				Moistu	re Content:	AS 1289	2.1.1					
Soil Layer	Soil Layer thickness: 200mm Compaction Test: AS 1289 5.7.1 Mill .													
Hilf Densi	ty Rati	o and Hilf Moisture Variation ,Hil	f Adjusted	(APCWD)	& Peak (PC	WD) Conve	erted Wet De	ensity AS	1289	5.7.1		ľ	/00	
Field Den	sity, N	uclear Gauge: AS 1289 5.8.1				Accredited	l for complian	ce with ISO/	TEC			MIC	K CROW	/E
Materials	Samp	ed: AS 1289 1.2.1 Clause 6.4(b	)		NATA	17025 - Te	esting					(Approv	ed Sign	atory)
✤ Indicate	s APC	WD				<u>NATA Acc</u>	redited Labor	atory Numbe	er 145	<u>61</u>		Issue D	ate: 9/10/2	2023
*					COMPETENCE									





### **GEOTECHNICAL LABORATORIES**

ACN 102 571 077

REPORT NO.: # 9003/018A

14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au PH: (03) 8361-9140

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIA FRC OPTIN MOIST CONT (%	TION M MUM URE ENT )	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
26/08/22	17		1.92	27.0	101.0	1.90	25.5	175	1.5 V	Vetter	105.0	0	0	0
26/08/22	18		1.95	22.0	102.0	⊯ 1.91	26.0	175	3.5	Drier	86.0	11	0	0
26/08/22	19	Refer to #9003/019A	1.94	25.5	102.5	<b>∞</b> 1.90	23.5	175	2.0 V	Vetter	108.5	6	0	0
26/08/22	20	locations.	1.89	23.0	98.5	⊯ 1.92	25.5	175	2.5	Drier	89.5	4	0	0
-	-		-	-	-	-	-	-	-		-	-	-	-
-	-		-	-	-	-	-	-	-		-	-	-	-
NOTES:	Claye	ey Fill Ex. Onsite				Compactio	n specimens	s sampled	l after o	comp	action.			
	Test s	ites located - Geolab Procedure 4, F	Part 4.4.			Start Time:	10.30am Fi	inish Time	e: 11:40	)am				
A Hilf Rap	id Co	mpaction test was carried out on	a sample	taken from	each Field	Density loca	tion to obtai	n the Con	npactio	n Pa	rameters ta	bulated	l on this	Report.
This Repo	ort Sup	ersedes Report # 9003/018				Moistu	re Content:	AS 1289	2.1.1					
Soil Layer	Soil Layer thickness: 200mm Compaction Test: AS 1289 5.7.1 Million													
Hilf Densi	ty Rati	o and Hilf Moisture Variation ,Hil	f Adjusted	(APCWD)	& Peak (PC	WD) Conve	erted Wet De	ensity AS	1289 5	5.7.1		1		
Field Den	sity, N	uclear Gauge: AS 1289 5.8.1				Accredited	l for complian	ce with ISO/	IEC			MIC	K CROV	VE
Materials	Samp	led:AS 1289 1.2.1 Clause 6.4(b	)		NATA	<u>17025 - Te</u>	esting					(Approv	ed Sign	atory)
✤ Indicate	s APC	WD				<u>NATA Acc</u>	redited Labor	atory Numb	er 14561	<u>l</u>		Issue D	ate: 23/10/	2023
*					ACCREDITATIO	ED								



