



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

5<sup>th</sup> June 2019

Our Reference: 19360:NB508

Winslow Constructors Pty Ltd  
50 Barry Road  
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

**RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING  
WARATAH – STAGE 10 (MICKLEHAM)**

Please find attached our Report No 19360/R001 which 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 was performed in May 2019.

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).

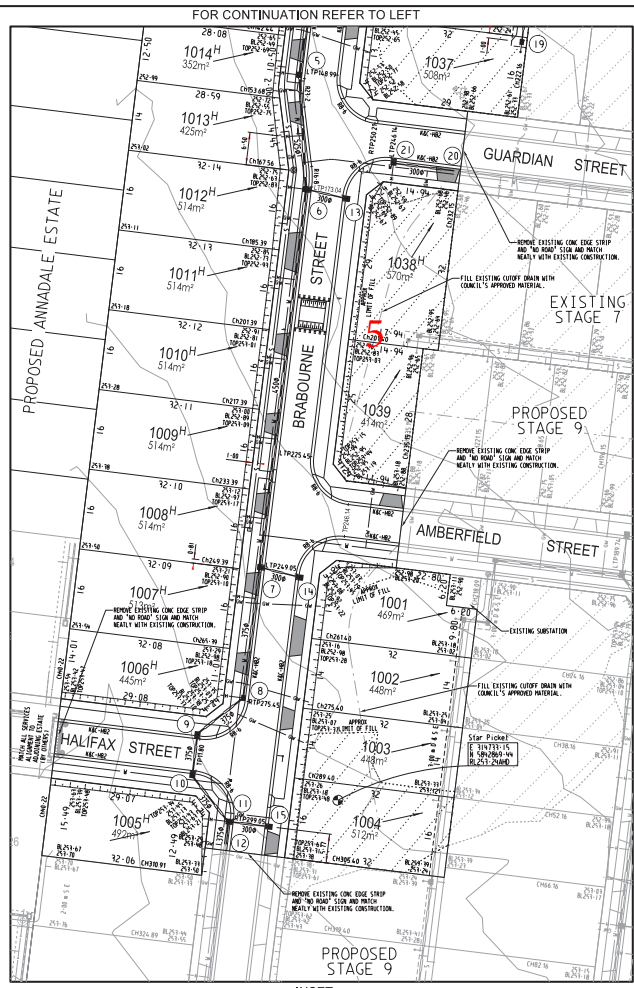
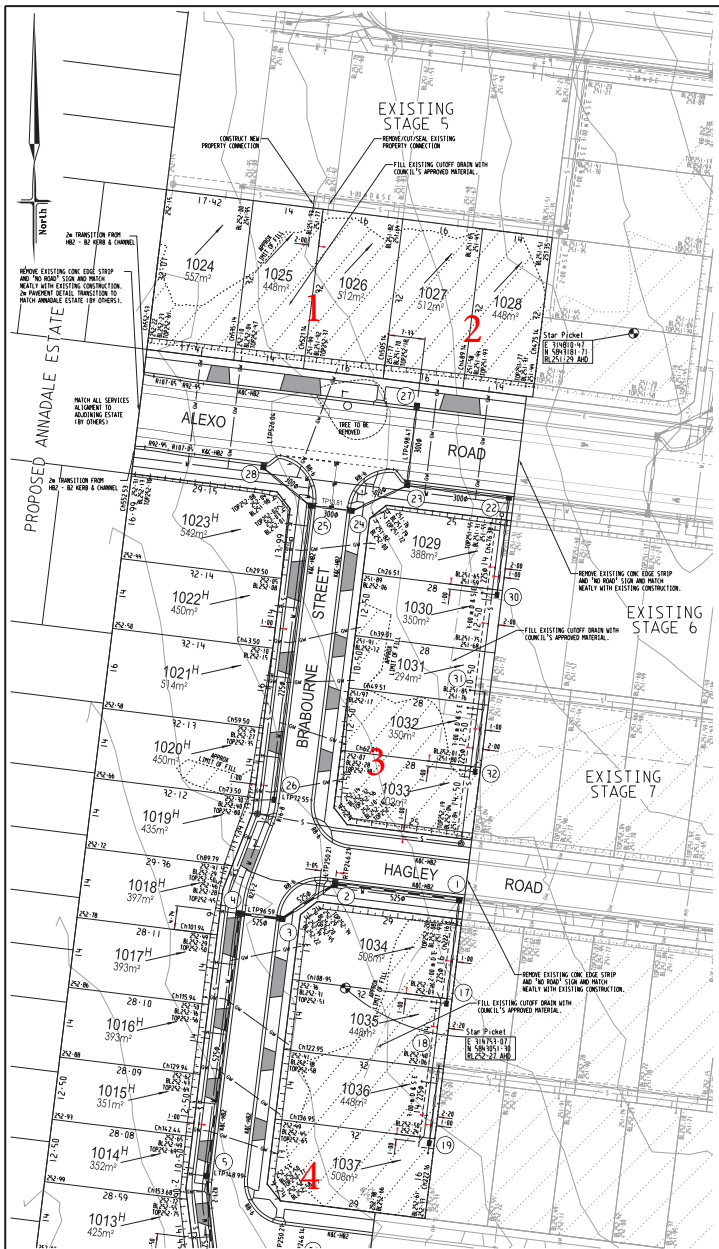
Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

