

# CIVIL GEOTECHNICAL SERVICES ABN 26 474 013 724 PO Box 678 Croydon Vic 3136 Telephone: 9723 0744 Facsimile: 9723 0799

22<sup>nd</sup> April 2022

Our Reference: 22057:NB1221

Winslow Constructors Pty Ltd 50 Barry Road CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

#### RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING 85 – 109 FARM ROAD – STAGE 3B (WERRIBEE)

Please find attached our Report No's 22057/R001 to 22057/R006 which relate to the field density testing that was conducted within the filled allotments at the above subdivision. The level 1 inspections and associated field density testing commenced in January 2022 and was completed in February 2022.

The inspections and testing of the earthworks was undertaken in general accordance with the Level 1 requirements of AS 3798 - Guidelines on Earthworks for Commercial and Residential Developments.

The site inspection and testing was performed by experienced geotechnicians from this office. Any areas that were deemed unsatisfactory were reworked and retested under their supervision. The testing was performed to the relevant Australian Standards and the accompanying test reports carry NATA endorsement. The attached compaction results, which were located randomly throughout the fill profile, are considered to be representative of the bulk fill materials that were placed across the reported allotments by Winslow Constructors during the aforementioned period. The approximate locations of the field density tests can be seen on the attached plan (Figure 1).

We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Nick Brock

# FIGURE 1







VIL GEOTEC	HNICAL SERVICES	Jo R	)b No eport No	22057 22057/R0(				
8 Rose Avenue	e. Croydon 3136	_			_	D	ate Issued	09/02/2022
Client Project Location	WINSLOW CONSTRUCT 85 - 109 FARM ROAD - S WERRIBEE	ORS F 3TAGE	PTY LTD (CA 3B	MPBELLFIE	:LD)	Te Di C	ested by ate tested hecked by	NB 28/01/22 JHF
Feature	EARTHWORKS		Lay	er thickness	200	mm	Time:	13:05
Test procedu	ure AS 1289.2.1.1 & 5.8.	1						
1est inu			<b>ب</b> ب	<u> </u>		+	<u> </u>	<u> </u>
LUcanon			REFER TO FIGURE 1	REFER TO FIGURE 1				
Approximate (	depth below FSL							L
Measurement	t depth		175	175	175	175	175	175
Field wet aern	sity	<u>t/m</u> •	1.86	1.88	1.8/	1.93	1.89	1.87
Test procedu	ure AS 1289.5.7.1	70						20.0
Test No	~~ .			2	3 Star	4	5	б
Compactive e	ttort		10.0	10.0	Sian		10.0	100
Dercent of OV	letallieu un sieve versize material	wet	0	19.0 N	19.0 N	0	0	0
Peak Convert	ted Wet Density	t/m <sup>3</sup>	1.90	1.92	1.94	1.98	1.95	1.94
Adjusted Pea	k Converted Wet Density	t/m <sup>3</sup>	- <sup>1</sup>	-	-	-	-	-
Optimum Mois	sture Content	%	17.5	19.5	23.5	22.0	18.5	21.5
	ture Variation From		0.0%	1.5%	2.0%	1.5%	0.0%	1.0%
WOISt	um Moisture Content		1 '	dry	dry	dry	'	dry
Optimu				/		not to the f	I donth of the	
Optimu density	and moisture ratio results	·elate c	nly to the so	il to the depti	h of test and	not to the fu		= layer



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Approved Signatory : Justin Fry



