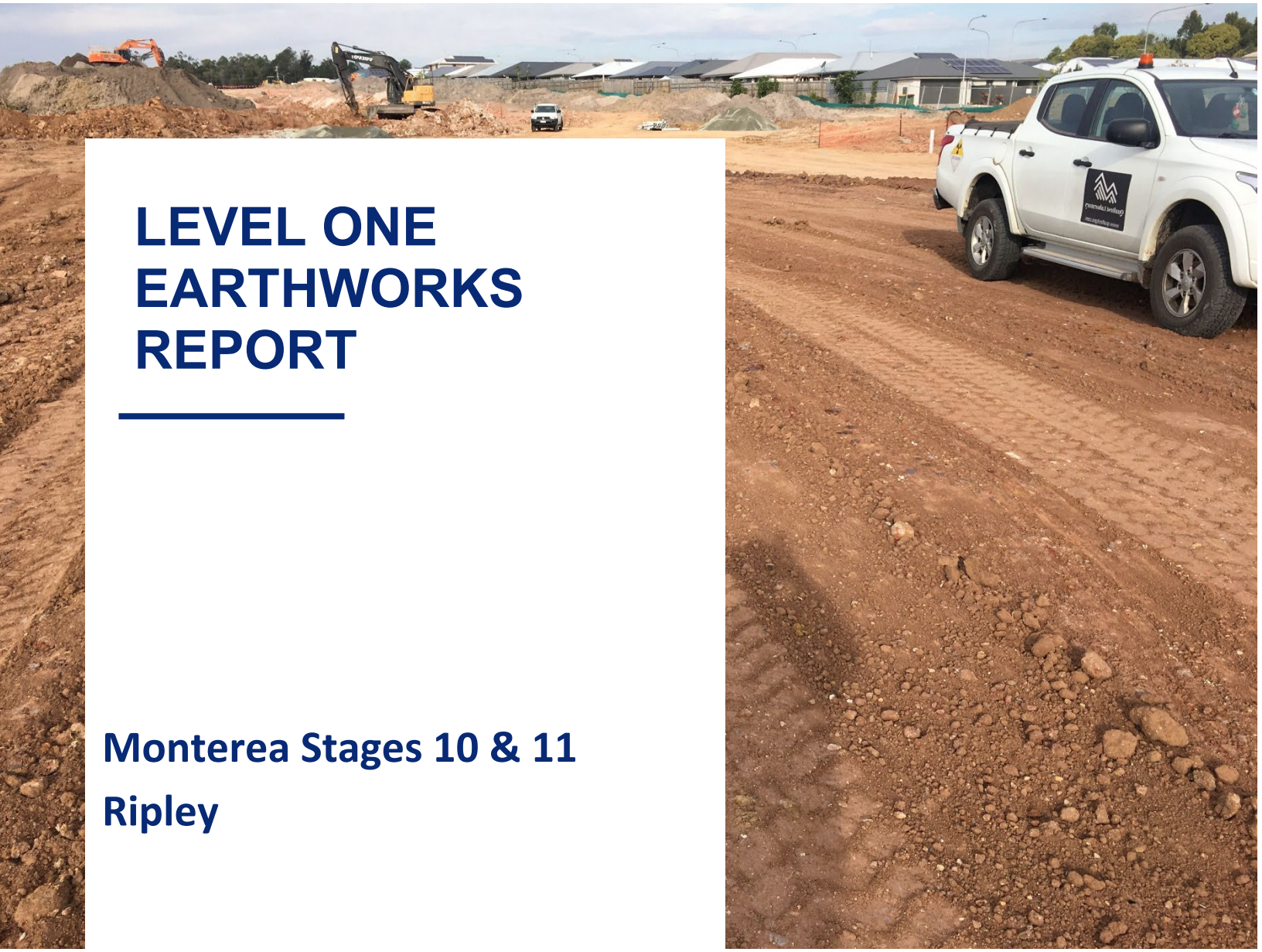

LEVEL ONE EARTHWORKS REPORT

Monterea Stages 10 & 11
Ripley

OCTOBER 21, 2022

CCA Winslow Pty Ltd
Authored by: QUALTEST LABORATORY PTY LTD REF: 1638 RevA

Qualtest Laboratory
Est. 1987

Ref: 1638 – RevA
Job: 22-115
Author: D. Rea / R. Mitchell

Qualtest Laboratory
Est. 1987

21st October 2022

CCA Winslow
1587 Ipswich Road
Rocklea QLD 4106

ATTENTION: MR KIERAN HOY
Email: kieranh@ccawinslow.com.au

Dear Sir

RE: LEVEL ONE EARTHWORKS REPORT
MONTEREA STAGES 10 & 11
RIPLEY

PROJECT: MONTEREA STAGES 10 & 11

CLIENT: CCA WINSLOW

SUPERINTENDANT: BORNHORST + WARD

CONTRACTOR: CCA WINSLOW

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GEOTECHNICAL AND LABORATORY SERVICES

1.0 INTRODUCTION

1.1 General

This Report presents results and documentation for the Level One Inspection and Testing of earthworks filling operations at Monterea Stages 10 & 11 – Ripley (The Site).

Qualtest Laboratory Pty Ltd was commissioned by CCA Winslow (The Client) to provide Level 1 Earthworks Inspection and Testing services as defined in Section 8 of AS3798.

Filling operations covered by this Report were constructed between 27th May 2022 to the 30th May 2022.

The purpose of the Level 1 commission, and this Report, is to provide an opinion that the earthworks operations carried out by the Client have been carried out in accordance with AS3798, relevant project specifications, and Local Authority requirements as appropriate.

