



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

17<sup>th</sup> August 2023

Our Reference: 23040:NB1644

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING**  
**SHERWOOD GRANGE – STAGE 6 (SUNBURY)**

Please find attached our Report No's 23040/R001 to 23040/R009 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 January 2023 and was completed in February 2023.

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





## COMPACTION ASSESSMENT

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 23040  
Report No 23040/R001  
Date Issued 30/01/23

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AM
Project	SHERWOOD GRANGE - STAGE 6	Date tested	18/01/23
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 14:05
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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 <sup>3</sup>	2.00	1.98	1.98	2.04	2.04	2.05
Field moisture content %	20.8	22.6	20.1	24.0	24.1	23.2

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 <sup>3</sup>	2.01	2.03	1.98	2.07	2.07	2.08
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	22.0	23.0	20.5	24.0	24.0	24.5

Moisture Variation From Optimum Moisture Content	1.0% dry	0.0%	0.5% dry	0.0%	0.0%	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 ( $R_{HD}$ )	%	99.5	98.0	100.0	98.5	98.5	98.5
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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

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 23040  
Report No 23040/R002  
Date Issued 31/01/23

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AM
Project	SHERWOOD GRANGE - STAGE 6	Date tested	19/01/23
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 14:28
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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 <sup>3</sup>	1.87	1.89	1.84	1.90	1.88	1.81
Field moisture content %	24.7	25.2	24.1	24.4	24.5	24.6

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 <sup>3</sup>	1.91	1.91	1.87	1.93	1.94	1.87
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	27.5	28.0	26.5	25.5	27.5	26.0

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	2.5% dry	1.0% dry	2.5% 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 ( $R_{HD}$ )	%	98.0	98.5	98.5	98.5	97.0	97.0
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Material description

No 7 - 12 Clay Fill

AVRLOT HILF V1.10 MAR 13



NATA Accredited Laboratory No 9909  
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Approved Signatory : Justin Fry



## COMPACTION ASSESSMENT

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 23040  
Report No 23040/R003  
Date Issued 01/02/23

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AM
Project	SHERWOOD GRANGE - STAGE 6	Date tested	30/01/23
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:31
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	13	14	15	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL						
Measurement depth mm	175	175	175	-	-	-
Field wet density t/m <sup>3</sup>	2.05	2.07	2.07	-	-	-
Field moisture content %	16.0	17.9	15.9	-	-	-

Test procedure AS 1289.5.7.1

Test No	13	14	15	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve mm	19.0	19.0	19.0	-	-	-
Percent of oversize material wet	0	0	0	-	-	-
Peak Converted Wet Density t/m <sup>3</sup>	2.09	2.07	2.10	-	-	-
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	18.0	20.5	18.0	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% 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 ( $R_{HD}$ )	%	98.5	100.0	98.5	-	-	-
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Material description

No 13 - 15 Clay Fill

AVRLOT HILF V1.10 MAR 13



NATA Accredited Laboratory No 9909  
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ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry



## COMPACTION ASSESSMENT

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 23040  
Report No 23040/R004  
Date Issued 02/02/23

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AM
Project	SHERWOOD GRANGE - STAGE 6	Date tested	31/01/23
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 20:57
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	16	17	18	19	20	21
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 <sup>3</sup>	1.90	1.89	1.86	1.81	1.80	1.77
Field moisture content %	22.3	22.5	18.2	17.9	18.0	22.5

Test procedure AS 1289.5.7.1

Test No	16	17	18	19	20	21
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 <sup>3</sup>	1.93	1.92	1.95	1.84	1.84	1.84
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	22.5	24.5	20.0	20.5	20.5	23.5

Moisture Variation From Optimum Moisture Content	0.5% dry	2.0% dry	1.5% dry	2.5% dry	2.5% 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 ( $R_{HD}$ )	%	98.5	98.5	95.5	98.5	98.0	96.0
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Material description

No 16 - 21 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

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 23040  
Report No 23040/R005  
Date Issued 13/02/23

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AM
Project	SHERWOOD GRANGE - STAGE 6	Date tested	01/02/23
Location	SUNBURY	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	22	23	24	25	26	27
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 <sup>3</sup>	1.96	1.97	1.92	1.92	2.00	1.93
Field moisture content %	18.1	19.6	18.1	17.3	17.4	17.7

Test procedure AS 1289.5.7.1

Test No	22	23	24	25	26	27
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 <sup>3</sup>	2.01	2.04	1.99	1.99	2.10	2.02
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	19.5	21.5	20.5	19.5	19.5	19.5

