



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

22nd March 2018

Our Reference: 18024:NB163

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
NEWHAVEN – STAGE 4 (TARNEIT)**

Please find attached our Report No's 18024/R001 and 18024/R006 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 2018 and were completed in February 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).

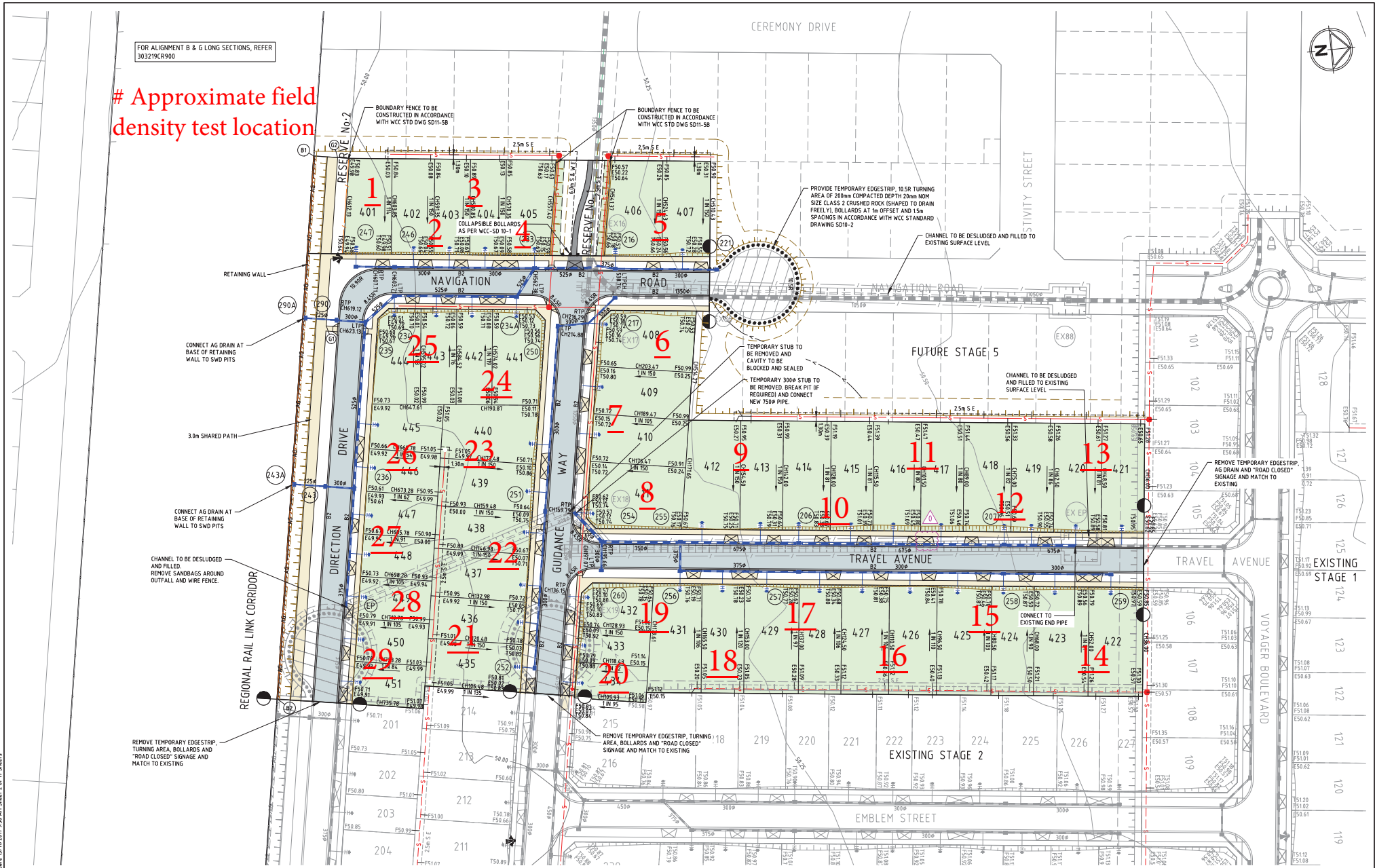
Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

A handwritten signature in blue ink, appearing to be 'Nick Brock', written in a cursive style.

Nick Brock

FIGURE 1



File Name: 303219CR04.dwg
 Plot Date: 14/08/2024 10:52:42 AM
 Plot Path: C:\Users\j.s.\AppData\Local\Temp\14082024_105242\303219CR04.dwg
 Plot Scale: 1:1
 Plot Size: A3
 Plot Orientation: Landscape
 Plot Title: FIGURE 1

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	J.S.	14-11-17
D	DRAIN IN NAVIGATION ROAD ADDED (STAGE 2)	J.S.	24-08-17
C	RETAINING WALL AMENDED	J.S.	11-08-17
B	PIT 247 MOVED, SVD PIPE SIZE & FOOTPATH AMENDED	J.S.	07-08-17
A	ISSUED FOR APPROVAL	J.S.	28-06-17



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Designed: []
 Checked: []
 Authorised: []
 Date: []

NEWHAVEN STAGE 4 ROAD & DRAINAGE DETAIL PLAN
 WYNHAM CITY COUNCIL
 PEET 1895 PTY LTD

Dwg No: **303219CR200** Rev: **0**

CONSTRUCTION



COMPACTION ASSESSMENT

Job No 18024
 Report No 18024/R001
 Date Issued 19/03/2018

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	B G G
Project	NEW HAVEN - STAGE 4	Date tested	18/01/18
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	09:05
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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 ³	1.77	1.75	1.71	1.74	1.70	1.76
Field moisture content	%	22.2	21.8	16.1	21.2	23.2	22.2

