

LEVEL ONE COMPLIANCE REPORT

PREPARED BY: PROTEST ENGINEERING

PREPARED FOR:





Western Civil Pty Ltd 2/7 Geehi Way, Ravenhall, VIC, 3023 **Project Number:** PTP/11232

Letter Number: PTP/11232 – 0001 - Rev0
Project Name: Merrifield Residential Stage

1 & 2

Attention: Daniel Sirillas

Report on Level 1 Inspection & Testing Merrifield Residential Stage 1 & 2

1.Introduction

This report summarises the results of inspection and testing provided by Protest Engineering (Protest) for the bulk earthworks as part of the residential project Merrifield Residential Stage 1 & 2 located in Mickleham undertaken between 1 February 2023 and 20 February 2023. The works were undertaken at the request of Western Civil Pty Ltd.

The scope of inspection and testing undertaken was in general accordance with AS3798-2007 *Guidelines on Earthworks for Commercial and Residential Developments*. As part of the inspection and testing undertaken, Protest provided Level 1 supervision in accordance with *Section 8.2 of AS3798-2007 Guidelines on Earthworks for commercial and residential developments*.

2. Earthworks Activities

Foundation preparation observed by Protest on 1 February 2023 comprising of the removal of topsoil and vegetation across the fill areas exposing the underlying natural materials.

Filling operations comprised the placement and compaction of onsite materials believed to be sourced from site cuts and road boxings. Materials typically comprised of grey-brown silty clays considered to be of medium plasticity. The material used as fill was moisture conditioned during placement and blended to achieve a suitable moisture content for compaction. Filling materials were placed onsite in uniform layers not exceeding 200 mm thick and compacted with a pad foot roller.

Field density testing was carried out at regular intervals throughout earthworks by using a nuclear densometer in accordance with the test method outlined in *AS1289.5.8.1*. The relative compaction was then determined by comparing the recorded field density with the laboratory maximum dry density (standard compaction) outlined in test method *AS1289.5.1.1*.

Fill material placed was tested at a suitable frequency in accordance with AS3798-2007 Table 8.1- frequency of field density tests and the results indicate that the compacted material achieved the minimum density requirement outlined in AS3798-2007 Table 5.1 - minimum relative compaction. A total of twelve (12) field density ratio tests were carried out across the site during filling operations and a summary of the test results are presented in Table 1.

Table 1: Summary of Density Testing

| Item | Compaction | Moisture Variation | |
|--------------|------------|-----------------------|--|
| No. of tests | 12 | 12 | |
| Mean | 100.2% | 0.4% (Dry of OMC (1)) | |

(Notes: (1) Optimum Moisture Content)



3. Comments

Based on the results of the inspections and field density testing whilst Protest was onsite, it is considered that the filling works completed at the residential project Merrifield Residential Stage 1 & 2 located in Mickleham undertaken between 1 February 2023 and 20 February 2023 has been constructed in accordance with AS3798-2007 Guidelines on Earthworks for Commercial and Residential Developments. Protest believes consideration should be given to the following:

- This report only certifies the bulk earthworks activities supervised by Protest between 1 February 2023 and 20 February 2023. Protest does not take responsibility for any other earthwork activities that have occurred before or after these dates.
- II. The installation of services or any activities that may cause disruption of the compacted filling.
- III. The suitability of the filled land to support the proposed structures; and
- IV. Any variation in filling depth of extent of areas that is not noted within this report or on the individual test report sheets.

4.Constraints

Protest has prepared this report for the bulk earthworks at the residential project Merrifield Residential Stage 1 & 2 located in Mickleham undertaken between 1 February 2023 and 20 February 2023. This report was produced for the sole use of Western Civil Pty Ltd. It should not be used by or depended upon for other projects or purposes on the same or other site or by a third party. In the preparation of this report Protest has relied upon information provided by the client and/or their agents.

The results provided in this report are indicative of the subsurface conditions on the site only at the specific sampling or testing locations, and then only to the depths investigated along with the time the work was carried out. It is known that subsurface conditions can suddenly change due to irregular geological processes and because of human influences. Such changes may occur after Protest field testing has been completed.

Certain ground conditions and the materials behaviour observed or contained at the test locations may alter from those which may be encountered elsewhere on the site. Should variations in subsurface conditions be encountered, then additional advice should be sought from Protest and, if required, amendments made; and

Protest cannot be held responsible for interpretations or conclusions made by others unless they are supported by an expressed statement, interpretation, outcome, or conclusion given in this report.

We trust that the above information is suitable for your present requirements. Should you have any queries, please do not hesitate to contact the undersigned.

