

LEVEL 1 INSPECTION & TESTING REPORT

GERANIUM ESTATE

OFFICER, VICTORIA

Prepared for Sandridge Roads Pty Ltd



PROJECT DETAILS

<i>Project Reference</i>	GSE998.1		
<i>Project Testing Laboratory</i>	Melbourne East Laboratory		
<i>Project Title</i>	Geranium Estate Estate (Level 1)		
<i>Project Location</i>	228 Rix Road Officer, VIC 3976 (City of Cardinia)		
<i>Period which report covers</i>	<i>Start Date</i>	7/11/2025	<i>End Date</i> 5/2/2026
<i>Report Number</i>	GSE998.1 Level 1 Report	<i>Rev No.</i>	00
<i>Date of Issue</i>	6 th March		

CLIENT DETAILS

<i>Client Name</i>	Sandridge Roads Pty Ltd
<i>Client Address</i>	410 Tooradin Station Road, Tooradin VIC 3980
<i>Project Principal (if applicable)</i>	Banriar Developments Pty Ltd.
<i>Client Project Number (if applicable)</i>	

This document presents the results of the Level 1 Inspection and Testing performed by Macquarie Geotechnical Pty Ltd for the above mentioned project and client, as the nominated project Geotechnical Inspection & Testing Authority (GITA). This report is detailed for the sole use of the intended recipient(s). Should you have any questions related to this report please do not hesitate to contact the undersigned.

If you are not the intended recipient, any use, distribution, disclosure or copying of this report is strictly prohibited.

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Attached: Limitations of Geotechnical Site Investigation
 Appendix A – SITE LAYOUT / SITE PLANS
 Appendix B – TEST SUMMARY
 Appendix C – TEST REPORTS

References:

AS3798 (2007) Guidelines on Earthworks for Residential and Commercial Developments.
 AS1289 Methods of Testing Soils for Engineering Purposes.

1. INTRODUCTION

Macquarie Geotechnical Pty Ltd has been engaged by Sandridge Roads Pty Ltd to act as the Geotechnical Inspection and Testing Authority (GITA) on the Proposed Subdivision at Little Hampton Estate, Hampton Park.

The objectives as the GITA is to undertake Level 1 inspections and testing to confirm that the placement methodology and material suitability are completed in accordance with the site specific plans and specifications and that of the requirements of AS3798 (2007) 'Guidelines on Earthworks for Commercial and Residential Developments' for the placement of the Fill materials within the work area in accordance with the site specifications and Inspection and Test Plans (ITP's).

2. PROJECT OVERVIEW

The project is located at Geranium Estate Officer, (City of Cardinia).

It is understood that the project involves the construction of bulk earth works include removing rocks, levelling the ground, and preparing the site for installation of fill materials. Macquarie Geotech was engaged to provide Level 1 Inspection and Testing services for these components of the project. Authorisation to proceed was provided by Sandridge Roads Pty Ltd (the 'Client').

Level 1 Inspection & Testing, as defined in AS3798 (2007) 'Guidelines on Earthworks for Commercial and Residential Developments' provides for full time inspection of the construction of controlled fill and compaction testing in accordance with AS1289 'Methods of Testing Soils for Engineering Purposes' and AS1726 (1993) 'Geotechnical Site Investigations'.

Macquarie Geotech performed the role of the project Geotechnical Inspection & Testing Authority (GITA) with all Level 1 Inspection and Testing services described in this report undertaken by an experienced GITA site representative.

3. SPECIFICATIONS AND DOCUMENTATION

Macquarie Geotechnical Pty. Ltd. undertook supervision acting as the Geotechnical Inspection and Testing Authority (GITA) in accordance with the following specifications, drawings and ITPs:

3.1. SPECIFICATIONS

- AS3798 "Guidelines on Earthworks for Commercial and Residential Developments" (2017).

3.2. DRAWINGS

- 2001433-06-R&D-REV_D Issued for Tender 06/03/2025
- 2001433-06-R&D-REV_H Issued for Tender 25/09/2025
-

4. CONFORMANCE CRITERIA

4.1. COMPACTION AND MOISTURE CONTENT

All materials used within the construction were required to be compacted and conditioned to achieve the minimum acceptance limits as defined in AS3798:2007 Table 5.1 as follows:

- Residential Lot Fill – 95% relative to Standard Compaction
- Pavement General Fill – 95% relative to Standard Compaction
- Pavement Subgrade – 98% relative to Standard Compaction

Fill materials to be placed in Maximum 300mm compacted layers unless otherwise specified on the drawings.

Where tests fail to confirm the required relative compaction, the areas are to be reconditioned, recompacted and retested.

