



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

13<sup>th</sup> November 2020

Our Reference: 18053:NB842

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING**  
**AQUAREVO – STAGE 7 (LYNDHURST)**

Please find attached our Report No's 18053/R001 to 18053/R015 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 was completed in April 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 read 'Nick Brock', is written over a faint circular stamp.

Nick Brock

# FIGURE 1 (1 of 2)



STREET NAME	Rd RESERVE	WATER		SEWER RISING MAIN		GAS	ELECTRICITY CABLES		FIBRE TO THE HOME		Bk. of KERB	JOINT TRENCHING
		DW	NDW	N	S		POLES	FTTH CABLES	FTTH PITS			
BROOKWATER PARADE (East-West)	18.00	3.20 N	2.70 N	1.55 N	2.25 N	3.40 S	0.90 BOK	1.80 S	1.80 N	5.05	W & G F & E	
BROOKWATER PARADE (North-South)	18.00	3.20 E	2.70 E	1.55 E	2.25 E	3.50 W	1.00 BOK	1.75 W	1.80 E	5.05	W & G F & E	
SPLASH WAY	16.00	2.95 S	2.50 S	1.55 S	2.10 S	2.20 N	0.90 BOK	1.00 N	1.80 S	5.05	W & G F & E	
SHOWER ROAD	16.00	2.95 E	2.50 E	1.55 E	2.10 E	2.20 W	0.90 BOK	TBC	1.80 E	5.15 E 5.15 W	W & G F & E	

SHT. No.	VER.	DRAWING INDEX	
		DESCRIPTION	
1	C	LAYOUT PLAN AND DETAILS	
2	C	NOTES, DETAILS & TYPICAL SECTIONS	
3	B	INTERSECTION DETAILS, SHOWER ROAD LONGITUDINAL & CROSS SECTIONS	
4	A	BROOKWATER PARADE - LONGITUDINAL SECTION & CROSS SECTIONS	
5	A	BROOKWATER PARADE - CROSS SECTIONS	
6	A	SPLASH WAY - LONGITUDINAL & CROSS SECTIONS	
7	A	DRAINAGE LONGITUDINAL SECTIONS - SHEET 1	
8	A	DRAINAGE LONGITUDINAL SECTIONS - SHEET 2 & PIT SCHEDULE	
9	B	SIGNAGE AND LINEMARKING PLAN	



# Approximate field density test location

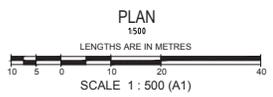


**WARNING**  
BEWARE OF UNDERGROUND SERVICES  
THE LOCATIONS OF UNDERGROUND SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN.

SYMBOL LEGEND	
Drains	Prop / Prov Stage
Sewer < 3000	Prop / Prov Stage
Sewer > 3000	Prop / Prov Stage
Water (DW)	Prop / Prov Stage
Water (NDW)	Prop / Prov Stage
House Drain	Prop / Prov Stage
Property Inset	Prop / Prov Stage
Street Sign	Prop / Prov Stage
FSM	Prop / Prov Stage
Rock Ret Wall	Prop / Prov Stage
Sleeper Ret Wall	Prop / Prov Stage
Conduits 50mm	Prop / Prov Stage
Conduits 100mm	Prop / Prov Stage
Street Tree (without/with Passive Irrigation (Refer Detail))	Prop / Prov Stage
Ex Drains	Prop / Prov Stage
Ex Water DW/NDW	Prop / Prov Stage
Ex Sewer/Gas	Prop / Prov Stage
Ex Elect/Telecom	Prop / Prov Stage
Irrigation Duct	Prop / Prov Stage
Ex Natural FS Level	Prop / Prov Stage
FS @ Building Line	Prop / Prov Stage
Top/Toe of Gutter	Prop / Prov Stage
Top Ret. Wall Level	Prop / Prov Stage
100yr Flood Level	Prop / Prov Stage
Fill Proposed (<0.3m to 0.3m)	Prop / Prov Stage
Cut Proposed	Prop / Prov Stage
Asphalt Surface Prop	Prop / Prov Stage
Concrete Surface Prop (Paths/Driveways/Slides)	Prop / Prov Stage
Tree To Be Removed	Prop / Prov Stage
Tree To Be Retained with Tree Protection Zone (TPZ)	Prop / Prov Stage

