



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

28th October 2019

Our Reference: 18760:SB003

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
EMERALD PARK ESTATE – STAGE 8, TARNEIT**

Please find attached our Report No's 18760/R001 to 18760/R002 that 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 was commenced and 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).

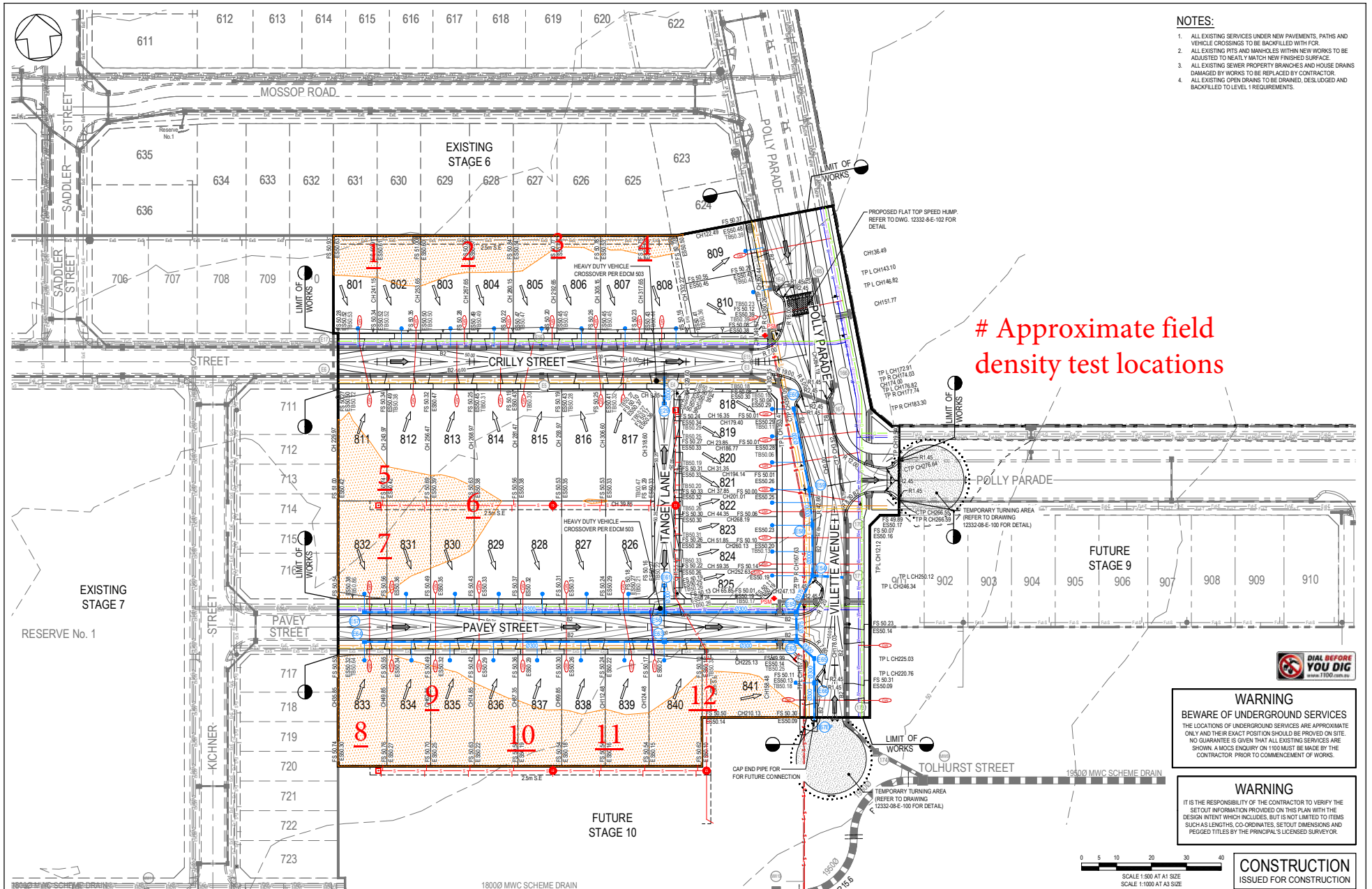
Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

A handwritten signature in blue ink, appearing to read 'Stephen Burns', is written over a light blue horizontal line.