VIL GEOTECHNICAL SERVICES 8 Rose Avenue, Croydon 3136	5 F C	Report No Date Issued	22057/R002 02/02/2022				
ClientWINSLOW CONSTRUCProject85 - 109 FARM ROAD -LocationWERRIBEE	STORS I STAGE	PTY LTD (CA 3B	AMPBELLFIE	ELD)	Т С С	ested by Date tested Checked by	NB 31/01/22 JHF
Feature EARTHWORKS		Lay	er thickness	200	mm	Time:	13:04
Test procedure AS 1289.2.1.1 & 5.8	3.1						
Test No		7	8	9	10	11	12
Location		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE <sup>2</sup>
Approximate depth below FSL							
Measurement depth	тт	175	175	175	175	175	175
Field wet density	t/m³	1.95	1.89	1.92	1.81	1.92	1.86
Test procedure AS 1289.5.7.1	/0	20.2	10.5	13.4	14.1	10.4	13.7
Test No		7	8	9	10	11	12
Compactive effort				Stan	dard		
Oversize rock retained on sieve	тт	19.0	19.0	19.0	19.0	19.0	19.0
	wet	0	0	0	0	0	0
Percent of oversize material						4 00	1 0 2
Percent of oversize material Peak Converted Wet Density	t/m³	2.00	1.96	2.00	1.83	1.99	1.92
Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density	t/m <sup>3</sup> t/m <sup>3</sup>	2.00	1.96 -	2.00	1.83 -	-	-
Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density Optimum Moisture Content	t/m³ t/m³ %	2.00 - 22.0	1.96 - 18.0	2.00 - 17.0	1.83 - 16.0	- 17.0	- 17.0
Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density Optimum Moisture Content Moisture Variation From	<u>t/m³</u> <u>t/m³</u> %	2.00 - 22.0 1.5%	1.96 - 18.0 0.5%	2.00 - 17.0 1.5%	1.83 - 16.0 2.0%	1.99 - 17.0 0.5%	- - 17.0
Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density Optimum Moisture Content Moisture Variation From Optimum Moisture Content	<u>t/m³</u> <u>t/m³</u> %	2.00 - 22.0 1.5% dry	1.96 - 18.0 0.5% wet	2.00 - 17.0 1.5% dry	1.83 - 16.0 2.0% dry	0.5% dry	1.92 - 17.0 1.5% dry
Percent of oversize material Peak Converted Wet Density Adjusted Peak Converted Wet Density Optimum Moisture Content Moisture Variation From Optimum Moisture Content density and moisture ratio results	t/m <sup>3</sup> t/m <sup>3</sup> %	2.00 - 22.0 1.5% dry only to the so	1.96 - 18.0 0.5% wet il to the dept	2.00 - 17.0 1.5% dry h of test and	1.83 - 16.0 2.0% dry not to the fu	0.5% dry	1.5% 17.0

No 7 - 12 Clay Fill



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VIL GEOTE	CHNICAL SERVICES ue, Croydon 3136					Ri Di	eport No ate Issued	22057/R0 08/02/202	
Client Project Location	WINSLOW CONSTRUC 85 - 109 FARM ROAD - 3 WERRIBEE	TORS STAGE	PTY LTD (CA 3B	AMPBELLFIE	ELD)	Te De Ce	ested by ate tested hecked by	JB 01/02/22 JHF	
Feature	EARTHWORKS	<i>Layer thickness</i> 200 mm				mm	Time:	13:00	
Test proce	dure AS 1289.2.1.1 & 5.8.	1							
Test No			13	14	15	16	17	18	
Location			REFER TO FIGURE 1	REFER TO FIGURE					
Approximate	e depth below FSL		475	475	475	475	475	475	
Measureme.	nt deptn	mm	175	175	175	1/5	175	175	
Field wet de Field moistu	re content	<i>v</i> ///°	12.1	11.0	14.3	1.98	13.9	15.4	
Test proce	dure AS 1289.5.7.1								
Test No			13	14	15	16	17	18	
Compactive	effort				Stan	dard			
Oversize roo	ck retained on sieve	тт	19.0	19.0	19.0	19.0	19.0	19.0	
Percent of o	versize material	wet	0	0	0	0	0	0	
Peak Conve	erted Wet Density	t/m³	1.93	1.95	2.02	2.01	2.03	2.07	
Adjusted Pe	ak Converted Wet Density	t/m³	-	-	-	-	-	-	
Optimum Me	oisture Content	%	14.5	13.5	16.5	15.0	16.0	17.5	
Moi	sture Variation From		2.5%	2.5%	2.5%	0.5%	2.0%	2.0%	
Ontir	num Moisture Content		dry	dry	dry	dry	dry	dry	
Optil	ty and moisture ratio results	relate o	only to the so	il to the deptl	h of test and	not to the fu	II depth of the	e layer	
densi	.,								

No 13 - 18 Clay Fill



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Approved Signatory : Justin Fry