Regards,

Protest Engineering

Cameron Axon

Laboratory Manager - Melbourne

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Reviewed By

Blake Thomas

Practice Director
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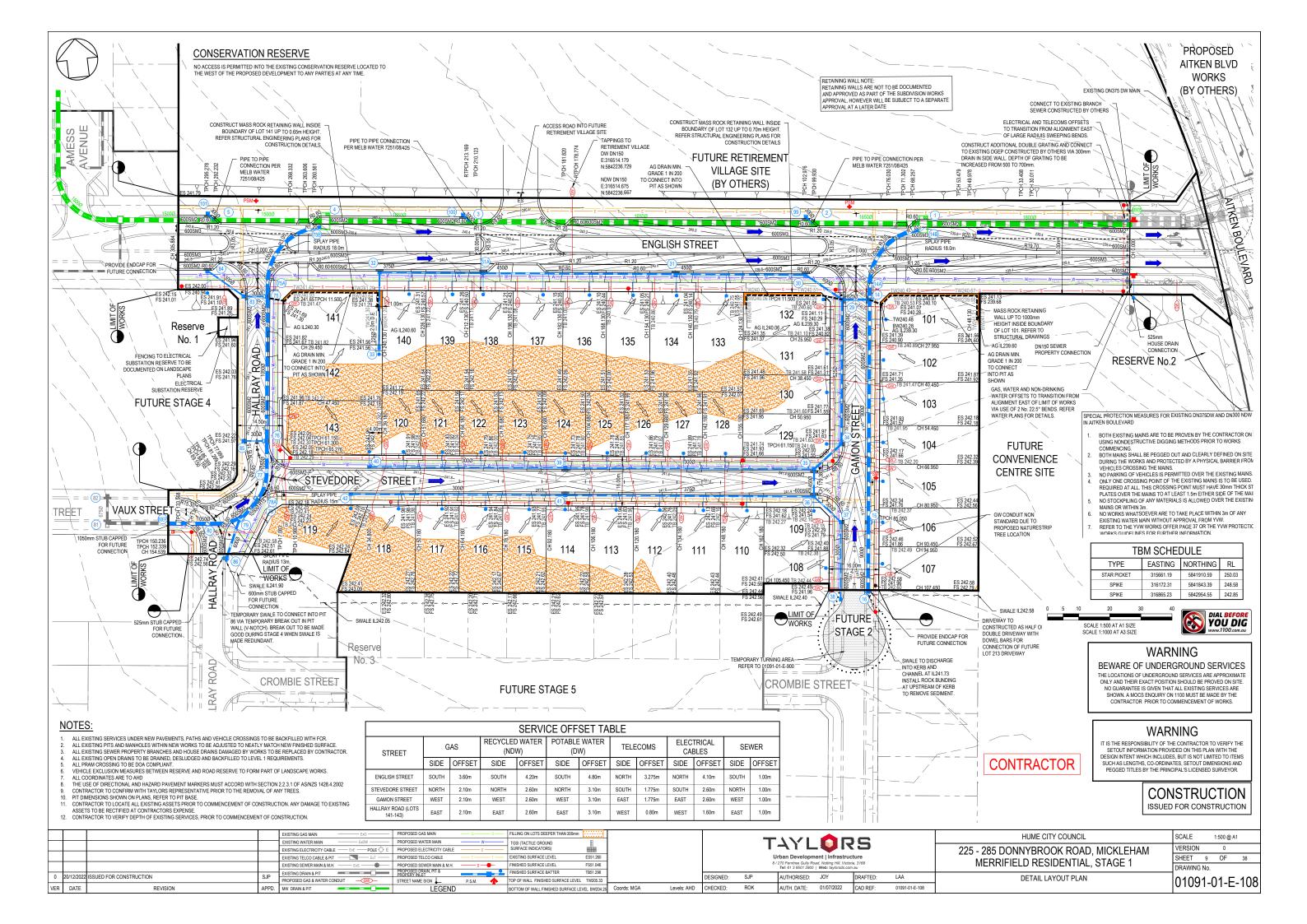


