

Material Testing and Laboratory Services for the Construction Industry

Mr Sidney Glenister
Drapers Civil Contracting Pty Ltd
PO Box 287
Belmont VIC 3216

15th March 2025
Ref : 7336

Dear Sid

**,RE : SUPERVISION OF FILL PLACEMENT
ESTUARY ESTATE II – STAGE 1
LOTS 1906 TO 1918 AND 1926 TO 1937**

I write with reference to your request for Geotest Civil Services to provide Level One supervision of the placement of fill to the above project.

I confirm that over the period 17th November 2023 to 1st December 2023, Geotest Civil Services performed Level One supervision and surveillance by routinely monitoring the level of compaction achieved during the course of the placement of fill to Lot No's 1906 to 1918 and 1926 to 1937 (inclusive) all of which required the placement of structural fill to achieve design finished surface level.

The supervision involved one of our experienced geotechnicians inspecting the stripped and cleared surface prior to fill placement commencing and then monitoring the placement of the fill within the site on the affected Lots.

Following stripping of topsoil, approval was given for fill placement to commence.

Fill for these Lots were sourced from other areas within with Estuary II estate development.

Verification of compliance of all fill was based on the compaction test results which were undertaken as each layer was completed.

The Level One supervision does not include placement of topsoil used to complete landscaping of the project.

Based on the results of our testing, and as far as we have been able to determine, we conclude that the filling placed within the filled area meets or exceeds the requirements of the specification, that is, 95% relative Standard compaction in accordance with Australian Standard 3798 – 2007 and the project specification.

Test Reports showing test results for relevant Lots from the testing program are attached.

We trust that this information meets your requirements. Should you have any further queries in regards to the above, please do not hesitate to contact me on telephone 0418 525775.