Stephen Burns

FIGURE 1



- NOTES:**
1. ALL EXISTING SERVICES UNDER NEW PAVEMENTS, PATHS AND VEHICLE CROSSINGS TO BE BACKFILLED WITH FC9.
 2. ALL EXISTING FITS AND MANHOLES WITHIN NEW WORKS TO BE ADJUSTED TO NEATLY MATCH NEW FINISHED SURFACE.
 3. ALL EXISTING SEWER PROPERTY BRANCHES AND HOUSE DRAINS DAMAGED BY WORKS TO BE REPLACED BY CONTRACTOR.
 4. ALL EXISTING OPEN DRAINS TO BE DRAINED, DESLUDGED AND BACKFILLED TO LEVEL 1 REQUIREMENTS.

Approximate field density test locations

WARNING
BWARE OF UNDERGROUND SERVICES
 THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVIDED ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. A MOCS ENQUIRY ON 1100 MUST BE MADE BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS.

WARNING
 IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY THE SETOUT INFORMATION PROVIDED ON THIS PLAN WITH THE DESIGN INTENT WHICH INCLUDES, BUT IS NOT LIMITED TO ITEMS SUCH AS LENGTHS, CO-ORDINATES, SETOUT DIMENSIONS AND RESS'G TITLES BY THE PRINCIPAL'S LICENSED SURVEYOR.

CONSTRUCTION
 ISSUED FOR CONSTRUCTION

0	29/05/2018	ISSUED FOR CONSTRUCTION	KMU
VER	DATE	REVISION	APPD.

EXISTING GAS MAIN	PROPOSED GAS MAIN	STREET NAME SIGN	ITEM
EXISTING WATER MAIN	PROPOSED WATER MAIN	PROPOSED 150mm WATER CONDUIT	ITEM
EXISTING ELECTRICITY CABLE	PROPOSED NEW OVERHEAD WATER	EXISTING SURFACE LEVEL	ES S1.250
EXISTING TELCO CABLE & PIT	PROPOSED ELECTRICITY CABLE	PROPOSED SURFACE BUILDING LINE	FS S1.045
EXISTING SEWER MAIN & M.H.	PROPOSED TELCO CABLE	FINISHED SURFACE TOP OF BATTER	TB S1.250
EXISTING DRAIN & PIT	PROPOSED SEWER MAIN & M.H.	FALLING ON LOTS DEEPER THAN 200mm	
OPEN DRAIN	PROPOSED OPEN PIT & PROTECTIVE ANGLE	ADDITIONAL GROUND SURFACE	



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DESIGNED: AKA AUTHORIZED: JOY DRAFTED: KAW
 CHECKED: KMU AUTH DATE: 20/12/2017 CAD REF: 12332-08-E-110

WYNDHAM CITY COUNCIL
 EMERALD PARK, STAGE 8
 DETAIL LAYOUT PLAN

SCALE 1:500 @ A1
 VERSION 1
 SHEET 11 OF 25
 DRAWING NO.
12332-08-E-110



COMPACTION ASSESSMENT

Job No 18760
 Report No 18760/R001
 Date Issued 28/10/2019

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	EMERALD PARK - STAGE 8	Date tested	22/10/19
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	09:00
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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	
Field wet density	t/m ³	1.83	1.85	1.95	1.94	1.88	1.89
Field moisture content	%	28.2	25.0	27.1	27.3	27.2	26.8

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	7	11	5	5	0	0
Peak Converted Wet Density	t/m ³	1.90	1.92	1.95	1.95	1.93	1.94
Adjusted Peak Converted Wet Density	t/m ³	1.93	1.95	1.98	1.97	-	-
Optimum Moisture Content	%	30.5	27.5	29.5	29.5	29.5	29.0

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	2.0% dry	2.0% dry	2.0% dry	2.0% dry
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Density Ratio (R _{HD})	%	95.0	95.0	98.5	98.5	97.5	97.5
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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 18760
 Report No 18760/R002
 Date Issued 28/10/2019

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	EMERALD PARK - STAGE 8	Date tested	23/10/19
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	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	
Field wet density	t/m ³	1.89	1.93	1.92	1.90	1.86	1.91
Field moisture content	%	28.5	27.2	24.8	25.2	25.3	26.5

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	
Percent of oversize material	wet	0	0	0	0	10	8
Peak Converted Wet Density	t/m ³	1.95	1.95	1.96	1.94	1.92	1.94
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	1.96	1.97
Optimum Moisture Content	%	31.5	30.0	27.5	27.5	28.0	29.0

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	2.5% dry	2.5% dry	2.5% dry	2.0% dry
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Density Ratio (R _{HD})	%	97.0	99.0	98.0	98.0	95.0	97.0
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Material description

No 7 - 12 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

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Approved Signatory : Justin Fry