# SCALE: NTS FIGURE No: -



#### **GEOTECHNICAL LABORATORIES**

ACN 102 571 077

REPORT NO.: # 9004/003A

14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au PH: (03) 8361-9140

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	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)
16/08/22	1		1.92	24.5	98.0	1.96	25.0	175	0.5 Driei	98.0	0	0	0
16/08/22	2		1.92	25.5	98.5	1.95	25.0	175	0.5 Wette	r 102.0	0	0	400
16/08/22	3	Refer to #9004/004A	1.99	24.5	101.5	<b>∞</b> 1.96	24.0	175	0.0 Wette	r 101.0	3	0	400
16/08/22	4	for approx. test sue locations.	2.06	22.0	107.5	1.91	24.5	175	2.5 Drier	90.0	0	0	400
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
NOTES:	Claye	ey Fill Ex. Onsite				Compactio	n specimen:	s sampled	after com	paction.			
	Test s	ites located - Geolab Procedure 4, F	Part 4.4.			Start Time:	9:30am I	-inish Tim	e: 10:30ar	n			
A Hilf Rap	oid Co	mpaction test was carried out on	a sample	taken from	each Field I	Density loca	tion to obtai	n the Con	npaction P	arameters ta	abulated	l on this	Report.
This Repo	ort Sup	ersedes Reoprt # 9004/003				Moistu	re Content:	AS 1289	2.1.1				
Soil Layer thickness: 200mm Compaction Test: AS 1289 5.7.1 Mill .										•			
Hilf Densi	ty Rati	o and Hilf Moisture Variation ,Hil	f Adjusted	(APCWD)	& Peak (PC	WD) Conve	erted Wet De	ensity AS	1289 5.7.1		1	/	
Field Den	sity, N	uclear Gauge: AS 1289 5.8.1				Accredited	l for complian	ce with ISO/	<i>TEC</i>		MIC	K CROV	VE
Materials	Samp	ed: AS 1289 1.2.1 Clause 6.4(k	)		NATA	<u> 17025 - T</u>	esting				(Approv	ed Sign	atory)
★ Indicates APCWD   NATA Accredited Laboratory Number 14561 Issue Date: 10/10/2023													
*					COMPETENCE								







SCALE: NTS FIGURE No: 3 of 3



### **GEOTECHNICAL LABORATORIES**

#### ACN 102 571 077

REPORT NO.: # 9005/057A

14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au PH: (03) 8361-9140

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	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)
15/08/22	90		1.96	21.5	95.0	<b>∞</b> 2.06	20.5	175	1.0 Wetter	105.0	3	0	0
15/08/22	91		1.87	23.5	96.0	1.95	23.0	175	0.5 Wetter	102.0	0	0	0
15/08/22	92	Refer to #9005/058A	2.02	26.0	102.0	1.98	25.5	175	0.5 Wetter	102.0	0	0	300
15/08/22	93	locations.	1.99	24.5	100.0	1.99	24.0	175	0.5 Wetter	102.0	0	0	300
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
NOTES:	Claye	ey Fill Ex. Onsite				Compactio	n specimens	s sampled	l after comp	action.			
	Test s	ites located - Geolab Procedure 4, F	Part 4.4.			Start Time:	8:30am I	-inish Tim	e: 9:15am				
A Hilf Rap	oid Co	mpaction test was carried out on	a sample	taken from	each Field	Density loca	tion to obtai	n the Con	npaction Pa	rameters ta	bulated	d on this	Report.
This Repo	ort Sup	persedes Report # 9005/057				Moistu	re Content:	AS 1289	2.1.1				
Soil Layer	Soil Layer thickness: 200mm Compaction Test: AS 1289 5.7.1 Mill .												
Hilf Densi	ty Rat	io and Hilf Moisture Variation ,Hil	f Adjusted	(APCWD)	& Peak (PC	WD) Conve	erted Wet De	ensity AS	1289 5.7.1		ſ	/00	
Field Den	sity, N	uclear Gauge: AS 1289 5.8.1				Accredited	l for complian	ce with ISO/	/IEC		MIC	K CROV	VE
Materials	Samp	led:AS 1289 1.2.1 Clause 6.4(b	)		NATA	<u>17025 - Te</u>	esting				(Approv	ed Sign	atory)
	s APC	CWD				<u>NATA Acc</u>	redited Labor	atory Numb	<u>er 14561</u>		Issue D	ate: 24/10/	2023
<b>*</b>					ACCREDITATIO	ED DN							