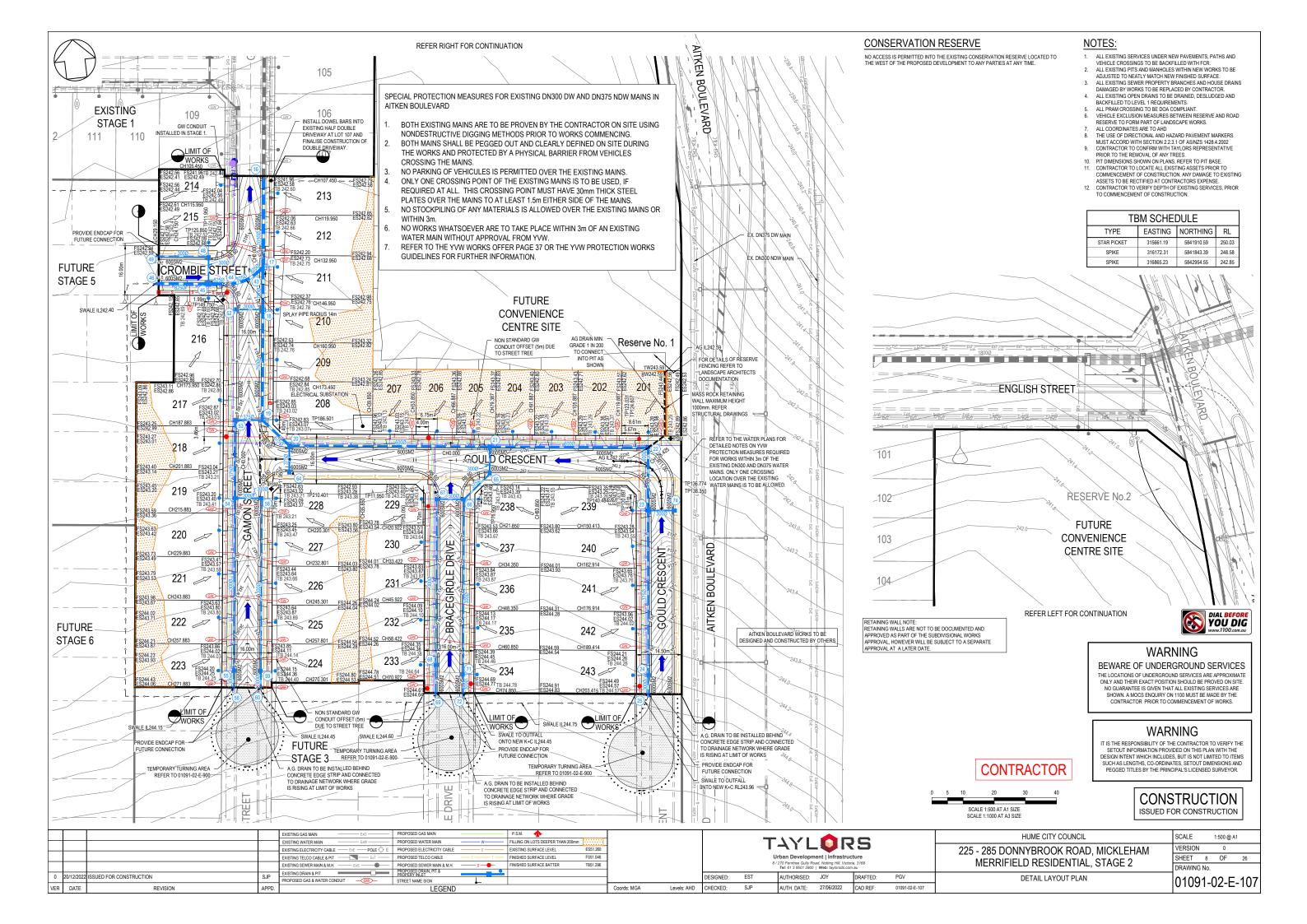


GEOTECHNICAL // TESTING SERVICES // STRUCTURAL

Attachment 1

Site Plan









GEOTECHNICAL // TESTING SERVICES // STRUCTURAL

Attachment 2 Density Reports



| Client : | WESTERN CIVIL PTY LTD | | | Report Number : | SR | /PTP/11232 - 1/1 |
|------------------------------------|--|--|--|-----------------|----------------|------------------|
| lient Address : | Geehi Way/2/7, Ravenhall, 3023, VIC Merrifield Residential Stage 1 & 2 PTP/11232 | | | Report Date : | | 13/02/2023 |
| roject Name : | | | | Test Request : | | - |
| Project Number : | | | | Page 1 of 1 | | |
| ocation : | Mickleham | | | | | |
| est Methods : | AS1289.5.4.1, AS1289.5 | 8.1, AS1289.2.1.1, AS128 | 39.5.1.1, | | | |
| Sample Number : | S/179675 | S/179676 | S/179677 | | | |
| Date Tested : | 2/02/2023 | 2/02/2023 | 2/02/2023 | | | |
| Material Source : | Onsite | Onsite | Onsite | | | |
| or use as : | Residential Fill | Residential Fill | Residential Fill | | | |
| Test / Layer Depths : | 175 / 200 | 175 / 200 | 175 / 200 | | | |
| Sampling Method : | AS1289.1.2.1 - cl6.4b | AS1289.1.2.1 - cl6.4b | AS1289.1.2.1 - cl6.4b | | | |
| Time : | 13:15 | 15:22 | 15:29 | | | |
| Lot Number : | Stage 1 | Stage 1 | Stage 1 | | | |
| Location 1 : | E: 316505 | E: 316481 | E: 316453 | | | |
| Location 2 : | N: 5842169 | N: 5842175 | N: 5842173 | | | |
| Location 3 : | Lift 1 | N. 3842173 Lift 1 | N. 3842173 Lift 1 | | | |
| Location 4 : | See Plans | See Plans | See Plans | | | |
| | < 19mm | | < 19mm | <u> </u> | | |
| Test Fraction (mm) : | | < 19mm | | | | |
| Oversize Wet : | 0% | 0% | 0% | | | |
| Oversize Dry : | 0% | 0% | 0% | | | |
| Oversize Density - Dry (t/m³) : | - | - | - | | | |
| Assigned MDR (Yes/No) : | No | No | No | | | |
| MDR Sample Number : | S/179675 | S/179676 | S/179677 | | | |
| MDR Test Date : | 10/02/2023 | 10/02/2023 | 10/02/2023 | | | |
| Soil Description : | Silty Clay. Medium Plasticity, Brown-Grey | Silty Clay. Medium Plasticity, Brown-Grey | Silty Clay. Medium Plasticity, Brown-Grey | | | |
| MDR Test Results | | | | | | |
| MDD (t/m3) : | 1.61 | 1.44 | 1.52 | | | |
| | | | | | | |
| OMC : | 22.0% | 27.0% | 27.0% | | | |
| ADJ MDD (t/m3) : | - | - | - | | | |
| ADJ OMC : | - | - | - | | | |
| Moisture Test Results : | | | | | | |
| Field Moisture Content : | 21.0% | 26.5% | 28.0% | | | |
| Moisture Specification : | ±2% of OMC | ±2% of OMC | ±2% of OMC | | | |
| Variation from OMC : | 1.0% Dry of OMC | 0.5% Dry of OMC | 1.0% Wet of OMC | | | |
| Relative Moisture Ratio (Q250) : | - | - | - | | | |
| Moisture Ratio : | 95.0% | 98.0% | 103.5% | | | |
| Density Test Results | 33.070 | 33.070 | 200.070 | | | |
| Field Dry Density (t/m3) : | 1.56 | 1.46 | 1.51 | | | |
| Density Specification : | 95% | 95% | 95% | | | |
| | 33/6 | 55/6 | 53/6 | | | |
| Ory Density Ratio : | 97.0% | 101.5% | 99.5% | | | |
| | | | | | | |
| | - | - | - | | | |
| Soil Particle Density (APD) t/m3 : | | | | | | • |
| Soil Particle Density (APD) Date : | | | | | | |
| | | | | | | |
| Remarks : | | | | | | |
| 10 C2 T | L | | | ΔΡΡΙ | ROVED SIGNATOR | Y |
| | ed for Compliance with ISO/ | ISO 47025 Table | | l | | |

