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

26th April 2022

Our Reference: 21743:NB1231

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
MARIGOLD – STAGE 5 (TARNEIT)

Please find attached our Report No's 21743/R001 to 21743/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 October 2021 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).

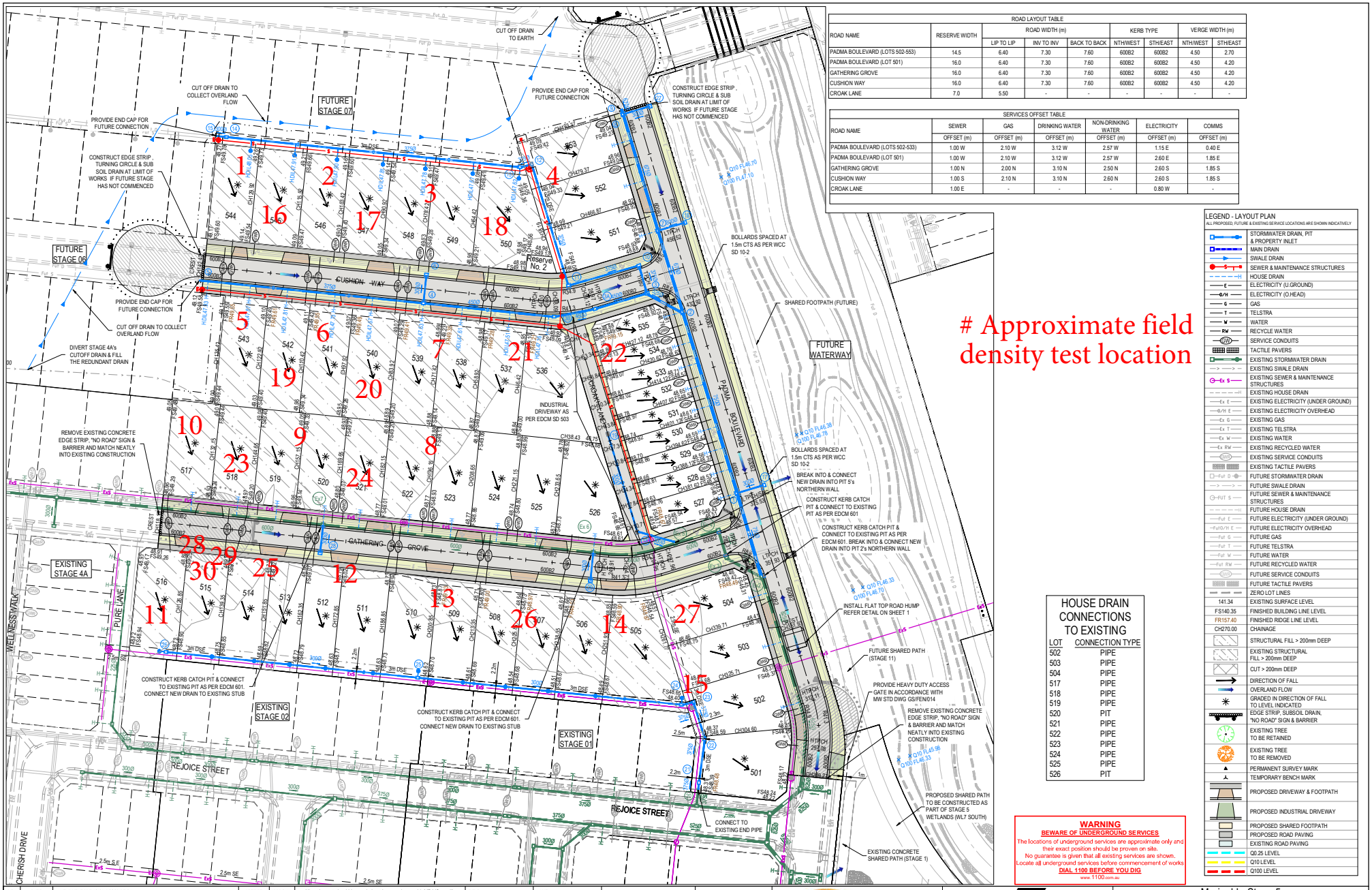
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Nick Brock

