

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

25th September 2023

Our Reference: 22779:NB1684

Winslow Constructors Pty Ltd 50 Barry Road CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING HARLOW - STAGE 2 (TARNEIT)

Please find attached our Report No's 22779/R001 to 23779/R007 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 February 2023 and was completed in July 2023.

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





JB 22/02/23	ate Issued		ום ו :				VIL GEOTECHNICAL SERVICES 8 Rose Avenue, Croydon 3136 Client WINSLOW CONSTRUC					
22/02/23 JHF	te tested	Da	LD)		PTT LTD (CA	IUKS	Project HARLOW - STAGE 2 Location TARNEIT					
09:00	Time:	mm	200	er thickness	Lay		Feature EARTHWORKS					
						1	Test procedure AS 1289.2.1.1 & 5.8.					
6	5	4	3	2	1		Test No					
REFER TO FIGURE 1		Location										
							Approximate depth below FSL					
175	175	175	175	175	175	тт	Measurement depth					
1.76 22.1	1.77 18.2	1.73 20.6	1.72 19.6	1.75 25.4	1.78 21.0	t/m³ %	Field wet density Field moisture content					
6	5	4 dard	3 Stan	2	1		Test procedure AS 1289.5.7.1 Test No Compactive effort					
19.0	19.0	19.0	19.0	19.0	19.0	mm	Oversize rock retained on sieve					
0	0	0	0	0	0	wet	Percent of oversize material					
1.85	1.83	1.80	1.77	1.79	1.81	t∕m³	Peak Converted Wet Density					
-	-	-	-	-	-	t∕m³	Adjusted Peak Converted Wet Density					
23.0	20.5	23.0	21.5	27.0	23.0	%	Optimum Moisture Content					
1.0%	2.0%	2.0%	2.0%	2.0%	2.0%		Moisture Variation From					
dry e layer	dry I depth of the	dry not to the ful	dry n of test and	dry I to the depth	dry only to the so	relate c	Optimum Moisture Content density and moisture ratio results					
95.5	96.5	96.0	97.0	97.5	98.0	%	Density Ratio(R _{HD})					
	dry I depth of th	dry not to the ful	dry n of test and	dry I to the depth	dry only to the so		Optimum Moisture Content					



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NSLOW CONSTRUC RLOW - STAGE 2 RNEIT RTHWORKS					Da	ested by ate tested necked by	JB 23/02/23 JHF
RTHWORKS							
		Lay	er thickness	200	mm	Time:	12:00
S 1289.2.1.1 & 5.8.	1	7	0		10	44	40
		1	8	9	10	11	12
		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1
		475	475	475	475	475	475
ท							175
tent							1.84 18.9
S 1289.5.7.1		7	8	9 Stan	10 dard	11	12
ined on sieve	mm	19.0	19.0	19.0	19.0	19.0	19.0
e material	wet	0	0	0	0	0	0
	t∕m³	1.83	1.87	1.88	1.88	1.85	1.87
,	t∕m³	-	-	-	-	-	-
Content	%	19.0	25.5	24.0	21.5	23.5	19.5
		0.0%	2.0%	2.0%	2.5%	0.0%	0.5% dry
	relate c	only to the so				l depth of the	
		-	-			-	98.5
	a below FSL th tent AS 1289.5.7.1 ined on sieve e material /et Density nverted Wet Density Content /ariation From /oisture Content	th mm t/m³ tent % AS 1289.5.7.1 ined on sieve mm e material wet /et Density t/m³ nverted Wet Density t/m³ Content % /ariation From loisture Content moisture ratio results relate c	7REFER TO FIGURE 1a below FSLththmm175t/m³1.78tent%19.2AS 1289.5.7.17ined on sievemm19.0e materialwet0/et Densityt/m³1.83nverted Wet Density1.83nverted Wet Density19.0/ariation From oisture Content0.0%oisture Contentmoisture ratio results relate only to the so	7 8 REFER TO FIGURE 1 REFER TO FIGURE 1 REFER TO FIGURE 1 <i>n below FSL</i>	7 8 9 REFER TO FIGURE 1 REFER TO FIGURE 1 REFER TO FIGURE 1 REFER TO FIGURE 1 REFER TO FIGURE 1 n below FSL	7 8 9 10 REFER TO FIGURE 1 TO FIGURE 1 TO FIGURE 1 FIGURE 1 FIGURE 1 n below FSL 175 175 175 175 th mm 175 175 175 175 175 tent % 19.2 23.5 21.9 18.7 NS 1289.5.7.1 7 8 9 10 Standard ined on sieve mm 19.0 19.0 19.0 ematerial wet 0 0 0 0 ematerial 1.83 1.87 1.88 1.88 nerted Wet Density t/m³ - - - - Variation From </td <td>7 8 9 10 11 REFER TO FIGURE 1 TO FIGURE 1 FIGURE 1</td>	7 8 9 10 11 REFER TO FIGURE 1 TO FIGURE 1 FIGURE 1