CIVIL GEOTECH	INICAL SERVICES						Job No Report No Date Issued	22057 22057/R004 08/02/2022
Client Project Location	WINSLOW CONSTRUC 85 - 109 FARM ROAD - S WERRIBEE	TORS I STAGE	PTY LTD (CA 3B	AMPBELLFIE	ELD)		Tested by Date tested Checked by	BS 02/02/22 JHF
Feature	e POOL VOID BACKFILL Layer thickness 200 mm						Time	: 10:49
Test procedu	re AS 1289.2.1.1 & 5.8.	1						
Test No			19	20	21	-	-	-
Location			REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate d	epth below FSL	т	0.4	0.2	fsl			
Measurement	depth	mm	175	175	175	-	-	-
Field wet dens	ity	t∕m³	1.94	1.86	2.00	-	-	-
Field moisture	content	%	18.7	18.2	17.5	-	-	-
Tari								
Test procedu	re AS 1289.5.7.1		10	20	04			1 1
Test No	fort		19	20	21	-	-	-
	10/1		10.0	10.0	Stan	dard		
Oversize rock			19.0	19.0	19.0	-		
Percent of ove	ISIZE Material	wet	0	0	0	-	-	-
Adjusted Dock	Converted Wet Density	t/m3	1.97	1.92	2.01		-	
Aujusieu Peak	ture Content	0/	- 10.5	-	-		-	
Opumum Mois		70	19.0	20.0	10.0	-	-	-
Moistu	re Variation From		0.5%	2.0%	1.0%	-	-	-
Optimu	m Moisture Content		dry	dry	dry			
density	and moisture ratio results	relate c	only to the so	il to the dept	h of test and	not to the	e full depth of th	e laver
Density Ratio	( <b>R</b> )	%	98.5	97.0	99.5			
Density Ratio	(R <sub>HD</sub> ) iption Clay Fill	%	98.5	97.0	99.5	-	-	-
							AVR	

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Approved Signatory : Justin Fry



CIVIL GEOTECH	INICAL SERVICES						Job No Report No Date Issued	22057 22057/R005 08/02/2022
Client Project Location	WINSLOW CONSTRUC 85 - 109 FARM ROAD - WERRIBEE	STORS I STAGE	PTY LTD (CA 3B	AMPBELLFIE	ELD)		Tested by Date tested Checked by	BS 02/02/22 JHF
Feature	DAM BACKFILL		Lay	er thickness	200	mm	Time:	10:53
Test procedu	re AS 1289.2.1.1 & 5.8	.1						
Test No			22	23	24	25	-	-
Location			REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE	1	
<b>A</b>				0.4		61		
Approximate d	dopth	 	0.0	0.4	0.2	15I 175		
Field wet dens	depin sity	t/m3	2.02	2.00	2.03	175	-	-
Field wei dens	content	<i>VIII</i> ° %	2.02	2.00	2.03	1.90	-	-
Test procedu Test No	re AS 1289.5.7.1		22	23	24	25	-	<u> </u>
Compactive ef	ffort				Star	Idard		
Oversize rock	retained on sieve	mm	19.0	19.0	19.0	19.0	-	-
Percent of ove	ersize material	wet	0	0	0	0	-	-
Peak Converte	ed Wet Density	t/m <sup>3</sup>	2.05	2.05	2.04	2.06	-	-
Adjusted Peak	Converted wet Density		-	-	-	-	-	-
Optimum Mois		%	10.5	14.5	16.0	15.0	-	-
						1		
Moistu	ure Variation From		2.0%	0.5%	2.0%	2.5%	-	-
Optimu	m Moisture Content		dry	dry	dry	dry		<u> </u>
density	and moisture ratio results	s relate o	only to the so	il to the depti	n of test and	not to the	full depth of the	e layer
Density Ratio	(R <sub>HD</sub> )	%	98.5	97.5	99.5	96.0	-	-
Material descri	iption 5 Clay Fill							
							AVRI	OT HILF V1.10 MAR 1



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CIVIL GEOTECHNICAL SERVICES	Job No Report No	22057 22057/R006
6 - 8 Rose Avenue, Croydon 3136	Date Issued	08/02/2022
Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	NB
Project 85 - 109 FARM ROAD - STAGE 3B	Date tested	03/02/22
Location WERRIBEE	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	<i>Time:</i> 08:51
-				

#### Test procedure AS 1289.2.1.1 & 5.8.1

Test No		26	27	28	29	30	31
Location							
		REFER	REFER	REFER	REFER	REFER	REFER
		ТО	то	ТО	то	ТО	то
		FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1	FIGURE 1
Approximate depth below FSL							
Measurement depth	тт	175	175	175	175	175	175
Field wet density	t∕m³	1.96	1.94	1.93	1.97	1.95	1.94
Field moisture content	%	16.1	17.6	19.5	25.3	19.2	17.0
Test No		26	27	28	29	30	31
Compactive effort			•	Star	dard	•	
Oversize rock retained on sieve	mm	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material	wet	0	0	0	0	0	0
Peak Converted Wet Density	t∕m³	2.02	2.00	1.99	2.01	1.99	2.00
Adjusted Peak Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Moisture Content	%	17.5	19.0	18.0	23.0	17.0	19.0
Moisture Variation From		1.5%	1.5%	1.5%	2.5%	2.0%	2.0%
Optimum Moisture Content		dry	dry	wet	wet	wet	dry
density and moisture ratio results	relate o	only to the so	il to the deptl	h of test and	not to the ful	I depth of the	e layer
							07.0

Material description

No 26 - 31 Clay Fill



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