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	3	8	0	0	0	0
Peak Converted Wet Density	t/m ³	1.86	1.80	1.80	1.83	1.79	1.78
Adjusted Peak Converted Wet Density	t/m ³	1.87	1.84	-	-	-	-
Optimum Moisture Content	%	24.5	24.0	18.0	23.0	26.0	24.5

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	2.0% dry	2.0% dry	2.5% dry	2.0% dry
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Density Ratio (R _{HD})	%	95.0	95.5	95.0	95.0	95.0	99.0
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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 18024
 Report No 18024/R002
 Date Issued 21/03/2018

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Tested by B G G
 Date tested 18/01/18
 Checked by JHF

Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)
 Project NEW HAVEN - STAGE 4
 Location TARNEIT

Feature	EARTHWORKS	<i>Layer thickness</i>	200 mm	<i>Time:</i> 09:21
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	7	-	-	-	-	-
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth <i>mm</i>	175	-	-	-	-	-
Field wet density <i>t/m³</i>	1.81	-	-	-	-	-
Field moisture content <i>%</i>	24.8	-	-	-	-	-

Test procedure AS 1289.5.7.1

Test No	7	-	-	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	-	-	-	-	-
Percent of oversize material <i>wet</i>	0	-	-	-	-	-
Peak Converted Wet Density <i>t/m³</i>	1.88	-	-	-	-	-
Adjusted Peak Converted Wet Density <i>t/m³</i>	-	-	-	-	-	-
Optimum Moisture Content <i>%</i>	24.0	-	-	-	-	-

<i>Moisture Variation From Optimum Moisture Content</i>	0.5% wet	-	-	-	-	-
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Density Ratio (R_{HD})	%	96.5	-	-	-	-
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Material description

No 7 - 7 Clay Fill



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Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 18024
 Report No 18024/R003
 Date Issued 06/02/2018

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	NEW HAVEN - STAGE 4	Date tested	24/01/18
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	08:08
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	8	9	10	11	12	13	
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	1.83	1.78	1.82	1.77	1.85	1.86
Field moisture content	%	20.0	22.2	21.9	19.3	23.1	22.5

Test procedure AS 1289.5.7.1

Test No	8	9	10	11	12	13	
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	1.85	1.86	1.82	1.77	1.85	1.87
Adjusted Peak Converted Wet Density	t/m ³	-	-	-	-	-	
Optimum Moisture Content	%	22.5	25.0	25.0	21.5	25.0	25.0

Moisture Variation From Optimum Moisture Content	2.0% dry	2.5% dry	2.5% dry	2.5% dry	2.0% dry	2.0% dry
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Density Ratio (R _{HD})	%	99.5	96.0	100.0	99.5	100.0	99.5
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Material description

No 8 - 13 Clay Fill



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Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 18024
 Report No 18024/R004
 Date Issued 20/03/2018

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	NEW HAVEN - STAGE 4	Date tested	02/02/18
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 09:31
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	14	15	16	17	18	19
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>	1.82	1.85	1.88	1.84	1.82	1.86
Field moisture content %	21.2	21.4	21.1	21.1	20.2	21.5

Test procedure AS 1289.5.7.1

Test No	14	15	16	17	18	19
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>	1.91	1.90	1.88	1.87	1.86	1.87
Adjusted Peak Converted Wet Density <i>t/m³</i>	-	1.94	-	-	-	-
Optimum Moisture Content %	23.5	24.0	23.5	23.5	22.5	24.5

Moisture Variation From Optimum Moisture Content	2.0% dry	2.5% dry	2.5% dry	2.5% dry	2.5% dry	2.5% dry
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Density Ratio (<i>R_{HD}</i>) %	95.5	95.0	100.0	98.5	97.5	99.5
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Material description

No 14 - 19 Clay Fill



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COMPACTION ASSESSMENT

Job No 18024
 Report No 18024/R005
 Date Issued 22/03/2018

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	NEW HAVEN - STAGE 4	Date tested	05/02/18
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 13:30
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	20	21	22	23	-	-
Location	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	-	-
Field wet density <i>t/m³</i>	1.86	1.84	1.84	1.82	-	-
Field moisture content %	24.8	19.1	19.9	25.6	-	-

Test procedure AS 1289.5.7.1

Test No	20	21	22	23	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	19.0	-	-
Percent of oversize material <i>wet</i>	0	0	0	0	-	-
Peak Converted Wet Density <i>t/m³</i>	1.89	1.86	1.86	1.87	-	-
Adjusted Peak Converted Wet Density <i>t/m³</i>	-	-	-	-	-	-
Optimum Moisture Content %	26.5	21.5	22.0	28.0	-	-

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

No 20 - 23 Clay Fill



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Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 18024
 Report No 18024/R006
 Date Issued 20/03/2018

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	JB
Project	NEW HAVEN - STAGE 4	Date tested	06/02/18
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	09:30
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	24	25	26	27	28	29
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	1.79	1.87	1.84	1.83
Field moisture content	%	20.5	21.7	17.0	23.0	23.5

Test procedure AS 1289.5.7.1

Test No	24	25	26	27	28	29
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	3	0	0
Peak Converted Wet Density	t/m ³	1.90	1.88	1.91	1.89	1.85
Adjusted Peak Converted Wet Density	t/m ³	1.96	-	1.92	-	-
Optimum Moisture Content	%	22.5	24.0	19.0	24.0	26.5

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	2.0% dry	1.0% dry	2.5% dry	2.5% dry
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Density Ratio (R _{HD})	%	95.0	95.5	97.5	97.5	98.5	97.5
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Material description

No 24 - 29 Clay Fill



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