4.2. PROOF ROLL INSPECTIONS

Proof roll inspections to be undertaken as directed by the principal as indicated in the drawings, specifications and ITPs by the GITA and Clients representative.

The area(s) to be deemed as acceptable where no visible deflection, heaving or shoving is observed and where inspection has been undertaken and that the areas are free from vegetation such as roots and organic soils, moisture affected and collapsible soils.

4.3. CONSTRUCTION MATERIALS

Materials used in construction must be assessed to identify the following material characteristics:

- Identify fill Material suitability (engineering property) including cohesion.
- Free of building debris and vegetative matter (cleanliness) of the material.
- Free of distinguished oversize rock particles.
- Examining the material moisture reactivity.

4.4. BENCHING AND BATTERING

Throughout the pad construction, fill placed within the earthworks lots is to be keyed into adjacent fill blocks through benching to ensure adequate keying.

In addition material is to be placed and compacted throughout the extent of the pad to allow batters to be shaped within the compacted material zone. Where required material is to be extended past the edges of the pad to allow battering.

5. INSPECTION AND TESTING RESULTS

5.1. SUBGRADE PREPARATION

Macquarie Geotechnical observed subgrade preparation, which involved the removal of all loose surficial fill, topsoil, soft materials, vegetation.

The exposed subgrade surface was trimmed, levelled, and compacted to a condition suitable as support for the placement of the initial layers of engineered fill, by the contractor. The exposed subgrade was visually assessed by the on-site GITA representative throughout the project.

The subgrade was then proof rolled in the presence of the on-site GITA prior to placement of fill. The majority of the areas were generally found to comply with no visual signs of rutting, springing, or deflections. The areas that were observed to be soft were excavated until a suitable subgrade was achieved. The areas that were found to be wet were ripped and allowed to dry prior to placement of subsequent fill layers.

5.2. CONSTRUCTION MATERIALS

The fill material used was nominated by the on-site contractor. With the fill was sourced from cut to fill operations and various stockpiles from previous stages works. The material was observed to comprise silty/CLAY and Gravelly/Silty/CLAY, medium to high plasticity, brown mottled grey/orange, and generally around the inferred OMC. The site won cut to fill materials comprised Silty CLAY, typically brown/white/orange mottled and ranging from dry to wet of the soils inferred OMC.

5.3. INSPECTION OF FILL SOURCE MATERIALS

Macquarie Geotechnical performed visual assessment of the fill source materials to identify the following:

- material suitability
- materials free of building debris and vegetative matter
- oversize rock particles
- fill moisture.

5.4. MATERIAL SUITABILITY

The fill materials were noted to be compliant with AS3798 Section 4.0 for the intent and purpose of general filling. Visual/tactile assessments were conducted to identify the condition of the fill used during the placement.

5.5. BUILDING DEBRIS & VEGETATIVE MATTER

A small area of the site contained remains of a tree and vegetation matter, this was removed from the fill subgrade, stockpiled and taken to a suitable dump point. No building debris or further vegetation matter was observed within the fill sources.

5.6. OVERSIZE PARTICLES

No oversized particles were observed within the fill sources.

5.7. FILL MOISTURE

The fill source was assessed to range from dry to wet with the optimum moisture content, depending on the source of the material. Portions of the fill material that were found to be dry were moisture conditioned using a water cart prior to placement. Fill material observed to be wet of the optimum moisture was allowed to dry out where required.

5.8. CONTAMINATION TESTING

The project contractor undertook contamination testing of the fill materials conform to the relevant EPA guidelines.

5.9. FILL CONSTRUCTION

The contractor had the following plant available on-site during the construction period for use in the fill placement.

- Padfoot Roller
- Compactor
- Dozer
- Grader
- Watercart
- Excavator

5.10. CLIMATE

During fill placement, the weather conditions ranged from cool to sunny. Occasional rainfall events were observed.

5.11. COMPACTION CONTROL & MOISTURE TESTING RESULTS

In general, all areas were found to achieve the minimum target density ratio of 95% Standard Compaction.

The material was moisture conditioned to allow compaction and to reduce over wet materials or dry materials which could become collapsible after placement as per the site requirements.

Throughout the process and/or at the completion of the day's production, compaction control testing was performed to assess the achieved density ratio of each layer. The on-site GITA nominated the locations and performed each test.

Testing comprised a total of 54 density tests using a nuclear moisture-density gauge and 54 laboratory compaction tests (AS1289.5.8.1 and AS1289 5.7.1).