**ATTENTION TO CONTRACTOR**

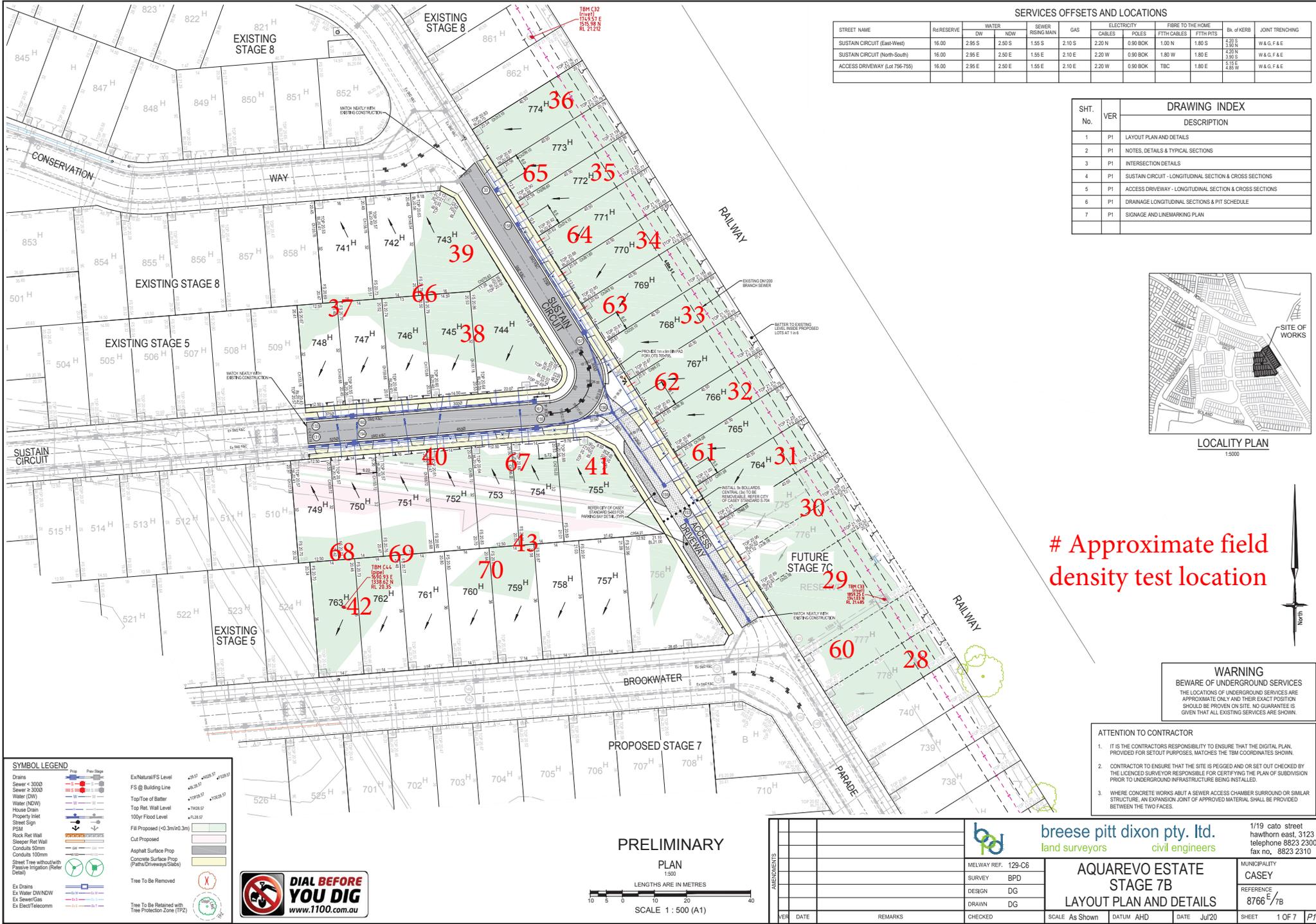
- IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE DIGITAL PLAN PROVIDED FOR SETOUT PURPOSES, MATCHES THE TBM COORDINATES SHOWN.
- CONTRACTOR TO ENSURE THAT THE SITE IS PEGGED AND OR SET OUT CHECKED BY THE LICENCED SURVEYOR RESPONSIBLE FOR CERTIFYING THE PLAN OF SUBDIVISION PRIOR TO UNDERGROUND INFRASTRUCTURE BEING INSTALLED.
- WHERE CONCRETE WORKS ABOUT A SEWER ACCESS CHAMBER SURROUND OR SIMILAR STRUCTURE, AN EXPANSION JOINT OF APPROVED MATERIAL SHALL BE PROVIDED BETWEEN THE TWO FACES.