FIGURE 1



ROAD LAYOUT TABLE

ROAD NAME	RESERVE WIDTH	ROAD WIDTH (m)			KERB TYPE		VERGE WIDTH (m)	
		LIP TO LIP	INV TO INV	BACK TO BACK	NTH/WEST	STH/EAST	NTH/WEST	STH/EAST
PADMA BOULEVARD (LOTS 502-553)	14.5	6.40	7.30	7.60	600B2	600B2	4.50	2.70
PADMA BOULEVARD (LOT 501)	16.0	6.40	7.30	7.60	600B2	600B2	4.50	4.20
GATHERING GROVE	16.0	6.40	7.30	7.60	600B2	600B2	4.50	4.20
CUSHION WAY	16.0	6.40	7.30	7.60	600B2	600B2	4.50	4.20
CROAK LANE	7.0	5.50	-	-	-	-	-	-

SERVICES OFFSET TABLE

ROAD NAME	SEWER	GAS	DRINKING WATER	NON-DRINKING WATER	ELECTRICITY	COMMS
	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)
PADMA BOULEVARD (LOTS 502-533)	1.00 W	2.10 W	3.12 W	2.57 W	1.15 E	0.40 E
PADMA BOULEVARD (LOT 501)	1.00 W	2.10 W	3.12 W	2.57 W	2.60 E	1.85 E
GATHERING GROVE	1.00 N	2.00 N	3.10 N	2.50 N	2.60 S	1.85 S
CUSHION WAY	1.00 S	2.10 N	3.10 N	2.60 N	2.60 S	1.85 S
CROAK LANE	1.00 E	-	-	-	0.80 W	-

HOUSE DRAIN CONNECTIONS TO EXISTING

LOT	CONNECTION TYPE
502	PIPE
503	PIPE
504	PIPE
517	PIPE
518	PIPE
519	PIPE
520	PIT
521	PIPE
522	PIPE
523	PIPE
524	PIPE
525	PIPE
526	PIT

LEGEND - LAYOUT PLAN
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

- STORMWATER DRAIN, PIT & PROPERTY INLET
- MAIN DRAIN
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- ELECTRICITY (U.GROUND)
- ELECTRICITY (O.HEAD)
- GAS
- TELSTRA
- WATER
- RECYCLE WATER
- SERVICE CONDUITS
- TACTILE PAVERS
- EXISTING STORMWATER DRAIN
- EXISTING SWALE DRAIN
- EXISTING SEWER & MAINTENANCE STRUCTURES
- EXISTING HOUSE DRAIN
- EXISTING ELECTRICITY (UNDER GROUND)
- EXISTING ELECTRICITY OVERHEAD
- EXISTING GAS
- EXISTING TELSTRA
- EXISTING WATER
- EXISTING RECYCLED WATER
- EXISTING SERVICE CONDUITS
- EXISTING TACTILE PAVERS
- FUTURE STORMWATER DRAIN
- FUTURE SWALE DRAIN
- FUTURE SEWER & MAINTENANCE STRUCTURES
- FUTURE HOUSE DRAIN
- FUTURE ELECTRICITY (UNDER GROUND)
- FUTURE ELECTRICITY OVERHEAD
- FUTURE GAS
- FUTURE TELSTRA
- FUTURE WATER
- FUTURE RECYCLED WATER
- FUTURE SERVICE CONDUITS
- FUTURE TACTILE PAVERS
- ZERO LOT LINES
- 141.34 EXISTING SURFACE LEVEL
- FS140.35 FINISHED BUILDING LINE LEVEL
- FR157.40 FINISHED RIDGE LEVEL
- CH270.00 CHAINAGE
- STRUCTURAL FILL > 200mm DEEP
- EXISTING STRUCTURAL FILL > 200mm DEEP
- CUT > 200mm DEEP
- DIRECTION OF FALL
- OVERLAND FLOW
- GRADED IN DIRECTION OF FALL TO LEVEL INDICATED
- EDGE STRIP, SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY & FOOTPATH
- PROPOSED INDUSTRIAL DRIVEWAY
- PROPOSED SHARED FOOTPATH
- PROPOSED ROAD PAVING
- EXISTING ROAD PAVING
- Q0.25 LEVEL
- Q10 LEVEL
- Q100 LEVEL

WARNING
BEWARE OF UNDERGROUND SERVICES
The 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.
Locate all underground services before commencement of works
DIAL 1100 BEFORE YOU DIG
www.1100.com.au

