



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

19th March 2021

Our Reference: 20650:NB918

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
MARIGOLD – STAGE 4A (TARNEIT)

Please find attached our Report No's 20650/R001 to 20650/R005 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 commenced in January 2021 and was completed in March 2021.

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).

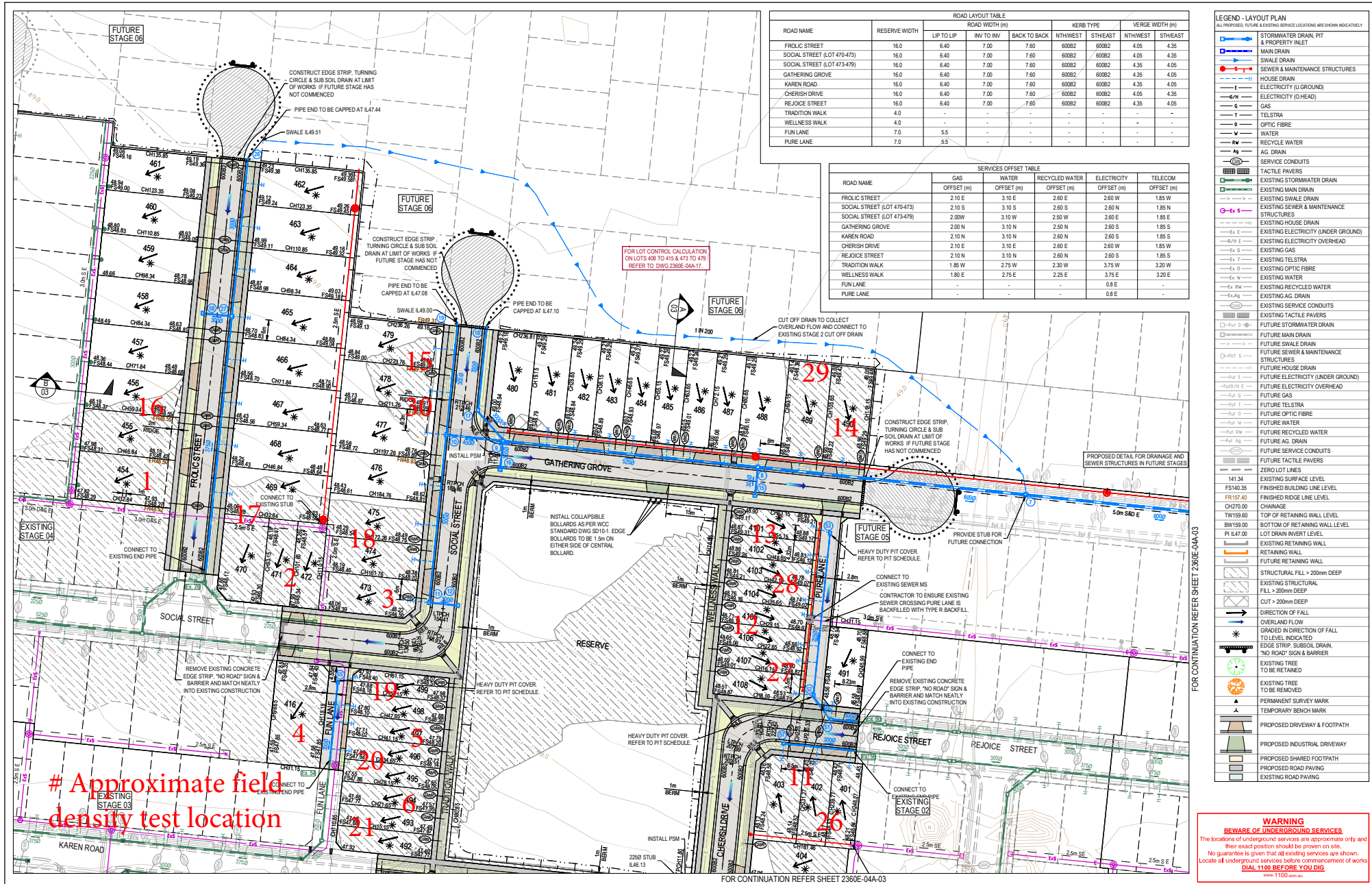
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Nick Brock

