



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

26th February 2019

Our Reference: 18489:NB438

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
RATHDOWNE – STAGE 2 (WOLLERT)**

Please find attached our Report No's 18489/R001 to 18489/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 were performed in February 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)

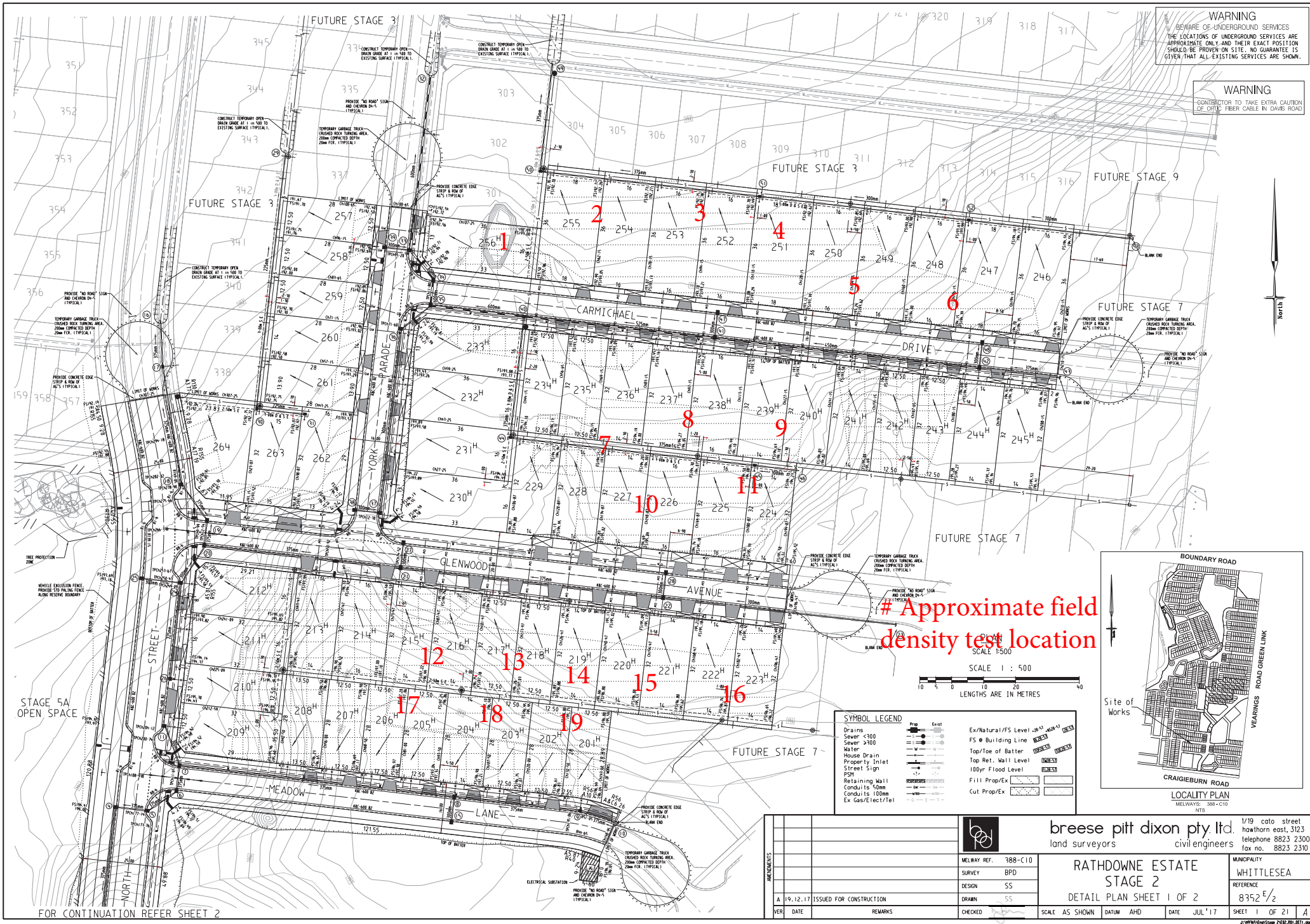
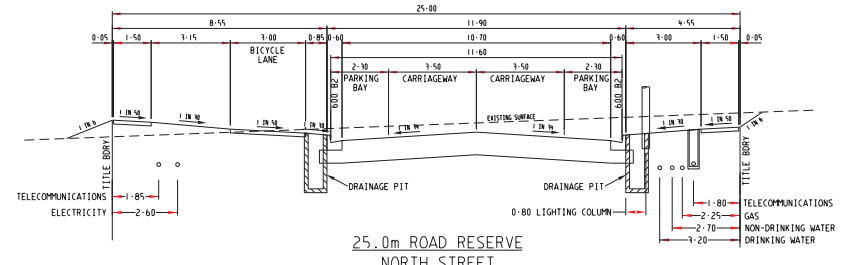
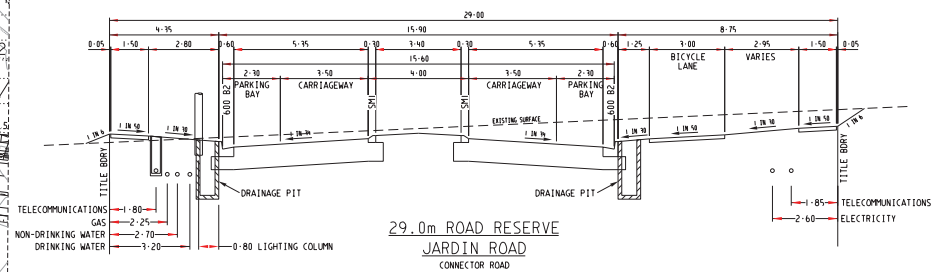
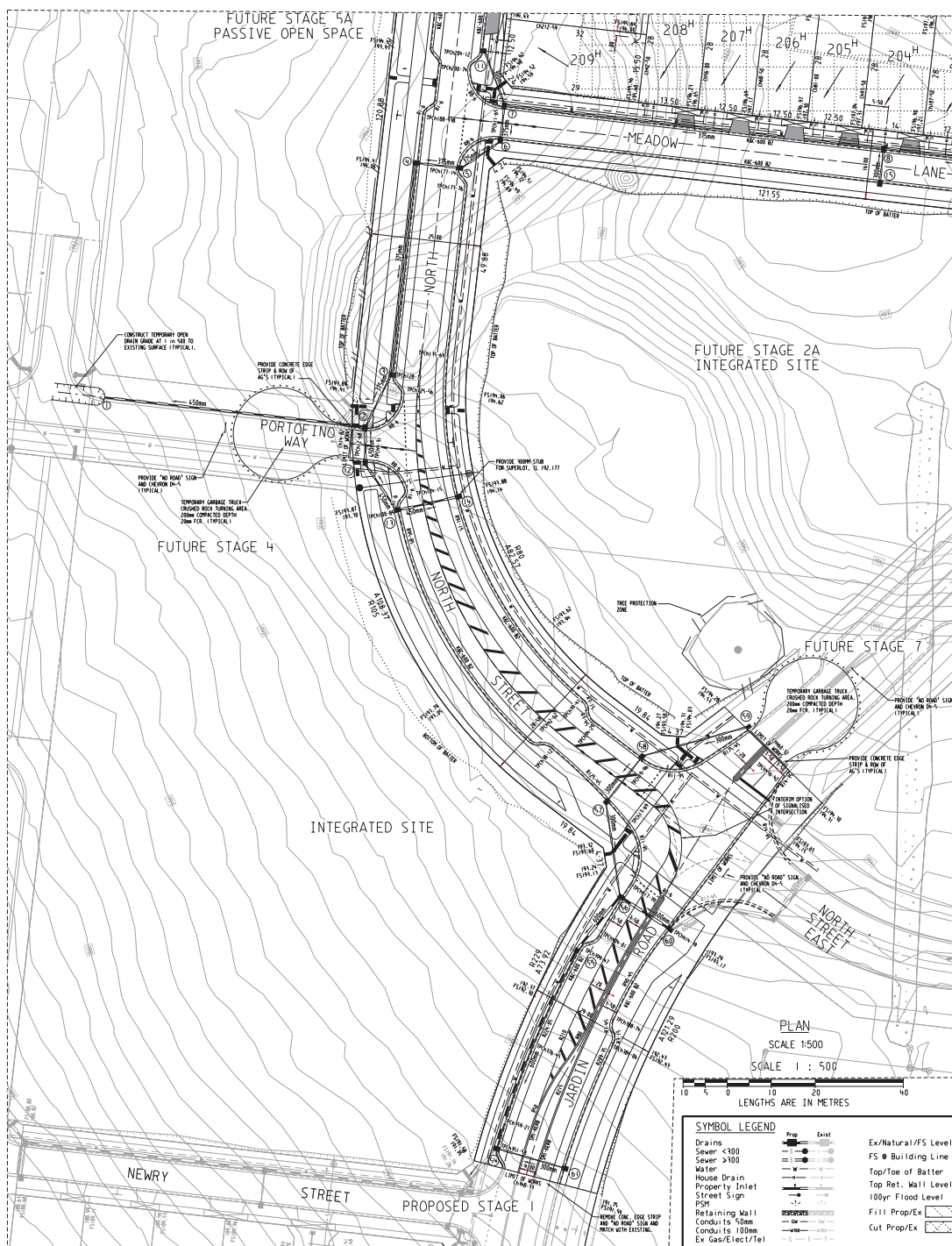


