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

19th February 2020

Our Reference: 19163:NB672

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

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

Please find attached our Report No's 19163/R001 to 19163/R005 which relate to the field density testing that was conducted within the filled allotments of the above subdivision. The level 1 inspections and associated field density testing commenced in May 2019 and was completed in October 2019.

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).

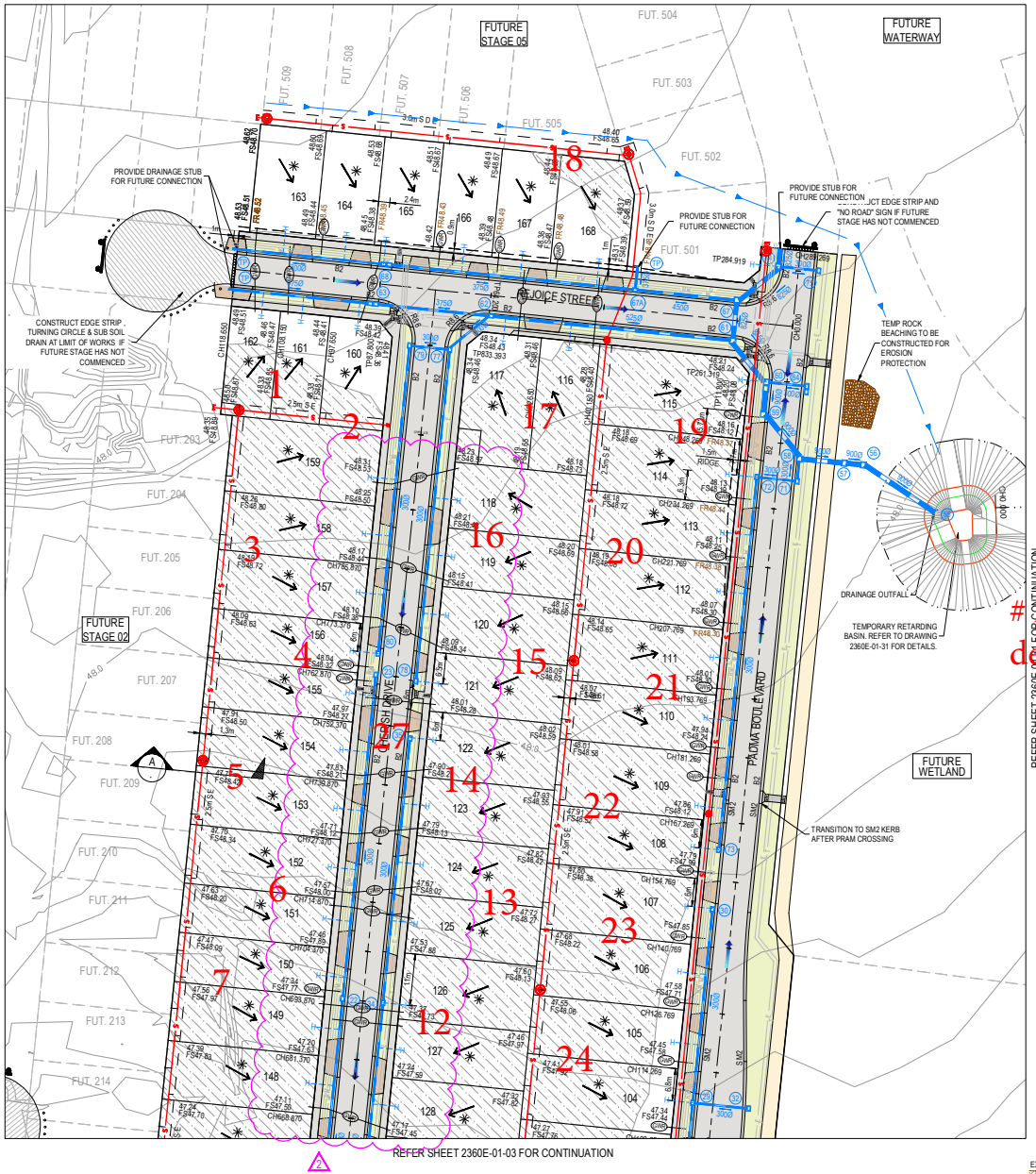
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