REV	DATE	AMENDMENT / REVISION DESCRIPTION	DES/DFT	APPROVAL
A	09.02.21	ISSUED TO COUNCIL FOR APPROVAL	ON/ON	ZG
B	29.03.21	PIPE SPLAY, LOT LEVELS, HDIL, ROAD HUMP, RIDGE WIDTH	RC/RC	CS
C	04.08.21	HATCH FIXED, Q10 & Q100 LEVELS SHOWN	SH/RC	CS
D	25.08.21	Q100 & Q10 FLOOD LEVEL, HD DRIVEWAY RELOCATED, EASEMENT	RC	CS
0	07.10.21	ISSUED FOR CONSTRUCTION	RC/DM	CS

ISSUED FOR CONSTRUCTION

All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent.

TITLE	NAME
DRAFTER	O.Nesci
DESIGNER	O.Nesci
CHECKED	E.Lam
AUTHORISED	B.Sanderson
WATER AUTHORITY REF.	
SMEC DRAWING REF.	

Scale 1:500 (0 5 10 20)
SCALE AS SHOWN AT A1

N

SMEC
Member of the Surbana Jurong Group
© ABN 47 065 475 149
Collins Square, Tower 4, Level 20, 727 Collins St
Melbourne, VIC 3008
Ph 03 9514 1500

GROWLAND

Marigold - Stage 5
Wyndham City Council
Road and Drainage
Layout Plan

MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
359 F9	2360E-05-02	02 of 20	0

DWG PATH: V:_Vault\Projects_Urban\2360E-Marigold\2360E-05\Dwgs\2360E-05-02.dwg
PRINTED BY: DM1595 on 07/10/2021 at 10:44:03 AM

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	21743
		Report No	21743/R001
		Date Issued	13/01/2022
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	MARIGOLD - STAGE 5	*Date tested*	28/10/21
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:00

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**1**	**2**	**3**	**-**	**-**	**-**
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*	1.95	1.94	1.86	-	-	-
Field moisture content	*%*	17.0	17.0	15.0	-	-	-

Test procedure AS 1289.5.7.1

Test No		1	2	3	-	-	-
Compactive effort		Standard					
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*	2.00	2.01	1.90	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	19.0	18.5	17.0	-	-	-

Moisture Variation From Optimum Moisture Content		2.0% dry	1.5% dry	2.0% dry	-	-	-

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})	*%*	**97.5**	**96.5**	**98.0**	**-**	**-**	**-**

Material description

No 1 - 3 Clay Fill

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

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	21743
		Report No	21743/R002
		Date Issued	13/01/2022
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	MARIGOLD - STAGE 5	*Date tested*	29/10/21
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:00

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**4**	**5**	**6**	**7**	**8**	**9**
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 depth	*mm*	175	175	175	175	175	175
Field wet density	*t/m³*	1.92	1.95	1.90	2.00	1.97	2.00
Field moisture content	*%*	18.8	19.4	19.1	15.8	18.4	17.3

Test procedure AS 1289.5.7.1

Test No		4	5	6	7	8	9
Compactive effort		Standard					
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*	1.99	2.01	1.97	2.05	2.03	2.04
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	19.0	20.5	21.0	17.0	20.5	19.0

Moisture Variation From Optimum Moisture Content	0.0%	1.5% dry	2.0% dry	1.0% dry	2.0% dry	1.5% dry

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})	*%*	**96.5**	**97.0**	**96.5**	**97.5**	**97.0**	**98.0**

Material description

No 4 - 9 Clay Fill

AVRLOT HILF V1.10 MAR 13

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

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	21743
		Report No	21743/R003
		Date Issued	13/01/2022
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	MARIGOLD - STAGE 5	*Date tested*	03/11/21
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:00

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**10**	**11**	**12**	**13**	**14**	**15**
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 depth	*mm*	175	175	175	175	175	175
Field wet density	*t/m³*	1.94	1.88	1.88	1.84	1.85	1.85
Field moisture content	*%*	30.9	28.6	27.8	28.9	30.7	25.9

Test procedure AS 1289.5.7.1

Test No		10	11	12	13	14	15
Compactive effort		Standard					
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*	1.99	1.91	1.92	1.91	1.90	1.90
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	30.0	28.5	28.0	27.0	29.5	24.5

Moisture Variation From Optimum Moisture Content		0.5% wet	0.0%	0.0%	1.5% wet	1.0% wet	1.5% wet

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})	*%*	**97.5**	**98.0**	**98.0**	**96.5**	**97.5**	**97.5**