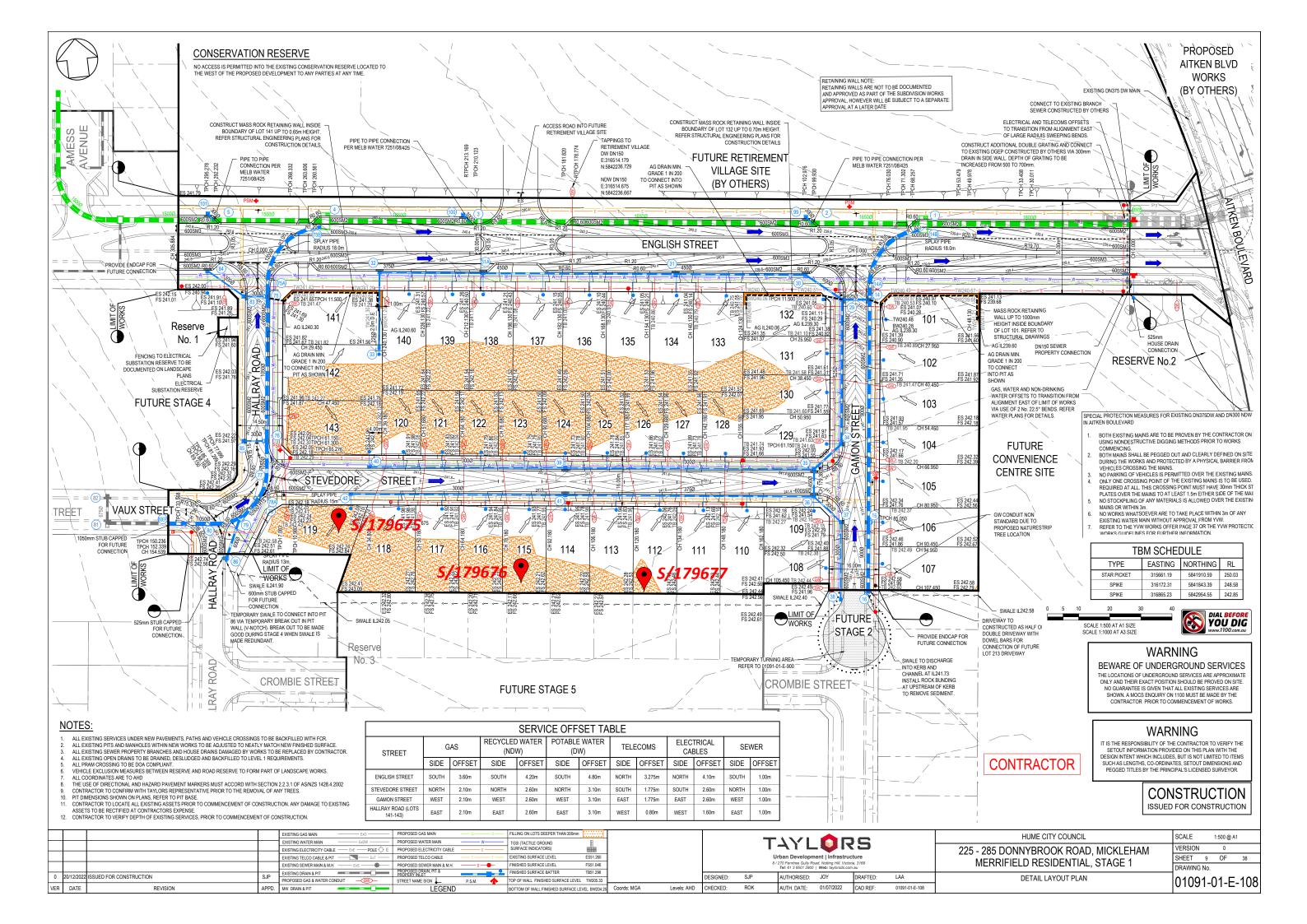


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Protest Engineering (Melbourne) Accreditation Number - 20511
Base Laboratory Site Number - 24492 - Melbourne

