



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

20th March 2017

Our Reference: 16381:GB133

Peets Funds Management Pty Ltd
Level 3, 492 St Kilda Road
MELBOURNE VIC 3004

Dear Sirs,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
HAVEN – STAGE 5, TARNEIT**

Please find attached our Report Nos 16381/R001 to 16381/R006 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 mid August 2016 and was completed in late August 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).

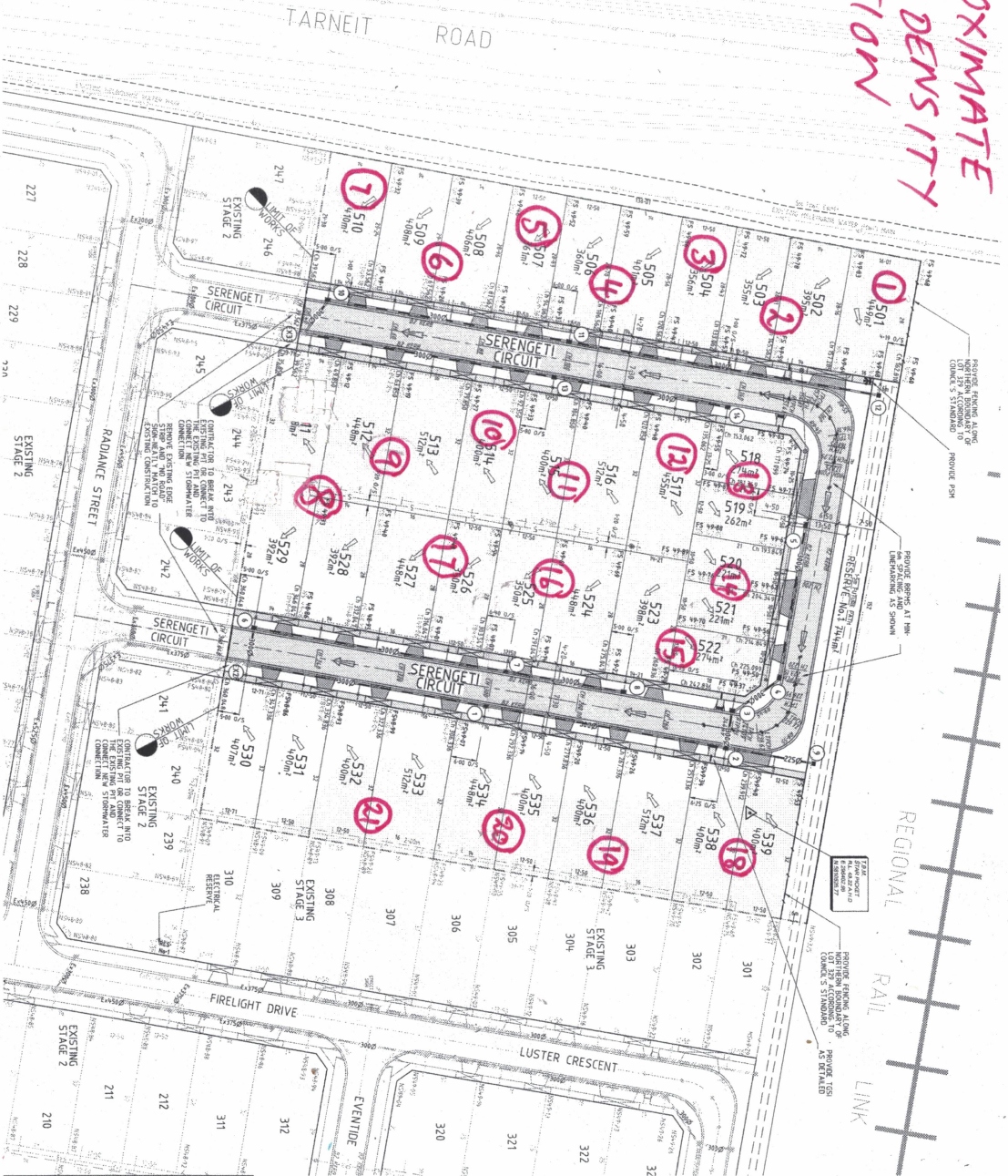
Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Griffin Brown

