



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

19th August 2024

Our Reference: 24174:NB1942

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
MERRIFIELD RESIDENTIAL – STAGE 6 (MICKLEHAM)

Please find attached our Report No's 24174/R001 to 24174/R004 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 was performed in July 2024.

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).

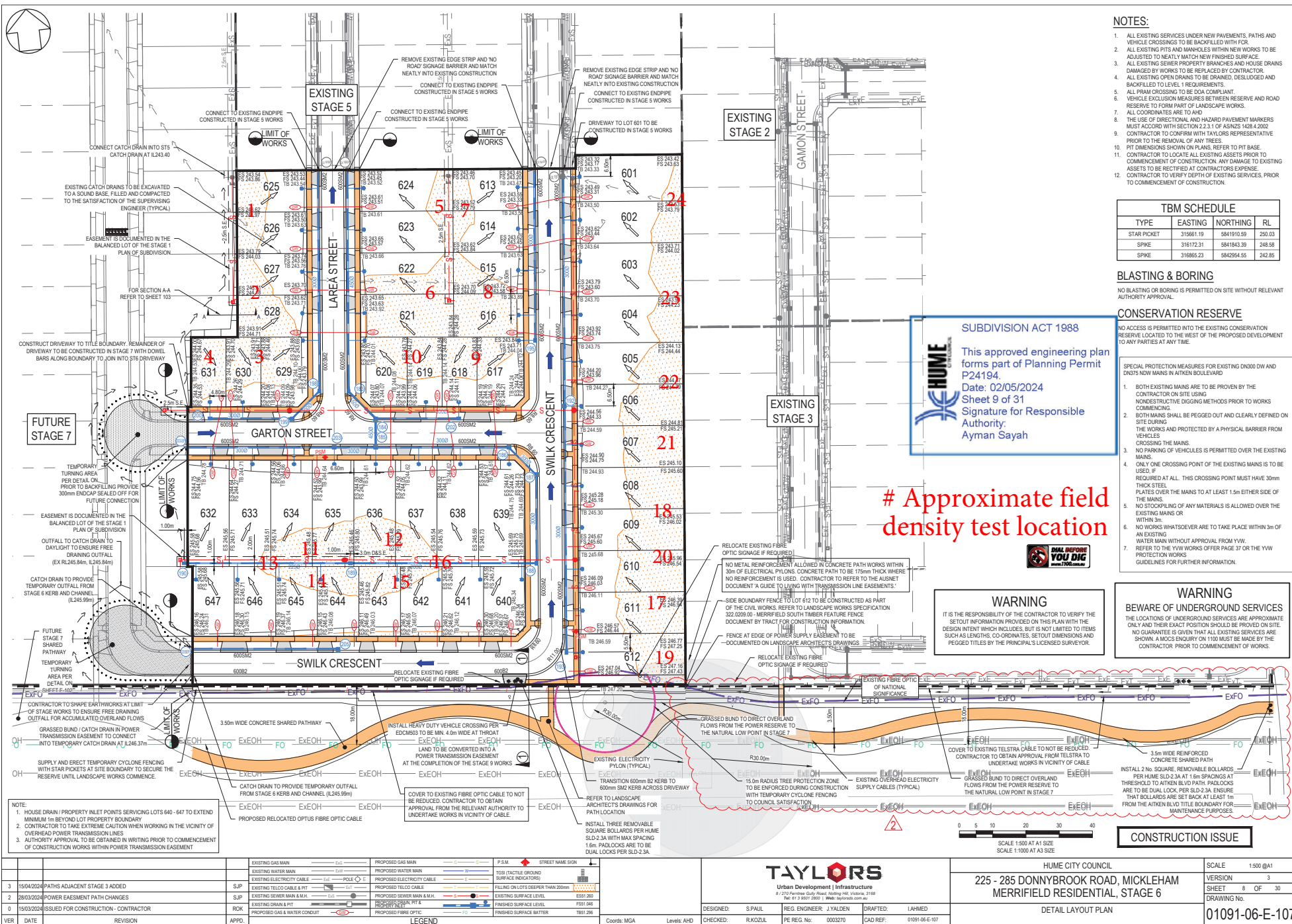
Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

A handwritten signature in blue ink, appearing to read 'Nick Brock', is written over a light blue circular stamp.