		breese pitt dixon pty. ltd. land surveyors civil engineers		1/19 calo street hawthorn east, 3123 telephone 8823 2300 fax no. 8823 2310	
MELWAY REF. 129-C6 SURVEY BPD DESIGN DG DRAWN DG		<b>AQUAREVO ESTATE STAGE 7A</b> LAYOUT PLAN AND DETAILS		MUNICIPALITY CASEY REFERENCE 8766 E/7A	
C 21.10.20 CROSSOVER AND BOLLARDS ADDED TO RESERVE (SHOWER ROAD). B 07.10.20 DRAWING INDEX UPDATED. A 17.09.20 ISSUED FOR CONSTRUCTION.	CHECKED C.Hagen	SCALE As Shown DATUM AHD DATE Sep'20	SHEET 1 OF 9	C	PROJECT NO. 17-2021-749

Project: BPD176 Aquarevo CAD Drawings Stage 01/19/2020 - 01\_09\_2020

# FIGURE 1 (2 of 2)



STREET NAME	R/RESERVE	WATER			SEWER RISING MAIN	GAS	ELECTRICITY			FIBRE TO THE HOME			Bk. of KERB	JOINT TRENCHING
		DW	NOW	2.50 S			CABLES	POLES	FTTH CABLES	FTTH PITS				
SUSTAIN CIRCUIT (East-West)	16.00	2.95 S	2.50 S	1.55 S	2.10 S	2.20 N	0.90 BOK	1.00 N	1.80 S	4.20 S	3.50 S	3.50 S	W.A.G.F & E	
SUSTAIN CIRCUIT (North-South)	16.00	2.95 E	2.50 E	1.55 E	2.10 E	2.20 W	0.90 BOK	1.80 W	1.80 E	2.20 S	3.20 S	3.20 S	W.A.G.F & E	
ACCESS DRIVEWAY (Lot 756-755)	16.00	2.95 E	2.50 E	1.55 E	2.10 E	2.20 W	0.90 BOK	TBC	1.80 E	3.15 W	4.80 W	4.80 W	W.A.G.F & E	

SHT. No.	VER	DRAWING INDEX	
		DESCRIPTION	
1	P1	LAYOUT PLAN AND DETAILS	
2	P1	NOTES, DETAILS & TYPICAL SECTIONS	
3	P1	INTERSECTION DETAILS	
4	P1	SUSTAIN CIRCUIT - LONGITUDINAL SECTION & CROSS SECTIONS	
5	P1	ACCESS DRIVEWAY - LONGITUDINAL SECTION & CROSS SECTIONS	
6	P1	DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE	
7	P1	SIGNAGE AND LITEMARKING PLAN	



# Approximate field density test location

**WARNING**  
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- WHERE CONCRETE WORKS ABOUT A SEWER ACCESS CHAMBER SURROUND OR SIMILAR STRUCTURE, AN EXPANSION JOINT OF APPROVED MATERIAL SHALL BE PROVIDED BETWEEN THE TWO FACES.