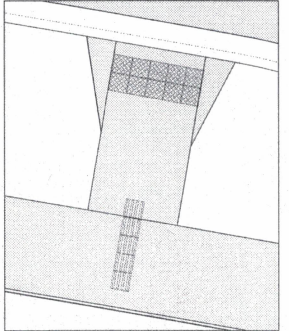
APPROXIMATE
FIELD DENSITY
LOCATION

FIGURE 2



DETAIL PLAN
SCALE 1:500 AT A1 SIZE
TERRAIN AT 1:5 SIZE
MAGN. 0 5 10 20 30 40

- LEGEND**
- 5 ALLOTMENT NUMBER
 - CSS HT CONCRETE CHANGE
 - WATER MAIN ON CONDUIT
 - WATER MAIN RECYCLED
 - GAS MAIN ON CONDUIT
 - STEEL CABLE OR CONDUIT
 - TELICOM CABLE OR CONDUIT
 - NO - MODEL DRAIN A/P/T
 - PROPOSED DRAIN A/P/T
 - PROPOSED WALLETT PIT
 - EXISTING PROPERTY WALLETT PIT
 - OBSTACLED PIT NUMBER
 - S- PROPOSED STAKE LINE
 - E- EXISTING STAKE LINE
 - 1.8M P.S.M.
 - NSS334 EXISTING SURFACE LEVEL
 - PROPOSED SURFACE LEVEL
 - PROPOSED SUBFLOOR LEVEL
 - PROPOSED SUBFLOOR ELEV.
 - PROPOSED FLOOR LEVEL
 - PROPOSED EXISTING CHIMNEY
 - STREET TISOL
 - EXTENT OF FORMED MATERIALS
 - DEBRITS FILL GREATER THAN 200mm FOR CONSTRUCTION
 - PROPOSED PAVEMENT
 - EXISTING PAVEMENT
 - PROPOSED FOOTPATH
 - PROPOSED DRIVEWAY
 - OVER AND FLOW DIRECTION



	ISSUED	DATE	BY	SCALE	DATE	BY	SCALE	DATE	BY
		11.03.2016	A	1:5000	11.03.2016	A	1:5000		

	ISSUED	DATE	BY	SCALE	DATE	BY	SCALE	DATE	BY
		11.03.2016	A	1:5000	11.03.2016	A	1:5000		

REV	DATE	REVISION	ISSUE	DATE	ISSUE	DATE	ISSUE	DATE	ISSUE
A	18.03.2016	CONSULT COMMENTS, PREP REVIEW & DRAWN'S (BY 516-512)	A	01.11.2016	ISSUE FOR APPROVAL	A	18.03.2016	ISSUE FOR APPROVAL	A
B	17.03.2016	ISSUE FOR APPROVAL	A	11.03.2016	ISSUE FOR APPROVAL	A	11.03.2016	ISSUE FOR APPROVAL	A

<p>TGC Group Holdings 7/0 GARDNER ROAD ROSEVALE VIC 3072 TEL: 03 8888 8333 FAX: 03 8888 8333 WWW.TGCGROUP.COM.AU</p>	<p>TGM SPECIALIST CONSULTANTS STRUCTURAL ENGINEERING CIVIL ENGINEERING LANDSCAPE ARCHITECTURE</p>
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<p>PEET</p>	<p>PROJECT HAVEN AT TARNEIT STAGE 5 830 LEAKES ROAD, TARNEIT WYNDHAM CITY COUNCIL</p>
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<p>DRAWING TITLE DETAIL PLAN</p>	<p>COUNCIL REFERENCE NO.: 75/175/6826/13/5 CIVIL DRAWING</p>
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<p>TOTAL DRAWING NUMBER 12389-205-102</p>	<p>2 OF 11 REV 13 OF 22</p>
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COMPACTION ASSESSMENT

Job No 16381
 Report No 16381/R001
 Date Issued 30/08/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	PEETS FUNDS MANAGEMENT PTY LTD	Tested by	NB
Project	HAVEN ESTATE - STAGE 5	Date tested	18/08/16
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 11:33
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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 <i>mm</i>	175	175	175	175	175	175
Field wet density <i>t/m³</i>	1.89	1.82	1.82	1.90	1.79	1.81
Field moisture content %	31.4	29.8	26.7	32.5	30.5	26.8

Test procedure AS 1289.5.7.1

Test No	1	2	3	4	5	6
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>	1.90	1.89	1.85	1.89	1.87	1.90
Adjusted Peak Converted Wet Density <i>t/m³</i>	-	-	-	-	-	-
Optimum Moisture Content %	29.0	29.0	27.5	31.5	30.0	27.0

Moisture Variation From Optimum Moisture Content	2.5% wet	0.5% wet	0.5% dry	1.0% wet	0.5% wet	0.0%
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Density Ratio (R_{HD})	99.5	96.5	98.5	100.5	96.0	95.0
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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 16381
 Report No 16381/R002
 Date Issued 27/09/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	PEETS FUNDS MANAGEMENT PTY LTD	Tested by	NB
Project	HAVEN ESTATE - STAGE 5	Date tested	19/08/16
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 10:10
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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/m³	1.96	1.89	1.93	-	-	-
Field moisture content %	18.7	23.0	18.4	-	-	-

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	14	2	17	-	-	-
Peak Converted Wet Density t/m³	2.01	1.89	1.98	-	-	-
Adjusted Peak Converted Wet Density t/m³	2.06	1.93	2.04	-	-	-
Optimum Moisture Content %	19.5	25.0	20.5	-	-	-

Moisture Variation From Optimum Moisture Content	0.5% dry	2.0% dry	2.0% dry	-	-	-
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Density Ratio (R_{HD}) %	95.5	98.0	95.0	-	-	-
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Material description

