



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

13th March 2024

Our Reference: 23445:NB1784 (Rev.1)

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
REDSTONE – STAGE 5B (SUNBURY)

Please find attached our Report No's 23445/R001 to 23445/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 May 2023 and was completed in June 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).

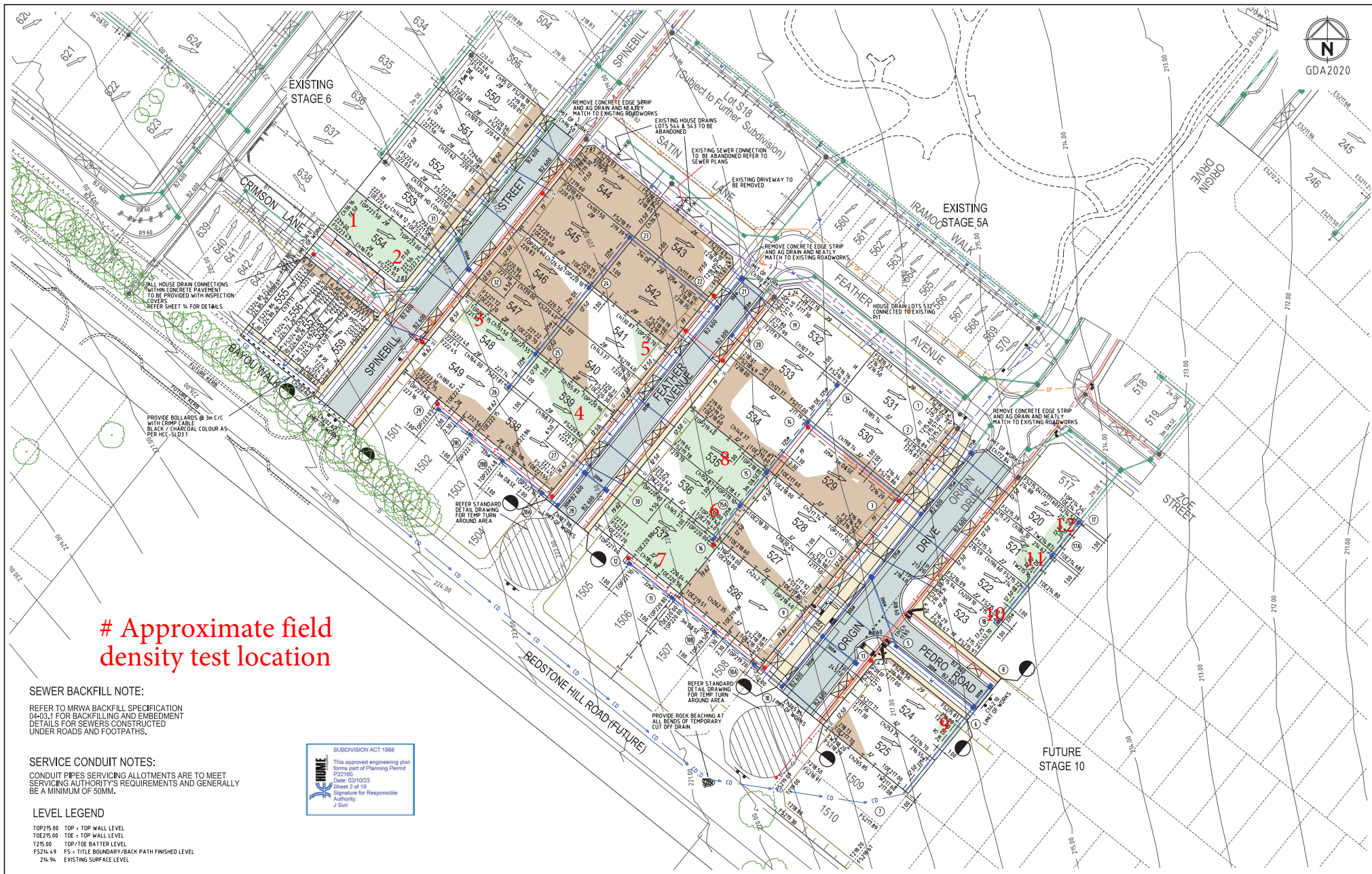
Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

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

Nick Brock

FIGURE 1



Approximate field density test location

SEWER BACKFILL NOTE:

REFER TO MRVIA BACKFILL SPECIFICATION 04-03.1 FOR BACKFILLING AND EMBEDMENT DETAILS FOR SEWERS CONSTRUCTED UNDER ROADS AND FOOTPATHS.