SYMBOL LEGEND	
Drains	Prop / Prev Stage
Sewer < 3000	Prop / Prev Stage
Sewer > 3000	Prop / Prev Stage
Water (DW)	Prop / Prev Stage
Water (NDW)	Prop / Prev Stage
House Drain	Prop / Prev Stage
Property Inset	Prop / Prev Stage
Street Sign	Prop / Prev Stage
FSM	Prop / Prev Stage
Rock Ret Wall	Prop / Prev Stage
Sloper Ret Wall	Prop / Prev Stage
Conduits 50mm	Prop / Prev Stage
Conduits 100mm	Prop / Prev Stage
Street Tree without/with Passive Irrigation (Refer Detail)	Prop / Prev Stage
Ex Drains	Prop / Prev Stage
Ex Water DW/NDW	Prop / Prev Stage
Ex Sewer/Gas	Prop / Prev Stage
Ex Elcd/Telecomm	Prop / Prev Stage
Ex Natural FS Level	Prop / Prev Stage
FS @ Building Line	Prop / Prev Stage
Top/Toe of Barrier	Prop / Prev Stage
Top Ret. Wall Level	Prop / Prev Stage
100yr Flood Level	Prop / Prev Stage
Fill Proposed (<0.3m to 0.3m)	Prop / Prev Stage
Cut Proposed	Prop / Prev Stage
Asphalt Surface Prop	Prop / Prev Stage
Concrete Surface Prop (Paths/Driveways/Slabs)	Prop / Prev Stage
Tree To Be Removed	Prop / Prev Stage
Tree To Be Retained with Tree Protection Zone (TPZ)	Prop / Prev Stage

**PRELIMINARY PLAN 1:500**  
LENGTHS ARE IN METRES  
SCALE 1 : 500 (A1)

**bpd breese pitt dixon Pty. Ltd.**  
land surveyors civil engineers

1/19 calo street hawthorn east, 3123 telephone 8823 2300 fax no. 8823 2310

MELWAY REF. 129-C6	MUNICIPALITY CASEY REFERENCE 8766 E/7B
SURVEY BPD	
DESIGN DG	
DRAWN DG	

SCALE As Shown DATUM AHD DATE Jul'20 SHEET 1 OF 7 P1

T:\Projects\BPD\756 Aquarevo\CAD\Drawings\Stage 7\B1\W16C-18\_R1\_01.dwg 0/05



# COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R001  
 Date Issued 27/02/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Tested by K S  
 Date tested 24/01/18  
 Checked by JHF

Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)  
 Project SQUAREVO ESTATE - STAGE 7  
 Location LYNDHURST

<b>Feature</b>	<b>EARTHWORKS</b>	<b>Layer thickness</b>	200 mm	<b>Time:</b> 10:20
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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					
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.82	1.83	1.82	1.85	1.83	1.84
Field moisture content	%	25.2	32.5	31.3	35.7	30.6	30.5

### 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/m <sup>3</sup>	1.81	1.90	1.86	1.92	1.91	1.93
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content	%	27.5	30.0	30.0	34.0	28.0	28.5

Moisture Variation From Optimum Moisture Content	2.5% dry	2.5% wet	1.5% wet	1.5% wet	2.5% wet	2.0% wet
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<b>Density Ratio ( R<sub>HD</sub> )</b>	<b>%</b>	<b>100.5</b>	<b>96.0</b>	<b>98.0</b>	<b>96.5</b>	<b>95.5</b>	<b>95.5</b>
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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 18053  
 Report No 18053/R002  
 Date Issued 09/02/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Tested by K S  
 Date tested 25/01/18  
 Checked by JHF

Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)  
 Project SQUAREVO ESTATE - STAGE 7  
 Location LYNDHURST