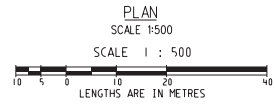
A handwritten signature in blue ink, appearing to be 'Nick Brock', written in a cursive style.

Nick Brock

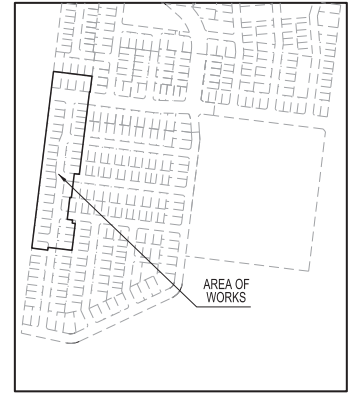
# FIGURE 1



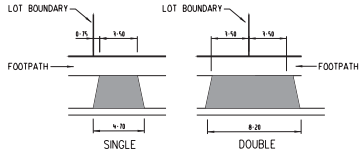
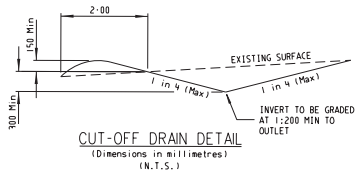
# Approximate field density test location



SHEET INDEX		
SRIT No.	VER	DESCRIPTION
1	B	DETAIL PLAN, SHEET INDEX, SERVICES SCHEDULE & LOCALITY PLAN
2	A	TYPICAL CROSS SECTIONS, PAVEMENT DETAILS & NOTES
3	A	INTERSECTION DETAILS
4	A	INTERSECTION DETAILS
5	A	INTERSECTION DETAILS
6	A	LONGITUDINAL SECTION - ALEDO ROAD & BRABOURNE STREET
7	A	LONGITUDINAL SECTION - HAGLEY ROAD, GUARDIAN STREET, AMBERFIELD STREET & HALIFAX STREET
8	A	CROSS SECTIONS - BRABOURNE STREET
9	A	CROSS SECTIONS - BRABOURNE STREET
10	A	CROSS SECTIONS - ALEDO ROAD
11	A	CROSS SECTIONS - HAGLEY ROAD, GUARDIAN STREET, AMBERFIELD STREET & HALIFAX STREET
12	A	DRAINAGE LONGITUDINAL SECTIONS
13	A	DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE
14	A	PARKING AND SIGNAGE & LINESHAPING PLAN



LOCALITY PLAN  
NTS  
MELWAYS: 366 D5



DRIVEWAY PLAN  
NOT TO SCALE

**WARNING**  
BEWARE OF UNDERGROUND SERVICES  
THE LOCATION 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.

**ATTENTION TO CONTRACTOR**

- IT IS THE CONTRACTORS RESPONSIBILITY TO ENSURE THAT THE DIGITAL PLAN, PROVIDED FOR SETUP PURPOSES, MATCHES THE TBM COORDINATES SHOWN.
- Where concrete works abut a sewer access chamber surround or similar structure, an expansion joint of approved material shall be provided between the two faces.

SERVICES OFFSETS AND LOCATIONS											
STREET/LOT NAME	Rd RESERVE	DW	WATER	GAS	ELECTRICITY	POLES	NBN CABLES	NBN PYS	DN of KBRB	JOINT TRENCHING	
ALEDO ROAD (EAST OF BRABOURNE ST)	25-00	3-15 S	2-75 S	2-25 S	2-50 N	1-00 BOX	1-85 N	1-85 S	1-85 N	G DW NDN & E NBN	
ALEDO ROAD (WEST OF BRABOURNE ST)	25-00	3-85 S	2-95 S	2-25 S	2-50 N	1-00 BOX	1-80 N	1-80 S	VARIABLES	G DW NDN & E NBN	
BRABOURNE STREET	16-00	3-20 W	2-70 W	2-25 W	2-50 E	1-00 BOX	1-85 E	1-85 W	1-85 E	G DW NDN & E NBN	
HAGLEY ROAD	16-00	3-20 S	2-70 S	2-25 S	2-50 N	1-00 BOX	1-85 N	1-85 S	1-85 N	G DW NDN & E NBN	
GUARDIAN STREET	16-00	3-20 S	2-70 S	2-25 S	2-50 N	1-00 BOX	1-85 N	1-85 S	1-85 S	G DW NDN & E NBN	
AMBERFIELD STREET	16-00	3-20 S	2-70 S	2-25 S	2-50 N	1-00 BOX	1-85 N	1-85 S	1-85 S	G DW NDN & E NBN	
HALIFAX STREET	16-00	3-10 S	2-60 S	2-20 S	2-50 N	1-00 BOX	1-80 N	1-85 S	1-85 S	G DW NDN & E NBN	

SYMBOL LEGEND	
Drains	Ex/Natural/FS Level
Sewer <300	FS @ Building Line
Sewer >300	Top/Toe of Batter
Water	Top Ret. Wall Level
House Drain	100yr Flood Level
Property Inlet	Fill Prop/Ex
Street Sign	Cut Prop/Ex
Retaining Wall	
Conduits 50mm	
Conduits 100mm	
Ex Gas/Electric	

SRIT No.	VER	DATE	REMARKS
B	10-04-18		EXISTING SEWER ADJACENT LOTS 1005-1007 SHOWN
A	03-04-18		ISSUED FOR CONSTRUCTION

**breese pitt dixon pty. ltd.**  
land surveyors      civil engineers

MELWAY REF. 366-E-6  
SURVEY BPD  
DESIGN TVT  
DRAWN PG  
CHECKED

**WARATAH ESTATE  
STAGE 10**

MANICIPALITY HUME  
REFERENCE 8711 E/10

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

SCALE AS SHOWN    DATUM AHD    DATE DEC '17    SHEET 1 OF 14



## COMPACTION ASSESSMENT

Job No 19360  
 Report No 19360/R001  
 Date Issued 04/06/2019

**CIVIL GEOTECHNICAL SERVICES**

6 - 8 Rose Avenue, Croydon 3136

Client	WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)	Tested by	AC
Project	WARATAH ESTATE - STAGE 10	Date tested	29/05/19
Location	MICKLEHAM	Checked by	JHF

<b>Feature</b>	EARTHWORKS	Layer thickness	200 mm	Time: 12:54
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Test procedure AS 1289.2.1.1 & 5.8.1

Test No	1	2	3	4	5	-
Location	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	-
Field wet density <i>t/m<sup>3</sup></i>	1.95	1.92	1.94	1.92	1.90	-
Field moisture content <i>%</i>	16.8	17.8	16.4	16.9	18.8	-

Test procedure AS 1289.5.7.1

Test No	1	2	3	4	5	-
Compactive effort	Standard					
Oversize rock retained on sieve <i>mm</i>	19.0	19.0	19.0	19.0	19.0	-
Percent of oversize material <i>wet</i>	0	0	0	0	5	-
Peak Converted Wet Density <i>t/m<sup>3</sup></i>	1.97	1.96	1.99	1.94	1.93	-
Adjusted Peak Converted Wet Density <i>t/m<sup>3</sup></i>	-	-	-	-	1.95	-
Optimum Moisture Content <i>%</i>	19.0	20.0	19.0	19.5	21.0	-

Moisture Variation From Optimum Moisture Content	2.0% dry	2.0% dry	2.5% dry	2.5% dry	2.0% dry	-
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<b>Density Ratio ( R<sub>HD</sub> )</b>	<b>%</b>	<b>99.0</b>	<b>98.0</b>	<b>97.5</b>	<b>99.0</b>	<b>97.5</b>	<b>-</b>
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Material description

No 1 - 5 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