



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

7th September 2023

Our Reference: 23029:NB1658

Winslow Constructors Pty Ltd
50 Barry Road
CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING
RATHDOWNE – STAGE 17 (WOLLERT)

Please find attached our Report No's 23029/R001 to 23029/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 August 2023.

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).

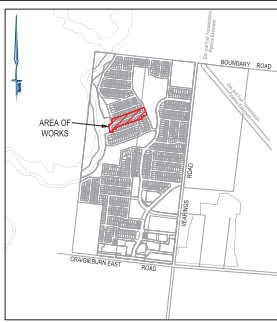
Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

A handwritten signature in blue ink, appearing to be 'Nick Brock', is written over a light blue circular stamp.

Nick Brock

FIGURE 1



LOCALITY PLAN
SCALE - 1:20,000
MELWAYS: 388 C 10

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.

| SHEET INDEX | | |
|-------------|-----|--|
| SHT No. | VER | DESCRIPTION |
| 1 | B | DETAIL PLAN, LOCALITY PLAN, SERVICES SCHEDULE & SHEET INDEX |
| 2 | A | GENERAL NOTES, DETAILS & TYPICAL SECTIONS |
| 3 | B | INTERSECTION DETAILS - Sheet 1 |
| 4 | B | INTERSECTION DETAILS - Sheet 2 |
| 5 | A | RIVENDELL CIRCUIT - LONGITUDINAL SECTION |
| 6 | A | RIVENDELL CIRCUIT - CROSS SECTIONS - Sheet 1 |
| 7 | A | RIVENDELL CIRCUIT - CROSS SECTIONS - Sheet 2 |
| 8 | A | PROSPECT ROAD - LONGITUDINAL & CROSS SECTIONS |
| 9 | A | SAPPORO ROAD - LONGITUDINAL & CROSS SECTIONS |
| 10 | A | GOLDRIDGE DRIVE - LONGITUDINAL & CROSS SECTIONS |
| 11 | A | DRAINAGE LONGITUDINAL SECTIONS - Sheet 1 |
| 12 | A | DRAINAGE LONGITUDINAL SECTIONS - Sheet 2 & DRAINAGE PIT SCHEDULE |
| 13 | A | SIGNAGE & LINEMARKING PLAN |



Approximate field density test location

SERVICES OFFSETS AND LOCATIONS

| Location | Gas | | Water | | Communications | | Electricity | | BOK | Road Width | Joint Trenching | Street Classification |
|---|--------|--------|--------|--------|----------------|--------|-------------|------------------|-------|-------------|-----------------|-----------------------|
| | NDW | DW | NDW | DW | Cables | Pits | Cables | Poles | | | | |
| RIVENDELL CIRCUIT (Lots 1701 to 1703) | 2.10 E | 2.60 S | 3.10 E | 5.80 W | 1.80 E | 6.80 W | 1.00 BOK | 4.35 E 8.05 W | 20.00 | G&W, FTTH&E | STREET LEVEL | |
| RIVENDELL CIRCUIT (Lots 1719, 1721 to 1735) | 2.10 S | 2.60 S | 3.10 S | 1.80 N | 1.80 N | 2.60 N | 1.00 BOK | 4.20 N 4.20 S | 16.00 | G&W, FTTH&E | STREET LEVEL | |
| PROSPECT ROAD | 2.10 E | 2.60 E | 3.10 E | 5.80 W | 1.80 E | 6.80 W | 1.00 BOK | 4.35 E 8.05 W | 20.00 | G&W, FTTH&E | STREET LEVEL | |
| SAPPORO ROAD | 2.10 E | 2.60 E | 3.10 E | 1.80 W | 1.80 E | 2.80 W | 1.00 BOK | 4.20 E 4.20 W | 16.00 | G&W, FTTH&E | STREET LEVEL | |
| GOLDRIDGE DRIVE | 2.10 W | 2.60 W | 3.10 W | 1.80 E | 1.70 W | 2.60 E | 1.00 BOK | 4.70 W 4.70 E | 17.00 | G&W, FTTH&E | STREET LEVEL | |

NOTE: a) At the curb bow where water and gas mains pass, the watermain offset is to be increased by 0.5 metres.
b) Indicates offsets from back of kerb where services do not run parallel to title boundary.
c) Indicates communication pits placed within concrete footpath.

SYMBOL LEGEND

| | | | |
|---|------------------|---|------|
| Drains | Prop. Pipe | Ex Natural/FPS Level | 4.50 |
| Sewer < 300D | Prop. Sewer | FS @ Batching Line | 4.20 |
| Water (DW) | Prop. Water | Top/Toe Batter Level | 4.10 |
| Water (NDW) | Prop. Water | Top/Bottom ROW Level | 4.00 |
| House Drain | Prop. Drain | 100yr Flood Level | 4.35 |
| Property Felt | Prop. Felt | Fill Proposed (+0.3m/20.3m) | 4.35 |
| Street Sign | Prop. Sign | Cul Proposed | 4.35 |
| Rock Ret Wall | Prop. Wall | Asphalt Surface Prop | 4.35 |
| Sleeper Ret Wall | Prop. Wall | Concrete Surface Prop | 4.35 |
| Condit 50mm | Prop. Condit | Concrete Surface Prop (Paths/Driveways/Slabs) | 4.35 |
| Condit 100mm | Prop. Condit | Tree To Be Retained | 4.35 |
| Street Tree without/with Positive Riprap (Water Detail) | Prop. Tree | Tree To Be Retained with Tree Protection Zone (TPZ) | 4.35 |
| Ex Drains | Prop. Drain | | |
| Ex Water D/WNDW | Prop. Water | | |
| Ex Sewer/Gas | Prop. Sewer/Gas | | |
| Ex Elect/Comm | Prop. Elect/Comm | | |

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 licensed surveyor responsible for certifying the Plan of Subdivision prior to underground infrastructure being installed.
- 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.

PLAN
SCALE 1:500
SCALE 1:500 @ A1

LENGTHS ARE IN METRES

| | |
|--|---|
| breese pitt dixon pty. ltd. land surveyors civil engineers | 1/19 cato street hawthorn east, 3123 telephone 8623 2300 fax no. 8623 2310 |
| | MUNICIPALITY WHITTLESEA REFERENCE 9365 E/17 |
| MELWAY REF. 388-C-10 SURVEY BPD DESIGN RGW DRAWN RGW | RATHDOWNE ESTATE STAGE 17 DETAIL PLAN |
| CHECKED SCALE AS SHOWN DATUM AHD DATE FEB'22 | SHEET 1 OF 13 B |



COMPACTION ASSESSMENT

Job No 23029
 Report No 23029/R001
 Date Issued 06/09/23

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

| | | | |
|----------|--|-------------|----------|
| Client | WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) | Tested by | AC |
| Project | RATHDOWNE - STAGE 17 | Date tested | 25/08/23 |
| Location | WOLLERT | Checked by | JHF |

| | | | | | |
|---------|------------|-----------------|--------|-------|-------|
| Feature | EARTHWORKS | Layer thickness | 200 mm | Time: | 08:34 |
|---------|------------|-----------------|--------|-------|-------|

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 |
| Field wet density | t/m ³ | 2.00 | 2.03 | 2.04 | 1.99 | 2.04 |
| Field moisture content | % | 17.4 | 20.7 | 22.1 | 20.1 | 20.1 |

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 |
| Percent of oversize material | wet | 0 | 0 | 0 | 0 | 0 |
| Peak Converted Wet Density | t/m ³ | 2.00 | 2.01 | 2.07 | 2.01 | 2.07 |
| Adjusted Peak Converted Wet Density | t/m ³ | - | - | - | - | - |
| Optimum Moisture Content | % | 17.0 | 23.0 | 22.0 | 21.0 | 20.0 |

| | | | | | | |
|--|----------|----------|------|----------|------|----------|
| Moisture Variation From Optimum Moisture Content | 0.5% wet | 2.0% dry | 0.0% | 1.0% dry | 0.0% | 2.0% dry |
|--|----------|----------|------|----------|------|----------|

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

| | | | | | | | |
|-----------------------------------|---|-------|-------|------|------|------|-------|
| Density Ratio (R _{HD}) | % | 100.0 | 101.0 | 98.5 | 99.0 | 98.5 | 100.5 |
|-----------------------------------|---|-------|-------|------|------|------|-------|

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

Job No 23029
 Report No 23029/R002
 Date Issued 07/09/23

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

| | | | |
|----------|--|-------------|----------|
| Client | WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) | Tested by | AC |
| Project | RATHDOWNE - STAGE 17 | Date tested | 28/08/23 |
| Location | WOLLERT | Checked by | JHF |

| | | | | | |
|---------|------------|-----------------|--------|-------|-------|
| Feature | EARTHWORKS | Layer thickness | 200 mm | Time: | 09:26 |
|---------|------------|-----------------|--------|-------|-------|

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 | |
| Field wet density | t/m ³ | 2.02 | 2.03 | 2.01 | 1.98 | 1.93 | 1.99 |
| Field moisture content | % | 17.4 | 16.2 | 16.0 | 16.4 | 17.1 | 16.5 |

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 | |
| Percent of oversize material | wet | 0 | 0 | 0 | 0 | 0 | |
| Peak Converted Wet Density | t/m ³ | 2.07 | 2.12 | 2.06 | 2.01 | 2.02 | 1.97 |
| Adjusted Peak Converted Wet Density | t/m ³ | - | - | - | - | - | - |
| Optimum Moisture Content | % | 18.5 | 18.0 | 18.0 | 18.5 | 19.0 | 18.0 |

| | | | | | | |
|--|----------|----------|----------|----------|----------|----------|
| Moisture Variation From Optimum Moisture Content | 1.0% dry | 1.5% dry | 2.0% dry | 2.0% dry | 1.5% dry | 1.5% dry |
|--|----------|----------|----------|----------|----------|----------|

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

| | | | | | | | |
|-----------------------------------|---|------|------|------|------|------|-------|
| Density Ratio (R _{HD}) | % | 97.5 | 96.0 | 97.5 | 99.0 | 95.5 | 101.0 |
|-----------------------------------|---|------|------|------|------|------|-------|

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

Job No 23029
 Report No 23029/R003
 Date Issued 06/09/23

CIVIL GEOTECHNICAL SERVICES

6 - 8 Rose Avenue, Croydon 3136

| | | | |
|----------|--|-------------|----------|
| Client | WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) | Tested by | AC |
| Project | RATHDOWNE - STAGE 17 | Date tested | 29/08/23 |
| Location | WOLLERT | Checked by | JHF |

| | | | | |
|---------|------------|-----------------|--------|-------------|
| Feature | EARTHWORKS | Layer thickness | 200 mm | Time: 10:27 |
|---------|------------|-----------------|--------|-------------|

Test procedure AS 1289.2.1.1 & 5.8.1

| Test No | 13 | 14 | 15 | 16 | 17 | 18 |
|-----------------------------|-------------------|-------------------|-------------------|-------------------|-------------------|-------------------|
| 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 |
| Field wet density | t/m ³ | 2.02 | 2.06 | 2.04 | 2.01 | 2.00 |
| Field moisture content | % | 18.1 | 17.4 | 21.2 | 15.3 | 18.2 |

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 ³ | 2.04 | 2.11 | 2.06 | 2.02 | 2.03 |
| Adjusted Peak Converted Wet Density | t/m ³ | - | - | - | - | - |
| Optimum Moisture Content | % | 20.0 | 17.0 | 23.5 | 17.0 | 20.5 |

| | | | | | | |
|--|----------|----------|----------|----------|----------|------|
| Moisture Variation From Optimum Moisture Content | 1.5% dry | 0.5% wet | 2.0% dry | 2.0% dry | 2.0% dry | 0.0% |
|--|----------|----------|----------|----------|----------|------|

density and moisture ratio results relate only to the soil to the depth of test and not to the full depth of the layer

| | | | | | | | |
|-----------------------------------|---|------|------|------|------|------|------|
| Density Ratio (R _{HD}) | % | 99.0 | 98.0 | 99.0 | 99.5 | 98.5 | 99.0 |
|-----------------------------------|---|------|------|------|------|------|------|

Material description

| |
|----------------------|
| No 13 - 18 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