This Report has been carried out in general accordance with the following: -

- AS3798-2007 - Guidelines on Earthwork for Commercial and Residential Developments
- AS1289 – Testing of Soils for Engineering Purposes.
- AS2870-2011 – Residential Slabs and Footings.
- Ipswich City Council Requirements
- Bornhorst & Ward Drawings and Notes on Drawings.

This Report does not cover underground services, pavements, retaining walls, or any other works after the 30th May

1.2 The Development

The development comprises a two (2) stage subdivision and associated infrastructure, including pavements, stormwater, water, and sewer reticulation.

The earthworks generally comprised:

- Filling Lots and part of Lots:
  - 423 and 424 – Stage 10

Previous Level 1 earthworks had been completed on these stages during the Bulk Earthworks operations for 236 – 240 Monterea Road Early Earthworks. Details of this filling are compiled in Qualtest Report Number 21-330, dated the 5th July 2022 and cover the following lots: -

- Stage 10
  - Lots 374, 375, 417, 418, 419, 420, 421, 422, 424, 425, 426, 427 and 428.
- Stage 11
  - Lots 366, 367, 368, 369, 370, 371, 372, 373, 409, 410, 411, 412, 413, 414, 415 and 416.

A Lot Disclosure Plan should be requested from the developer to confirm the actual depth of fill at the Site.

A Site layout plan is presented below in Figure 1. A marked-up Site layout plan showing the extent of fill covered by this Report is presented in Figure 2.