FIGURE 1 (2 of 2)



TYPICAL ROAD CROSS SECTIONS

SCALE HORIZONTAL 1:100
 VERTICAL 1:50

SHEET INDEX

SHT NO	VER	DESCRIPTION
1	A	DETAIL PLAN SHEET 2 OF 2
2	A	DETAIL PLAN SHEET 2 OF 2
3	A	NOTES AND TYPICAL SECTIONS
4	A	INTERSECTION DETAILS SHEET 2 OF 2
5	A	INTERSECTION DETAILS SHEET 2 OF 2
6	A	JARDIN ROAD - LONGITUDINAL SECTIONS & INTERSECTION DETAILS
7	A	JARDIN ROAD - CROSS SECTIONS
8	A	NORTH STREET WEST - LONGITUDINAL AND CROSS SECTIONS
9	A	NORTH STREET WEST - CROSS SECTIONS
10	A	MEADOW LAKE - LONGITUDINAL AND CROSS SECTIONS
11	A	GLENDOW AVENUE AND CARPENTERS DRIVE - LONGITUDINAL SECTIONS
12	A	GLENDOW AVENUE - CROSS SECTIONS
13	A	CARMICHAEL DRIVE - CROSS SECTIONS
14	A	YORK PARKWAY - LONGITUDINAL AND CROSS SECTIONS
15	A	PORTAGE INDIAN AND NORTH STREET CROSS - LONGITUDINAL AND CROSS SECTIONS
16	A	DRAINAGE LONGITUDINAL SECTIONS SHEET 1 OF 4
17	A	DRAINAGE LONGITUDINAL SECTIONS SHEET 2 OF 4
18	A	DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE SHEET 1 OF 4
19	A	DRAINAGE LONGITUDINAL SECTIONS SHEET 3 OF 4
20	A	STORAGE AND LINEMANING PLAN SHEET 1 OF 2
21	A	STORAGE AND LINEMANING PLAN SHEET 2 OF 2

ATTENTION TO CONTRACTOR

1. IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE DIGITAL PLAN, PROVIDED FOR SETOUT PURPOSES, MATCHES THE TBM COORDINATES SHOWN.
2. Contractor to ensure that the site is pegged and or set out checked by the licenced surveyor responsible for certifying the Plan of Subdivision prior to underground infrastructure being installed.
3. Where concrete works such as sewer access chamber surround or similar structure an expansion joint of approved material shall be provided between the two faces.

WARNING

CONTRACTOR TO TAKE EXTRA CAUTION
OF OPTIC FIBER CABLE IN DAVIS ROAD

WARNING

BWARE 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.

SERVICES OFFSETS AND LOCATIONS

STREET	NAME	DA	BS	WATER	GAS	ELECTRICITY	FIBER TO THE HOME	BL. OF KEAR	JOINT TRENCHING	STREET CLASSIFICATION	STREET TYPED
		BY	NEW			CABLES	POLYESTER	FIBER CABLES	FIBER CABLES		
JASPER ROAD		24-00	2-10 N	2-7.0 N	2-2.5 M	0-00 BOX	1-85 N	1-78 N	1-78 N	G.W. F.T.H.E.E	2-704 - 1-705
NORTH STREET		25-00	2-10 N	2-7.0 N	2-2.5 E	2-40 M	0-00 BOX	1-85 N	1-78 N	G.W. F.T.H.E.E	1-724N - 1-725
MEADOW LANE		16-00	2-10 N	2-7.0 N	2-2.5 E	2-50 S	0-00 BOX	1-85 N	1-78 N	G.W. F.T.H.E.E	2-740L - 2-740S
CLEMOND AVE		20-00	6-10 N	6-40 N	6-10 N	2-50 S	0-00 BOX	1-85 N	1-78 N	G.W. F.T.H.E.E	1-720L - 1-725S
YORK PARKWAY		20-00	2-10 E	2-7.0 E	2-2.5 E	2-50 M	0-00 BOX	1-85 N	1-78 N	G.W. F.T.H.E.E	2-740L - 2-740S
CARRIAGEWAY DRIVE		16-00	6-10 S	6-7.0 S	2-2.5 S	2-50 N	0-00 BOX	1-85 N	1-78 N	G.W. F.T.H.E.E	2-740L - 2-745S
POTTSFORD WAY		20-00	6-10 S	6-40 S	6-10 N	2-50 N	0-00 BOX	1-85 N	1-78 N	G.W. F.T.H.E.E	2-740L - 2-745S