SERVICE CONDUIT NOTES:

CONDUIT PIPES SERVICING ALLOTMENTS ARE TO MEET SERVICING AUTHORITY'S REQUIREMENTS AND GENERALLY BE A MINIMUM OF 50MM.

LEVEL LEGEND

- TOP215.00 TOP + TOP WALL LEVEL
- TOE215.00 TOE + TOP WALL LEVEL
- 1215.00 TOP/TOE BATTER LEVEL
- FS214.49 FS + TITLE BOUNDARY/BACK PATH FINISHED LEVEL
- 214.94 EXISTING SURFACE LEVEL

SUBDIVISION ACT 1988

This approved engineering plan forms part of Planning Permit P22160.
 Date: 02/10/23
 Sheet 2 of 19
 Signature for Responsible Authority: J. Smit

Rev	Amendments	Approved	Date
0	ISSUE FOR CONSTRUCTION	M.T.S	17/07/23



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villawood
 RESIDENCES
 Communities Designed for Living

Designed: R. WEINBER
 Authorised: M. TOOMER-SMITH

Checked: M. TOOMER-SMITH
 Date: 15/08/22

Redstone.
 Your world awaits

Redstone ESTATE
 STAGE 5B
 ROAD & DRAINAGE FACE PLAN

VILLAWOOD PROPERTIES
 HUME CITY COUNCIL

CONSTRUCTION 309820R02

Redstone ESTATE
 STAGE 5B
 ROAD & DRAINAGE FACE PLAN

VILLAWOOD PROPERTIES
 HUME CITY COUNCIL

CONSTRUCTION 309820R02

Rev No: 0
 Rev: 0



COMPACTION ASSESSMENT

Job No 23445
 Report No 23445/R001
 Date Issued 08/06/2023

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AM
Project	REDSTONE ESTATE - STAGE 5B	Date tested	29/05/23
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 10:03
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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	1.86	1.87	1.84	1.86	1.89
Field moisture content	%	24.3	30.9	27.2	26.3	29.6

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	1.91	1.90	1.89	1.90	1.91
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	24.0	34.0	30.0	29.0	27.5

Moisture Variation From Optimum Moisture Content	0.0%	2.5% dry	2.5% dry	2.5% dry	0.5% dry	2.5% 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})	%	97.5	98.5	97.5	97.5	99.0	99.0
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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 23445
 Report No 23445/R002
 Date Issued 08/06/2023

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AM
Project	REDSTONE ESTATE - STAGE 5B	Date tested	31/05/23
Location	SUNBURY	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 10:06
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	7	8	9	-	-	-
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 ³	1.85	1.86	1.89	-	-
Field moisture content	%	29.3	29.9	27.2	-	-

Test procedure AS 1289.5.7.1

Test No	7	8	9	-	-	-
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 ³	1.92	1.93	1.93	-	-
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	32.0	31.5	29.0	-	-

Moisture Variation From Optimum Moisture Content	2.5% dry	1.5% 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})	%	96.5	96.0	98.0	-	-
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Material description

No 7 - 9 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 23445
 Report No 23445/R003
 Date Issued 15/06/2023

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AM
Project	REDSTONE ESTATE - STAGE 5B	Date tested	01/06/23
Location	SUNBURY	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	10	11	12	-	-	-
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 ³	1.89	1.84	1.91	-	-
Field moisture content	%	26.2	27.9	28.0	-	-

Test procedure AS 1289.5.7.1

Test No	10	11	12	-	-	-
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 ³	1.95	1.88	1.99	-	-
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-
Optimum Moisture Content	%	27.5	30.0	29.0	-	-

Moisture Variation From Optimum Moisture Content	1.5% 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})	%	97.0	98.0	96.0	-	-
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Material description

No 10 - 12 Clay Fill

AVRLOT HILF V1.10 MAR 13



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Approved Signatory : Justin Fry