Base Laboratory Address - 2/22 Keon Park Parade, Thomastown, VIC, 3076

Cameron Axon - Signatory

Date: 17/10/2022





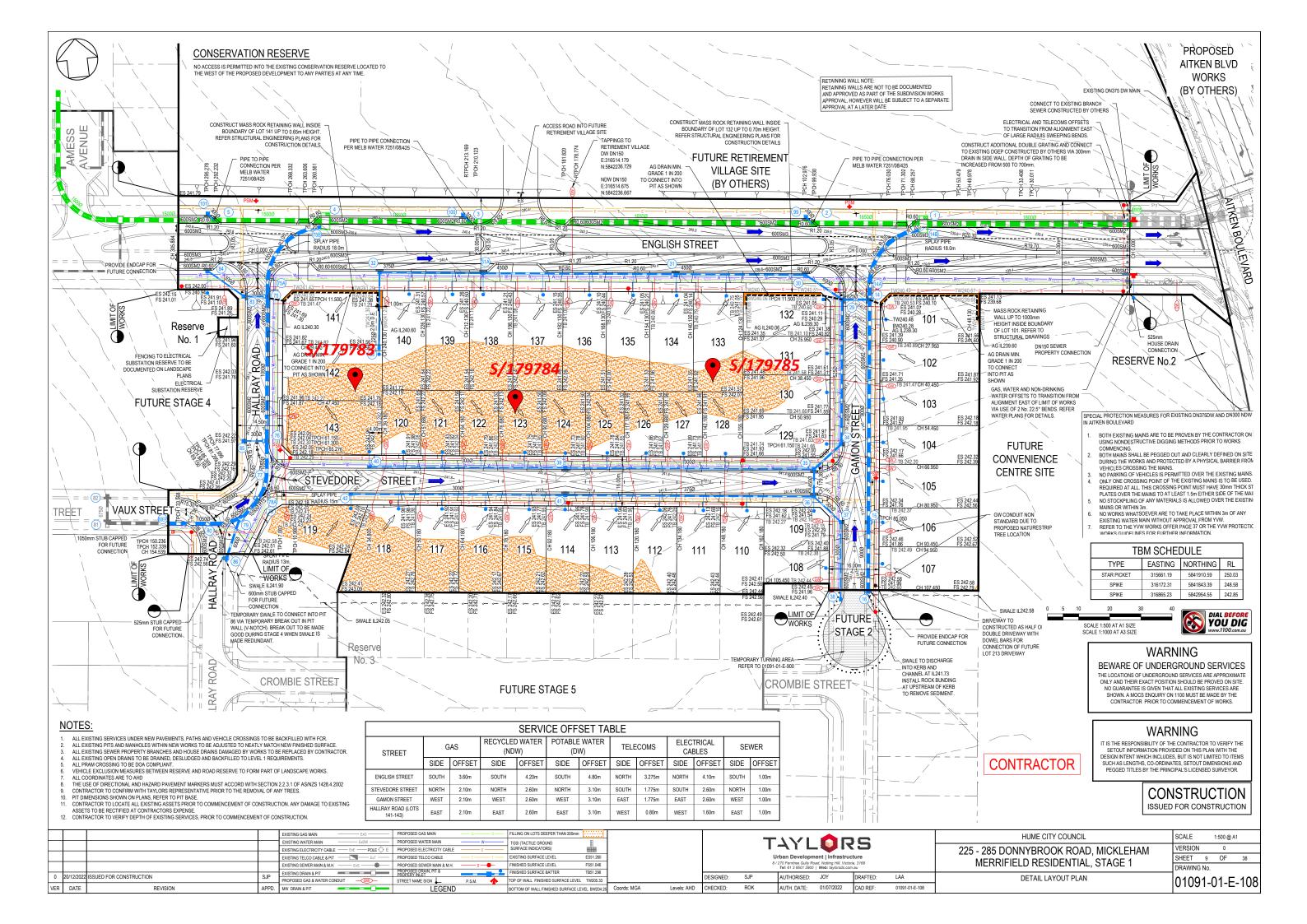
| Client : | WESTERN CIVIL PTY LTD | | | Report Number | : SR, | /PTP/11232 - 2/1 |
|------------------------------------|--|--|--|--------------------|-----------------|------------------|
| Client Address : | Geehi Way/2/7, Ravenhall, 3023, VIC Merrifield Residential Stage 1 & 2 PTP/11232 | | | Report Date : | | 13/02/2023 |
| Project Name : | | | | Test Request : | | - |
| Project Number : | | | | Page 1 of 1 | | |
| ocation : | Mickleham | | | | | |
| Fest Methods : | AS1289.5.4.1, AS1289.5 | 8.1, AS1289.2.1.1, AS128 | 39.5.1.1, | | | |
| Sample Number : | S/179783 | S/179784 | S/179785 | | | |
| Date Tested : | 3/02/2023 | 3/02/2023 | 3/02/2023 | | | |
| Material Source : | Onsite | Onsite | Onsite | | | |
| For use as : | Residential Fill | Residential Fill | Residential Fill | | | |
| Fest / Layer Depths : | 175 / 200 | 175 / 200 | 175 / 200 | | | |
| Sampling Method : | AS1289.1.2.1 - cl6.4b | AS1289.1.2.1 - cl6.4b | AS1289.1.2.1 - cl6.4b | | | |
| Time : | 08:35 | 08:42 | 08:49 | | | |
| Lot Number : | Stage 1 | Stage 1 | Stage 1 | | | |
| Location 1 : | E: 316474 | E: 314461 | E: 316453 | | | |
| Location 2 : | N: 5842169 | N: 5842176 | N: 5842175 | | | |
| Location 3 : | Finish Level | Finish Level | Finish Level | | | |
| Location 4 : | - | - | - | | | |
| Test Fraction (mm) : | < 19mm | < 19mm | < 19mm | <u> </u> | | <u> </u> |
| , , | < 19mm 0% | < 19mm 0% | < 19mm 0% | | | |
| Oversize Wet : | | | | | | |
| Oversize Dry : | 0% | 0% | 0% | | | |
| Oversize Density - Dry (t/m³) : | - | - | - | | | |
| Assigned MDR (Yes/No) : | No | No | No | | | |
| MDR Sample Number : | S/179783 | S/179784 | S/179785 | | | |
| MDR Test Date : | 10/02/2023 | 10/02/2023 | 10/02/2023 | | | |