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	HNICAL SERVICES <u>e, Croydon 3136</u> WINSLOW CONSTRUC HARLOW - STAGE 2 TARNEIT	TORS	PTY LTD (C/	AMPBELLFIE	Da Te Da	eport No ate Issued ested by ate tested hecked by	22779/R00 01/03/23 JB 24/02/23 JHF	
Feature	EARTHWORKS		Lay	er thickness	200	mm	Time:	07:00
•	ure AS 1289.2.1.1 & 5.8.	1	40		45	40	47	
Test No			13	14	15	16	17	18
Location			REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1
Approximate (depth below FSL							
Measurement		тт	175	175	175	175	175	175
Field wet den	sity	t∕m³	1.83	1.83	1.85	1.84	1.90	1.86
Field moisture		%	21.0	20.0	16.9	19.2	15.8	19.1
Test No	ure AS 1289.5.7.1		13	14	15	16	17	18
Compactive e	ffort		10	17	-	Idard	17	10
	retained on sieve	mm	19.0	19.0	19.0	19.0	19.0	19.0
	ersize material	wet	0	0	0	0	0	0
Peak Convert	ed Wet Density	t∕m³	1.84	1.87	1.88	1.86	1.92	1.91
Adjusted Peal	k Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Mois	sture Content	%	23.5	20.5	18.0	21.0	16.5	20.5
Moist	ure Variation From		2.5%	0.5%	1.0%	2.0%	0.5%	1.5%
Optimu	Im Moisture Content		dry	dry	dry	dry	dry	dry
density	and moisture ratio results	relate o	only to the so	il to the dept	h of test and	not to the fu	ll depth of the	e layer
Donaity Dati	о (R _{HD})	%	100.0	98.0	98.5	99.0	99.0	97.5



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Project H	ICAL SERVICES roydon 3136 /INSLOW CONSTRUC ARLOW - STAGE 2 ARNEIT	TORS	PTY LTD (CA	AMPBELLFIE	Da Te Da	eport No ate Issued ested by ate tested necked by	22779/R00 30/05/23 JB 19/05/23 JHF	
Feature E	ARTHWORKS		Lay	er thickness	200	mm	Time:	10:00
-	AS 1289.2.1.1 & 5.8.	1						
Test No			19	20	21	22	23	24
Location			REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1
Approximate dep	th below FSL							
Measurement de		mm	175	175	175	175	175	175
Field wet density		t/m³	1.94	1.94	2.02	1.97	1.99	1.99
Field moisture co		%	22.3	22.9	21.7	22.3	23.1	23.7
Test procedure	AS 1289.5.7.1							
Test No			19	20	21	22	23	24
Compactive effor	t				Stan	dard		-
Oversize rock ret	tained on sieve	тт	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversi	ize material	wet	0	0	0	0	0	0
Peak Converted		t∕m³	1.98	1.96	2.05	2.02	2.04	2.01
	onverted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Moistur	re Content	%	24.5	25.5	24.0	25.0	25.5	26.0
	Variation From		2.0%	2.0%	2.0%	2.5%	2.0%	2.0%
	Moisture Content		dry	dry	dry	dry	dry	dry
density and	d moisture ratio results	relate o	only to the so	il to the dept	h of test and	not to the fu	ll depth of the	e layer
Density Ratio (R _{HD})	%	98.0	99.0	98.5	97.5	97.0	99.0