FIGURE 1 (1 of 2)



ROAD NAME	RESERVE WIDTH	ROAD WIDTH (m)				KERB TYPE		VERGE WIDTH (m)	
		LIP TO LIP	INV TO INV	BACK TO BACK	NTHWEST	STHEAST	NTHWEST	STHEAST	
FROLIC STREET (LOT 470-473)	16.0	6.40	7.00	7.60	600B2	600B2	4.05	4.35	
SOCIAL STREET (LOT 470-473)	16.0	6.40	7.00	7.60	600B2	600B2	4.05	4.35	
SOCIAL STREET (LOT 473-479)	16.0	6.40	7.00	7.60	600B2	600B2	4.35	4.05	
GATHERING GROVE	16.0	6.40	7.00	7.60	600B2	600B2	4.35	4.05	
KAREN ROAD	16.0	6.40	7.00	7.60	600B2	600B2	4.35	4.05	
CHERISH DRIVE	16.0	6.40	7.00	7.60	600B2	600B2	4.05	4.35	
REJOICE STREET	16.0	6.40	7.00	7.60	600B2	600B2	4.35	4.05	
TRADITION WALK	4.0	-	-	-	-	-	-	-	
WELLNESS WALK	4.0	-	-	-	-	-	-	-	
FUN LANE	7.0	5.5	-	-	-	-	-	-	
PURE LANE	7.0	5.5	-	-	-	-	-	-	

ROAD NAME	GAS		WATER		RECYCLED WATER		ELECTRICITY		TELECOM	
	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)	OFFSET (m)	
FROLIC STREET	2.10 E	3.10 E	2.60 E	2.60 W	1.85 W	-	-	-	-	
SOCIAL STREET (LOT 470-473)	2.10 S	3.10 S	2.60 S	2.60 N	1.85 N	-	-	-	-	
SOCIAL STREET (LOT 473-479)	2.00 W	3.10 W	2.50 W	2.60 E	1.85 E	-	-	-	-	
GATHERING GROVE	2.00 N	3.10 N	2.50 N	2.60 S	1.85 S	-	-	-	-	
KAREN ROAD	2.10 N	3.10 N	2.60 N	2.60 S	1.85 S	-	-	-	-	
CHERISH DRIVE	2.10 E	3.10 E	2.60 E	2.60 W	1.85 W	-	-	-	-	
REJOICE STREET	2.10 N	3.10 N	2.60 N	2.60 S	1.85 S	-	-	-	-	
TRADITION WALK	1.85 W	2.75 W	2.30 W	3.75 W	3.20 W	-	-	-	-	
WELLNESS WALK	1.80 E	2.75 E	2.25 E	3.75 E	3.20 E	-	-	-	-	
FUN LANE	-	-	-	-	0.8 E	-	-	-	-	
PURE LANE	-	-	-	-	0.8 E	-	-	-	-	