Yours Sincerely



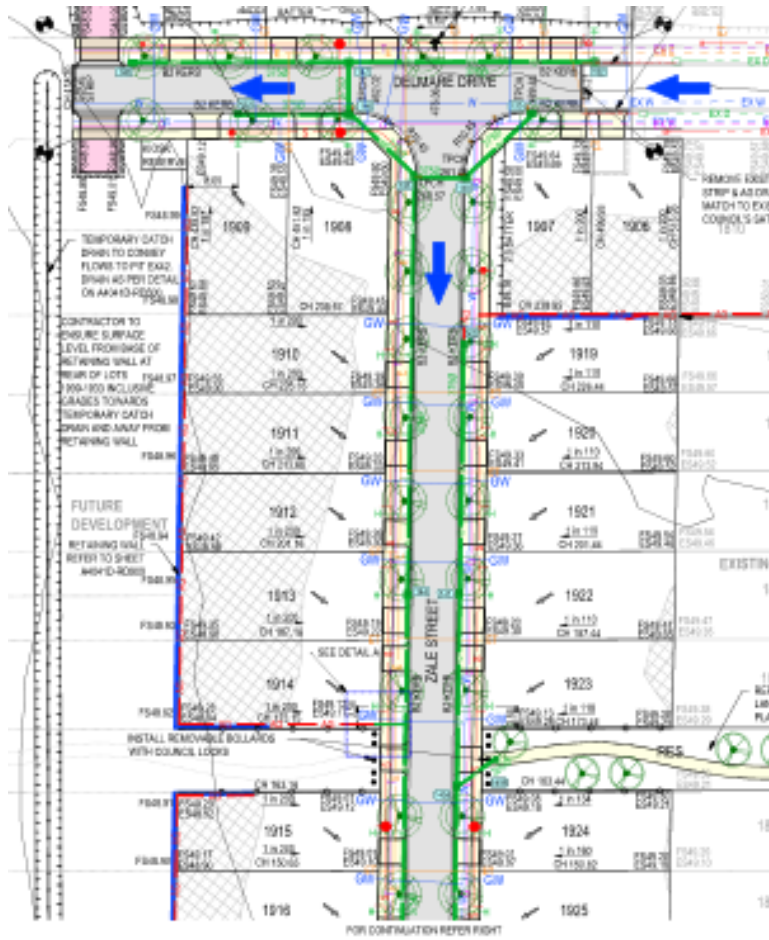
Rod Bennett
Geotest Civil Services

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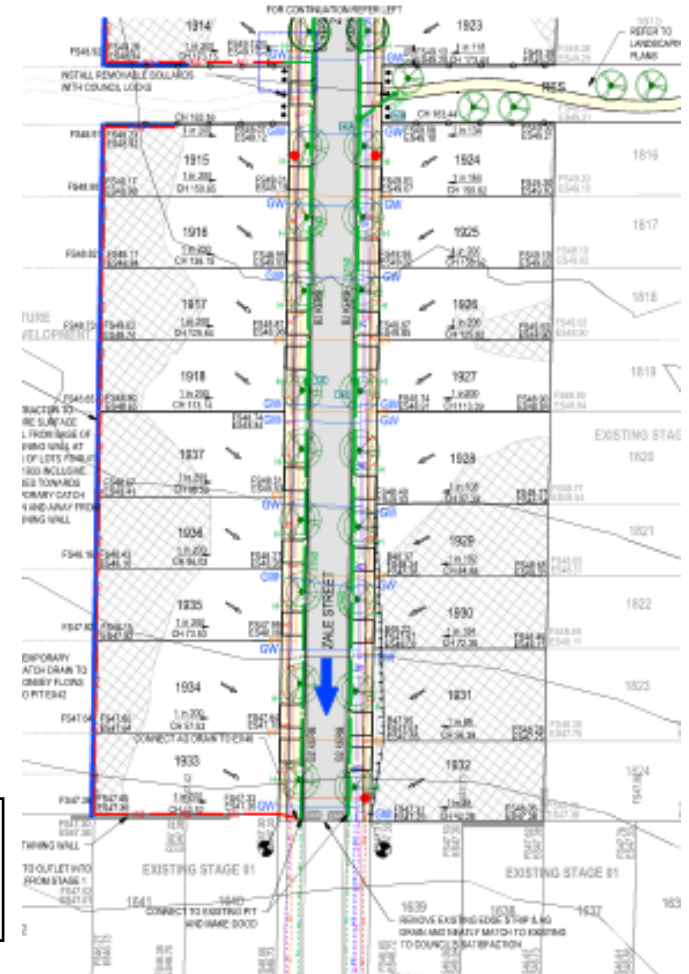
GEO TEST

Civil Services

Material Testing and Laboratory Services for the Construction Industry



Extract of Plan No A4041D-RD200
Rev 0 showing extent of fill
requirements



REPORT OF COMPACTION CONTROL (HILF RAPID METHOD)

Job No.: 7336/23/1067

AS 1289 2.1.1, 5.7.1, 5.8.1 RC 316.00			Using Humboldt: 7819		Date field tested : 20/11/23	
Compaction Report Ref. No. 7336/23/1067			K Value : 0		Time : 15:00:00	
Project: Estuary II estate Stage 3						
Client : Drapers Civil Contracting Pty Ltd PO Box 287 Belmont VIC 3216						
Material: Clay ex Site			Compactive effort:		Standard	
Sand used: no		Standard count: DS: 2719		MS: 388		
Layer depth of 300		mm		Test depth of 275		mm for 60 secs
Test Lot Bounds NA		to NA		Client Ref:		
Site No.	1	2	3			
Location	Lot 1930 E278044 N5768926	Lot 1929 E278043 N5768936	Lot 1928 E278048 N5768947			
wet density (t/m³)	1.93	1.87	1.85			
field mc%	24.6	20.6	20.0			
dry density (t/m³)	1.55	1.55	1.54			
pcwd (t/m³)	1.95	1.97	1.93			
omc (%)	25.0	22.0	22.0			
Oversize material retained on sieve... (mm)	19.0	19.0	19.0			
% wet oversize	0	0	0			
% dry oversize	0	0	0			
adjusted pcwd	1.95	1.97	1.93			
adjusted omc	24.8	22.3	22.3			
moisture variation (+ wet / - dry of omc)	0.0	-1.5	-2.5			
moisture ratio (%)	99.2	92.4	89.7			
density ratio (%)	99.0	95.0	96.0			

Tested over period : 20/11/2023 to 22/11/2023

mean moisture ratio	93.8
mean density ratio	96.7

Sampling Method Used :

AS1289.1.2.1 Clause 6.4 – from layers in pavement or earthworks

Notes:



NATA Accredited Testing Facility : Accreditation Number : No 10664
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory:

Je

J.Brunacci

Date:

22/11/2023

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**REPORT OF COMPACTION CONTROL
(HILF RAPID METHOD)**

Job No.: 7336/23/1077

AS 1289 2.1.1, 5.7.1, 5.8.1 RC 316.00			Using Humboldt: 1762		Date field tested : 22/11/23	
Compaction Report Ref. No. 7336/23/1077			K Value : 0		Time : 9:15:00	
Project: Estuary II estate Stage 3						
Client : Drapers Civil Contracting Pty Ltd PO Box 287 Belmont VIC 3216						
Material: Clay ex Site			Compactive effort:		Standard	
Sand used: no		Standard count: DS: 1966.7		MS: 386.1		
Layer depth of 300 mm		Test depth of 275 mm		for 60 secs		
Test Lot Bounds NA to NA		NA		Client Ref:		
Site No.	1	2	3			
Location	Lot 1932 Layer 2 E278035 N5768897	Lot 1931 Layer 2 E278034 N5768915	Lot 1929 Layer 2 E278040 N5768938			
wet density (t/m³)	1.90	1.93	1.92			
field mc%	22.9	21.2	20.3			
dry density (t/m³)	1.54	1.59	1.60			
pcwd (t/m³)	1.92	1.86	1.89			
omc (%)	24.0	24.0	24.0			
Oversize material retained on sieve...(mm)	19.0	19.0	19.0			
% wet oversize	0	0	0			
% dry oversize	0	0	0			
adjusted pcwd	1.92	1.86	1.89			
adjusted omc	24.3	23.8	23.6			
moisture variation (+ wet / - dry of omc)	-1.5	-2.5	-3.5			
moisture ratio (%)	94.2	89.1	86.0			
density ratio (%)	99.0	104.0	102.0			

Tested over period : 22/11/2023 to 26/11/2023

mean moisture ratio	89.8
mean density ratio	101.7

Sampling Method Used :

AS1289.1.2.1 Clause 6.4 – from layers in pavement or earthworks

Notes:

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Approved Signatory:

R.Bennett

Date:

26/11/2023

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**REPORT OF COMPACTION CONTROL
(HILF RAPID METHOD)**

Job No.: 7336/23/1084

AS 1289 2.1.1, 5.7.1, 5.8.1 RC 316.00			Using Humboldt: 8639		Date field tested : 23/11/23	
Compaction Report Ref. No. 7336/23/1084			K Value : 0		Time : 14:50:00	
Project: Estuary II estate Stage 3						
Client : Drapers Civil Contracting Pty Ltd PO Box 287 Belmont VIC 3216						
Material: Clay ex Site			Compactive effort:		Standard	
Sand used: no		Standard count: DS: 2753		MS: 331		
Layer depth of 300 mm			Test depth of 275 mm		for 60 secs	
Test Lot Bounds NA to NA			Client Ref:			
Site No.	1	2	3			
Location	Lot 1906 E278065 N5769097	Lot 1810 E278076 N5769094	Lot 1907 E278057 N5769097			
wet density (t/m³)	1.95	1.88	1.91			
field mc%	21.9	22.3	18.7			
dry density (t/m³)	1.60	1.54	1.60			
pcwd (t/m³)	2.00	2.02	1.94			
omc (%)	22.0	22.0	21.0			
Oversize material retained on sieve...(mm)	19.0	19.0	19.0			
% wet oversize	0	0	0			
% dry oversize	0	0	0			
adjusted pcwd	2.00	2.02	1.94			
adjusted omc	22.1	22.4	21.3			
moisture variation (+ wet / - dry of omc)	0.0	0.0	-2.5			
moisture ratio (%)	99.1	99.6	87.8			
density ratio (%)	97.0	93.0	98.5			

Tested over period : 23/11/2023 to 28/11/2023

mean moisture ratio	95.5
mean density ratio	96.2

Sampling Method Used :

AS1289.1.2.1 Clause 6.4 – from layers in pavement or earthworks

Notes:

NATA Accredited Testing Facility : Accreditation Number : No 10664
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Approved Signatory:

R.Bennett

Date:

28/11/2023

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**REPORT OF COMPACTION CONTROL
(HILF RAPID METHOD)**

Job No.: 7336/23/1086

AS 1289 2.1.1, 5.7.1, 5.8.1 RC 316.00			Using Humboldt: 8639		Date field tested : 24/11/23	
Compaction Report Ref. No. 7336/23/1086			K Value : 0		Time : 13:30:00	
Project: Estuary II Estate Stage 3						
Client : Drapers Civil Contracting Pty Ltd PO Box 287 Belmont VIC 3216						
Material: Clay ex Site			Compactive effort:		Standard	
Sand used: no		Standard count: DS: 2765		MS: 333		
Layer depth of 300 mm		Test depth of 275 mm		for 60 secs		
Test Lot Bounds NA		to NA		Client Ref:		
Site No.	1	2	3			
Location	Lot 1909 Layer 1 E277999 N5769106	Lot 1910 E278005 N5769091	Lot 1911 E277992 N5769073			
wet density (t/m³)	2.01	1.96	1.99			
field mc%	16.2	17.6	16.1			
dry density (t/m³)	1.73	1.67	1.71			
pcwd (t/m³)	2.11	2.00	1.99			
omc (%)	16.0	18.0	18.0			
Oversize material retained on sieve...(mm)	19.0	19.0	19.0			
% wet oversize	0	0	0			
% dry oversize	0	0	0			
adjusted pcwd	2.11	2.00	1.99			
adjusted omc	16.4	18.5	18.2			
moisture variation (+ wet / - dry of omc)	0.0	-1.0	-2.0			
moisture ratio (%)	98.8	95.1	88.5			
density ratio (%)	95.5	98.0	100.0			

