



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

19th January 2018

Our Reference: 17764:NB115

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
RIVERDALE – STAGE 8 (TARNEIT)

Please find attached our Report No's 17764/R001 to 17764/R003 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 mid August 2017 and was completed in mid January 2018.

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.

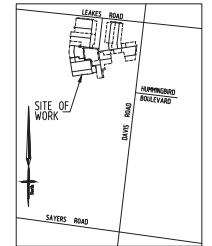
Civil Geotechnical Services

Nick Brock

FIGURE 1

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.

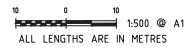


SHT. No.	VER.	DRAWING INDEX
DESCRIPTION		
1	A	LAYOUT PLAN - 1, LOCALITY PLAN AND SERVICE OFFSETS
2	A	LAYOUT PLAN - 2, GENERAL NOTES
3	A	INTERSECTION DETAILS
4	A	KERB LIP PROFILES - 1
5	A	KERB LIP PROFILES - 2 AND SETOUT INFORMATION
6	A	ROAD LONGITUDINAL SECTIONS - 1
7	A	ROAD LONGITUDINAL SECTIONS - 2
8	A	ROAD CROSS SECTIONS FERGUSON DRIVE - 1
9	A	ROAD CROSS SECTIONS FERGUSON DRIVE - 2
10	A	ROAD CROSS SECTIONS EUGENE STREET
11	A	ROAD CROSS SECTIONS THEODORE STREET AND HARDEEN STREET
12	A	DRAINAGE LONGITUDINAL SECTIONS - 1
13	A	DRAINAGE LONGITUDINAL SECTIONS - 2 AND PIT SCHEDULE

Approximate field density test location

LAYOUT PLAN

SCALE: 1:500



ALL LENGTHS ARE IN METRES

CONTINUE SHEET 2

SERVICES OFFSETS AND LOCATIONS

STREET NAME	ROAD RESERVE	WATER		GAS		ELECTRICITY		TELECOM.		STREET TREES	BACK OF KERB	JOINT TRENCHING
		(NDW)	(DW)	(NDW)	(DW)	CABLES	POLES	NBN				
FERGUSON DRIVE (E/W)	16.00	2.70 S	3.20 S	2.20 S	2.20 S	2.60 N	1.00 BOK	1.85 N	2.95 S	4.35 S	4.05 N	W,G & E,T
FERGUSON DRIVE (N/S)	16.00	2.70 E	3.20 E	2.20 E	2.20 E	2.60 W	1.00 BOK	1.85 W	2.95 E	4.35 E	4.05 W	W,G & E,T
EUGENE STREET	16.00	2.70 S	3.20 S	2.20 S	2.20 S	2.60 N	1.00 BOK	1.85 N	2.95 S	4.35 S	4.05 N	W,G & E,T
THEODORE STREET	16.00	2.25 W	2.75 W	1.75 W	1.75 W	3.95 W	1.00 BOK	3.35 W	4.45 W	5.55 W	5.25 W	W,G & E,T
HARDEEN STREET	16.00	2.70 W	3.20 W	2.20 W	2.20 W	2.60 E	1.00 BOK	1.85 E	2.95 E	4.35 E	4.05 E	W,G & E,T

SYMBOL LEGEND

Prop Drains	---○---	Prop 100mm Water Conduit	---○---
Exist Drains > 400	---○---	House Drain	---○---
Exist Drains < 400	---○---	Property Heat	---○---
Prop Sewers > 300	---○---	Street Sign	---○---
Prop Sewers < 300	---○---	PSM	---○---
Exist Sewers > 300	---○---	Existing Surface Level	---○---
Exist Sewers < 300	---○---	F.S. Level at Building Line	---○---
Prop Water	---○---	F.S. Level at Top of Bulker	---○---
Exist Water	---○---	F.S. Level at Back of Lots	---○---
Prop Gas Conduit	---○---	Top of Retaining Wall Level	---○---
Exist Gas	---○---	F.S. Level Previous Stage	---○---
Prop Telnet/Optics	---○---	Coloured Concrete Pavement	---○---
Exist Electricity	---○---	Fill > 200mm	---○---

NO.	DATE	ISSUED FOR CONSTRUCTION	REMARKS
A	17-02-2017	ISSUED FOR CONSTRUCTION	

COUNCIL REF. No. 1847/16 - 6215/12

breese pitt dixon pty. ltd.
land surveyors civil engineers

1/19 Cato Street
Newthorn East, 3123
Telephone 8823 2300
Fax no. 8823 2310

MELWAY REF. 234-G-2

SURVEY BPD

DESIGN L.G.