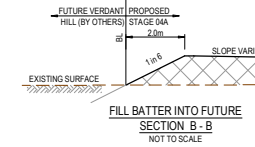
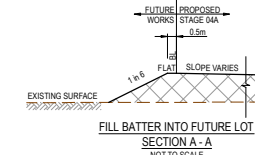
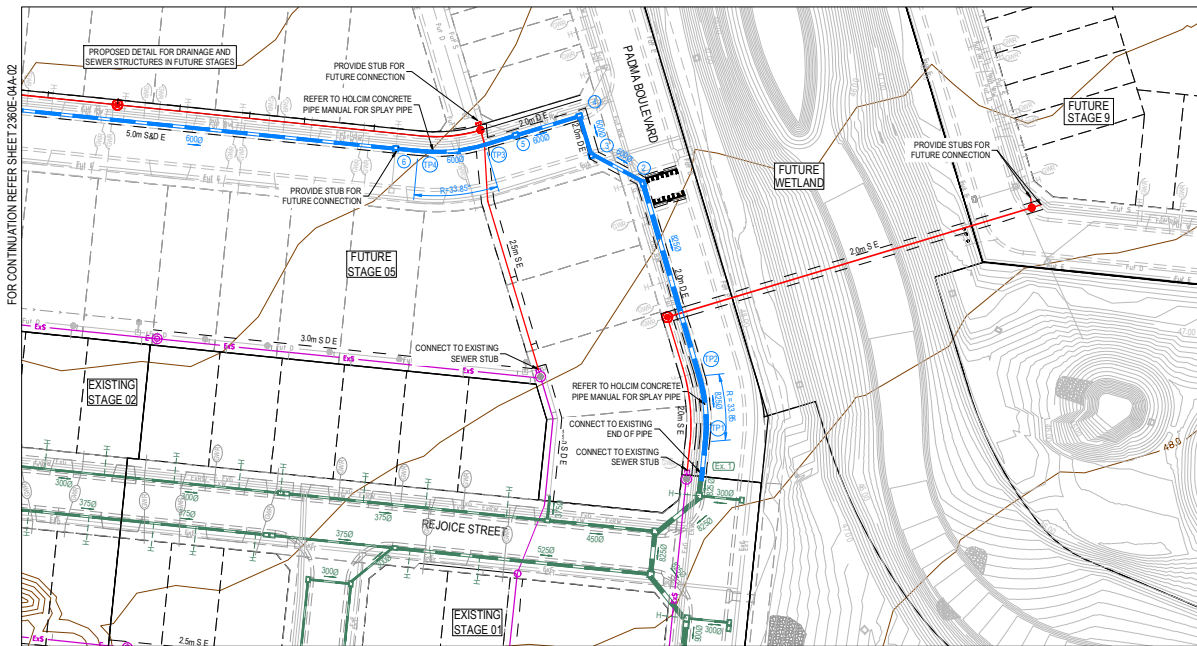
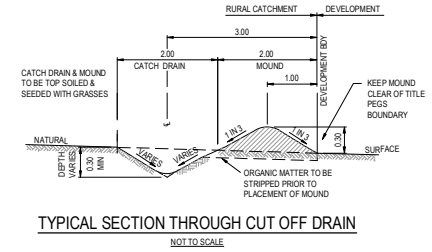
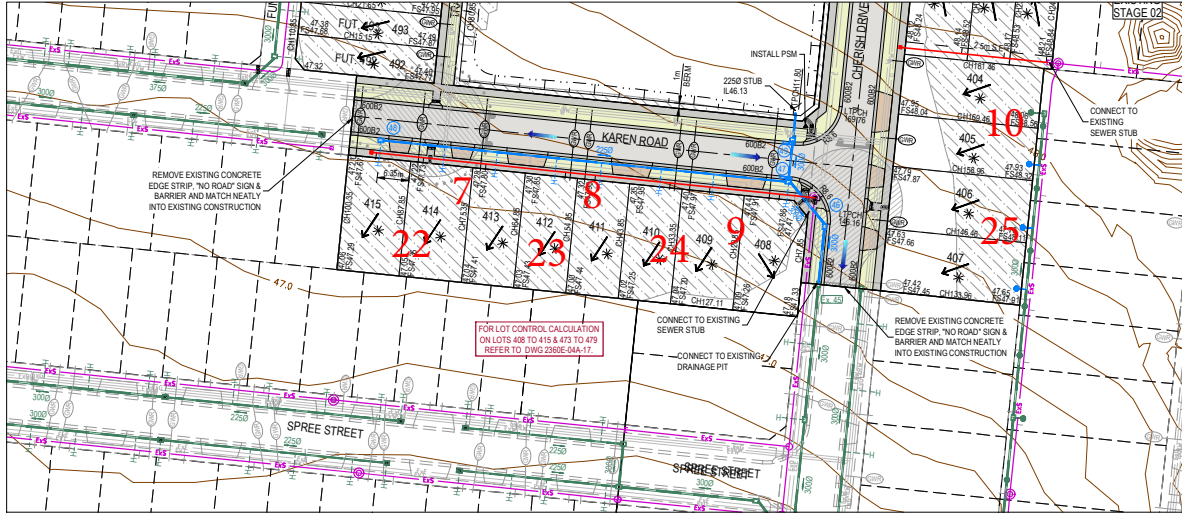
SYMBOL	DESCRIPTION
[Blue line with arrow]	STORMWATER DRAIN PIT & PROPERTY INLET
[Blue line]	EXISTING STORMWATER DRAIN
[Blue line with arrow]	EXISTING MAN DRAIN
[Red line with arrow]	SEWER & MAINTENANCE STRUCTURES
[Blue line with arrow]	HOUSE DRAIN
[Blue line with arrow]	ELECTRICITY (U.GROUND)
[Blue line with arrow]	ELECTRICITY (D.HEAD)
[Blue line with arrow]	GAS
[Blue line with arrow]	TELSTRA
[Blue line with arrow]	OPTIC FIBRE
[Blue line with arrow]	WATER
[Blue line with arrow]	RECYCLE WATER
[Blue line with arrow]	AG. DRAIN
[Blue line with arrow]	SERVICE CONDUITS
[Blue line with arrow]	TACTILE PAVERS
[Blue line with arrow]	EXISTING STORMWATER DRAIN
[Blue line with arrow]	EXISTING MAN DRAIN
[Blue line with arrow]	EXISTING SWALE DRAIN
[Blue line with arrow]	EXISTING SEWER & MAINTENANCE STRUCTURES
[Blue line with arrow]	EXISTING HOUSE DRAIN
[Blue line with arrow]	EXISTING ELECTRICITY (UNDER GROUND)
[Blue line with arrow]	EXISTING ELECTRICITY OVERHEAD
[Blue line with arrow]	EXISTING GAS
[Blue line with arrow]	EXISTING TELSTRA
[Blue line with arrow]	EXISTING OPTIC FIBRE
[Blue line with arrow]	FUTURE WATER
[Blue line with arrow]	FUTURE RECYCLED WATER
[Blue line with arrow]	FUTURE AG. DRAIN
[Blue line with arrow]	FUTURE SERVICE CONDUITS
[Blue line with arrow]	FUTURE TACTILE PAVERS
[Blue line with arrow]	FUTURE STORMWATER DRAIN
[Blue line with arrow]	FUTURE MAN DRAIN
[Blue line with arrow]	FUTURE SWALE DRAIN
[Blue line with arrow]	FUTURE SEWER & MAINTENANCE STRUCTURES
[Blue line with arrow]	FUTURE HOUSE DRAIN
[Blue line with arrow]	FUTURE ELECTRICITY (UNDER GROUND)