| Soil Description : | Silty Clay, Medium Plasticity, Grey-Brown | Silty Clay, Medium Plasticity, Grey-Brown | Silty Clay, Medium Plasticity, Grey-Brown | | | |
| MDR Test Results | | | | | | |
| MDD (t/m3) : | 1.51 | 1.52 | 1.49 | | | |
| | | | | | | |
| OMC : | 25.0% | 26.0% | 24.5% | | | |
| ADJ MDD (t/m3) : | | | | | | |
| ADJ OMC : | | | _ | | | |
| | | - | | | | 1 |
| Moisture Test Results : | 25.00/ | 27.50/ | 25.00/ | | | |
| Field Moisture Content : | 25.0% | 27.5% | 26.0% | | | |
| Moisture Specification : | ±2% of OMC | ±2% of OMC | ±2% of OMC | | | |
| Variation from OMC : | 0.0% Dry of OMC | 1.0% Wet of OMC | 1.0% Wet of OMC | | | |
| Relative Moisture Ratio (Q250) : | - | 404.504 | 105.00/ | | | |
| Moisture Ratio : | 99.0% | 104.5% | 105.0% | | | |
| Density Test Results | 4.50 | 4.53 | 4.50 | | | |
| Field Dry Density (t/m3) : | 1.50 | 1.57 | 1.53 | | | |
| Density Specification : | 95% | 95% | 95% | | | |
| Dry Density Ratio : | 99.5% | 103.5% | 103.0% | | | 1 |
| | | | | | | I |
| | - | - | - | | | |
| Soil Particle Density (APD) t/m3 : | | | | | | <u> </u> |
| Soil Particle Density (APD) Date : | | | | | | |
| John and the Density (APD) Date : | | | | | | |
| Remarks : | | | | | | |
| | 1 | | | | DOVED CICALATOR | v |
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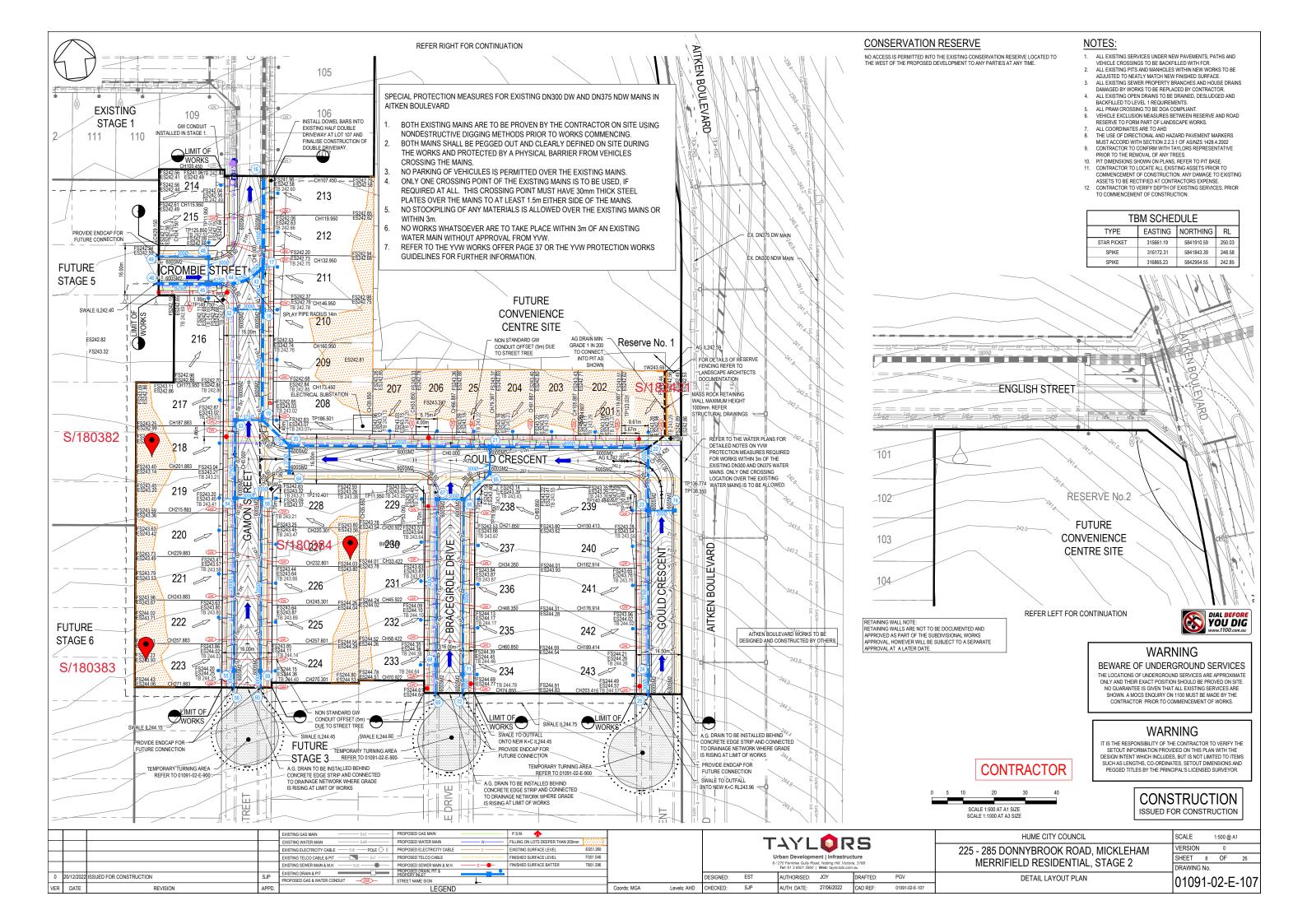
| Client Address : Project Name : Project Number : | Geehi Way/2/7, Ravenha Merrifield Residential St | | | Report Date : Test Request : | 14/02/2023 |
|--|---|---|---|------------------------------|-------------|
| | Merrifield Residential St | age 1 & 2 | | Took Doorsook | |
| roject Number : | | Merrifield Residential Stage 1 & 2 | | | - |
| | PTP/11232 | | | | Page 1 of 1 |
| ocation : | Mickleham | | | | |
| est Methods : | AS1289.5.4.1, AS1289.5. | 8.1, AS1289.2.1.1, AS128 | 9.5.1.1, | | |
| Sample Number : | S/180382 | S/180383 | S/180384 | | |
| Date Tested : | 7/02/2023 | 7/02/2023 | 7/02/2023 | | |
| Naterial Source : | Onsite | Onsite | Onsite | | |