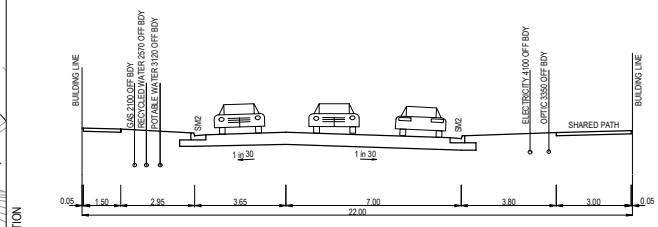
Nick Brock

FIGURE 1 (1 of 2)

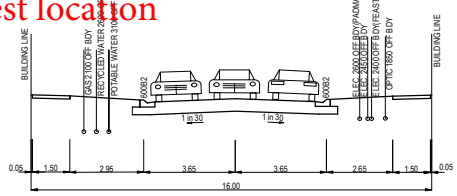


ROAD LAYOUT TABLE								
ROAD NAME	RESERVE WIDTH	ROAD WIDTH (m)			KERB TYPE		VERGE WIDTH (m)	
		LIP TO LIP	INV TO INV	BACK TO BACK	NTH/WEST	STH/EAST	NTH/WEST	STH/EAST
PADMA BOULEVARD (LOTS 101-106)	22.0	9.75	10.65	10.95	SM2	SM2	4.20	6.55
PADMA BOULEVARD (LOTS 107-115)	16.0	6.40	7.30	7.60	600B2	600B2	4.35	4.05
REJOICE STREET (LOTS 163-168)	16.0	6.40	7.30	7.60	600B2	600B2	4.35	4.05
CHERISH DRIVE (LOTS 117-131)	16.0	6.40	7.30	7.60	600B2	600B2	4.35	4.05
CHERISH DRIVE (LOTS 132-133)	14.0	6.40	7.30	7.60	600B2	600B2	2.05	4.35
CHERISH DRIVE (LOTS 134-146)	16.0	6.40	7.30	7.60	600B2	600B2	4.35	2.05
FEAST WAY	16.0	6.40	7.30	7.60	600B2	600B2	4.35	4.05

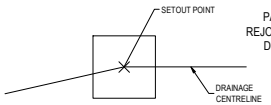
SERVICES OFFSET TABLE					
ROAD NAME	GAS	WATER	RECYCLED WATER	ELECTRICITY	OPTIC FIBRE
	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)
PADMA BOULEVARD (LOTS 101-106)	2.10 W	3.12 W	2.57 W	4.10 E	3.35 E
PADMA BOULEVARD (LOTS 107-115)	2.10 W	3.12 W	2.57 W	2.60 E	1.85 E
PADMA BOULEVARD (CH4.8.46-CH58.62)	1.90 W	2.92 W	2.37 W	2.60 E	1.85 E
REJOICE STREET (LOTS 163-168)	2.10 N	3.10 N	2.60 N	2.45 S	1.85 S
CHERISH DRIVE (LOTS 117-131)	2.10 W	3.10 W	2.60 W	2.45 E	1.85 E
CHERISH DRIVE (LOTS 132-133)	2.10 E	3.10 E	2.60 E	0.80 W	0.30 W
CHERISH DRIVE (LOTS 134-146)	2.10 N	3.10 N	2.60 N	0.80 S	0.30 S
FEAST WAY	2.10 W	3.10 W	2.60 W	2.40 E	1.85 E



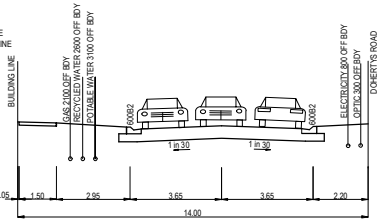
22m ROAD RESERVE
PADMA BOULEVARD (LOTS 101-106)



