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

10th November 2021

Our Reference: 21209:NB1096

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
OLIVINE – STAGE 13 (DONNYBROOK)

Please find attached our Report No's 21209/R001 to 21209/R003 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 was performed in July 2021.

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).

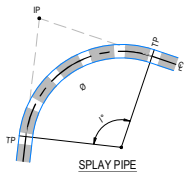
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Nick Brock

FIGURE 1



SPLAY PIPE INFORMATION							
SPLAY #	CENTRE RADIUS (m)	ARC LENGTH (m)	TANGENT LENGTH (m)	I°	IP EASTING	IP NORTHING
A-B	33.7	20.328	10.484	29.49°	323319.92	5844150.81

WARNING

EXISTING 324Ø AND 406Ø APA GAS TRANSMISSION PIPELINES IN VICINITY OF WORKS. CONTRACTOR TO REFER TO APA CONDITIONS. WRITTEN APPROVAL FROM APA IS REQUIRED FOR ANY WORKS WITHIN THE GAS TRANSMISSION EASEMENT.

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.
Locate all underground services before commencement of works
DIAL 1100 BEFORE YOU DIG
www.1100.com.au

REV	DATE	AMENDMENT / REVISION DESCRIPTION	DES/DFT	APPROVAL
0	20.11.20	ISSUED FOR CONSTRUCTION	MA/EB	AB

ISSUED FOR CONSTRUCTION

All setting out should be carried out in accordance with MPA/Council's standard drawings or as nominated on hard copy plans provided by SMEC. Any digital information supplied by this office is for information only. Any discrepancies should be discussed with the superintendent.

TITLE	NAME
DRAFTER	M.Angay
DESIGNER	M.Angay
CHECKED	K.Moore
AUTHORISED	A.Burrows
REFERENCE No. 1	
REFERENCE No. 2	

Scale 1:500
SCALE AS SHOWN AT A1

SMEC
Member of the Surbana Jurong Group
ABN 47 065 475 149
Collins Square, Tower 4, Level 20, 727 Collins St
Melbourne, VIC 3008
Ph 03 9514 1500

mirvac

Olivine Estate - Stage 13
Whittlesea City Council
Road and Drainage
Layout Plan

MELWAYS REF	PROJECT / DRAWING No.	SHEET No.	REVISION
8 M2	1700E-13-02	02 of 19	0

DWG PATH: V:_Vault\Projects_Urban\1700E-Olivine\1700E-13\Dwgs\1700E-13-02.dwg PRINTED BY: YS.14348 on 20/11/2020 at 11:06:48 AM

LEGEND - LAYOUT PLAN
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

- STORMWATER DRAIN, PIT & PROPERTY INLET
- MAIN DRAIN
- SWALE DRAIN
- SEWER & MAINTENANCE STRUCTURES
- HOUSE DRAIN
- ELECTRICITY (U.GROUND)
- ELECTRICITY (O.HEAD)
- GAS
- TELSTRA
- OPTIC FIBRE
- WATER
- RECYCLE WATER
- AG. DRAIN
- SERVICE CONDUITS
- TACTILE PAVERS
- EXISTING STORMWATER DRAIN
- EXISTING MAIN DRAIN
- EXISTING SWALE DRAIN
- EXISTING SEWER & MAINTENANCE STRUCTURES
- EXISTING HOUSE DRAIN
- EXISTING ELECTRICITY (UNDER GROUND)
- EXISTING ELECTRICITY OVERHEAD
- EXISTING GAS
- EXISTING TELSTRA
- EXISTING OPTIC FIBRE
- EXISTING WATER
- EXISTING RECYCLED WATER
- EXISTING AG. DRAIN
- EXISTING SERVICE CONDUITS
- EXISTING TACTILE PAVERS
- FUTURE STORMWATER DRAIN
- FUTURE MAIN DRAIN
- FUTURE SWALE DRAIN
- FUTURE SEWER & MAINTENANCE STRUCTURES
- FUTURE HOUSE DRAIN
- FUTURE ELECTRICITY (UNDER GROUND)
- FUTURE ELECTRICITY OVERHEAD
- FUTURE GAS
- FUTURE TELSTRA
- FUTURE OPTIC FIBRE
- FUTURE WATER
- FUTURE RECYCLED WATER
- FUTURE AG. DRAIN
- FUTURE SERVICE CONDUITS
- FUTURE TACTILE PAVERS
- ZERO LOT LINES
- 141.34 EXISTING SURFACE LEVEL
- FS140.35 FINISHED BUILDING LINE LEVEL
- FR157.40 FINISHED RIDGE LINE LEVEL
- CH270.00 CHAINAGE
- TW159.60 TOP OF RETAINING WALL LEVEL
- BW159.00 BOTTOM OF RETAINING WALL LEVEL
- EXISTING RETAINING WALL
- RETAINING WALL
- FUTURE RETAINING WALL
- STRUCTURAL FILL > 200mm DEEP
- EXISTING STRUCTURAL FILL > 200mm DEEP
- CUT > 200mm DEEP
- DIRECTION OF FALL
- OVERLAND FLOW
- GRADED IN DIRECTION OF FALL TO LEVEL INDICATED
- EDGE STRIP, SUBSOIL DRAIN, "NO ROAD" SIGN & BARRIER
- EXISTING TREE TO BE RETAINED
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY & FOOTPATH
- PROPOSED INDUSTRIAL DRIVEWAY
- PROPOSED SHARED FOOTPATH
- PROPOSED ROAD PAVING
- EXISTING ROAD PAVING