| or use as : | General Fill | General Fill | General Fill | | |
| Fest / Layer Depths : | 175 / 200 | 175 / 200 | 175 / 200 | | |
| ampling Method : | AS1289.1.2.1 - cl6.4b | AS1289.1.2.1 - cl6.4b | AS1289.1.2.1 - cl6.4b | | |
| Time : | 14:35 | 14:45 | 14:55 | | |
| ot Number : | Stage 1 | Stage 1 | Stage 1 | | |
| Location 1 : | E: 316492 | E: 316469 | E: 316417 | | |
| ocation 2 : | N: 5842120 | N: 5842121 | N: 5842134 | | |
| ocation 3 : | Lift 1 | Lift 2 | Lift 2 | | |
| Location 4 : | See Plans | See Plans | See Plans | | |
| Fest Fraction (mm) : | < 19mm | < 19mm | < 19mm | İ | |
| Oversize Wet : | 0% | 0% | 0% | | |
| Oversize Dry : | 0% | 0% | 0% | | |
| Oversize Density - Dry (t/m³) : | = | = | = | | |
| Assigned MDR (Yes/No) : | No | No | No | | |
| ADR Sample Number : | S/180382 | S/180383 | S/180384 | | |
| MDR Test Date : | 13/02/2023 | 13/02/2023 | 13/02/2023 | | |
| ioil Description : | Silty Clay, Medium to High Plasticity, Brown | Silty Clay, Medium to High Plasticity, Brown | Silty Clay, Medium to High Plasticity, Brown | | |
| MDR Test Results | | | | | |
| MDD (t/m3) : | 1.52 | 1.49 | 1.49 | | |
| DMC: | 25.5% | 24.5% | 25.5% | | |
| | | | | | |
| ADJ MDD (t/m3) : | - | - | - | | |
| ADJ OMC : | - | - | - | | |
| Noisture Test Results : | | | | | |
| Field Moisture Content : | 25.0% | 24.0% | 23.5% | | |
| Moisture Specification : | ±2% of OMC | ±2% of OMC | ±2% of OMC | | |
| /ariation from OMC : | 1.0% Dry of OMC | 0.5% Dry of OMC | 2.0% Dry of OMC | | |
| Relative Moisture Ratio (Q250) : | - | - | - | | |
| Moisture Ratio : | 97.0% | 98.5% | 92.0% | | |
| Density Test Results | | | | | |
| rield Dry Density (t/m3) : | 1.52 | 1.54 | 1.47 | | |
| Density Specification : | 95% | 95% | 95% | | |
| Dry Density Ratio : | 99.5% | 103.5% | 98.5% | | |
| | | | | | |
| | - | - | - | | |
| Soil Particle Density (APD) t/m3 : | | | | | |
| | | | | | |
| | | | | | |
| oil Particle Density (APD) Date : | | | | | |
| | | | | | |