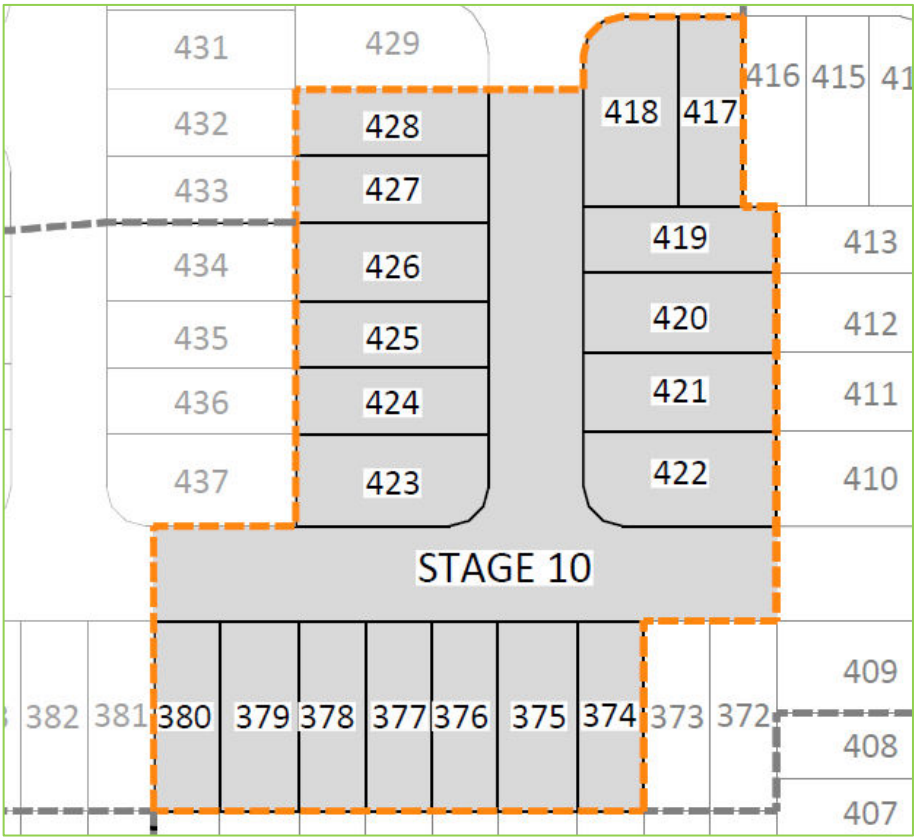

Figure 1: Site Layout Plan

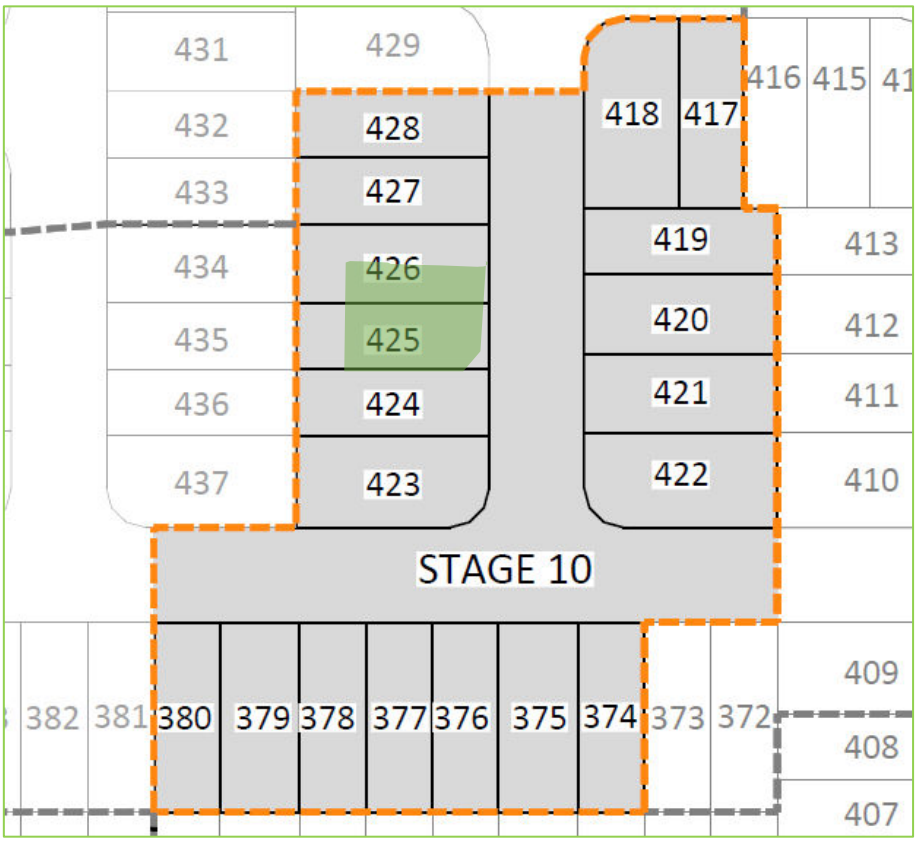

Figure 2: Controlled Fill Plan – Green Shade

2.0 WORKS AND SPECIFICATIONS

All filling operations at the Site are to be placed and compacted in accordance with the following: -

- AS3798 – Type 2 Earthworks Operations.
- Ipswich City Council Specifications.
- Notes on Bornhurst & Ward Drawings.
- Density Ratio – 95% Standard

3.0 FILL FOUNDATION

Areas to be filled are situated on previously placed Level 1 controlled fill.
See Report 1636

Compliance of the fill foundation and approval to commence filling was on the basis of:

- Compliant proof roll testing of the stripped surface using onsite heavy earthworks plant

Figure 3 shows the stripped surface.

Figure 3: View of the Stripped Surface on Stages 10 & 11

4.0 FILLING OPERATIONS

Fill at the Site was sourced from onsite cuts within Stages 10-13.

Materials used as a fill can be broadly summarised as: -

- Ripped Extremely Weathered Sandstone (XW), with engineering properties of Clayey SAND (SC), fine to coarse sand, low to medium plasticity fines, traces of fine to coarse gravel, yellow-brown and moist.

- Fill was constructed using the following plant:
    - Padfoot Roller
    - Excavator
    - Water Truck

Fill was observed to be placed in layers within the capacity of the above plant, moisture conditioned, and compacted using several passes (up and back).

To the extent that was reasonably practicable, fill materials visibly containing excessive amounts of silts or deleterious materials such as sticks and oversize particles were sorted to remove the contaminants prior to placement, or rejected for use. Some cobble-sized particles may remain in the body of the fill, however, are unlikely to be in sufficient quantities to adversely affect the performance of the new fill. Sloping areas requiring filling were benched and continually keyed into the slope prior to and during fill placement.

Figures 4 and 5 show the filling operations at Stages 10 & 11.