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	CHNICAL SERVICES nue, Croydon 3136			Job No Report No Date Issued	22779 22779/R005 30/08/23
Client Project Location	WINSLOW CONSTRUCTOR HARLOW - STAGE 2 TARNEIT	Tested by Date tested Checked by	JB 25/07/23 JHF		
Feature	EARTHWORKS	Layer thickness	200 mm	Time	e: 07:30

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		25	26	27	-	-	-
Location		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL							
Measurement depth	mm	175	175	175	-	-	-
Field wet density	t∕m³	2.06	2.07	2.02	-	-	-
Field moisture content	%	19.2	17.8	18.9	-	-	-

Test procedure AS 1289.5.7.1

Test No		25	26	27	-	-	-
Compactive effort				Star	ndard		
Oversize rock retained on sieve	mm	19.0	19.0	19.0	-	-	-
Percent of oversize material	wet	0	0	0	-	-	-
Peak Converted Wet Density	t∕m³	2.10	2.09	2.06	-	-	-
Adjusted Peak Converted Wet Density	t∕m³	-	-	-	-	-	-
Optimum Moisture Content	%	21.5	20.0	21.0	-	-	-

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer Density Ratio (R _{HD}) % 98.0 99.5 98.0 - - - -											
Optimum Moisture Content		dry	dry	dry							
Moisture Variation From		2.0%	2.5%	2.0%	-	-	-				

Material description

No 25 - 27 Clay Fill



NATA Accredited Laboratory No 9909 Accredited for compliance with ISO/IEC 17025 - Testing

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	CHNICAL SERVICES nue, Croydon 3136			Job No Report No Date Issued	22779 22779/R006 29/08/23
Client Project Location	WINSLOW CONSTRUCTO HARLOW - STAGE 2 TARNEIT		Tested by Date tested Checked by	JB 26/07/23 JHF	
Feature	EARTHWORKS	Layer thickness	200 mm	Time	: 09:30

Test No		28	29	30	-	-	-
Location		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL							
Measurement depth	mm	175	175	175	-	-	-
Field wet density	t/m³	1.93	1.92	1.91	-	-	-
Field moisture content	%	19.2	16.2	19.3	-	-	-
Test procedure AS 1289.5.7.1							
Test No		28	29	30	-	-	-
Compactive effort				Stan	dard	· · · · · · · · · · · · · · · · · · ·	

	20		00			
			Star	Idard		
mm	19.0	19.0	19.0	-	-	-
wet	0	0	0	-	-	-
t∕m³	1.99	1.96	1.95	-	-	-
t∕m³	-	-	-	-	-	-
%	22.0	19.0	22.0	-	-	-
	wet t/m³ t/m³	mm 19.0 wet 0 t/m³ 1.99 t/m³ -	mm 19.0 19.0 wet 0 0 t/m³ 1.99 1.96 t/m³ - -	mm 19.0 19.0 19.0 19.0 wet 0 0 0 0 t/m³ 1.99 1.96 1.95 t/m³ - - -	mm 19.0 19.0 19.0 - wet 0 0 0 - t/m³ 1.99 1.96 1.95 - t/m³ - - - -	Standard mm 19.0 19.0 19.0 - - wet 0 0 0 - - - t/m³ 1.99 1.96 1.95 - - - t/m³ - - - - - - -

Density Ratio (R _{HD})	%	97.0	98.0	98.0	-	-	-			
density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer										
Optimum Moisture Content		dry	dry	dry						
Moisture Variation From		2.5%	2.5%	2.5%	-	-	-			