A summary of the field density tests performed for the project is presented in Appendix B, Field density and compaction control testing reports are presented in Appendix C. It should be noted that the tests are a representation of the fill placed and support the visual assessment of the works completed.

5.12. FINAL SURFACE LEVELS

Observations were made by a Macquarie Geotech staff member that filling had been complete up to the nominated finished levels as per confirmation provided from the contractor's site foreman. The observed final levels are the constructed finished surface levels of the controlled fill.

It should be noted that the overall fill depths are estimated using onsite visual tactile methods and may not be a true representation of fill depths given that conditions on site may change over time. True fill depths should be obtained from the contractor's survey data.

Macquarie Geotechnical also recommend that the surface be covered or maintained if left exposed to reduce the risk of cracking or moisture release or inflow.

6. CONCLUSION

Macquarie Geotechnical as the acting Geotechnical Inspection & Testing Authority (GITA) is of the opinion that the works, as far as it's been able to determine comply with the specifications, drawings and site direction in regards to the inspections and the testing completed throughout the above mentioned period of the earthwork's construction program.

Such inspection and testing was undertaken in accordance with AS3798 - Guidelines on Earthworks for Commercial and Residential Developments, for Level 1 testing and apply to the period of which the observations were made and do not include continued maintenance and protection of the works.

We trust the foregoing is sufficient for your present purposes, and if you have any questions, please contact the undersigned.

Prepared By



Mark Longfield
Laboratory Manager

7. UNDERSTANDING level 1 inspection & testing

The purpose of performing Level 1 Inspection and Testing is to ensure compliance of the fill with the specification. The engagement of a Geotechnical Inspection Testing Authority (GITA) allows the contractor to perform their role in the construction of the filling operation while the GITA monitors the quality control process of the fill placement. The visual observations of thorough processes and work practices by the contractor allows the GITA to approve the subsequent placement of fill without having to wait for the completion of testing and the extended time it takes to get a test result back. The GITA will, however, carry out random spot checks of the filling operations throughout the day's production as confirmation that the placement procedures and the fill moisture content is appropriate. At the end of a day's production the GITA will sign off the completed works as satisfactory. Any failed tests will result in that area of operation requiring rectification in the following mornings activities. This may be as simple as extra rolling with compaction plant if moisture conditioning is suitable. Sometimes these areas may be retested if the GITA feels it is necessary.

While AS3798 (2007) is a guideline on the minimum requirements of filling on commercial and residential developments, some projects require a more detailed project specification to deal with site specific issues. While moisture conditioning of fill sources aids in the ease with which compaction is achieved, it is not necessarily a physical characteristic that determines if the placed fill is acceptable. In some situations, the moisture requirement is an extremely important function of the final constructed product. In these situations, a specific project specification should apply to the project as detailed by the designing geotechnical engineer. These are typical of clay liners for wetlands, dams, landfill liners and caps and an array of other engineering situations. Creating a consolidated platform of which is similar to equivalent surrounding natural conditions is the primary aim of level one processes, preventing the occurrence of differential ground movements to footing structures.

Level 1 Inspection & Testing requires full time inspection and testing of the fill placement undertaken on a site. Macquarie Geotech (project GITA) are notified daily (or at the completion of each day's work) by the project foreman where subsequent days of fill placement under Level 1 is to occur. On projects that rely upon the importation of a fill source, there can be delays in the receipt of sufficient materials to warrant fill placement works which may result in periods of time where a GITA representative is not required on site. It is the contractor's responsibility to notify the GITA when works proceed and their attendance on site is required again. A GITA relies upon the integrity of the contractor to advise when site attendance is required and makes all reasonable visual attempts to assess if the works are the same as the previous day's attendance.

LIMITATIONS OF GEOTECHNICAL SITE INVESTIGATION

Scope of Services

This report has been prepared for the Client in accordance with the Services Engagement Form (SEF), between the Client and Macquarie Geotechnical.

Reliance on Data

Macquarie Geotechnical has relied upon data and other information provided by the Client and other individuals. Macquarie Geotechnical has not verified the accuracy or completeness of the data, except as otherwise stated in the report. Recommendations in the report are based on the data.

Macquarie Geotechnical will not be liable in relation to incorrect recommendations should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed.

Geotechnical Investigation

Findings of Geotechnical Investigations are based extensively on judgment and experience. Geotechnical reports are prepared to meet the specific needs of individual clients. This report was prepared expressly for the Client and expressly for the Clients purposes.

This report is based on a subsurface investigation, which was designed for project-specific factors. Unless further geotechnical advice is obtained this report cannot be applied to an adjacent site nor can it be used when the nature of any proposed development is changed.

