CIVIL GEOTECHNICAL SERVICES
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22nd July 2014

Our Reference: 14067:JHF808

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
ARMSTRONG, MT DUNEED (STAGE 7) – MOUNT DUNEED

Please find attached our Report Nos 14067/R001 to 14067/R005 that relates 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 February 2014 and was completed in late May 2014.

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 inspections 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).

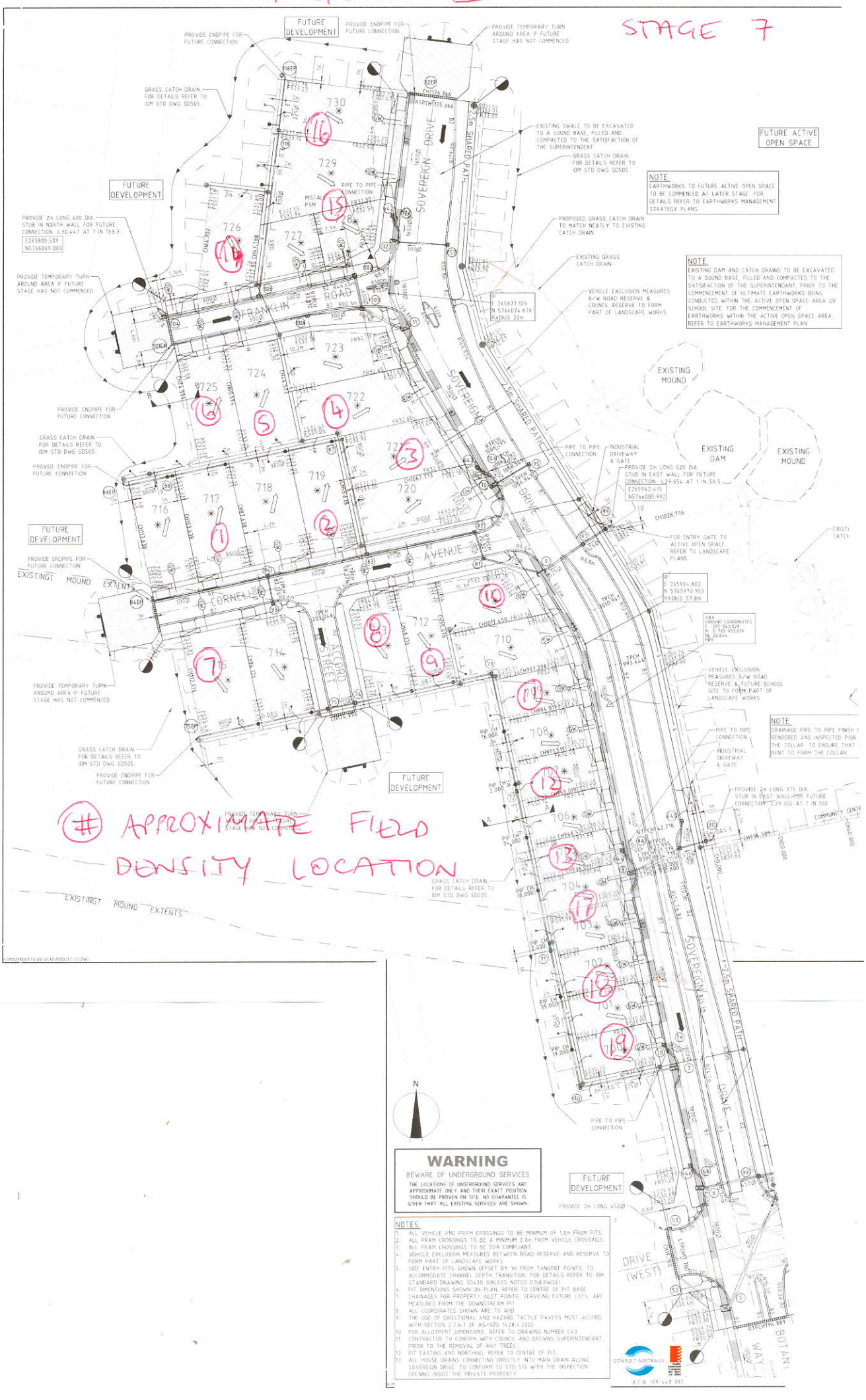
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Justin Fry

FIGURE 1



(#) APPROXIMATE FIELD DENSITY LOCATION

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	14067
		Report No	14067/R001
		Date Issued	12/03/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	JWM
Project	ARMSTRONG MT DUNEED - STAGE 7	*Date tested*	21/02/14
Location	MOUNT DUNDEED	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 09:50