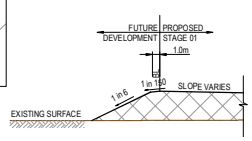
16m ROAD RESERVE
PADMA BOULEVARD (LOTS 107-115),
REJOICE STREET (LOTS 163-168), CHERISH
DRIVE (LOTS 117-131) & FEAST WAY



PIT SETOUT POINT DETAIL
NOT TO SCALE



14m ROAD RESERVE
CHERISH DRIVE (LOTS 132-146)



TYPICAL SECTION A-A
NOT TO SCALE

Approximate field density test location

LEGEND - LAYOUT PLAN ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY	
	STORMWATER DRAIN, PIT & PROPERTY INLET
	MAIN DRAIN
	SWALE DRAIN
S	SEWER & MAINTENANCE STRUCTURES
	HOUSE DRAIN
E	ELECTRICITY (U/GROUND)
O/H	ELECTRICITY (O/HEAD)
G	GAS
T	TELSTRA
O	OPTIC FIBRE
W	WATER
RW	RECYCLE WATER
Ag	AG. DRAIN
CONDUIT	SERVICE CONDUITS
	TACTILE PAVERS
	EXISTING STORMWATER DRAIN
	EXISTING MAIN DRAIN
	EXISTING SWALE DRAIN
Ex S	EXISTING SEWER & MAINTENANCE STRUCTURES
	EXISTING HOUSE DRAIN
Ex E	EXISTING ELECTRICITY (UNDER GROUND)
Ex O/H E	EXISTING ELECTRICITY OVERHEAD
Ex G	EXISTING GAS
Ex T	EXISTING TELSTRA
Ex O	EXISTING OPTIC FIBRE
Ex W	EXISTING WATER
Ex RW	EXISTING RECYCLED WATER
Ex Ag	EXISTING AG. DRAIN
CONDUIT	EXISTING SERVICE CONDUITS
	EXISTING TACTILE PAVERS
Fut D	FUTURE STORMWATER DRAIN
	FUTURE MAIN DRAIN
	FUTURE SWALE DRAIN
FUT S	FUTURE SEWER & MAINTENANCE STRUCTURES
	FUTURE HOUSE DRAIN
Fut E	FUTURE ELECTRICITY (UNDER GROUND)
Fut O/H E	FUTURE ELECTRICITY OVERHEAD
Fut G	FUTURE GAS
Fut T	FUTURE TELSTRA
Fut O	FUTURE OPTIC FIBRE
Fut W	FUTURE WATER
Fut RW	FUTURE RECYCLED WATER
Fut Ag	FUTURE AG. DRAIN
CONDUIT	FUTURE SERVICE CONDUITS
	FUTURE TACTILE PAVERS
	ZERO LOT LINES
141.34	EXISTING SURFACE LEVEL
FS140.35	FINISHED BUILDING LINE LEVEL
FR157.40	FINISHED RIDGE LINE LEVEL
CH270.00	CHAINAGE
TW159.60	TOP OF RETAINING WALL LEVEL
BW159.00	BOTTOM OF RETAINING WALL LEVEL
	EXISTING RETAINING WALL
	RETAINING WALL
	FUTURE RETAINING WALL
	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

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
0	31.05.19	ISSUED FOR CONSTRUCTION	MH/MH	EW
1	20.06.19	PIT LOCATION UPDATED	MH/MH	EW
2	15.08.19	CHERISH DRIVE SERVICE CONDUITS AMENDED TO DUAL CONNECTION	MH/JC	EW

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	M.Holmquist
DESIGNER	M.Holmquist
CHECKED	E.Wang
AUTHORISED	B.Sanderson
REFERENCE No. 1	
REFERENCE No. 2	