Limitations of Site investigation

As a result of the limited number of sub-surface excavations or boreholes there is the possibility that variations may occur between test locations. The investigation undertaken is an estimate of the general profile of the subsurface conditions. The data derived from the investigation and laboratory testing are extrapolated across the site to form a geological model. This geological model infers the subsurface conditions and their likely behavior with regard to the proposed development.

The actual conditions at the site might differ from those inferred to exist.

No subsurface exploration program, no matter how comprehensive, can reveal all subsurface details and anomalies.

Time Dependence

This report is based on conditions, which existed at the time of subsurface exploration. Construction operations at or adjacent to the site, and natural events such as floods, or groundwater fluctuations, may also affect subsurface conditions, and thus the continuing adequacy of a geotechnical report.

Macquarie Geotechnical should be kept appraised of any such events, and should be consulted for further geotechnical advice if any changes are noted.

Avoid Misinterpretation

A geotechnical engineer or engineering geologist should be retained to work with other design professionals explaining relevant geotechnical findings and in reviewing the adequacy of their plans and specifications relative to geotechnical issues.

No part of this report should be separated from the Final Report.

Sub-surface Logs

Sub-surface logs are developed by geoscientific professionals based upon their interpretation of field logs and laboratory evaluation of field samples. These logs should not under any circumstances be redrawn for inclusion in any drawings.

Geotechnical Involvement During Construction

During construction, excavation frequently exposes subsurface conditions. Geotechnical consultants should be retained through the construction stage, to identify variations if they are exposed.

Report for Benefit of Client

The report has been prepared for the benefit of the Client and no other party. Other parties should not rely upon the report or the accuracy or completeness of any recommendations and should make their own enquiries and obtain independent advice in relation to such matters

Macquarie Geotechnical assumes no responsibility and will not be liable to any other person or organisations for or in relation to any matter dealt with or conclusions expressed in the report, or for any loss or damage suffered by any other person or organisations arising from matters dealt with or conclusions expressed in the report.