Material description

No 10 - 15 Clay Fill

AVRLOT HILF V1.10 MAR 13

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

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	21743
		Report No	21743/R004
		Date Issued	13/01/2022
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	MARIGOLD - STAGE 5	*Date tested*	04/11/21
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:00

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**16**	**17**	**18**	**-**	**-**	**-**
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*	1.83	1.81	1.82	-	-	-
Field moisture content	*%*	23.2	22.5	22.0	-	-	-

Test procedure AS 1289.5.7.1

Test No		16	17	18	-	-	-
Compactive effort		Standard					
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*	1.89	1.89	1.91	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	25.0	25.0	24.0	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% dry	2.5% dry	2.0% dry	-	-	-

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})	*%*	**97.0**	**95.5**	**95.5**	**-**	**-**	**-**

Material description

No 16 - 18 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	21743
		Report No	21743/R005
		Date Issued	13/01/2022
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	MARIGOLD - STAGE 5	*Date tested*	05/11/21
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 07:30

Test procedure 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 depth below FSL							
Measurement depth	*mm*	175	175	175	175	175	175
Field wet density	*t/m³*	2.02	1.98	1.99	1.96	1.93	1.93
Field moisture content	*%*	23.4	22.9	23.3	25.1	24.3	22.8

Test procedure AS 1289.5.7.1

Test No		19	20	21	22	23	24
Compactive effort		Standard					
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*	2.09	2.02	2.02	2.03	1.98	1.99
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	22.5	23.5	22.0	24.5	24.5	25.5

Moisture Variation From Optimum Moisture Content		1.0% wet	0.5% dry	1.0% wet	0.5% wet	0.0%	2.5% dry

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})	*%*	**96.5**	**98.0**	**98.5**	**97.0**	**98.0**	**97.5**

Material description

No 19 - 24 Clay Fill

AVRLOT HILF V1.10 MAR 13

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

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	21743
		Report No	21743/R006
		Date Issued	13/01/2022
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	MARIGOLD - STAGE 5	*Date tested*	05/11/21
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 10:00

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*	1.92	1.95	2.04	-	-	-
Field moisture content	*%*	17.3	21.2	24.5	-	-	-

Test procedure AS 1289.5.7.1

Test No		25	26	27	-	-	-
Compactive effort		Standard					
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*	1.97	2.02	2.04	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	18.5	23.5	27.0	-	-	-

Moisture Variation From Optimum Moisture Content	1.5% dry	2.0% dry	2.0% dry	-	-	-

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})	*%*	**97.0**	**96.0**	**100.0**	**-**	**-**	**-**

Material description

No 25 - 27 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon, Vic 3136

		Job No	21743
		Report No	21743/R007
		Date Issued	15/02/2022
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	MARIGOLD - STAGE 5	*Date tested*	15/02/22
Location	TARNEIT	*Checked by*	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	11:00:30

AS 12892.1.1 & 5.8.1

Test No		**28**	**29**	**30**			
Location		Gathering Grove - Lot 515					
Approximate depth from F.S.L.	*m*	0.4	0.2	fsl			
Measurement depth	*mm*	175	175	175			
Field wet density	*t/m³*	2.30	2.26	2.29			
Field dry density	*t/m³*	2.05	2.05	2.06			
Field moisture content	*%*	12.0	10.0	11.5			

Laboratory Compaction AS 1289.5.1.1 & 5.4.2 Assigned Values (See Report No 40SMWVDH)

Date of assignment		17/01/2022
Material source and location		40mm Capping - MVQ, Wyndham Vale
Compactive effort		STANDARD
Maximum Dry Density	*t/m³*	2.08
Optimum Moisture Content	*%*	12.0

Test procedure AS 1289.5.4.1

Oversize rock retained on sieve	*mm*	37.5	37.5	37.5			
Percent of oversize material	*wet*	-	-	-			
Percent of oversize material	*dry*	-	-	-			
Adjusted Maximum Dry Density	*t/m³*	-	-	-			
Adjusted Optimum Moisture Content	*%*	-	-	-			

Moisture Variation From Optimum Moisture Content	0.0% wet	1.5% dry	0.5% dry			
Moisture Ratio (R_m) *%*	100.5	86.0	95.5			

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_D)	*%*	**98.5**	**98.5**	**99.0**			

Approved Signatory : Justin Fry