0 5 10 20
Scale 1:500
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 1900

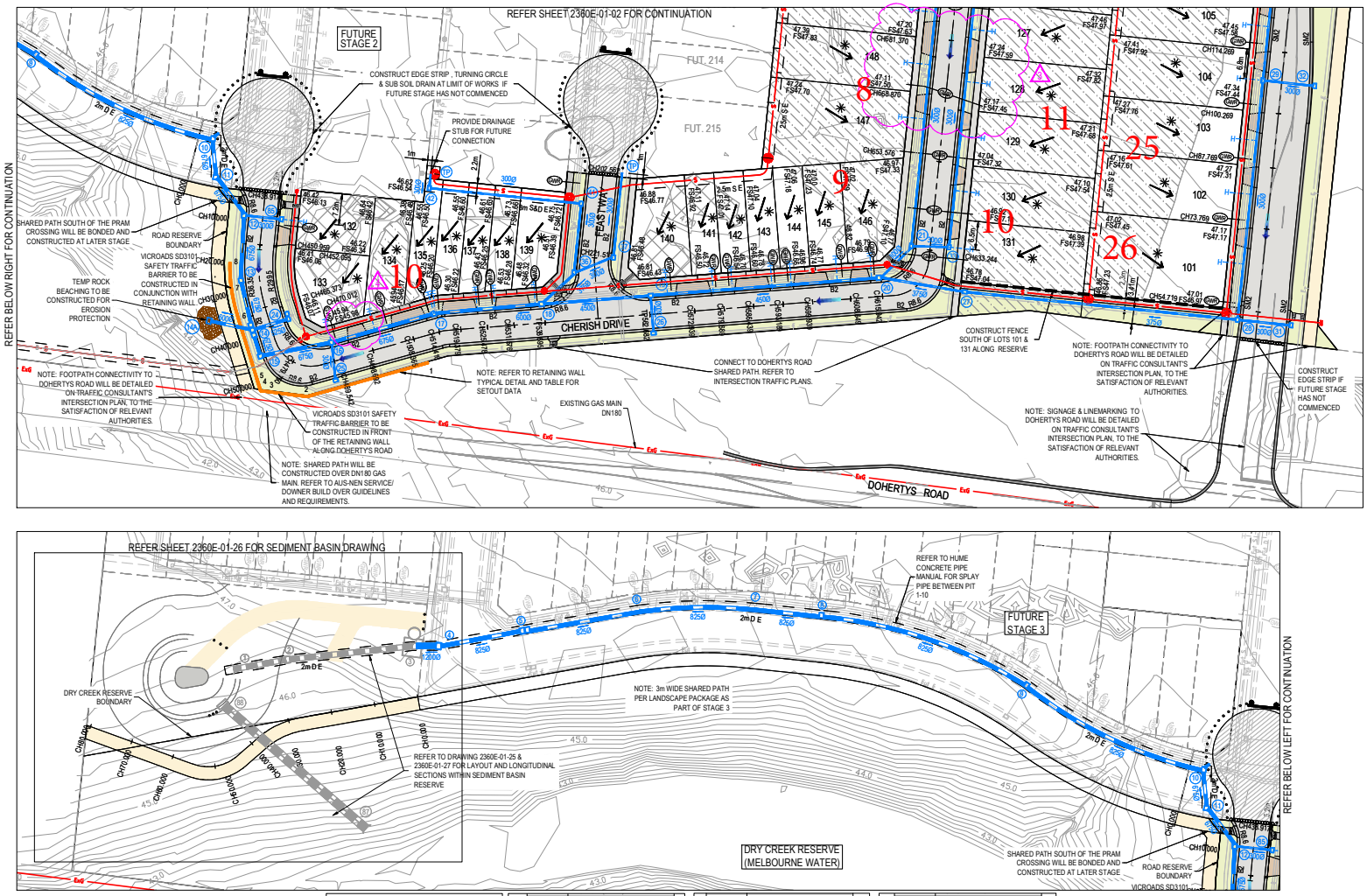
GROWLAND

Marigold - Stage 1
Wyndham City Council
Road and Drainage
Layout Plan - 1

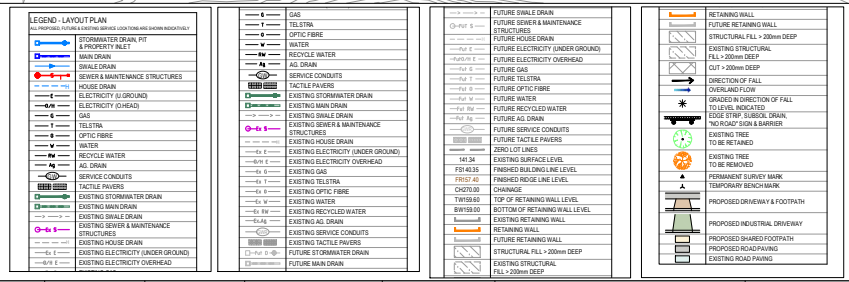
MELWAYS REF.	PROJECT / DRAWING No.	SHEET No.	REVISION
359 F9	2360E-01-02	02 of 33	2

DWG PATH: V:_Vault\Projects_Urban\2360E-Marigold\2360E-01\Dwgs\2360E-01-02.dwg PRINTED BY: JC14293 on 15/08/2019 at 05:06:36 PM

FIGURE 1 (2 of 2)



FOR RETAINING WALL DETAILS REFER TO DRAWING 2360E-01-200



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REV	DATE	AMENDMENT / REVISION DESCRIPTION	DES/DFT	APPROVAL
0	31.05.19	ISSUED FOR CONSTRUCTION	MH/MH	EW
1	20.06.19	PIT LOCATION UPDATED	MH/MH	EW
2	26.06.19	PIT 5 CHANGED TO DOUBLE JUNCTION PIT	MH/JC	EW
3	15.08.19	CHERISH DRIVE SERVICE CONDUITS AMENDED TO DUAL CONNECTION	MH/JC	EW
4	04.09.19	DRIVEWAY LOCATION UPDATED	MH/MH	EW

ISSUED FOR CONSTRUCTION

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TITLE	NAME
DRAFTER	M.Holmquist
DESIGNER	M.Holmquist
CHECKED	E.Wang
AUTHORISED	B.Sanderson
REFERENCE No. 1	
REFERENCE No. 2	

Scale 1:500
SCALE AS SHOWN AT A1

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 1900

GROWLAND

Marigold - Stage 1
Wyndham City Council
Road and Drainage
Layout Plan - 2

MELWAYS REF.	PROJECT / DRAWING No.	SHEET No.	REVISION