<b>Feature</b>	<b>EARTHWORKS</b>	<b>Layer thickness</b>	200 mm	<b>Time:</b> 08:02
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No		7	8	9	10	11	12
Location		REFER TO FIGURE 1					
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.74	1.69	1.70	1.69	1.77	1.71
Field moisture content	%	27.6	22.3	27.5	26.1	28.3	30.2

Test procedure AS 1289.5.7.1

Test No		7	8	9	10	11	12
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/m <sup>3</sup>	1.82	1.75	1.76	1.78	1.79	1.78
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content	%	29.5	25.0	29.5	28.0	30.0	32.0

Moisture Variation From Optimum Moisture Content	2.0% dry	2.5% dry	2.0% dry	2.0% dry	2.0% dry	1.5% dry
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<b>Density Ratio ( R<sub>HD</sub> )</b>	<b>%</b>	<b>96.0</b>	<b>96.5</b>	<b>96.5</b>	<b>95.0</b>	<b>99.0</b>	<b>96.0</b>
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Material description

No 7 - 12 Clay Fill
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Approved Signatory : Justin Fry



# COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R003  
 Date Issued 03/10/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	CGS
Project	AQUAREVO ESTATE - STAGE 7	Date tested	07/02/18
Location	LYNDHURST	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 09:07
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	13	14	15	16	17	18
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.87	1.91	1.82	1.84	1.83
Field moisture content	%	29.6	22.4	29.1	26.5	23.1

Test procedure AS 1289.5.7.1

Test No	13	14	15	16	17	18
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 <sup>3</sup>	1.95	2.01	1.92	1.90	1.88
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	27.0	21.5	27.5	27.0	25.5

Moisture Variation From Optimum Moisture Content	2.5% wet	1.0% wet	1.5% wet	0.5% dry	2.5% dry	2.5% dry
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Density Ratio ( R <sub>HD</sub> )	%	96.0	95.0	95.5	97.0	97.5	98.0
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Material description

No 13 - 18 Clay Fill
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Approved Signatory : Justin Fry



## COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R004  
 Date Issued 04/04/2019

**CIVIL GEOTECHNICAL SERVICES**

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	CGS
Project	AQUAREVO ESTATE - STAGE 7	Date tested	15/02/18
Location	LYNDHURST	Checked by	JHF

<b>Feature</b>	EARTHWORKS	Layer thickness	200 mm	Time: 09:53
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	19	20	21	22	23	24
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth <i>mm</i>	175	175	175	175	175	175
Field wet density <i>t/m<sup>3</sup></i>	1.79	1.89	1.79	1.94	1.86	1.89
Field moisture content <i>%</i>	31.2	24.2	27.6	26.6	22.1	23.2

Test procedure AS 1289.5.7.1

Test No	19	20	21	22	23	24
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/m<sup>3</sup></i>	1.83	1.89	1.87	1.92	1.89	1.88
Adjusted Peak Converted Wet Density <i>t/m<sup>3</sup></i>	-	-	-	-	-	-
Optimum Moisture Content <i>%</i>	31.5	25.5	25.0	26.5	24.5	24.5

Moisture Variation From Optimum Moisture Content	0.5% dry	1.0% dry	2.5% wet	0.0%	2.5% dry	1.0% dry
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<b>Density Ratio ( <math>R_{HD}</math> )</b>	<b>%</b>	<b>98.5</b>	<b>100.5</b>	<b>95.5</b>	<b>101.0</b>	<b>98.5</b>	<b>100.5</b>
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Material description

No 19 - 24 Clay Fill
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AVRLOT HILF V1.10 MAR 13



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Approved Signatory : Justin Fry



# COMPACTION ASSESSMENT

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 18053  
Report No 18053/R005  
Date Issued 23/05/2019