[Blue line with arrow]	FUTURE ELECTRICITY OVERHEAD
[Blue line with arrow]	FUTURE GAS
[Blue line with arrow]	FUTURE TELSTRA
[Blue line with arrow]	FUTURE OPTIC FIBRE
[Blue line with arrow]	FUTURE WATER
[Blue line with arrow]	FUTURE RECYCLED WATER
[Blue line with arrow]	FUTURE AG. DRAIN
[Blue line with arrow]	FUTURE SERVICE CONDUITS
[Blue line with arrow]	FUTURE TACTILE PAVERS
[Blue line with arrow]	ZERO LOT LINES
[Blue line with arrow]	141.34 EXISTING SURFACE LEVEL
[Blue line with arrow]	FS146.35 FINISHED SURFACE LEVEL
[Blue line with arrow]	FS157.40 FINISHED RIDGE LINE LEVEL
[Blue line with arrow]	CH270.00 CHANGE
[Blue line with arrow]	WI159.60 TOP OF RETAINING WALL LEVEL
[Blue line with arrow]	BI159.00 BOTTOM OF RETAINING WALL LEVEL
[Blue line with arrow]	PI 147.00 LOT DRAIN INVERT LEVEL
[Blue line with arrow]	EXISTING RETAINING WALL
[Blue line with arrow]	RETAINING WALL
[Blue line with arrow]	FUTURE RETAINING WALL
[Blue line with arrow]	STRUCTURAL FILL > 200mm DEEP
[Blue line with arrow]	EXISTING STRUCTURAL FILL > 200mm DEEP
[Blue line with arrow]	CUT > 200mm DEEP
[Blue line with arrow]	DIRECTION OF FALL
[Blue line with arrow]	OVERLAND FLOW
[Blue line with arrow]	GRADED IN DIRECTION OF FALL TO LEVEL INDICATED
[Blue line with arrow]	EDGE STRIP SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER AND MATCH NEATLY INTO EXISTING CONSTRUCTION
[Blue line with arrow]	EXISTING TREE TO BE RETAINED
[Blue line with arrow]	EXISTING TREE TO BE REMOVED
[Blue line with arrow]	PERMANENT SURVEY MARK
[Blue line with arrow]	TEMPORARY SURVEY MARK
[Blue line with arrow]	PROPOSED DRIVEWAY & FOOTPATH
[Blue line with arrow]	PROPOSED INDUSTRIAL DRIVEWAY
[Blue line with arrow]	PROPOSED SHARED FOOTPATH
[Blue line with arrow]	PROPOSED ROAD PAVING
[Blue line with arrow]	EXISTING ROAD PAVING