359 F9	2360E-01-03	03 of 33	4

DWG PATH: \\...\Vault\Projects_Urban\2360E-Marigold\2360E-01\Dwgs\2360E-01-03.dwg PRINTED BY: MH14688 on 04/09/2019 at 01:32:44 PM

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	19163
		Report No	19163/R001
		Date Issued	11/11/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	MARIGOLD - STAGE 1	*Date tested*	26/09/19
Location	TARNEIT	*Checked by*	JHF

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

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**1**	**2**	**3**	**4**	**5**	**6**
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*	1.89	1.94	1.93	1.96	1.97	1.96
Field moisture content	*%*	26.3	23.8	23.7	22.1	24.2	23.9

Test procedure AS 1289.5.7.1

Test No		1	2	3	4	5	6
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*	1.98	1.98	1.97	1.97	1.98	1.99
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	30.5	27.5	27.0	25.5	27.5	27.5

Moisture Variation From Optimum Moisture Content		2.0% dry	2.0% dry	2.0% dry	2.0% dry	2.0% dry	2.0% dry
Density Ratio (R_{HD})	*%*	**96.0**	**98.0**	**98.0**	**99.5**	**99.5**	**98.5**

Material description

No 1 - 6 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	19163
		Report No	19163/R002
		Date Issued	14/11/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	MARIGOLD - STAGE 1	*Date tested*	02/10/19
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 10:30