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	CGS
Project	AQUAREVO ESTATE - STAGE 7	Date tested	20/02/18
Location	LYNDHURST	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 08:47
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	25	26	27	28	29	30
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.80	1.81	1.74	1.76	1.69
Field moisture content	%	32.1	30.1	25.9	30.8	29.8

Test procedure AS 1289.5.7.1

Test No	25	26	27	28	29	30
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 <sup>3</sup>	1.83	1.84	1.77	1.79	1.71
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	29.5	30.5	28.0	30.5	29.5

Moisture Variation From Optimum Moisture Content	2.5% wet	0.5% dry	2.0% dry	0.5% wet	0.5% wet	2.5% dry
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Density Ratio ( R <sub>HD</sub> )	%	98.5	98.5	98.5	98.5	98.5	98.0
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Material description

No 25 - 30 Clay Fill
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AVRLOT HILF V1.10 MAR 13



The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards. Accredited for compliance with ISO/IEC 17025 - Testing

Accreditation No 9909

Approved Signatory : Justin Fry



## COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R006  
 Date Issued 11/04/2019

**CIVIL GEOTECHNICAL SERVICES**

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	CGS
Project	AQUAREVO ESTATE - STAGE 7	Date tested	24/02/18
Location	LYNDHURST	Checked by	JHF

<b>Feature</b>	EARTHWORKS	Layer thickness	200 mm	Time: 08:57
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	31	32	33	34	-	-
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth <i>mm</i>	175	175	175	175	-	-
Field wet density <i>t/m<sup>3</sup></i>	1.85	1.84	1.89	1.84	-	-
Field moisture content <i>%</i>	20.0	22.4	22.5	25.3	-	-

Test procedure AS 1289.5.7.1

Test No	31	32	33	34	-	-
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/m<sup>3</sup></i>	1.93	1.91	1.98	1.93	-	-
Adjusted Peak Converted Wet Density <i>t/m<sup>3</sup></i>	-	-	-	-	-	-
Optimum Moisture Content <i>%</i>	22.5	23.0	22.0	25.0	-	-

Moisture Variation From Optimum Moisture Content	2.5% dry	1.0% dry	0.5% wet	0.5% wet	-	-
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<b>Density Ratio ( <math>R_{HD}</math> )</b>	<b>%</b>	<b>96.0</b>	<b>96.5</b>	<b>95.0</b>	<b>95.5</b>	<b>-</b>	<b>-</b>
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Material description

No 31 - 34 Clay Fill
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AVRLOT HILF V1.10 MAR 13



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Approved Signatory : Justin Fry



# COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R007  
 Date Issued 03/08/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	CGS
Project	AQUAREVO ESTATE - STAGE 7	Date tested	01/03/18
Location	LYNDHURST	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 10:48
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No		35	36	37	38	39	40
Location		REFER TO FIGURE 1					
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.73	1.83	1.75	1.85	1.81	1.78
Field moisture content	%	25.7	30.0	29.9	27.3	26.9	31.6

Test procedure AS 1289.5.7.1

Test No		35	36	37	38	39	40
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/m <sup>3</sup>	1.81	1.91	1.81	1.91	1.81	1.81
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content	%	25.5	30.0	30.0	27.5	24.5	29.0

Moisture Variation From Optimum Moisture Content	0.0%	0.0%	0.5% dry	0.0%	2.5% wet	2.5% wet
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Density Ratio ( R <sub>HD</sub> )	%	96.0	95.5	97.0	97.0	100.5	98.5
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Material description

No 35 - 40 Clay Fill
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Approved Signatory : Justin Fry



# COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R008  
 Date Issued 20/07/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Tested by CGS  
 Date tested 08/03/18  
 Checked by JHF

Client WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)  
 Project SQUAREVO ESTATE - STAGE 7  
 Location LYNDHURST

<b>Feature</b>	<b>EARTHWORKS</b>	<b>Layer thickness</b>	200 mm	<b>Time:</b>	09:39
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	41	42	43	-	-	-
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 <sup>3</sup>	1.94	1.94	1.88	-	-
Field moisture content	%	23.4	17.5	19.8	-	-

