

# CIVIL GEOTECHNICAL SERVICES ABN 26 474 013 724

## PO Box 678 Croydon Vic 3136 Telephone: 9723 0744 Facsimile: 9723 0799

22<sup>nd</sup> December 2016

Our Reference: 16306:GB094

Winslow Constructors Pty Ltd 50 Barry Road CAMPBELLFIELD VIC 3061

Dear Sirs,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING CORNERSTONE ESTATE – STAGE 1, WYNDHAM VALE

Please find attached our Report Nos 16306/R001 to 16306/R003 that 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 late June 2016 and was completed in mid December 2016.

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).

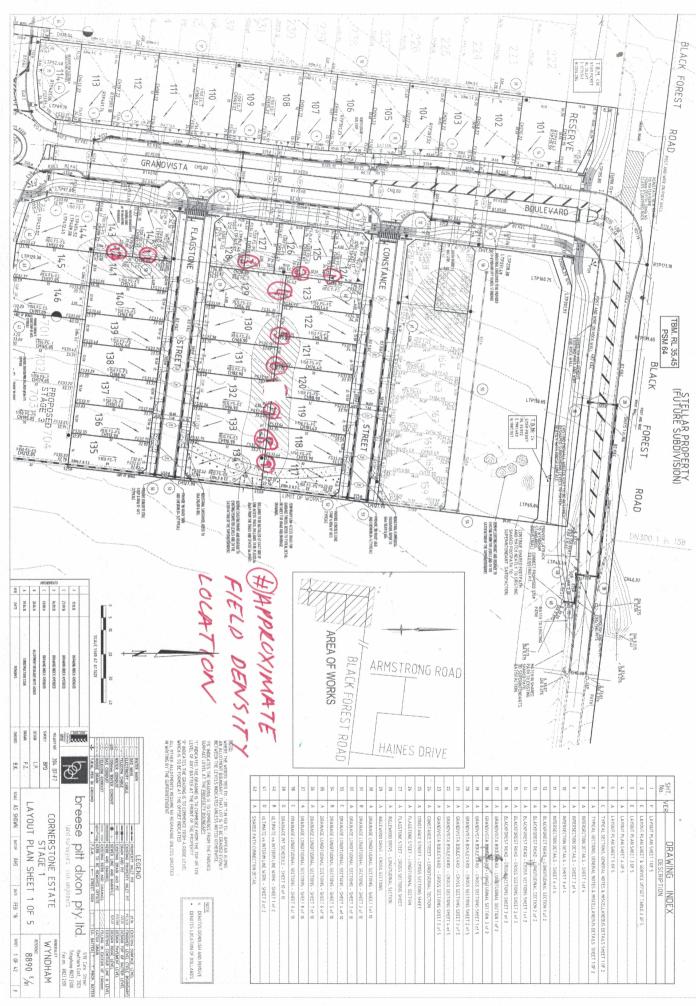
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Griffin Brown

16306: GB094: December 2016







#### **COMPACTION ASSESSMENT**

 CIVIL GEOTECHNICAL SERVICES
 Job No
 16306

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 16306/R001

 Date Issued
 07/07/16

 Client
 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)
 Tested by
 NB

 Project
 CORNERSTONE - STAGE 1
 Date tested
 30/06/16

 Location
 WYNDHAM VALE
 Checked by
 JHF

Feature EARTHWORKS Layer thickness 200 mm Time: 10:27

Test procedure AS 1289.2.1.1 & 5.8.1							
Test No		1	2	3	4	-	-
Location		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	-	-

1.82

32.5

1.79

34.3

1.78

35.6

t/m³

%

1.81

26.2

## Test procedure AS 1289.5.7.1

Field wet density

Field moisture content

Test No		1	2	3	4	-	-
Compactive effort				Star	ıdard		
Oversize rock retained on sieve	mm	19.0	19.0	19.0	19.0	-	•
Percent of oversize material	wet	0	0	0	0	-	-
Peak Converted Wet Density	t/m³	1.81	1.82	1.77	1.77	-	-
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-
Optimum Moisture Content	%	28.5	31.5	35.0	36.0	-	-

Moisture Variation From	2.5%	1.0%	0.5%	0.5%	-	-
Optimum Moisture Content	dry	wet	dry	dry		

Density Ratio (R <sub>HD</sub> )	%	100.0	100.0	101.5	101.0	-	-

#### Material description

No 1 - 4 Clay Fill



Approved Signatory : Justin Fry

AVRLOT HILF V1.10 MAR 13



#### **COMPACTION ASSESSMENT**

 CIVIL GEOTECHNICAL SERVICES
 Job No
 16306

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 16306/R002

 Date Issued
 14/12/16

Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Tested by JB

ProjectCORNERSTONE - STAGE 1Date tested06/12/16LocationWYNDHAM VALEChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 10:00

Test procedure	4.5	12892	1	1 & 5 8	₹ 1
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Test No		5	6	7	8	9	10
Location		REFER TO FIGURE 1					
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m³	1.84	1.82	1.86	1.82	1.81	1.88
Field moisture content	%	19.4	13.4	13.2	16.2	9.6	16.5

## Test procedure AS 1289.5.7.1

Test No		5	6	7	8	9	10
Compactive effort				Star	ndard		
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/m³	1.80	1.83	1.83	1.82	1.82	1.83
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-
Optimum Moisture Content	%	20.5	15.5	14.5	18.0	11.0	18.0

Moisture Variation From	1.0%	2.5%	1.5%	2.0%	2.0%	1.5%
Optimum Moisture Content	dry	dry	dry	dry	dry	dry

Density Ratio (R <sub>HD</sub> )	%	102.0	100.0	101.5	100.0	99.5	102.5

#### Material description

No 5 - 10 Clay Fill



Approved Signatory : Justin Fry

AVRLOT HILF V1.10 MAR 13



#### **COMPACTION ASSESSMENT**

 CIVIL GEOTECHNICAL SERVICES
 Job No
 16306

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 16306/R003

 Date Issued
 22/12/16

Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)

Tested by JB

ProjectCORNERSTONE - STAGE 1Date tested06/12/16LocationWYNDHAM VALEChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 11:00

Test procedure	4.5	12892	1 .	1 &	581	1

Test No		11	12	13	14	-	-
Location		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	-	-
Field wet density	t/m³	1.84	1.81	1.86	1.82	-	-
Field moisture content	%	12.0	11.8	19.8	15.2	-	-

## Test procedure AS 1289.5.7.1

Test No		11	12	13	14	-	-
Compactive effort				Stan	dard		
Oversize rock retained on sieve	mm	19.0	19.0	19.0	19.0	-	ı
Percent of oversize material	wet	0	0	0	0	-	-
Peak Converted Wet Density	t/m³	1.83	1.85	1.85	1.80	-	-
Adjusted Peak Converted Wet Density	t/m³	-	-	-	-	-	-
Optimum Moisture Content	%	13.0	12.5	20.5	16.5	-	-

Moisture Variation From	1.0%	0.5%	0.5%	1.5%	-	-
Optimum Moisture Content	dry	dry	dry	dry		

Density Ratio (R <sub>HD</sub> )	%	100.5	98.0	100.5	101.5	-	-

#### Material description

No 11 - 14 Clay Fill



Approved Signatory : Justin Fry

AVRLOT HILF V1.10 MAR 13