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/m³*	1.98	2.04	1.96	1.98	2.01	1.95
Field moisture content	*%*	18.3	18.0	19.7	18.5	17.5	16.6

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	19.0
Percent of oversize material	*wet*	0	0	0	0	0	0
Peak Converted Wet Density	*t/m³*	1.98	2.02	1.99	1.97	2.00	2.02
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	20.5	20.5	22.0	21.5	20.0	19.5

Moisture Variation From Optimum Moisture Content		2.5% dry	2.5% dry	2.5% dry	3.0% dry	2.5% dry	2.5% dry
Density Ratio (R_{HD})	*%*	**100.5**	**101.0**	**98.5**	**101.0**	**100.5**	**96.5**

Material description

No 1 - 6 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon 3136

		Job No	14067
		Report No	14067/R002
		Date Issued	30/06/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	DK
Project	ARMSTRONG MT DUNEED - STAGE 7	Date tested	04/04/14
Location	MOUNT DUNEED	Checked by	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	08:31

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**7**	**8**	**9**	**10**	**-**	**-**
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*	1.89	1.88	1.83	1.90	-	-
Field moisture content	*%*	18.6	23.1	21.4	18.1	-	-

Test procedure AS 1289.5.7.1

Test No		7	8	9	10	-	-
Compactive effort		Standard					
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*	1.96	1.95	1.93	2.00	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	20.5	24.0	22.5	20.0	-	-

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

Density Ratio (R_{HD})	**%**	**97.0**	**96.5**	**95.0**	**95.0**	**-**	**-**

Material description

No 7 - 10 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	14067
		Report No	14067/R003
		Date Issued	30/06/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	DK
Project	ARMSTRONG MT DUNEED - STAGE 7	*Date tested*	04/04/14
Location	MOUNT DUNEED	*Checked by*	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	10:30

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**11**	**12**	**13**	**-**	**-**	**-**
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/m³*	1.79	1.87	1.95	-	-	-
Field moisture content	*%*	26.9	24.2	24.5	-	-	-

Test procedure AS 1289.5.7.1

Test No		11	12	13	-	-	-
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/m³*	1.89	1.96	1.95	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	27.5	24.5	24.5	-	-	-

Moisture Variation From Optimum Moisture Content		0.5% dry	0.0%	0.0%	-	-	-

Density Ratio (R_{HD})	***%***	**95.0**	**95.5**	**99.5**	**-**	**-**	**-**

Material description

No 11 - 13 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES
6 - 8 Rose Avenue, Croydon 3136

		Job No	14067
		Report No	14067/R004
		Date Issued	12/06/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	DK
Project	ARMSTRONG MT DUNEED - STAGE 7	*Date tested*	20/05/14
Location	MOUNT DUNEED	*Checked by*	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	11:34

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**14**	**15**	**16**	**-**	**-**	**-**
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/m³*	1.86	1.92	1.97	-	-	-
Field moisture content	*%*	16.8	18.2	16.5	-	-	-

Test procedure AS 1289.5.7.1

Test No		14	15	16	-	-	-
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/m³*	1.96	1.97	1.96	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	19.5	20.0	19.5	-	-	-

Moisture Variation From Optimum Moisture Content		2.5% dry	2.0% dry	2.5% dry	-	-	-
Density Ratio (R_{HD})	*%*	**95.5**	**98.0**	**100.0**	**-**	**-**	**-**

Material description

No 14 - 16 Clay Fill

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	14067
		Report No	14067/R005
		Date Issued	12/06/14
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	DK
Project	ARMSTRONG MT DUNEED - STAGE 7	*Date tested*	23/05/14
Location	MOUNT DUNEED	*Checked by*	JHF

Feature	**EARTHWORKS**	*Layer thickness*	200 mm	*Time:*	12:40

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**17**	**18**	**19**	**-**	**-**	**-**
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/m³*	1.82	1.90	1.98	-	-	-
Field moisture content	*%*	22.6	20.2	18.9	-	-	-

Test procedure AS 1289.5.7.1

Test No		17	18	19	-	-	-
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/m³*	1.91	2.00	2.08	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	25.5	20.5	18.5	-	-	-

Moisture Variation From Optimum Moisture Content		2.5% dry	0.5% dry	0.0%	-	-	-

Density Ratio (R_{HD})	***%***	**95.5**	**95.0**	**95.0**	**-**	**-**	**-**

Material description

No 17 - 19 Clay Fill