Nick Brock

FIGURE 1



- NOTES:**
1. ALL EXISTING SERVICES UNDER NEW PAVEMENTS, PATHS AND VEHICLE CROSSINGS TO BE BACKFILLED WITH FCR.
 2. ALL EXISTING PITS 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.
 5. ALL PRAM CROSSING TO BE DOA COMPLIANT.
 6. VEHICLE EXCLUSION MEASURES BETWEEN RESERVE AND ROAD RESERVE TO FORM PART OF LANDSCAPE WORKS.
 7. ALL COORDINATES ARE TO AHD.
 8. THE USE OF DIRECTIONAL AND HAZARD PAVEMENT MARKERS MUST ACCORD WITH SECTION 2.2.3.1 OF AS/NZS 1428.4:2002. CONTRACTOR TO CONFIRM WITH TAYLORS REPRESENTATIVE PRIOR TO THE REMOVAL OF ANY TREES.
 9. PIT DIMENSIONS SHOWN ON PLANS. REFER TO FIT BASE.
 10. CONTRACTOR TO LOCATE ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF CONSTRUCTION. ANY DAMAGE TO EXISTING ASSETS TO BE RECTIFIED AT CONTRACTORS EXPENSE.
 11. CONTRACTOR TO VERIFY DEPTH OF EXISTING SERVICES, PRIOR TO COMMENCEMENT OF CONSTRUCTION.

TYPE	EASTING	NORTHING	RL
STAR PICKET	319681.19	5841910.59	250.03
SPIKE	316172.31	5841843.39	248.58
SPIKE	316865.23	5842954.55	242.85

BLASTING & BORING
NO BLASTING OR BORING IS PERMITTED ON SITE WITHOUT RELEVANT AUTHORITY APPROVAL.

CONSERVATION RESERVE
NO ACCESS IS PERMITTED INTO THE EXISTING CONSERVATION RESERVE LOCATED TO THE WEST OF THE PROPOSED DEVELOPMENT TO ANY PARTIES AT ANY TIME.

- SPECIAL PROTECTION MEASURES FOR EXISTING DN300 DW AND DN175 NDW MAINS IN ATKEN BOULEVARD**
1. BOTH EXISTING MAINS ARE TO BE PROVEN BY THE CONTRACTOR ON SITE USING NONDESTRUCTIVE DIGGING METHODS PRIOR TO WORKS COMMENCING.
 2. BOTH MAINS SHALL BE PEGGED OUT AND CLEARLY DEFINED ON SITE USING THE WORKS AND PROTECTED BY A PHYSICAL BARRIER FROM VEHICLES CROSSING THE MAINS.
 3. NO PARKING OF VEHICLES IS PERMITTED OVER THE EXISTING MAINS.
 4. ONLY ONE CROSSING POINT OF THE EXISTING MAINS IS TO BE USED, IF REQUIRED AT ALL. THIS CROSSING POINT MUST HAVE 30mm THICK STEEL PLATES OVER THE MAINS TO AT LEAST 1.5m EITHER SIDE OF THE MAINS.
 5. NO STOCKPILING OF ANY MATERIALS IS ALLOWED OVER THE EXISTING MAINS OR WITHIN 3m.
 6. NO WORKS WHATSOEVER ARE TO TAKE PLACE WITHIN 3m OF AN EXISTING WATER MAIN WITHOUT APPROVAL FROM YVW.
 7. REFER TO THE YVW WORKS OFFER PAGE 37 OR THE YVW PROTECTION WORKS GUIDELINES FOR FURTHER INFORMATION.

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P24194.
Date: 02/05/2024
Sheet 9 of 31
Signature for Responsible Authority:
Ayman Sayah

Approximate field density test location

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 PEGGED TITLES BY THE PRINCIPAL'S LICENSED SURVEYOR.

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

- NOTE**
1. HOUSE DRAIN / PROPERTY INLET POINTS SERVICING LOTS 640 - 647 TO EXTEND MINIMUM 1m BEYOND LOT PROPERTY BOUNDARY.
 2. CONTRACTOR TO TAKE EXTREME CAUTION WHEN WORKING IN THE VICINITY OF OVERHEAD POWER TRANSMISSION LINES.
 3. AUTHORITY APPROVAL TO BE OBTAINED IN WRITING PRIOR TO COMMENCEMENT OF CONSTRUCTION WORKS WITHIN POWER TRANSMISSION EASEMENT.