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	21209
		Report No	21209/R001
		Date Issued	22/09/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	AC
Project	OLIVINE - STAGE 13	*Date tested*	26/07/21
Location	DONNYBROOK	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 13:32

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*	1.86	1.83	1.88	1.89	1.88	1.87
Field moisture content	*%*	29.2	22.9	25.9	28.6	30.2	26.1

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*	1.89	1.85	1.89	1.90	1.89	1.90
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	27.0	24.0	29.0	28.5	33.0	29.0

Moisture Variation From Optimum Moisture Content	2.0% wet	1.0% dry	2.5% dry	0.0%	2.5% dry	2.5% dry

Density Ratio (R_{HD})	*%*	**98.5**	**99.0**	**99.5**	**99.5**	**99.5**	**98.0**

Material description

No 1 - 6 Clay Fill

AVRLOT HILF V1.10 MAR 13

NATA Accredited Laboratory No 9909
Accredited for compliance with
ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	21209
		Report No	21209/R002
		Date Issued	22/09/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	AC
Project	OLIVINE - STAGE 13	*Date tested*	27/07/21
Location	DONNYBROOK	*Checked by*	JHF

Feature **EARTHWORKS** *Layer thickness* 200 mm *Time:* 09:47

Test procedure AS 1289.2.1.1 & 5.8.1

Test No		**7**	**8**	**9**	**10**	**11**	**12**
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*	1.96	1.87	1.87	1.90	1.91	1.92
Field moisture content	*%*	21.3	25.0	21.9	23.1	23.4	19.8

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/m³*	1.99	1.89	1.89	1.93	1.90	2.02
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	23.5	22.5	20.0	24.5	25.5	17.5

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

Density Ratio (R_{HD})	***%***	**98.5**	**99.0**	**99.0**	**98.0**	**100.0**	**95.0**

Material description

No 7 - 12 Clay Fill

AVRLOT HILF V1.10 MAR 13

NATA Accredited Laboratory No 9909
Accredited for compliance with
ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry

COMPACTION ASSESSMENT

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

		Job No	21209
		Report No	21209/R003
		Date Issued	22/09/2021
Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	*Tested by*	AC
Project	OLIVINE - STAGE 13	*Date tested*	28/07/21
Location	DONNYBROOK	*Checked by*	JHF

Feature **STRUCTURAL FILL** *Layer thickness* 200 mm *Time:* 10:48

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	*mm*	175	175	175	-	-	-
Field wet density	*t/m³*	2.03	1.95	1.93	-	-	-
Field moisture content	*%*	30.2	22.7	27.9	-	-	-

Test procedure AS 1289.5.7.1

Test No		13	14	15	-	-	-
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*	2.07	1.98	1.95	-	-	-
Adjusted Peak Converted Wet Density	*t/m³*	-	-	-	-	-	-
Optimum Moisture Content	*%*	28.0	20.0	25.5	-	-	-

Moisture Variation From Optimum Moisture Content		2.0% wet	2.5% wet	2.5% wet	-	-	-

Density Ratio (R_{HD})	*%*	**98.0**	**98.5**	**99.0**	**-**	**-**	**-**

Material description

No 13 - 15 Clay Fill

AVRLOT HILF V1.10 MAR 13

NATA Accredited Laboratory No 9909
Accredited for compliance with
ISO/IEC 17025 - Testing

Approved Signatory : Justin Fry