Tested over period : 24/11/2023 to 28/11/2023

mean moisture ratio	94.1
mean density ratio	97.8

Sampling Method Used :

AS1289.1.2.1 Clause 6.4 – from layers in pavement or earthworks

Notes:

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Approved Signatory:

J. Brunacci

Date:

28/11/2023

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REPORT OF COMPACTION CONTROL (HILF RAPID METHOD)

Job No.: 7336/23/1098

AS 1289 2.1.1, 5.7.1, 5.8.1 RC 316.00			Using Humboldt: 8639		Date field tested : 28/11/23	
Compaction Report Ref. No. 7336/23/1098			K Value : 0		Time : 12:00:00	
Project: Estuary II estate Stage 3						
Client : Drapers Civil Contracting Pty Ltd PO Box 287 Belmont VIC 3216						
Material: Clay ex Site			Compactive effort:		Standard	
Sand used: no		Standard count: DS: 2727		MS: 338		
Layer depth of 300 mm		Test depth of 275 mm		for 60 secs		
Test Lot Bounds NA		to NA		Client Ref:		
Site No.	1	2	3			
Location	Lot 1910 E277995 N5769092	Lot 1912 E277992 N5769065	Lot 1913 E277988 N5769042			
wet density (t/m³)	1.89	1.95	2.02			
field mc%	19.4	16.6	19.2			
dry density (t/m³)	1.58	1.68	1.69			
pcwd (t/m³)	1.95	2.03	1.98			
omc (%)	22.0	19.0	21.0			
Oversize material retained on sieve... (mm)	19.0	19.0	19.0			
% wet oversize	0	0	0			
% dry oversize	0	0	0			
adjusted pcwd	1.95	2.03	1.98			
adjusted omc	21.7	18.6	21.0			
moisture variation (+ wet / - dry of omc)	-2.5	-2.0	-2.0			
moisture ratio (%)	89.4	89.2	91.4			
density ratio (%)	96.5	96.0	102.0			

Tested over period : 28/11/2023 to 04/12/2023

mean moisture ratio	90.0
mean density ratio	98.2

Sampling Method Used :

AS1289.1.2.1 Clause 6.4 – from layers in pavement or earthworks

Notes:



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Approved Signatory:

R. Bennett

Date:

4/12/2023

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REPORT OF COMPACTION CONTROL (HILF RAPID METHOD)

Job No.: 7336/23/1101

AS 1289 2.1.1, 5.7.1, 5.8.1 RC 316.00				Using Humboldt: 8639		Date field tested : 30/11/23	
Compaction Report Ref. No. 7336/23/1101				K Value : 0		Time : 11:45:00	
Project: Estuary II estate Lot Fill							
Client : Drapers Civil Contracting Pty Ltd PO Box 287 Belmont VIC 3216							
Material: Clay ex Site			Compactive effort:		Standard		
Sand used: no		Standard count: DS: 2727		MS: 338			
Layer depth of 250 / 300 mm		Test depth of 225 / 275 mm		for 60 secs			
Test Lot Bounds NA		to NA		Client Ref:			
Site No.	1	2	3				
Location	Retaining Wall Backfill - Lot D E277860 N5768963 TD 225	Retaining Wall Backfill - Lot D E277860 N5768935 TD 225	Retaining Wall Backfill - Lot D E277854 N5768904 TD 225	Lot 1918 E277983 N5768975 TD 275	Lot 1936 E277979 N5768944 TD 275	Lot 1937 E277980 N5768963 TD 275	
wet density (t/m³)	2.08	1.83	2.05	1.90	1.95	1.92	
field mc%	21.3	19.7	14.1	24.2	15.7	19.7	
dry density (t/m³)	1.71	1.53	1.80	1.53	1.69	1.60	
pcwd (t/m³)	1.97	1.94	2.13	1.87	2.03	2.00	
omc (%)	24.0	22.0	16.0	27.0	18.0	21.0	
Oversize material retained on sieve... (mm)	19.0	19.0	19.0	19.0	19.0	19.0	
% wet oversize	0	0	0	0	0	0	
% dry oversize	0	0	0	0	0	0	
adjusted pcwd	1.97	1.94	2.13	1.87	2.03	2.00	
adjusted omc	23.5	22.5	15.8	26.7	17.9	20.8	
moisture variation (+ wet / - dry of omc)	-2.0	-3.0	-1.5	-2.5	-2.0	-1.0	
moisture ratio (%)	90.7	87.5	89.3	90.6	87.7	94.7	
density ratio (%)	105.5	94.0	96.5	101.5	96.0	96.0	