Test procedure AS 1289.5.7.1

Test No	41	42	43	-	-	-
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 <sup>3</sup>	2.02	1.99	1.96	-	-
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	22.0	20.0	21.5	-	-
Moisture Variation From Optimum Moisture Content		1.5% wet	2.5% dry	1.5% dry	-	-
<b>Density Ratio ( R<sub>HD</sub> )</b>	<b>%</b>	<b>96.0</b>	<b>97.5</b>	<b>95.5</b>	<b>-</b>	<b>-</b>

Material description

No 41 - 43 Clay Fill



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# COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R009  
 Date Issued 27/09/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	K S
Project	AQUAREVO ESTATE - STAGE 7	Date tested	14/03/18
Location	LYNDHURST	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	12:15
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	44	45	46	47	-	-
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175	175	175	175	-
Field wet density	t/m <sup>3</sup>	1.80	1.83	1.80	1.84	-
Field moisture content	%	30.5	25.4	31.2	26.1	-

Test procedure AS 1289.5.7.1

Test No	44	45	46	47	-	-
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/m <sup>3</sup>	1.80	1.84	1.81	1.84	-
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	30.5	26.5	33.0	25.5	-

Moisture Variation From Optimum Moisture Content	0.0%	1.0% dry	1.5% dry	0.5% wet	-	-
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Density Ratio ( R <sub>HD</sub> )	%	100.0	100.0	99.0	100.0	-
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Material description

No 44 - 47 Clay Fill
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Approved Signatory : Justin Fry



# COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R010  
 Date Issued 27/09/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	K S
Project	AQUAREVO ESTATE - STAGE 7	Date tested	22/03/18
Location	LYNDHURST	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 07:37
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	48	49	50	51	52	53
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.79	1.79	1.75	1.81	1.73
Field moisture content	%	29.4	21.4	30.0	27.5	25.4

Test procedure AS 1289.5.7.1

Test No	48	49	50	51	52	53
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 <sup>3</sup>	1.79	1.76	1.72	1.79	1.75
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	27.0	20.5	29.5	26.5	25.0

Moisture Variation From Optimum Moisture Content	2.5% wet	1.0% wet	0.5% wet	1.0% wet	0.5% wet	0.0%
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Density Ratio ( R <sub>HD</sub> )	%	100.0	101.5	101.5	101.0	98.5	100.5
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Material description

No 48 - 53 Clay Fill
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# COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R011  
 Date Issued 25/05/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	CGS
Project	AQUAREVO ESTATE - STAGE 7	Date tested	23/03/18
Location	LYNDHURST	Checked by	JHF

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

Test No	54	55	56	57	-	-
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175	175	175	175	-
Field wet density	t/m <sup>3</sup>	1.82	1.79	1.81	1.77	-
Field moisture content	%	28.8	22.8	31.8	34.2	-

Test procedure AS 1289.5.7.1

Test No	54	55	56	57	-	-
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/m <sup>3</sup>	1.90	1.88	1.89	1.86	-
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	26.5	21.0	29.5	31.5	-

Moisture Variation From Optimum Moisture Content	2.5% wet	2.0% wet	2.0% wet	2.5% wet	-	-
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Density Ratio ( R <sub>HD</sub> )	%	96.0	95.5	96.0	95.5	-
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Material description

No 54 - 57 Clay Fill
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AVRLOT HILF V1.10 MAR 13



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Accreditation No 9909

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# COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R012  
 Date Issued 03/08/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	CGS
Project	AQUAREVO ESTATE - STAGE 7	Date tested	29/03/18
Location	LYNDHURST	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 10:28
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	58	59	60	61	62	63
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.82	1.84	1.83	1.83	1.84
Field moisture content	%	28.7	30.1	27.3	32.9	30.1