Approximate field density test location

<p>ISSUED FOR CONSTRUCTION</p>	<p>REV 0 14/07/20 ISSUED FOR CONSTRUCTION</p>	<p>DESIGN APPROVAL SH/IC BS</p>	<p>All setting out should be carried out in accordance with MPA/Council's standard drawings or as recommended 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.</p>	<p>TITLE NAME DRAFTER L.Chapple DESIGNER S.Hossain CHECKED E.Wang AUTHORISED B.Sanderson</p>	<p>SCALE AS SHOWN AT A1</p>	<p>Member of the Surlana Jurong Group Colins Square, Tower 4, Level 20, 727 Colins St Melbourne, VIC 3008 Ph 03 9514 1500</p>	<p>GROWLAND</p>	<p>Margold - Stage 04A Wyndham City Council Road and Drainage Layout Plan - 1</p>	<p>MELWA/REF 359 F9 PROJECT/DRAWING No. 2360E-04A-02 SHEET No. 02 of 21</p>
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FIGURE 1 (2 of 2)

FOR CONTINUATION REFER SHEET 2360E-04A-02

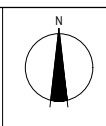
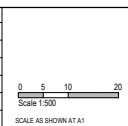


Approximate field density test location

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	DESIGN	APPROVAL
0	14/07/20	ISSUED FOR CONSTRUCTION	SH/LC	BS

TITLE	NAME
DRAFTER	L.Chapple
DESIGNER	S.Hossain
CHECKED	E.Wang
AUTHORISED	B.Sanderson
REFERENCE No. 1	
REFERENCE No. 2	



MELBURN REF	PROJECT / DRAWING No.	SHEET No.	REVISION
359 F9	2360E-04A-03	03 of 21	0

Marigold - Stage 04A
 Wyndham City Council
 Road and Drainage
 Layout Plan - 2



COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 20650
Report No 20650/R001
Date Issued 22/01/2021

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	MARIGOLD - STAGE 4A	Date tested	20/01/21
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	10:00
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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/m ³	1.93	1.91	1.96	1.95	1.98	2.01
Field moisture content	%	22.2	26.0	20.9	22.2	27.6	21.4

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/m ³	2.02	1.97	2.00	2.00	2.04	2.05
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-	-
Optimum Moisture Content	%	24.5	28.5	23.0	24.5	30.0	23.5