Tested over period : 30/11/2023 to 06/12/2023

mean moisture ratio	90.1
mean density ratio	98.3

Sampling Method Used :

AS1289.1.2.1 Clause 6.4 – from layers in pavement or earthworks

Notes:



NATA Accredited Testing Facility : Accreditation Number : No 10664
Accredited for compliance with ISO/IEC 17025 - Testing

R Bennett

Approved Signatory:

R.Bennett

Date:

6/12/2023

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**REPORT OF COMPACTION CONTROL
(HILF RAPID METHOD)**

Job No.: 7336/23/1108

AS 1289 2.1.1, 5.7.1, 5.8.1 RC 316.00			Using Humboldt: 8639		Date field tested : 1/12/23	
Compaction Report Ref. No. 7336/23/1108			K Value : 0		Time : 11:10:00	
Project: Estuary II estate Stage 3						
Client : Drapers Civil Contracting Pty Ltd PO Box 287 Belmont VIC 3216						
Material: Clay ex Site			Compactive effort:		Standard	
Sand used: no		Standard count: DS: 2746		MS: 336		
Layer depth of 300 mm		Test depth of 275 mm		for 60 secs		
Test Lot Bounds NA to NA			Client Ref:			
Site No.	1	2	3			
Location	Lot 1937 E277976 N5768955	Lot 1934 E277966 N5768920	Lot 1910 E277996 N5769090			
wet density (t/m³)	1.87	2.15	1.96			
field mc%	19.5	15.0	26.2			
dry density (t/m³)	1.57	1.87	1.56			
pcwd (t/m³)	1.97	2.09	1.91			
omc (%)	20.0	15.0	27.0			
Oversize material retained on sieve... (mm)	19.0	19.0	19.0			
% wet oversize	0	0	0			
% dry oversize	0	0	0			
adjusted pcwd	1.97	2.09	1.91			
adjusted omc	19.8	15.1	27.0			
moisture variation (+ wet / - dry of omc)	-0.5	0.0	-1.0			
moisture ratio (%)	98.5	99.3	97.0			
density ratio (%)	95.0	103.0	103.0			

Tested over period : 01/12/2023 to 07/12/2023

mean moisture ratio	98.3
mean density ratio	100.3

Sampling Method Used :

AS1289.1.2.1 Clause 6.4 – from layers in pavement or earthworks

Notes:

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Approved Signatory:

J. Brunacci

Date:

7/12/2023

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**REPORT OF COMPACTION CONTROL
(HILF RAPID METHOD)**

Job No.: 7336/23/1114

AS 1289 2.1.1, 5.7.1, 5.8.1 RC 316.00	Using Humboldt:	7819	Date field tested :	4/12/23
Compaction Report Ref. No. 7336/23/1114	K Value :	0	Time :	13:00:00
Project: Estuary II estate Stage 3				
Client : Drapers Civil Contracting Pty Ltd PO Box 287 Belmont VIC 3216				
Material:	Clay ex Site	Compactive effort:	Standard	
Sand used:	no	Standard count:	DS: 2745.9	MS: 410
Layer depth of	300 mm	Test depth of	275 mm	for 60 secs
Test Lot Bounds	NA to NA	Client Ref:		
Site No.	1			
Location	Lot 1810 retest E2778080 N5769087			
wet density (t/m³)	1.98			
field mc%	15.3			
dry density (t/m³)	1.72			
pcwd (t/m³)	1.93			
omc (%)	20.0			
Oversize material retained on sieve... (mm)	19.0			
% wet oversize	0			
% dry oversize	0			
adjusted pcwd	1.93			
adjusted omc	19.7			
moisture variation (+ wet / - dry of omc)	-4.5			
moisture ratio (%)	77.7			
density ratio (%)	103.0			

Tested over period : 04/12/2023 to 06/12/2023

mean moisture ratio	77.7
mean density ratio	103.0

Sampling Method Used :

AS1289.1.2.1 Clause 6.4 – from layers in pavement or earthworks

Notes:

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Approved Signatory:

R. Bennett

Date:

6/12/2023

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