APPD.	EXISTING GAS MAIN	PROPOSED GAS MAIN	P.S.M.	STREET NAME SIGN
	EXISTING WATER MAIN	PROPOSED WATER MAIN		
	EXISTING ELECTRICITY CABLE	PROPOSED ELECTRICITY CABLE		
	EXISTING TELSCO CABLE / FT	PROPOSED TELSCO CABLE		
	EXISTING SEWER MAIN A.M.H.	PROPOSED SEWER MAIN A.M.H.		
	EXISTING DRAIN & PIT	PROPOSED DRAIN, PIT & RELOCATED SEWER, P.TY & RELOCATED TELSCO OPTIC		
	PROPOSED GAS & WATER CONDUIT	PROPOSED FIBRE OPTIC		

TAYLORS
Urban Development | Infrastructure
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DESIGNED: S.PAUL
CHECKED: R.KOZUL

REG. ENGINEER: J.YALDEN
PE REG. No: 0003270

DRAFTED: LAHMED
CAD REF: 01091-06-E-107

HUME CITY COUNCIL
225 - 285 DONNYBROOK ROAD, MICKLEHAM
MERRIFIELD RESIDENTIAL, STAGE 6

SCALE 1:500 @A1
VERSION 3
SHEET 8 OF 30
DRAWING No. 01091-06-E-107



COMPACTION ASSESSMENT

Job No 24174
 Report No 24174/R001
 Date Issued 19/07/24

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AC
Project	MERRIFIELD RESIDENTIAL - STAGE 6	Date tested	02/07/24
Location	MICKLEHAM	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 14:01
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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	1.90	1.88	1.89	1.91	1.85
Field moisture content	%	20.5	17.8	22.0	19.7	16.7

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
Percent of oversize material	wet	0	0	0	0	0
Peak Converted Wet Density	t/m ³	1.95	1.91	1.93	1.94	1.92
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	21.5	20.0	24.5	22.0	19.0

Moisture Variation From Optimum Moisture Content	1.0% dry	2.0% dry	2.5% dry	2.5% dry	2.5% dry	2.0% dry
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density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

Density Ratio (R _{HD})	%	97.5	98.5	98.0	98.5	96.5	97.5
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Material description

No 1 - 6 Clay Fill

AVRLOT HILF V1.10 MAR 13



NATA Accredited Laboratory No 9909
 Accredited for compliance with
 ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 24174
 Report No 24174/R002
 Date Issued 22/07/24

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AC
Project	MERRIFIELD RESIDENTIAL - STAGE 6	Date tested	03/07/24
Location	MICKLEHAM	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 11:06
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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	1.82	1.93	1.84	1.80	1.89
Field moisture content	%	23.2	21.1	19.8	23.4	21.8

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	0
Peak Converted Wet Density	t/m ³	1.89	2.00	1.90	1.89	1.92
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	25.0	22.5	22.0	24.0	23.0

Moisture Variation From Optimum Moisture Content	2.0% dry	1.5% dry	2.0% dry	0.5% dry	1.0% dry	1.0% dry
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density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

Density Ratio (R _{HD})	%	96.5	96.5	97.0	95.0	98.5	97.5
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Material description

No 7 - 12 Clay Fill

AVRLOT HILF V1.10 MAR 13



NATA Accredited Laboratory No 9909
 Accredited for compliance with
 ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 24174
 Report No 24174/R003
 Date Issued 24/07/24

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AC
Project	MERRIFIELD RESIDENTIAL - STAGE 6	Date tested	05/07/24
Location	MICKLEHAM	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 10:33
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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	1.80	1.93	1.84	1.86	1.89	1.82
Field moisture content	%	23.0	20.9	21.7	21.5	21.8	20.2

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	
Percent of oversize material	wet	0	0	0	0	0	
Peak Converted Wet Density	t/m ³	1.88	1.99	1.92	1.88	1.96	1.91
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-	
Optimum Moisture Content	%	24.5	22.5	21.5	22.0	24.0	21.0

Moisture Variation From Optimum Moisture Content	1.5% dry	1.5% dry	0.0%	0.5% dry	2.0% dry	1.0% dry
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density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

Density Ratio (R _{HD})	%	95.5	97.0	96.0	99.0	96.5	95.5
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Material description

No 13 - 18 Clay Fill

AVRLOT HILF V1.10 MAR 13



NATA Accredited Laboratory No 9909
 Accredited for compliance with
 ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 24174
 Report No 24174/R004
 Date Issued 24/07/24

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AC
Project	MERRIFIELD RESIDENTIAL - STAGE 6	Date tested	08/07/24
Location	MICKLEHAM	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:50
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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	1.86	1.92	1.94	1.87	1.89
Field moisture content	%	20.3	24.5	19.8	25.1	20.1

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	1.92	1.99	1.96	1.95	1.96
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	22.5	25.0	20.0	25.0	22.0

Moisture Variation From Optimum Moisture Content	2.0% dry	0.5% dry	0.0%	0.0%	2.0% dry	1.5% dry
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density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

Density Ratio (R_{HD})	%	97.0	96.5	99.0	96.0	96.5	97.5
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Material description

No 19 - 24 Clay Fill

AVRLOT HILF V1.10 MAR 13



NATA Accredited Laboratory No 9909
 Accredited for compliance with
 ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry