

# CIVIL GEOTECHNICAL SERVICES ABN 26 474 013 724

PO Box 678 Croydon Vic 3136 Telephone: 9723 0744 Facsimile: 9723 0799

9<sup>th</sup> May 2022

Our Reference: 21845:NB1247

Winslow Constructors Pty Ltd 50 Barry Road CAMPBELLFIELD VIC 3061

Dear Sirs/Madams,

RE: LEVEL 1 EARTHWORKS INSPECTION AND TESTING OFFICER CENTRAL – STAGE 1 (OFFICER)

Please find attached our Report No's 21845/R001 to 21845/R012 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 December 2021 and was completed in January 2022.

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).

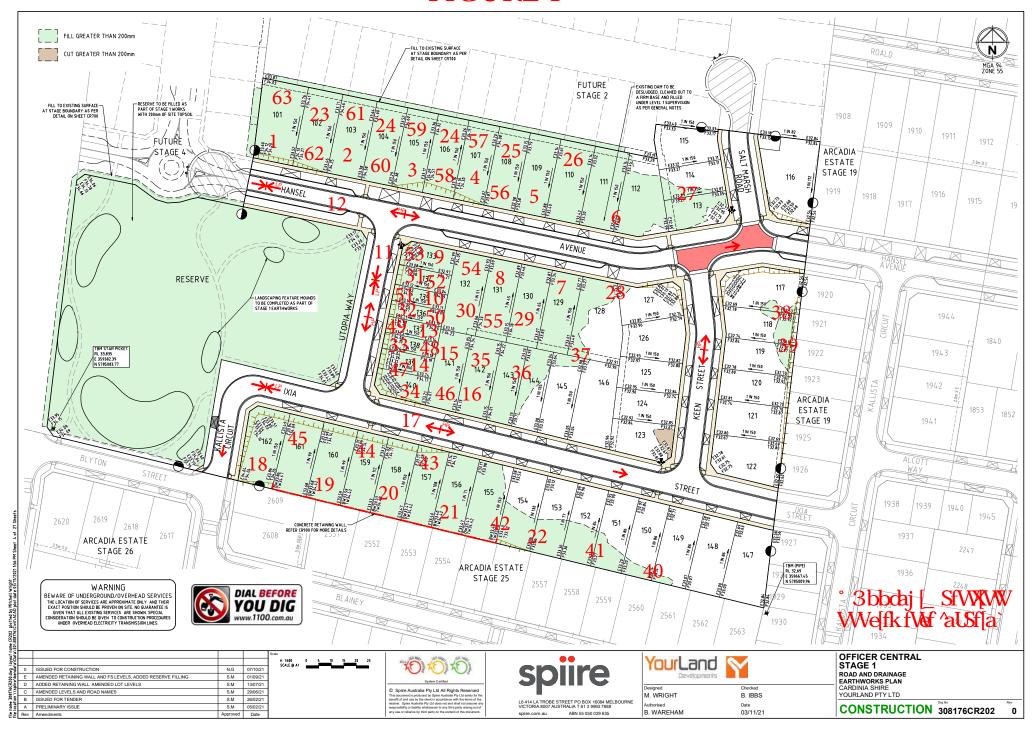
We are of the view that the bulk fill materials that have been placed across the reported allotments by Winslow Constructors during the aforementioned period can be considered as having been placed in a controlled manner to a minimum density ratio of 95% (standard compactive effort).

Please contact the undersigned if you require any additional information.

Civil Geotechnical Services

Nick Brock

# FIGURE 1





Job No 21845 **CIVIL GEOTECHNICAL SERVICES** Report No 21845/R001 Date Issued 17/01/2022 6 - 8 Rose Avenue, Croydon 3136 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Client Tested by SB Project **OFFICER CENTRAL - STAGE 1** Date tested 06/12/21 Location **OFFICER** Checked by JHF

Feature EARTHWORKS Layer thickness 200 mm Time: 11:00

| Test procedure    | 4.5 | 12892   | 1 1 | 2521    |
|-------------------|-----|---------|-----|---------|
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| Test No                     |      | 1                       | 2                       | 3                       | 4                       | - | = |
|-----------------------------|------|-------------------------|-------------------------|-------------------------|-------------------------|---|---|
| Location                    |      | REFER<br>TO<br>FIGURE 1 | REFER<br>TO<br>FIGURE 1 | REFER<br>TO<br>FIGURE 1 | REFER<br>TO<br>FIGURE 1 |   |   |
| Approximate depth below FSL |      |                         |                         |                         |                         |   |   |
| Measurement depth           | mm   | 175                     | 175                     | 175                     | 175                     | - | - |
| Field wet density           | t/m³ | 1.95                    | 1.94                    | 1.94                    | 1.93                    | - | - |
| Field moisture content      | %    | 16.9                    | 17.0                    | 16.8                    | 16.0                    | - | - |

# Test procedure AS 1289.5.7.1

| Test No                             |      | 1    | 2    | 3    | 4     | - | - |
|-------------------------------------|------|------|------|------|-------|---|---|
| Compactive effort                   |      |      |      | Star | ndard |   |   |
| 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/m³ | 2.01 | 1.99 | 1.98 | 1.99  | - | - |
| Adjusted Peak Converted Wet Density | t/m³ | -    | -    | -    | -     | - | - |
| Optimum Moisture Content            | %    | 15.0 | 15.0 | 15.0 | 13.5  | - | - |

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

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

| D '' D '' (D )                   | ٠. | 07.0 | 00.0 | 00.0 | 97 N |   |   |
|----------------------------------|----|------|------|------|------|---|---|
| Density Ratio (R <sub>HD</sub> ) | %  | 97.0 | 98.0 | 98.0 | 97.0 | - | - |

#### Material description

No 1 - 4 Clay Fill

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

AVRLOT HILF V1.10 MAR 13



Job No 21845 **CIVIL GEOTECHNICAL SERVICES** 21845/R002 Report No Date Issued 17/01/2022 6 - 8 Rose Avenue, Croydon 3136 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Client Tested by SB **OFFICER CENTRAL - STAGE 1 Project** Date tested 13/12/21 Location **OFFICER** Checked by JHF

Feature EARTHWORKS Layer thickness 200 mm Time: 11:30

Test procedure AS 1289.2.1.1 & 5.8.1 5 6 Test No Location REFER **REFER REFER** TO TO TO FIGURE 1 FIGURE 1 FIGURE 1 Approximate depth below FSL Measurement depth 175 175 175 mm t/m³ 2.01 2.01 2.12 Field wet density \_ Field moisture content % 7.7 8.4 8.1 Test procedure AS 1289.5.7.1

| Test No                             |      | 5    | 6    | 7    | -     | - | - |
|-------------------------------------|------|------|------|------|-------|---|---|
| Compactive effort                   |      |      |      | Stan | ndard |   |   |
| 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 | 2.06 | 2.06 | 2.15 | -     | - | - |
| Adjusted Peak Converted Wet Density | t/m³ | -    | -    | -    | -     | - | - |
| Optimum Moisture Content            | %    | 9.5  | 10.5 | 10.5 | -     | - | - |

| Moisture Variation From  | 2.0% | 2.0% | 2.5% | - | - | - |
|--------------------------|------|------|------|---|---|---|
| Optimum Moisture Content | dry  | dry  | 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 | 98.0 | 99.0 | _ | _ | _ |
|-----------------------------------|----|------|------|------|---|---|---|
| Delisity Ratio (R <sub>HD</sub> ) | /0 | 31.5 | 30.0 | 33.0 | _ | _ | _ |

#### Material description

No 5 - 7 Clay Fill

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





Job No 21845 **CIVIL GEOTECHNICAL SERVICES** 21845/R003 Report No Date Issued 17/01/2022 6 - 8 Rose Avenue, Croydon 3136 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Client Tested by SB **OFFICER CENTRAL - STAGE 1** Date tested 14/12/21 Project Location **OFFICER** Checked by JHF

Feature EARTHWORKS Layer thickness 200 mm Time: 12:30

Test procedure AS 1289.2.1.1 & 5.8.1

| Test No                     |      | 8                       | 9                       | 10                      | - | = | = |
|-----------------------------|------|-------------------------|-------------------------|-------------------------|---|---|---|
| Location                    |      | REFER<br>TO<br>FIGURE 1 | REFER<br>TO<br>FIGURE 1 | REFER<br>TO<br>FIGURE 1 |   |   |   |
| Approximate depth below FSL |      |                         |                         |                         |   |   |   |
| Measurement depth           | mm   | 175                     | 175                     | 175                     | - | - | - |
| Field wet density           | t/m³ | 2.12                    | 2.02                    | 2.02                    | - | - | - |
| Field moisture content      | %    | 9.5                     | 9.9                     | 8.8                     | - | - | - |

Test procedure AS 1289.5.7.1

| Test No                             |      | 8    | 9    | 10   | -    | - | - |
|-------------------------------------|------|------|------|------|------|---|---|
| Compactive effort                   |      |      |      | Stan | dard |   |   |
| 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 | 2.15 | 2.06 | 2.09 | -    | - | - |
| Adjusted Peak Converted Wet Density | t/m³ | -    | -    | -    | -    | - | - |
| Optimum Moisture Content            | %    | 12.0 | 12.5 | 10.5 | -    | - | - |

| Moisture Variation From  | 2.5% | 2.5% | 2.0% | - | - | - |
|--------------------------|------|------|------|---|---|---|
| Optimum Moisture Content | dry  | dry  | 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 <sub>HD</sub> )  | %  | 98.5 | 98.0 | 96.5 | _ | _ | _ |
|-----------------------------------|----|------|------|------|---|---|---|
| Delisity Ratio (R <sub>HD</sub> ) | /0 | 30.5 | 30.0 | 30.5 | - | _ | _ |

#### Material description

No 8 - 10 Clay Fill

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

AVRLOT HILF V1.10 MAR 13



 CIVIL GEOTECHNICAL SERVICES
 Job No
 21845

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 21845/R004

 Date Issued
 17/01/2022

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested bySBProjectOFFICER CENTRAL - STAGE 1Date tested15/12/21LocationOFFICERChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 12:00

Test procedure AS 1289.2.1.1 & 5.8.1

| Test No                     |      | 11       | 12       | 13       | 14       | 15       | 16       |
|-----------------------------|------|----------|----------|----------|----------|----------|----------|
| Location                    |      |          |          |          |          |          |          |
|                             |      | REFER    | REFER    | REFER    | REFER    | REFER    | REFER    |
|                             |      | TO       | TO       | TO       | TO       | TO       | TO       |
|                             |      | FIGURE 1 |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
| Approximate depth below FSL |      |          |          |          |          |          |          |
| Measurement depth           | mm   | 175      | 175      | 175      | 175      | 175      | 175      |
| Field wet density           | t/m³ | 1.87     | 1.87     | 1.91     | 1.92     | 1.91     | 1.91     |
| Field moisture content      | %    | 16.0     | 14.7     | 9.7      | 12.4     | 15.6     | 15.6     |

Test procedure AS 1289.5.7.1

| Test No                             |      | 11   | 12   | 13   | 14    | 15   | 16   |
|-------------------------------------|------|------|------|------|-------|------|------|
| Compactive effort                   |      |      |      | Star | ndard |      |      |
| 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 | 1.90 | 1.91 | 1.96 | 1.96  | 1.94 | 1.94 |
| Adjusted Peak Converted Wet Density | t/m³ | ı    | -    | -    | -     | -    | -    |
| Optimum Moisture Content            | %    | 16.5 | 16.0 | 9.5  | 13.5  | 17.5 | 16.0 |

| Moisture Variation From  | 0.5% | 1.5% | 0.0% | 1.0% | 2.0% | 0.5% |
|--------------------------|------|------|------|------|------|------|
| Optimum Moisture Content | dry  | dry  |      | dry  | dry  | 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

|                                  |   | 00 F | 00.0 | 07 F | 00.0 | 00 F | 00 F |
|----------------------------------|---|------|------|------|------|------|------|
| Density Ratio (R <sub>HD</sub> ) | % | 98.5 | 98.0 | 97.5 | 98.0 | 98.5 | 98.5 |

#### Material description

No 11 - 16 Clay Fill

NATA Accredited Laboratory No 9909
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ISO/IEC 17025 - Testing





 CIVIL GEOTECHNICAL SERVICES
 Job No
 21845

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 21845/R005

 Date Issued
 17/01/2022

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested bySBProjectOFFICER CENTRAL - STAGE 1Date tested16/12/21LocationOFFICERChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 14:00

Test procedure AS 1289.2.1.1 & 5.8.1

| Test No                     |      | 17       | 18       | 19       | 20       | 21       | 22       |
|-----------------------------|------|----------|----------|----------|----------|----------|----------|
| Location                    |      |          |          |          |          |          |          |
|                             |      | REFER    | REFER    | REFER    | REFER    | REFER    | REFER    |
|                             |      | TO       | TO       | TO       | ТО       | TO       | TO       |
|                             |      | FIGURE 1 |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
| Approximate depth below FSL |      |          |          |          |          |          |          |
| Measurement depth           | mm   | 175      | 175      | 175      | 175      | 175      | 175      |
| Field wet density           | t/m³ | 1.95     | 1.92     | 1.92     | 2.05     | 2.03     | 2.04     |
| Field moisture content      | %    | 16.4     | 14.8     | 17.1     | 12.2     | 14.7     | 13.9     |

Test procedure AS 1289.5.7.1

| Test No                             |      | 17   | 18   | 19   | 20   | 21   | 22   |
|-------------------------------------|------|------|------|------|------|------|------|
| Compactive effort                   |      |      |      | Stan | dard |      |      |
| 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 | 2.00 | 1.97 | 1.98 | 2.07 | 2.06 | 2.07 |
| Adjusted Peak Converted Wet Density | t/m³ | -    | -    | -    | -    | -    | -    |
| Optimum Moisture Content            | %    | 18.5 | 17.0 | 20.0 | 14.5 | 17.0 | 16.0 |

| Moisture Variation From  | 2.0% | 2.0% | 2.5% | 2.5% | 2.5% | 2.0% |
|--------------------------|------|------|------|------|------|------|
| Optimum Moisture Content | dry  | dry  | dry  | dry  | dry  | 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 <sub>HD</sub> ) | % | 97.5 | 97.5 | 97.0 | 99.0 | 98.5 | 98.5 |
|----------------------------------|---|------|------|------|------|------|------|

#### Material description

No 17 - 22 Clay Fill

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





 CIVIL GEOTECHNICAL SERVICES
 Job No
 21845

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 21845/R006

 Date Issued
 24/01/2022

 Client
 WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)
 Tested by
 SB

 Project
 OFFICER CENTRAL - STAGE 1
 Date tested
 11/01/22

 Location
 OFFICER
 Checked by
 JHF

Feature EARTHWORKS Layer thickness 200 mm Time: 10:30

Test procedure AS 1289.2.1.1 & 5.8.1

| Test No                     |      | 23       | 24       | 25       | 26       | 27       | 28       |
|-----------------------------|------|----------|----------|----------|----------|----------|----------|
| Location                    |      |          |          |          |          |          |          |
|                             |      | REFER    | REFER    | REFER    | REFER    | REFER    | REFER    |
|                             |      | TO       | TO       | TO       | TO       | TO       | TO       |
|                             |      | FIGURE 1 |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
| Approximate depth below FSL |      |          |          |          |          |          |          |
| Measurement depth           | mm   | 175      | 175      | 175      | 175      | 175      | 175      |
| Field wet density           | t/m³ | 1.91     | 1.89     | 1.93     | 1.91     | 1.90     | 1.91     |
| Field moisture content      | %    | 15.2     | 16.0     | 10.8     | 10.7     | 10.7     | 11.7     |

Test procedure AS 1289.5.7.1

| : 000 p: 000 did:: 0 : 10 : 100:: 11: |      |      |      |      |       |      |      |
|---------------------------------------|------|------|------|------|-------|------|------|
| Test No                               |      | 23   | 24   | 25   | 26    | 27   | 28   |
| Compactive effort                     |      |      |      | Star | ndard |      |      |
| 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 | 1.97 | 1.94 | 1.98 | 1.94  | 1.95 | 1.96 |
| Adjusted Peak Converted Wet Density   | t/m³ | -    | -    | -    | -     | -    | -    |
| Optimum Moisture Content              | %    | 17.5 | 18.0 | 13.0 | 13.0  | 13.0 | 14.0 |

| Moisture Variation From  | 2.5% | 2.0% | 2.5% | 2.5% | 2.5% | 2.5% |
|--------------------------|------|------|------|------|------|------|
| Optimum Moisture Content | dry  | dry  | dry  | dry  | dry  | 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 <sub>HD</sub> ) | % | 96.5 | 97.5 | 97.5 | 98.5 | 97.5 | 97.5 |
|----------------------------------|---|------|------|------|------|------|------|

#### Material description

No 23 - 28 Clay Fill

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





 CIVIL GEOTECHNICAL SERVICES
 Job No
 21845

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 21845/R007

 Date Issued
 04/03/2022

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested bySBProjectOFFICER CENTRAL - STAGE 1Date tested12/01/22LocationOFFICERChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 12:00

Test procedure AS 1289.2.1.1 & 5.8.1

| Test No                     |      | 29       | 30       | 31       | 32       | 33       | 34       |
|-----------------------------|------|----------|----------|----------|----------|----------|----------|
| Location                    |      |          |          |          |          |          |          |
|                             |      | REFER    | REFER    | REFER    | REFER    | REFER    | REFER    |
|                             |      | TO       | TO       | TO       | TO       | TO       | TO       |
|                             |      | FIGURE 1 |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
| Approximate depth below FSL |      |          |          |          |          |          |          |
| Measurement depth           | mm   | 175      | 175      | 175      | 175      | 175      | 175      |
| Field wet density           | t/m³ | 1.89     | 1.87     | 1.86     | 1.85     | 1.86     | 1.85     |
| Field moisture content      | %    | 10.2     | 13.9     | 10.5     | 15.6     | 14.9     | 15.1     |

Test procedure AS 1289.5.7.1

| : 000 p: 000 did:: 0 : 10 : 100:: 11: |      |      |      |      |       |      |      |
|---------------------------------------|------|------|------|------|-------|------|------|
| Test No                               |      | 29   | 30   | 31   | 32    | 33   | 34   |
| Compactive effort                     |      |      |      | Star | ndard |      |      |
| 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 | 1.93 | 1.89 | 1.89 | 1.89  | 1.91 | 1.87 |
| Adjusted Peak Converted Wet Density   | t/m³ | -    | -    | -    | -     | -    | -    |
| Optimum Moisture Content              | %    | 14.5 | 16.5 | 13.0 | 17.5  | 17.0 | 17.5 |

| Moisture Variation From  | 2.5% | 2.5% | 2.5% | 2.0% | 2.0% | 2.5% |
|--------------------------|------|------|------|------|------|------|
| Optimum Moisture Content | dry  | dry  | dry  | dry  | dry  | 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 <sub>HD</sub> ) | % | 98.0 | 99.0 | 98.5 | 98.0 | 97.5 | 99.0 |
|----------------------------------|---|------|------|------|------|------|------|

#### Material description

No 29 - 34 Clay Fill

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

AVRLOT HILF V1.10 MAR 13



 CIVIL GEOTECHNICAL SERVICES
 Job No
 21845

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 21845/R008

 Date Issued
 02/03/2022

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested bySBProjectOFFICER CENTRAL - STAGE 1Date tested13/01/22LocationOFFICERChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 13:30

Test procedure AS 1289.2.1.1 & 5.8.1

| Test No                     |      | 35       | 36       | 37       | 38       | 39       | 40       |
|-----------------------------|------|----------|----------|----------|----------|----------|----------|
| Location                    |      |          |          |          |          |          |          |
|                             |      | REFER    | REFER    | REFER    | REFER    | REFER    | REFER    |
|                             |      | TO       | TO       | TO       | TO       | TO       | TO       |
|                             |      | FIGURE 1 |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
| Approximate depth below FSL |      |          |          |          |          |          |          |
| Measurement depth           | mm   | 175      | 175      | 175      | 175      | 175      | 175      |
| Field wet density           | t/m³ | 1.94     | 1.93     | 1.88     | 1.88     | 1.87     | 1.86     |
| Field moisture content      | %    | 15.9     | 13.4     | 12.9     | 8.5      | 17.1     | 17.8     |

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/m³ | 1.96     | 1.96 | 1.91 | 1.91 | 1.89 | 1.90 |  |  |  |
| Adjusted Peak Converted Wet Density | t/m³ | -        | -    | -    | -    | -    | -    |  |  |  |
| Optimum Moisture Content            | %    | 18.5     | 16.0 | 15.5 | 11.0 | 19.5 | 20.0 |  |  |  |

| Moisture Variation From  | 2.5% | 2.5% | 2.5% | 2.5% | 2.5% | 2.0% |
|--------------------------|------|------|------|------|------|------|
| Optimum Moisture Content | dry  | dry  | dry  | dry  | dry  | 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 <sub>HD</sub> ) | % | 98.5 | 98.5 | 98.5 | 98.5 | 99.0 | 97.5 |
|----------------------------------|---|------|------|------|------|------|------|

Material description

No 35 - 40 Clay Fill

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

AVRLOT HILF V1.10 MAR 13



Job No 21845 CIVIL GEOTECHNICAL SERVICES Report No 21845/R009 6 - 8 Rose Avenue, Croydon 3136 Date Issued 24/01/2022

WINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD) Client Tested by SB OFFICER CENTRAL - STAGE 1 Date tested 14/01/22 Project Location **OFFICER** Checked by JHF

Feature **EARTHWORKS** Layer thickness 200 mm Time: 14:00

Test procedure AS 1289.2.1.1 & 5.8.1

| Test No                     |      | 41       | 42       | 43       | 44       | 45       | 46       |
|-----------------------------|------|----------|----------|----------|----------|----------|----------|
| Location                    |      |          |          |          |          |          |          |
|                             |      | REFER    | REFER    | REFER    | REFER    | REFER    | REFER    |
|                             |      | TO       | TO       | TO       | TO       | TO       | TO       |
|                             |      | FIGURE 1 |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
| Approximate depth below FSL |      |          |          |          |          |          |          |
| Measurement depth           | mm   | 175      | 175      | 175      | 175      | 175      | 175      |
| Field wet density           | t/m³ | 1.92     | 1.91     | 1.91     | 1.92     | 1.92     | 1.92     |
| Field moisture content      | %    | 19.4     | 19.0     | 18.5     | 19.8     | 18.7     | 20.9     |

Test procedure AS 1289.5.7.1

| Test No                             |      | 41       | 42   | 43   | 44   | 45   | 46   |
|-------------------------------------|------|----------|------|------|------|------|------|
| 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 | 1.95     | 1.98 | 1.97 | 1.95 | 1.95 | 1.94 |
| Adjusted Peak Converted Wet Density | t/m³ | -        | -    | -    | -    | -    | -    |
| Optimum Moisture Content            | %    | 20.0     | 19.0 | 19.0 | 20.0 | 19.0 | 21.5 |

|                            | 0.50/ | 0.00/ | 0.50/ | 0.50/ | 0.00/ | O E0/ |
|----------------------------|-------|-------|-------|-------|-------|-------|
| Moisture Variation From    | 0.5%  | 0.0%  | 0.5%  | 0.5%  | 0.0%  | 0.5%  |
| Onting up Maiatura Cantant | dn    |       | dn.   | dn.   |       | dn.   |
| Optimum Moisture Content   | dry   |       | dry   | dry   |       | 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 <sub>HD</sub> ) | % | 98.0 | 97.0 | 97.0 | 98.0 | 99.0 | 99.0 |
|----------------------------------|---|------|------|------|------|------|------|

Material description

No 41 - 46 Clay Fill

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

AVRLOT HILF V1.10 MAR 13



 CIVIL GEOTECHNICAL SERVICES
 Job No
 21845

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 21845/R010

 Date Issued
 24/01/2022

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested bySBProjectOFFICER CENTRAL - STAGE 1Date tested17/01/22LocationOFFICERChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 13:30

Test procedure AS 1289.2.1.1 & 5.8.1

| Test No                     |      | 47       | 48       | 49       | 50       | 51       | 52       |
|-----------------------------|------|----------|----------|----------|----------|----------|----------|
| Location                    |      |          |          |          |          |          |          |
|                             |      | REFER    | REFER    | REFER    | REFER    | REFER    | REFER    |
|                             |      | TO       | TO       | TO       | TO       | TO       | TO       |
|                             |      | FIGURE 1 |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
| Approximate depth below FSL |      |          |          |          |          |          |          |
| Measurement depth           | mm   | 175      | 175      | 175      | 175      | 175      | 175      |
| Field wet density           | t/m³ | 1.93     | 1.91     | 1.92     | 1.91     | 1.91     | 1.91     |
| Field moisture content      | %    | 19.3     | 21.6     | 20.7     | 18.8     | 21.1     | 18.9     |

#### Test procedure AS 1289.5.7.1

| Test No                             |      | 47   | 48   | 49   | 50    | 51   | 52   |
|-------------------------------------|------|------|------|------|-------|------|------|
| Compactive effort                   |      |      |      | Stan | ndard |      |      |
| 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 | 1.96 | 1.95 | 1.95 | 1.94  | 1.95 | 1.95 |
| Adjusted Peak Converted Wet Density | t/m³ | 1    | -    | -    | -     | -    | -    |
| Optimum Moisture Content            | %    | 19.5 | 21.5 | 21.0 | 19.5  | 21.5 | 19.5 |

| Moisture Variation From  | 0.0% | 0.0% | 0.5% | 0.5% | 0.0% | 0.5% |
|--------------------------|------|------|------|------|------|------|
| Optimum Moisture Content |      |      | dry  | dry  |      | 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 <sub>HD</sub> ) | % | 98.5 | 98.0 | 98.5 | 98.5 | 98.0 | 98.0 |
|----------------------------------|---|------|------|------|------|------|------|

Material description

No 47 - 52 Clay Fill

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

AVRLOT HILF V1.10 MAR 13



 CIVIL GEOTECHNICAL SERVICES
 Job No
 21845

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 21845/R011

 Date Issued
 02/02/2022

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested bySBProjectOFFICER CENTRAL - STAGE 1Date tested18/01/22LocationOFFICERChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 10:30

Test procedure AS 1289.2.1.1 & 5.8.1

| Test No                     |      | 53       | 54       | 55       | 56       | 57       | 58       |
|-----------------------------|------|----------|----------|----------|----------|----------|----------|
| Location                    |      |          |          |          |          |          |          |
|                             |      | REFER    | REFER    | REFER    | REFER    | REFER    | REFER    |
|                             |      | ТО       | ТО       | TO       | TO       | TO       | TO       |
|                             |      | FIGURE 1 |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
|                             |      |          |          |          |          |          |          |
| Approximate depth below FSL |      |          |          |          |          |          |          |
| Measurement depth           | mm   | 175      | 175      | 175      | 175      | 175      | 175      |
| Field wet density           | t/m³ | 1.96     | 1.96     | 1.95     | 1.93     | 1.91     | 1.92     |
| Field moisture content      | %    | 21.2     | 20.9     | 21.7     | 23.1     | 23.4     | 20.4     |

Test procedure AS 1289.5.7.1

| Test No                             |      | 53   | 54   | 55   | 56    | 57   | 58   |
|-------------------------------------|------|------|------|------|-------|------|------|
| Compactive effort                   |      |      |      | Star | ndard |      |      |
| 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 | 1.97 | 2.00 | 1.98 | 1.96  | 1.95 | 1.97 |
| Adjusted Peak Converted Wet Density | t/m³ | -    | -    | -    | -     | -    | -    |
| Optimum Moisture Content            | %    | 24.0 | 23.5 | 22.0 | 23.0  | 24.0 | 22.0 |

| Moisture Variation From  | 2.5% | 2.5% | 0.0% | 0.0% | 0.5% | 1.5% |
|--------------------------|------|------|------|------|------|------|
| Optimum Moisture Content | dry  | dry  |      |      | dry  | 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 <sub>HD</sub> ) | % | 99.0 | 98.0 | 98.5 | 98.5 | 97.5 | 97.5 |
|----------------------------------|---|------|------|------|------|------|------|

Material description

No 53 - 58 Clay Fill

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

AVRLOT HILF V1.10 MAR 13



 CIVIL GEOTECHNICAL SERVICES
 Job No
 21845

 6 - 8 Rose Avenue, Croydon 3136
 Report No
 21845/R012

 Date Issued
 21/04/2022

ClientWINSLOW CONSTRUCTORS PTY LTD (CAMPBELLFIELD)Tested bySBProjectOFFICER CENTRAL - STAGE 1Date tested18/01/22LocationOFFICERChecked byJHF

Feature EARTHWORKS Layer thickness 200 mm Time: 13:30

Test procedure AS 1289.2.1.1 & 5.8.1

| Test No                     |      | 59       | 60       | 61       | 62       | 63       | - |
|-----------------------------|------|----------|----------|----------|----------|----------|---|
| Location                    |      |          |          |          |          |          |   |
|                             |      | REFER    | REFER    | REFER    | REFER    | REFER    |   |
|                             |      | TO       | TO       | TO       | TO       | TO       |   |
|                             |      | FIGURE 1 |   |
|                             |      |          |          |          |          |          |   |
|                             |      |          |          |          |          |          |   |
|                             |      |          |          |          |          |          |   |
| Approximate depth below FSL |      |          |          |          |          |          |   |
| Measurement depth           | mm   | 175      | 175      | 175      | 175      | 175      | - |
| Field wet density           | t/m³ | 2.04     | 1.95     | 1.95     | 1.96     | 1.95     | - |
| Field moisture content      | %    | 24.5     | 22.7     | 23.1     | 23.8     | 23.6     | - |

Test procedure AS 1289.5.7.1

| Test No                             |      | 59   | 60   | 61   | 62    | 63   | - |
|-------------------------------------|------|------|------|------|-------|------|---|
| Compactive effort                   |      |      |      | Stan | ndard |      |   |
| 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/m³ | 2.07 | 1.99 | 1.98 | 1.97  | 1.98 | - |
| Adjusted Peak Converted Wet Density | t/m³ | 1    | -    | -    | -     | -    | - |
| Optimum Moisture Content            | %    | 25.5 | 23.5 | 23.5 | 23.5  | 23.5 | - |

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

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 <sub>HD</sub> ) | % | 98.5 | 98.5 | 98.5 | 99.0 | 98.5 | - |
|----------------------------------|---|------|------|------|------|------|---|

Material description

No 59 - 63 Clay Fill

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

AVRLOT HILF V1.10 MAR 13