No 7 - 9 Clay Fill						
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 Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 16381
 Report No 16381/R003
 Date Issued 21/09/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	PEETS FUNDS MANAGEMENT PTY LTD	Tested by	NB
Project	HAVEN ESTATE - STAGE 5	Date tested	24/08/16
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 09:01
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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 <i>mm</i>	175	175	175	-	-	-
Field wet density <i>t/m³</i>	1.96	1.95	1.95	-	-	-
Field moisture content %	27.1	26.6	27.4	-	-	-

Test procedure AS 1289.5.7.1

Test No	10	11	12	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	-	-	-
Percent of oversize material <i>wet</i>	2	4	0	-	-	-
Peak Converted Wet Density <i>t/m³</i>	2.00	1.99	1.98	-	-	-
Adjusted Peak Converted Wet Density <i>t/m³</i>	2.04	2.05	1.99	-	-	-
Optimum Moisture Content %	24.5	24.5	25.0	-	-	-

Moisture Variation From Optimum Moisture Content	2.0% wet	2.0% wet	2.5% wet	-	-	-
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Density Ratio (R_{HD}) %	96.0	95.5	98.5	-	-	-
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Material description

No 10 - 12 Clay Fill



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 Accreditation No 9909

Approved Signatory : Justin Fry



COMPACTION ASSESSMENT

Job No 16381
 Report No 16381/R004
 Date Issued 15/09/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	PEETS FUNDS MANAGEMENT PTY LTD	Tested by	NB
Project	HAVEN ESTATE - STAGE 5	Date tested	25/08/16
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:06
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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 <i>mm</i>	175	175	175	-	-	-
Field wet density <i>t/m³</i>	2.02	1.90	1.91	-	-	-
Field moisture content %	21.8	23.3	23.0	-	-	-

Test procedure AS 1289.5.7.1

Test No	13	14	15	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	-	-	-
Percent of oversize material <i>wet</i>	9	15	12	-	-	-
Peak Converted Wet Density <i>t/m³</i>	2.08	1.94	1.97	-	-	-
Adjusted Peak Converted Wet Density <i>t/m³</i>	2.11	2.00	-	-	-	-
Optimum Moisture Content %	22.5	25.0	23.5	-	-	-

Moisture Variation From Optimum Moisture Content	0.5% dry	1.5% dry	0.5% dry	-	-	-
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Density Ratio (R_{HD})	%	95.5	95.0	97.5	-	-	-
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Material description

No 13 - 15 Clay Fill



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COMPACTION ASSESSMENT

Job No 16381
 Report No 16381/R005
 Date Issued 19/09/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	PEETS FUNDS MANAGEMENT PTY LTD	Tested by	JB
Project	HAVEN ESTATE - STAGE 5	Date tested	26/08/16
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 12:07
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	16	17	18	-	-	-
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	2.02	1.99	1.92	-	-
Field moisture content	%	25.5	25.8	25.9	-	-

Test procedure AS 1289.5.7.1

Test No	16	17	18	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve	mm	19.0	19.0	19.0	-	-
Percent of oversize material	wet	3	3	0	-	-
Peak Converted Wet Density	t/m ³	1.98	1.91	1.93	-	-
Adjusted Peak Converted Wet Density	t/m ³	2.04	1.92	-	-	-
Optimum Moisture Content	%	24.5	26.5	25.0	-	-

Moisture Variation From Optimum Moisture Content	1.0% wet	0.5% dry	0.5% wet	-	-	-
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Density Ratio (R_{HD})	%	99.0	103.5	99.5	-	-	-
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Material description

No 16 - 18 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 16381
 Report No 16381/R006
 Date Issued 20/09/16

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	PEETS FUNDS MANAGEMENT PTY LTD	Tested by	NB
Project	HAVEN ESTATE - STAGE 5	Date tested	29/08/16
Location	TARNEIT	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 11:12
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	19	20	21	-	-	-
Location	REFER TO FIGURE 1	REFER TO FIGURE 1	REFER TO FIGURE 1			
Approximate depth below FSL						
Measurement depth <i>mm</i>	175	175	175	-	-	-
Field wet density <i>t/m³</i>	1.85	1.98	1.87	-	-	-
Field moisture content %	11.2	11.7	9.6	-	-	-

Test procedure AS 1289.5.7.1

Test No	19	20	21	-	-	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	-	-	-
Percent of oversize material <i>wet</i>	3	4	2	-	-	-
Peak Converted Wet Density <i>t/m³</i>	1.80	1.92	1.85	-	-	-
Adjusted Peak Converted Wet Density <i>t/m³</i>	1.85	1.93	1.88	-	-	-
Optimum Moisture Content %	13.5	14.0	10.5	-	-	-

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% dry	1.0% dry	-	-	-
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Density Ratio (R_{HD})	99.5	102.5	99.5	-	-	-
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Material description

No 19 - 21 Clay Fill



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Approved Signatory : Justin Fry