DRAWN L.G.

RIVERDALE VILLAGE

STAGE 8

HINCINITY **WYNDHAM**

REFERENCE **8554** €/08

SCALE AS SHOWN DATUM AHD DATE SEP' 16 SHEET 1 OF 13 A



COMPACTION ASSESSMENT

Job No 17764
 Report No 17764/R001
 Date Issued 18/01/2018

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	SB
Project	RIVERDALE - STAGE 8	Date tested	15/01/18
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	300 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 <i>mm</i>	175	175	175	175	175	175
Field wet density <i>t/m³</i>	1.78	1.76	1.72	1.72	1.81	1.85
Field moisture content %	23.2	23.5	23.5	25.2	25.8	24.1

Test procedure AS 1289.5.7.1

Test No	1	2	3	4	5	6
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material <i>wet</i>	0	0	0	0	1	0
Peak Converted Wet Density <i>t/m³</i>	1.76	1.81	1.78	1.79	1.82	1.85
Adjusted Peak Converted Wet Density <i>t/m³</i>	-	-	-	-	1.83	-
Optimum Moisture Content %	26.0	26.5	26.0	27.5	28.0	26.5

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

Density Ratio (R_{HD})	%	101.0	97.5	97.0	96.0	99.0	100.0
---	----------	--------------	-------------	-------------	-------------	-------------	--------------

Material description

No 1 - 6 Clay Fill



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. Accredited for compliance to ISO/IEC 17025. Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 17764
 Report No 17764/R002
 Date Issued 18/01/2018

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	SB
Project	RIVERDALE - STAGE 8	Date tested	15/01/18
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	300 mm	Time: 12:00
----------------	------------	-----------------	--------	-------------

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 <i>mm</i>	175	175	175	175	175	175
Field wet density <i>t/m³</i>	1.72	1.70	1.71	1.70	1.68	1.73
Field moisture content %	26.0	26.9	24.5	29.3	24.5	28.8

Test procedure AS 1289.5.7.1

Test No	7	8	9	10	11	12
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	19.0	19.0	19.0
Percent of oversize material <i>wet</i>	0	0	0	0	0	0
Peak Converted Wet Density <i>t/m³</i>	1.79	1.77	1.80	1.73	1.77	1.71
Adjusted Peak Converted Wet Density <i>t/m³</i>	-	-	-	-	-	-
Optimum Moisture Content %	28.0	29.5	27.0	32.0	26.5	31.5

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

Density Ratio (R_{HD})	%	96.0	96.0	95.0	98.5	95.0	101.0
---	----------	-------------	-------------	-------------	-------------	-------------	--------------

Material description

No 7 - 12 Clay Fill



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. Accredited for compliance to ISO/IEC 17025. Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 17764
 Report No 17764/R003
 Date Issued 18/01/2018

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	RIVERDALE - STAGE 8	Date tested	16/01/18
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	08:00
---------	------------	-----------------	--------	-------	-------

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
Field wet density	t/m ³	1.70	1.77	1.73	1.80	1.72
Field moisture content	%	22.1	24.4	27.4	28.2	27.6

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	1.73	1.76	1.77	1.79	1.75
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	23.0	24.5	27.0	27.0	27.5

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

Density Ratio (R _{HD})	%	98.0	100.5	98.0	100.5	98.5	97.0
-----------------------------------	---	------	-------	------	-------	------	------

Material description

No 13 - 18 Clay Fill



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. Accredited for compliance to ISO/IEC 17025. Accreditation No 9909

Approved Signatory : Justin Fry