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Date: 17/10/2022

Cameron Axon - Signatory





| Client : | WESTERN CIVIL PTY LTD | | | Report Number : | SR/PTP/11232 - 4/1 | |
|--|--|--|--|-----------------|--------------------|--|
| lient Address : | Geehi Way/2/7, Ravenhall, 3023, VIC Merrifield Residential Stage 1 & 2 PTP/11232 | | | Report Date : | 28/02/2023 | |
| roject Name : | | | | Test Request : | - | |
| Project Number : | | | | | Page 1 of 1 | |
| ocation : | Mickleham | | | | | |
| est Methods : | AS1289.5.4.1, AS1289.5. | 8.1, AS1289.2.1.1, AS128 | 39.5.1.1, | | | |
| Sample Number : | S/182421 | S/182422 | S/182423 | | | |
| Date Tested : | 20/02/2023 | 20/02/2023 | 20/02/2023 | | | |
| Material Source : | Onsite | Onsite | Onsite | | | |
| For use as : | Residential Fill | Residential Fill | Residential Fill | | | |
| Fest / Layer Depths : | 175 / 200 | 175 / 200 | 175 / 200 | | | |
| Sampling Method : | AS1289.1.2.1 - cl6.4b | AS1289.1.2.1 - cl6.4b | AS1289.1.2.1 - cl6.4b | | | |
| Time : | 14:35 | 14:42 | 14:49 | | | |
| Lot Number : | Housing Lot | Housing Lot | Housing Lot | | | |
| Location 1 : | E: 316555 | E: 316554 | E: 316557 | | | |
| Location 2 : | N: 5841991 | N: 5841971 | N: 5841957 | | | |
| Location 3 : | Lift 1 | Lift 1 | Lift 1 | | | |
| Location 4 : | See Plans | See Plans | See Plans | | | |
| | < 19mm | < 19mm | < 19mm | | | |
| Test Fraction (mm) : Oversize Wet : | _ | - | | | | |
| | 0% | 0% | 0% | | | |
| Oversize Dry : | 0% | 0% | 0% | | | |
| Oversize Density - Dry (t/m³): | - | - | - | | | |
| Assigned MDR (Yes/No) : | No S (400 404 | No C(402422 | No | | | |
| MDR Sample Number : | S/182421 | S/182422 | S/182423 | | | |
| MDR Test Date : | 24/02/2023 | 24/02/2023 | 24/02/2023 | | | |
| Soil Description : | Silty Clay, Medium Plasticity, Grey | Silty Clay, Medium Plasticity, Grey | Silty Clay, Medium Plasticity, Grey | | | |
| MDR Test Results | | | | | | |
| MDD (t/m3) : | 1.52 | 1.56 | 1.57 | | | |
| OMC : | 22.59/ | 24.09/ | 22.09/ | | | |
| DIVIC: | 23.5% | 24.0% | 23.0% | | | |
| ADJ MDD (t/m3) : | _ | - | - | | | |
| ADJ OMC : | - | - | - | | | |
| Moisture Test Results : | | | | | | |
| Field Moisture Content : | 23.0% | 22.5% | 21.5% | | | |
| Moisture Specification : | ±2% of OMC | ±2% of OMC | ±2% of OMC | | | |
| Variation from OMC : | 0.5% Dry of OMC | 1.5% Dry of OMC | 1.0% Dry of OMC | | | |
| Relative Moisture Ratio (Q250) : | - | _ | _ | | | |
| Moisture Ratio : | 99.0% | 94.5% | 95.0% | | | |
| Density Test Results | | | | | | |
| Field Dry Density (t/m3) : | 1.52 | 1.54 | 1.55 | | | |
| Density Specification : | 95% | 95% | 95% | | | |
| | 100.09/ | | 09 59/ | | | |
| Dry Density Ratio : | 100.0% | 98.5% | 98.5% | | | |
| | | | | | | |
| | - | - | - | | | |
| Soil Particle Density (APD) t/m3 : | | | | | | |
| Soil Particle Density (APD) Date : | | | | | | |
| | | | | | | |
| temarks : | 1 | | | | | |
| | | | | | | |



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Cameron Axon - Signatory

RF1 Date: 21/02/2023