Moisture Variation From Optimum Moisture Content	1.5% dry	2.0% dry	2.5% dry	2.0% dry	2.0% 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	96.5	97.0	96.5	95.0	95.5
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Material description

No 22 - 27 Clay Fill

AVRLOT HILF V1.10 MAR 13



NATA Accredited Laboratory No 9909  
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ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry



## COMPACTION ASSESSMENT

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)  
Project SHERWOOD GRANGE - STAGE 6  
Location SUNBURY

Job No 23040  
Report No 23040/R006  
Date Issued 14/02/23

Tested by AM  
Date tested 01/02/23  
Checked by JHF

Feature EARTHWORKS Layer thickness 200 mm Time: 13:30

Test procedure AS 1289.2.1.1 & 5.8.1

Test No	28	29	30	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL						
Measurement depth mm	175	175	175	-	-	-
Field wet density t/m <sup>3</sup>	1.92	1.92	1.95	-	-	-
Field moisture content %	22.0	22.0	22.5	-	-	-

Test procedure AS 1289.5.7.1

Test No	28	29	30	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve mm	19.0	19.0	19.0	-	-	-
Percent of oversize material wet	0	0	0	-	-	-
Peak Converted Wet Density t/m <sup>3</sup>	1.95	1.94	2.01	-	-	-
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	22.5	22.5	23.5	-	-	-

Moisture Variation From Optimum Moisture Content	0.5% dry	0.0%	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 ( $R_{HD}$ )	%	98.0	99.0	97.0	-	-	-
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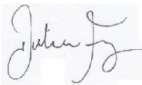
Material description

No 28 - 30 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

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 23040  
Report No 23040/R007  
Date Issued 13/02/23

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AM
Project	SHERWOOD GRANGE - STAGE 6	Date tested	02/02/23
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:36
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	31	32	33	34	35	36
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 <sup>3</sup>	1.96	1.96	1.95	2.02	2.00	2.02
Field moisture content %	19.7	20.3	19.7	20.8	18.2	15.9

Test procedure AS 1289.5.7.1

Test No	31	32	33	34	35	36
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 <sup>3</sup>	2.00	1.97	2.01	2.03	2.02	2.04
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	22.0	22.5	22.5	23.0	21.0	18.0

Moisture Variation From Optimum Moisture Content	2.0% dry	2.5% 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 ( $R_{HD}$ )	%	98.0	99.5	97.0	99.0	99.0	99.5
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Material description

No 31 - 36 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

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 23040  
Report No 23040/R008  
Date Issued 27/02/23

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AM
Project	SHERWOOD GRANGE - STAGE 6	Date tested	02/02/23
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:40
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	37	38	39	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL						
Measurement depth mm	175	175	175	-	-	-
Field wet density t/m <sup>3</sup>	2.05	2.05	2.06	-	-	-
Field moisture content %	19.9	21.5	18.1	-	-	-

Test procedure AS 1289.5.7.1

Test No	37	38	39	-	-	-
Compactive effort	Standard					
Override rock retained on sieve mm	19.0	19.0	19.0	-	-	-
Percent of override material wet	0	0	0	-	-	-
Peak Converted Wet Density t/m <sup>3</sup>	2.06	2.07	2.08	-	-	-
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	22.0	23.5	19.5	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% dry	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 ( $R_{HD}$ )	%	100.0	99.0	99.0	-	-	-
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Material description

No 37 - 39 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

### CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 23040  
Report No 23040/R009  
Date Issued 14/02/23

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AM
Project	SHERWOOD GRANGE - STAGE 6	Date tested	03/02/23
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:50
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	40	41	42	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL						
Measurement depth mm	175	175	175	-	-	-
Field wet density t/m <sup>3</sup>	2.08	2.10	2.09	-	-	-
Field moisture content %	21.8	20.8	21.1	-	-	-

Test procedure AS 1289.5.7.1

Test No	40	41	42	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve mm	19.0	19.0	19.0	-	-	-
Percent of oversize material wet	0	0	0	-	-	-
Peak Converted Wet Density t/m <sup>3</sup>	2.10	2.12	2.13	-	-	-
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content %	23.5	22.5	22.0	-	-	-

Moisture Variation From Optimum Moisture Content	1.5% dry	1.5% 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 ( $R_{HD}$ )	%	99.0	99.5	98.0	-	-	-
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Material description

No 40 - 42 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