SCALE: NTS FIGURE No: 2 of 2



### **GEOTECHNICAL LABORATORIES**

#### ACN 102 571 077

REPORT NO.: # 9005/065A

14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au PH: (03) 8361-9140

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	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)
17/08/22	94		2.06	23.0	100.0	2.06	21.5	175	1.5 Wette	r 108.0	0	0	800
17/08/22	95		2.03	26.5	101.5	2.00	24.0	175	2.5 Wette	r 110.5	0	0	800
17/08/22	96	Refer to #9005/066A	1.91	27.5	97.5	1.96	25.5	175	2.0 Wette	r 108.0	0	0	200
17/08/22	97	locations.	1.93	26.5	99.5	1.95	26.0	175	0.5 Wette	r 102.0	0	0	200
-	-		-	-	-	-	-	-	-	-	-	-	
-	-		-	-	-	-	-	-	-	-	-	-	-
NOTES:	Claye	y Fill Ex. Onsite				Compaction	n specimens	s sampled	after com	paction.			
		Ites located - Geolab Procedure 4, F	'art 4.4.			Start Time:	11:30am	Finish Ti	ne: 12:30p				<b></b>
A Hilf Rap	id Coi	npaction test was carried out on	a sample	taken from	each Field I	Jensity loca	tion to obtai	n the Con	npaction P	arameters ta	abulated	on this	Report.
This Repo	ort Sup	ersedes Report # 9005/065				Moistu	re Content:	AS 1289	2.1.1				
Soil Layer	yer thickness: 200mm Compaction Test: AS 1289 5.7.1 Mill												
Hilf Densi	ty Rati	o and Hilf Moisture Variation ,Hil	f Adjusted	(APCWD)	& Peak (PC	WD) Conve	erted Wet De	ensity AS	1289 5.7.1		l	/	
Field Den	sity, N	uclear Gauge: AS 1289 5.8.1				Accredited	l for complian	ce with ISO/	TEC		MIC	K CROW	/E
Materials	terials Sampled : AS 1289 1.2.1 Clause 6.4(b)												
₩					ACCREDITED FOR	<u>NATA Acc</u>	redited Labor	atory Numb	er 14561		Issue D	ate: 24/10/	2023
*					COMPETENCE								







### **GEOTECHNICAL LABORATORIES**

ACN 102 571 077

REPORT NO.: # 9005/067A

14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au PH: (03) 8361-9140

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	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)
18/08/22	98		1.91	24.5	95.5	<b>∞</b> 2.00	23.5	175	1.0 Wette	104.0	3	0	0
18/08/22	99		1.94	26.5	98.0	⊯ 1.98	25.0	175	2.0 Wette	107.0	4	0	0
18/08/22	100	Refer to #9005/068A	1.87	25.5	95.5	1.96	24.5	175	1.0 Wette	104.0	0	0	0
18/08/22	101	locations.	1.87	23.5	97.0	1.93	24.5	175	1.0 Drier	96.0	0	0	400
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
NOTES:	Claye	ey Fill Ex. Onsite				Compaction	n specimens	s sampled	l after comp	action.			
	Test s	ites located - Geolab Procedure 4, F	Part 4.4.			Start Time:	1:40pm	Finish Tin	ne: 1:30pm				
A Hilf Rap	id Co	mpaction test was carried out on	a sample	taken from	each Field	Density loca	tion to obtai	n the Con	npaction Pa	arameters ta	abulated	I on this	Report.
This Repo	ort Sup	ersedes Report # 9005/067				Moistu	re Content:	AS 1289	2.1.1				
Soil Layer	Soil Layer thickness: 200mm Compaction Test: AS 1289 5.7.1 Million										•		
Hilf Densi	ty Rati	o and Hilf Moisture Variation ,Hil	f Adjusted	(APCWD)	& Peak (PC	WD) Conve	erted Wet De	ensity AS	1289 5.7.1		1		
Field Den	sity, N	uclear Gauge: AS 1289 5.8.1				Accredited	l for complian	ce with ISO	/IEC		MIC	K CROV	VE
Materials	Samp	ed: AS 1289 1.2.1 Clause 6.4(b	)		NATA	<u>17025 - Te</u>	esting_				(Approv	ed Sign	atory)
✤ Indicate	Matrix APCWD Matrix Approximate Natrix Accredited Laboratory Number 14561 Issue Date: 24/10/2023											2023	
*					ACCREDITATIO	DN .							