Picture 2: View of the Filling Operations on Stages 10 & 11

Picture 3: View of the Filling Operations on Stages 10 & 11

5.0 COMPACTION TESTING

Compaction testing was carried out on the compacted fill materials in accordance with Table 5.1 and 8.1 of AS3798 2007 and tested to AS1289 test methods. All test locations were selected by Qualtest at random and staggered over the fill area and depth. Test locations were not obtained by survey, and on this basis, the locations should be considered as approximate only.

Compaction testing achieved the minimum required compaction specification of 95% Standard at the test locations. Areas, where the compaction specification was not achieved were reworked and re-tested using random stratified location processes.

The location of the compaction tests and area of fill covered under this Report are shown on the Site Plan contained in Appendix A.

Compaction test Reports are contained in Appendix B.

6.0 STATEMENT OF COMPLIANCE

Our representatives observed the relevant earthworks operations during our engagement, including the stripped surface, new fill placement and compaction operations, and compaction testing.

As far as Qualtest could assess, the fill at The Site has been observed to be placed and compacted in accordance with the requirements outlined in Section 2.0.

The fill at The Site can be considered to be “Controlled” as defined in AS2870.

7.0 EXCLUSIONS

The compliance statement specifically excludes any topsoil, which may be placed for use as Lot dressing or any other subsequent earthworks after 30th May 2022. All trench backfill, landscaping fill, and other fill placed without our knowledge are also excluded.

Assessments of batter stability, global stability, and material quality such as soaked CBR and Site classifications are excluded from this commission. The stability of any fill batters in the long term must take account of the variable materials used for the construction of the fill platforms and all surface loads including traffic loads near the crest of all batters.