SYMBOL LEGEND

Ex/Natural/FS Level 28.41 28.41
FS @ Building Line 28.27
Top/Toe of Batter 28.20 28.20
Top Ret. Wall Level 28.21
100yr Flood Level 28.21
Fill Prop/Ex
Cut Prop/Ex

AMENDMENTS	DATE	REMARKS
A	19.12.17	ISSUED FOR CONSTRUCTION



breese pitt dixon pty. ltd.
land surveyors civil engineers

1/19 cato street
hawthorn east, 3123
telephone 8823 2300
fax no. 8823 2310

RATHDOWNE ESTATE
STAGE 2

STAGE 2
DETAIL PLAN SHEET 2 OF 2

MUNICIPALITY
WHITTLESEA

REFERENCE
8352 E/2

[doi:10.1016/j.jss.2012.08.012](http://dx.doi.org/10.1016/j.jss.2012.08.012)



COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 18489
Report No 18489/R001
Date Issued 22/02/2019

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AC
Project	RATHDOWNE - STAGE 2	Date tested	18/02/19
Location	WOLLERT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:39
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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	2.15	2.01	2.14	2.13	2.15	2.14
Field moisture content %	9.2	9.6	9.4	9.9	9.5	10.2

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	2.20	2.05	2.20	2.21	2.20	2.20
Adjusted Peak Converted Wet Density t/m ³	-	-	-	-	-	-
Optimum Moisture Content %	11.0	11.5	11.5	12.0	12.0	12.5

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	2.0% dry	2.0% dry	2.5% dry	2.5% dry
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Density Ratio (R_{HD})	%	97.5	98.0	97.5	96.5	97.5	97.0
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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 to ISO/IEC 17025. Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 18489
Report No 18489/R002
Date Issued 25/02/2019

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AC
Project	RATHDOWNE - STAGE 2	Date tested	18/02/19
Location	WOLLERT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:04
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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	1.83	1.84	1.84	1.86	1.92	1.90
Field moisture content %	13.7	14.4	13.6	14.7	14.6	13.3

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	3	3	3	3	6	4
Peak Converted Wet Density t/m ³	1.81	1.81	1.82	1.84	1.83	1.84
Adjusted Peak Converted Wet Density t/m ³	1.88	1.86	1.88	1.89	1.94	1.91
Optimum Moisture Content %	15.5	16.5	16.0	17.0	16.0	15.5

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	1.5% dry	2.5% dry	1.5% dry	2.0% dry
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Density Ratio (R_{HD})	%	97.5	99.0	98.0	98.5	99.0	99.5
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Material description

No 7 - 12 Clay Fill

AVRLOT HILF V1.10 MAR 13



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Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 18489
Report No 18489/R003
Date Issued 22/01/2019

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AC
Project	RATHDOWNE - STAGE 2	Date tested	19/02/19
Location	WOLLERT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 08:25
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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	175
Field wet density t/m ³	1.92	1.87	1.94	1.85	1.84	1.94
Field moisture content %	9.8	9.5	10.5	10.3	11.2	9.8

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	0	0	0	0	0	0
Peak Converted Wet Density t/m ³	2.01	1.95	2.01	1.90	1.91	2.00
Adjusted Peak Converted Wet Density t/m ³	-	-	-	-	-	-
Optimum Moisture Content %	12.0	11.5	12.5	12.5	13.0	12.0

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	2.0% dry	2.0% dry	2.0% dry	2.0% dry
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Density Ratio (R_{HD})	%	95.5	96.0	97.0	97.0	96.5	97.0
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Material description

No 13 - 18 Clay Fill

AVRLOT HILF V1.10 MAR 13



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