### **GEOTECHNICAL LABORATORIES**

ACN 102 571 077

REPORT NO.: # 9028/002A

14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au PH: (03) 8361-9140

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATIO FROM OPTIMU MOISTUF CONTEN (%)	N MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
7/09/22	1		1.96	23.0	106.0	<b>∞</b> 1.85	26.5	175	3.5 Dr	er 87.0	7	0	0
7/09/22	2		1.96	18.5	105.0	1.86	21.5	175	3.0 Dr	er 86.0	0	0	0
7/09/22	3	Refer to #9028/003A	1.94	21.0	104.0	1.87	24.0	175	3.0 Dr	er 87.0	0	0	0
7/09/22	4	locations.	1.97	25.0	105.0	1.88	27.0	175	2.0 Dr	er 91.5	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
NOTES:	Claye	ey Fill Ex. Onsite				Compactio	n specimens	s sampled	after co	paction.			
	Test s	ites located - Geolab Procedure 4, P	Part 4.4.			Start Time:	9:40am I	-inish Tim	e: 11:00	m			
A Hilf Rap	id Co	mpaction test was carried out on	a sample	taken from	each Field	Density loca	tion to obtai	n the Con	npaction	Parameters ta	abulated	d on this	Report.
This Repo	ort Sup	ersedes Report # 9028/002				Moistu	re Content:	AS 1289	2.1.1				
Soil Layer	Soil Layer thickness: 200mm Compaction Test: AS 1289 5.7.1 Million												
Hilf Densi	ty Rati	o and Hilf Moisture Variation ,Hil	f Adjusted	(APCWD)	& Peak (PC	WD) Conve	erted Wet De	ensity AS	1289 5.7	1	1		
Field Den	sity, N	uclear Gauge: AS 1289 5.8.1				Accredited	l for complian	ce with ISO/	TEC .		MIC	K CROV	VE
Materials	Samp	ed: AS 1289 1.2.1 Clause 6.4(b	)		NATA	<u>17025 - Te</u>	esting				(Approv	ed Sign	atory)
✤ Indicate	s APC	WD				<u>NATA Acc</u>	redited Labor	atory Numbe	<u>er 14561</u>		Issue D	ate: 23/10/	2023
*					ACCREDITATIO	ED DN							





SCALE: NTS FIGURE No: 2 of 2



### **GEOTECHNICAL LABORATORIES**

ACN 102 571 077

REPORT NO.: # 9028/004A

14 Ravenhall Way, Ravenhall, Vic 3023 Email: info@geolab.com.au PH: (03) 8361-9140

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIAT FRO OPTIM MOIST CONTE (%)	TION M IUM JRE ENT	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
9/09/22	5	Refer to #9028/005A for approx. test site locations.	2.01	26.5	107.5	1.87	27.5	175	1.0	Drier	96.5	0	0	500	
9/09/22	6		1.88	27.5	102.5	1.84	29.0	175	1.5 [	Drier	95.5	0	0	500	
9/09/22	7		2.03	26.5	108.0	1.88	27.0	175	0.5	Drier	98.0	0	0	500	
9/09/22	8		1.97	20.0	105.0	<b>₩</b> 1.88	24.0	175	4.0 C	Drier	84.0	4	0	0	
9/09/22	9		1.91	26.0	102.0	1.88	28.0	175	2.5	Drier	92.0	0	0	0	
-	-		-	-	-	-	-	-	-		-	-	-	-	
NOTES:   Clayey Fill Ex. Onsite     Compaction specimens sampled after compaction.															
Test sites located - Geolab Procedure 4, Part 4.4.   Start Time: 8:30am   Finish Time: 9:40am															
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.															
This Report Supersedes Report # 9028/004   Moisture Content: AS 1289 2.1.1															
Soil Layer thickness: 200mm Compaction Test: AS 1289 5.7.1 Million															
Hilf Density Ratio and Hilf Moisture Variation, Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1															
Field Den	sity, N	uclear Gauge: AS 1289 5.8.1	Accredited	Accredited for compliance with ISO/IEC					MICK CROWE						
Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)						<u>17025 - Testing</u>						(Approved Signatory)			
✤ Indicates APCWD						<u>NATA Acc</u>	NATA Accredited Laboratory Number 14561						Issue Date: 23/10/2023		
*					ACCREDITATIO	ED IN									