Our on-Site attendance specifically excludes assessments of fill material quality and engineering properties that are outside the requirements of AS.3798 - 2007, including soil or fill reactivity and soaked CBR values. We note that the fill materials comprise clay soils, which may result in unfavourable Site classifications for individual lots and low subgrade design strengths for pavements.

Footings and ground slabs for any structures constructed over natural soils or controlled fill should be designed to accommodate the characteristic ground surface movements and settlement potential. Assessments of these design parameters are beyond the scope of this Report.

Controlled-fill (Level 1 Fill) provides an overview that the Earthwork Specification has been met. There are instances where significant long-term settlements of controlled fill can occur. Large total and differential settlements can be expected where fill has been placed over soft and compressible soils and where the thickness of controlled fill varies significantly across a lot.

Should you require further information regarding the above, please do not hesitate to contact this office.

Yours faithfully,

MICHAEL MORRISON
For and on behalf of
QUALTEST LABORATORY PTY LTD.

DENNIS ALAZIGHA, *RPEQ22169*

Appendix A – Site Plan and Test Locations
Appendix B – Compaction Test Reports

APPENDIX A

SITE PLAN AND COMPACTION TEST LOCATIONS

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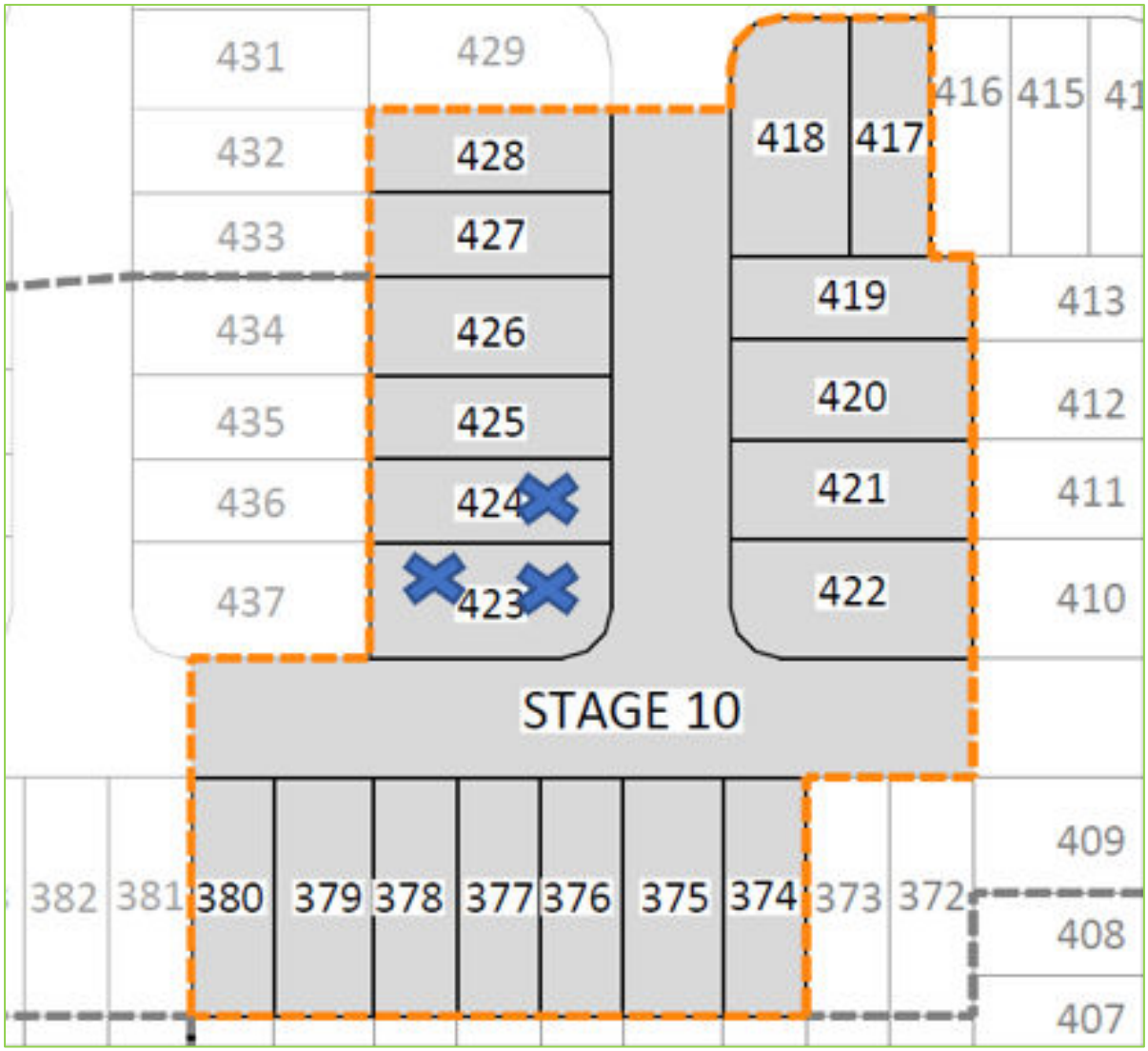