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	2.0% dry	2.5% dry	2.5% dry	2.0% dry
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Density Ratio (R _{HD})	%	95.5	97.0	98.0	97.5	97.0	98.0
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Material description

No 1 - 6 Clay Fill

AVRLOT HILF V1.10 MAR 13



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



COMPACTION ASSESSMENT

Job No 20650
 Report No 20650/R002
 Date Issued 28/01/2021

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	MARIGOLD - STAGE 4A	Date tested	21/01/21
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	11:00
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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/m ³	1.93	1.93	1.96	2.01	1.97	1.94
Field moisture content	%	24.1	24.5	21.6	21.8	22.3	21.5

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/m ³	1.99	2.00	2.01	2.00	1.98	1.97
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-	-
Optimum Moisture Content	%	26.0	26.5	24.0	24.0	24.5	23.5

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	2.5% dry	2.0% dry	2.0% dry	2.0% dry
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Density Ratio (R _{HD})	%	97.0	96.5	97.5	100.5	99.5	98.5
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Material description

No 7 - 12 Clay Fill

AVRLOT HILF V1.10 MAR 13



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Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 20650
 Report No 20650/R003
 Date Issued 19/03/2021

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	BS
Project	MARIGOLD - STAGE 4A	Date tested	12/03/21
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:17
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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
Field wet density	t/m ³	1.84	1.82	1.82	1.83	1.96
Field moisture content	%	13.9	14.9	16.8	17.0	14.9

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
Percent of oversize material	wet	0	0	0	0	0
Peak Converted Wet Density	t/m ³	1.91	1.90	1.90	1.90	2.01
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	16.5	17.0	18.5	19.5	16.5

Moisture Variation From Optimum Moisture Content	2.5% dry	2.0% dry	1.5% dry	2.5% dry	1.5% dry	2.0% dry
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Density Ratio (R _{HD})	%	96.5	95.5	96.0	96.5	97.5	98.0
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Material description

No 13 - 18 Clay Fill

AVRLOT HILF V1.10 MAR 13



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Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 20650
Report No 20650/R004
Date Issued 19/03/2021

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	BS
Project	MARIGOLD - STAGE 4A	Date tested	15/03/21
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:27
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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
Field wet density	t/m ³	1.96	1.92	1.93	1.91	1.86
Field moisture content	%	14.2	14.8	14.4	14.2	20.3

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
Percent of oversize material	wet	0	0	0	0	0
Peak Converted Wet Density	t/m ³	2.01	1.95	2.01	2.01	1.87
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	16.0	16.5	17.0	16.0	22.5

Moisture Variation From Optimum Moisture Content	2.0% dry	1.5% dry	2.5% dry	2.0% dry	2.0% dry	1.0% dry
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Density Ratio (R _{HD})	%	97.5	98.5	96.5	95.5	99.5	100.0
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Material description

No 19 - 24 Clay Fill

AVRLOT HILF V1.10 MAR 13



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Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 20650
 Report No 20650/R005
 Date Issued 19/03/2021

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	BS
Project	MARIGOLD - STAGE 4A	Date tested	16/03/21
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:41
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	25	26	27	28	29	30
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	1.87	1.90	1.84	1.85	1.85	1.84
Field moisture content %	15.2	14.3	17.2	29.3	25.6	28.4

Test procedure AS 1289.5.7.1

Test No	25	26	27	28	29	30
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	1.87	1.95	1.91	1.90	1.92	1.90
Adjusted Peak Converted Wet Density t/m³	-	-	-	-	-	-
Optimum Moisture Content %	17.5	16.5	19.0	31.5	28.0	30.5

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	2.0% dry	2.0% dry	2.5% dry	2.0% dry
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Density Ratio (R_{HD})	%	99.5	97.5	96.5	97.5	96.5	96.5
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Material description

No 25 - 30 Clay Fill

AVRLOT HILF V1.10 MAR 13



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Accreditation No 9909

Approved Signatory : Justin Fry