Material description

No 28 - 30 Clay Fill



NATA Accredited Laboratory No 9909 Accredited for compliance with ISO/IEC 17025 - Testing

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CIVIL GEOTECHNICAL SERVICES - 8 Rose Avenue, Croydon 3136 Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Project HARLOW - STAGE 2 Location TARNEIT						Job No Report No Date Issued Tested by Date tested Checked by	22779 22779/R007 29/08/23 JB 28/07/23 JHF
ıre AS 1289.2.1.1 & 5.8	. 1						
		31	32	33	-	-	-
		REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
lepth below FSL							
	mm	175	175	175	-	-	-
					-	_	_
	%	22.8	26.5	26.1	-	-	-
							•
Ire AS 1289.5.7.1		24	22	22			
ffart		51	32			-	-
		10.0	10.0	r			
							-
		1.37	2.02	2.05			
		25.5	27.0	28.5			
	70	20.0	21.0	20.0			
ure Variation From		2.5%	0.0%	2.5%	-	-	-
m Moisture Content		dry	0.070	dry			
		ž	il to the dept		not to the	full depth of th	ne layer
and moisture ratio results	relate of	only to the so		in on toot and		•	•
	WINSLOW CONSTRUC HARLOW - STAGE 2 TARNEIT EARTHWORKS Jean Content depth below FSL depth sity content ure AS 1289.5.7.1 ffort retained on sieve prsize material ed Wet Density k Converted Wet Density sture Content	WINSLOW CONSTRUCTORS HARLOW - STAGE 2 TARNEIT EARTHWORKS depth below FSL depth below FSL depth mm sity t/m ³ e content % ure AS 1289.5.7.1 ffort retained on sieve mm ersize material wet ed Wet Density t/m ³ k Converted Wet Density t/m ³ sture Content %	WINSLOW CONSTRUCTORS PTY LTD (C/ HARLOW - STAGE 2 TARNEIT EARTHWORKS Lay Ure AS 1289.2.1.1 & 5.8.1 Clepth below FSL Clepth below FSL Clepth below FSL Clepth mm 175 sity t/m ³ 1.96 content % 22.8 Ure AS 1289.5.7.1 Tretained on sieve mm 19.0 crisize material wet 0 ed Wet Density t/m ³ 1.97 k Converted Wet Density t/m ³ - sture Content % 25.5	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIE HARLOW - STAGE 2 TARNEIT Layer thickness Layer thickness Ine AS 1289.2.1.1 & 5.8.1 REFER REFER TO FIGURE 1 AREFER TO FIGURE 1 Colspan="2">REFER TO FIGURE 1 Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2">Colspan="2"Cols	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) HARLOW - STAGE 2 TARNEIT EARTHWORKS Layer thickness 200 Ire AS 1289.2.1.1 & 5.8.1 31 32 33 Ire AS 1289.2.1.1 & 5.8.1 REFER TO FIGURE 1 REFER TO FIGURE 1	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) HARLOW - STAGE 2 TARNEIT EARTHWORKS Layer thickness 200 mm EARTHWORKS Layer thickness 200 mm Ire AS 1289.2.1.1 & 5.8.1 REFER TO FIGURE 1 REFER TO FIGURE 1 REFER TO FIGURE 1 REFER TO FIGURE 1 REFER TO FIGURE 1 REFER TO FIGURE 1 Colspan="2">Colspan="2"Colspan=	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Tested by Date tested TARNEIT WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Tested by Date tested Checked by EARTHWORKS Layer thickness 200 mm Time EARTHWORKS Layer thickness 200 mm Time Ire AS 1289.2.1.1 & 5.8.1 REFER TO FIGURE 1 REFER TO FIGURE 1 REFER TO FIGURE 1 FIGURE 1 depth below FSL depth mm 175 - depth mm 175 - sity t/m³ 1.96 2.00 1.99 - depth mm 175 - - depth mm 175 - depth mm 175 - depth mm



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