Test procedure AS 1289.2.1.1 & 5.8.1

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 1
Approximate depth below FSL							
Measurement depth	*mm*	175	175	175	175	175	175
Field wet density	*t/m³*	1.89	1.90	1.87	1.81	1.80	1.81
Field moisture content	*%*	23.2	23.8	28.0	27.4	26.9	27.4

Test procedure AS 1289.5.7.1

Test No		7	8	9	10	11	12
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*	1.91	1.92	1.91	1.90	1.90	1.91
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	26.5	27.0	31.5	30.5	30.0	30.0

Moisture Variation From Optimum Moisture Content		2.5% dry	2.5% dry	2.5% dry	2.5% dry	2.5% dry	2.5% dry
Density Ratio (R_{HD})	*%*	**99.0**	**99.5**	**98.0**	**95.5**	**95.0**	**95.0**

Material description

No 7 - 12 Clay Fill

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	19163
		Report No	19163/R003
		Date Issued	21/10/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JB
Project	MARIGOLD - STAGE 1	*Date tested*	03/10/19
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 12:00

Test procedure AS 1289.2.1.1 & 5.8.1

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 depth	*mm*	175	175	175	175	175	175
Field wet density	*t/m³*	1.84	1.82	1.83	1.84	1.84	1.83
Field moisture content	*%*	24.6	31.4	33.8	27.6	28.7	28.2

Test procedure AS 1289.5.7.1

Test No		13	14	15	16	17	18
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*	10	0	0	0	0	6
Peak Converted Wet Density	*t/m³*	1.85	1.88	1.86	1.88	1.88	1.88
Adjusted Peak Converted Wet Density	*t/m³*	1.89	-	-	-	-	1.90
Optimum Moisture Content	*%*	27.0	29.5	33.5	28.5	29.5	28.0

Moisture Variation From Optimum Moisture Content	2.5% dry	1.5% wet	0.0%	1.0% dry	0.5% dry	0.0%

Density Ratio (R_{HD})	*%*	**97.5**	**97.5**	**98.0**	**98.0**	**97.5**	**96.0**

Material description

No 13 - 18 Clay Fill

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	19163
		Report No	19163/R004
		Date Issued	23/10/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	MARIGOLD - STAGE 1	*Date tested*	04/10/19
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:02

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*	1.78	1.80	1.75	1.77	1.86	1.86
Field moisture content	*%*	24.8	25.8	26.0	28.1	18.9	18.4

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	7	7
Peak Converted Wet Density	*t/m³*	1.80	1.81	1.81	1.81	1.91	1.88
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	1.94	1.91
Optimum Moisture Content	*%*	27.5	28.5	28.0	30.5	21.5	21.0

Moisture Variation From Optimum Moisture Content		2.5% dry	2.5% dry	2.0% dry	2.5% dry	2.5% dry	2.5% dry
Density Ratio (R_{HD})	*%*	**99.0**	**99.5**	**97.0**	**98.0**	**96.0**	**97.5**

Material description

No 19 - 24 Clay Fill

AVRLOT HILF V1.10 MAR 13

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	19163
		Report No	19163/R005
		Date Issued	23/10/2019
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	BS
Project	MARIGOLD - STAGE 1	*Date tested*	04/10/19
Location	TARNEIT	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:46

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*	1.80	1.76	1.77			
Field moisture content	*%*	26.6	23.9	25.4			

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*	1.85	1.84	1.79			
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-			
Optimum Moisture Content	*%*	28.5	26.5	28.0			

Moisture Variation From Optimum Moisture Content		2.0% dry	2.5% dry	2.5% dry			
Density Ratio (R_{HD})	*%*	**97.5**	**95.5**	**99.0**			

Material description

No 25 - 27 Clay Fill

AVRLOT HILF V1.10 MAR 13

NATA

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.
Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation No 9909

Approved Signatory : Justin Fry