Test procedure AS 1289.5.7.1

Test No	58	59	60	61	62	63
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 <sup>3</sup>	1.90	1.91	1.91	1.91	1.90
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	26.0	28.0	25.0	30.0	27.5

Moisture Variation From Optimum Moisture Content	2.5% wet	2.0% wet	2.5% wet	2.5% wet	2.5% wet	2.5% wet
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Density Ratio ( R <sub>HD</sub> )	%	95.5	96.5	96.0	96.0	96.5	96.0
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Material description

No 58 - 63 Clay Fill
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# COMPACTION ASSESSMENT

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Job No 18053  
Report No 18053/R013  
Date Issued 25/05/2018

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	CGS
Project	AQUAREVO ESTATE - STAGE 7	Date tested	03/04/18
Location	LYNDHURST	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time:	09:24
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	64	65	66	67	68	69
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.73	1.80	1.73	1.80	1.78
Field moisture content	%	29.2	25.6	26.6	28.6	28.3

Test procedure AS 1289.5.7.1

Test No	64	65	66	67	68	69
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 <sup>3</sup>	1.77	1.83	1.75	1.79	1.80
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	26.5	23.5	24.5	26.0	26.0

Moisture Variation From Optimum Moisture Content	2.5% wet	2.0% wet	2.0% wet	2.5% wet	2.5% wet	2.0% wet
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Density Ratio ( R <sub>HD</sub> )	%	97.5	98.5	99.0	100.5	99.0	99.5
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Material description

No 64 - 69 Clay Fill
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AVRLOT HILF V1.10 MAR 13



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# COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R014  
 Date Issued 21/06/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	CGS
Project	AQUAREVO ESTATE - STAGE 7	Date tested	05/04/18
Location	LYNDHURST	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 11:06
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	70	71	72	73	74	75
Location	REFER TO FIGURE 1					
Approximate depth below FSL						
Measurement depth	mm	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.92	1.99	1.99	1.96	1.96
Field moisture content	%	31.6	24.2	28.1	32.2	29.7

Test procedure AS 1289.5.7.1

Test No	70	71	72	73	74	75
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 <sup>3</sup>	1.97	2.00	2.02	2.01	2.00
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-
Optimum Moisture Content	%	29.5	21.5	25.5	30.0	27.0

Moisture Variation From Optimum Moisture Content	2.0% wet	2.5% wet	2.5% wet	2.0% wet	2.5% wet	2.5% wet
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Density Ratio ( R <sub>HD</sub> )	%	97.0	99.5	98.0	98.0	97.0	98.0
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Material description

No 70 - 75 Clay Fill
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# COMPACTION ASSESSMENT

Job No 18053  
 Report No 18053/R015  
 Date Issued 08/08/2018

## CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	CGS
Project	AQUAREVO ESTATE - STAGE 7	Date tested	09/04/18
Location	LYNDHURST	Checked by	JHF

Feature	EARTHWORKS	Layer thickness	200 mm	Time: 11:31
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No		76	77	78	79	80	81
Location		REFER TO FIGURE 1					
Approximate depth below FSL							
Measurement depth	mm	175	175	175	175	175	175
Field wet density	t/m <sup>3</sup>	1.77	1.92	1.81	1.76	1.83	1.88
Field moisture content	%	23.3	31.6	23.2	29.1	28.8	24.9

Test procedure AS 1289.5.7.1

Test No		76	77	78	79	80	81
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/m <sup>3</sup>	1.81	1.91	1.81	1.80	1.91	1.91
Adjusted Peak Converted Wet Density	t/m <sup>3</sup>	-	-	-	-	-	-
Optimum Moisture Content	%	21.5	29.0	21.0	27.0	27.0	23.0

Moisture Variation From Optimum Moisture Content	2.0% wet	2.5% wet	2.5% wet	2.5% wet	2.0% wet	2.0% wet
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Density Ratio ( R <sub>HD</sub> )	%	98.0	100.5	100.0	97.5	96.0	98.5
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Material description

No 76 - 81 Clay Fill
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