✖ *Compaction Test Locations marked by Blue*

APPENDIX B

COMPACTION TEST REPORTS

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Material Test Report

Report Number: **22-115-11**
Issue Number: 1
Date Issued: 07/06/2022
Client: CCA WINSLOW PTY LTD
1587 IPSWICH ROAD, ROCKLEA QLD 4106
Contact: KIERAN HOY
Project Number: 22-115
Project Name: GEOTECHNICAL INVESTIGATION
Project Location: MONTEREA - STAGES 10 & 11
Work Request: 971
Date Sampled: 30/05/2022 12:07
Dates Tested: 30/05/2022 - 01/06/2022
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Preparation Method: AS 1289.1.1 - Sampling and preparation of soils
Specification: 95% Standard
Site Selection: AS 1289.1.4.1
Location: Monterea Stages 10 & 11 Ripley
Material: General Fill
Material Source: On- site

Qualtest Laboratory
Est. 1987

Qualtest Laboratory Pty Ltd
Qualtest Laboratory Pty Limited
2 / 40 Boyland Ave Cooper Plains QLD 4108
Phone: 0417 011 515
Email: greg@qualtestgeo.com

Accredited for compliance with ISO/IEC 17025 - Testing

NATA
WORLD RECOGNISED ACCREDITATION

Approved Signatory: Greg Gibson
ql-greg
NATA Accredited Laboratory Number: 2316

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	S971A	S971B	S971C
Test Number	251	252	253
Date Tested	30/05/2022	30/05/2022	30/05/2022
Time Tested	11:11	11:17	11:27
Test Request #/Location	Lot 423 10m From Northern Boundary 6m From Western Boundary	Lot 423 15m From Northern Boundary 6m From Western Boundary	Lot 424 10m From Northern Boundary 2m From Western Boundary
Layer / Reduced Level	Final Level	Final Level	Final Level
Thickness of Layer (mm)	175	175	175
Soil Description	Sandy CLAY	Sandy CLAY	Sandy CLAY
Test Depth (mm)	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**
Field Wet Density (FWD) t/m^3	2.11	2.11	2.10
Field Moisture Content %	13.2	11.1	12.5
Field Dry Density (FDD) t/m^3	1.86	1.90	1.87
Peak Converted Wet Density t/m^3	2.20	2.17	2.18
Adjusted Peak Converted Wet Density t/m^3	**	**	**
Moisture Variation (Wv) %	-1.0	-1.0	-0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	**95.5**	**97.5**	**96.5**
Compaction Method	**Standard**	**Standard**	**Standard**
Report Remarks	**	**	**

Moisture Variation Note:
Positive values = test is dry of OMC
Negative values = test is wet of OMC

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Results relate only to the items tested/sampled.