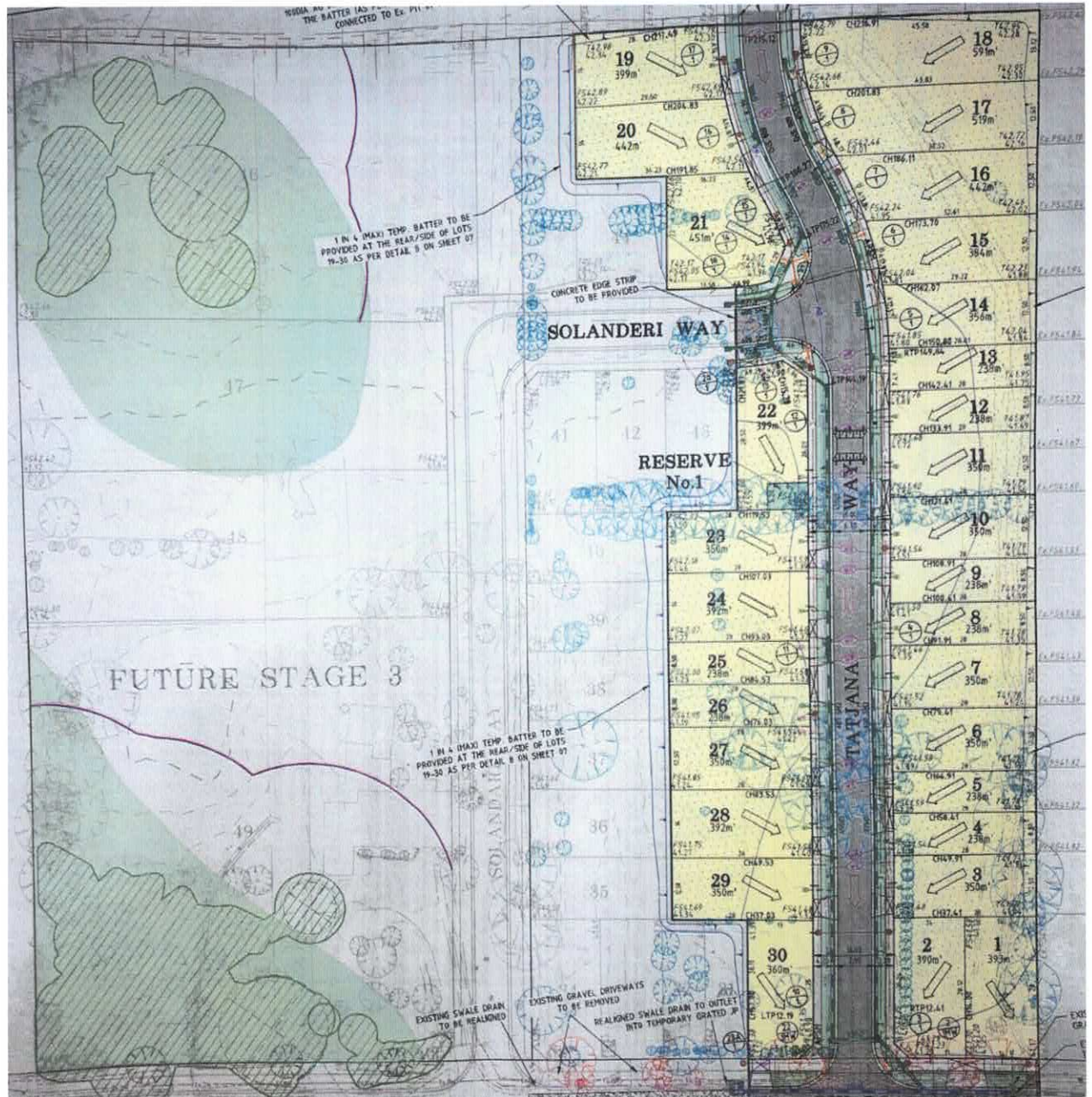
Other limitations

Macquarie Geotechnical will not be liable to update or revise the report to take into account any events or emergent circumstances or facts occurring or becoming apparent after the date of the report.

Other Information

For further information reference should be made to "Guidelines for the Provision of Geotechnical Information in Construction Contracts" published by the Institution of Engineers Australia, 1987.

Appendix A



Appendix B

Project Summary Report

Report Date: 13/03/2026
Client: SANDRIDGE ROADS (TOORADIN)

Contact: BRETT MCINNES
Project Number: GSE998.1
Project Name: 165 RIX ROAD
Project Location: OFFICER
Specification: 95% Standard Compaction
Test Methods: AS 1289 5.7.1 STD & 5.8.1 & 2.1.1



Macquarie Geotechnical Pty Ltd
 Melbourne East Laboratory
 113 Wedgewood Road Hallam Victoria 3803
 Phone: 0450 925 137
 Email: troy@groundscience.com.au

Lot #	Sample #	Date Sampled	Location	Location		Elevation (m)	Layer	Relative Compaction (%)	Moisture Variation (%)	Moisture Content (%)	Field Wet Density (t/m3)
**	ME-2508A	07/11/2025	LOT 3/4	**	**	**	1ST LAYER	100.0	-2.0	20.9	2.09
**	ME-2508B	07/11/2025	LOT 5/6	**	**	**	1ST LAYER	100.0	-2.5	20.0	2.09
**	ME-2508C	07/11/2025	LOT 7/8	**	**	**	1ST LAYER	100.0	-1.0	15.2	2.11
**	ME-2508D	07/11/2025	LOT 9/10	**	**	**	1ST LAYER	99.0	-0.5	15.7	2.08
**	ME-2508E	07/11/2025	LOT 11/12	**	**	**	1ST LAYER	98.5	-3.0	17.9	2.05
**	ME-2508F	07/11/2025	LOT 13/14	**	**	**	1ST LAYER	99.0	-2.5	17.6	2.05
**	ME-2530A	14/11/2025	LOT 18/17	**	BOUNDARY	**	LAYER 2	95.5	-0.5	13.7	2.06
**	ME-2530B	14/11/2025	LOT 16/15	**	BOUNDARY	**	LAYER 2	97.5	-0.5	14.3	2.11
**	ME-2530C	14/11/2025	LOT 14/13	**	BOUNDARY	**	LAYER 2	96.5	0.0	14.3	1.99
**	ME-2598A	21/11/2025	LOT 1/2	**	**	**	FSL	98.0	0.0	15.3	2.08
**	ME-2598B	21/11/2025	LOT 6/7	**	**	**	FSL	97.0	0.0	14.6	2.07
**	ME-2598C	21/11/2025	LOT 10/11	**	**	**	FSL	101.5	-0.5	15.0	2.14
**	ME-2598D	21/11/2025	LOT 14/15	**	**	**	3RD LAYER	100.5	-0.5	15.7	2.13
**	ME-2598E	21/11/2025	LOT 16/17	**	**	**	3RD LAYER	98.5	0.0	13.7	2.09
**	ME-2598F	21/11/2025	LOT 18	**	**	**	3RD LAYER	99.0	-0.5	14.1	2.08
15/16/17	ME-2681A	28/11/2025	LOT 14/15	**	**	**	4TH LYER	95.5	-2.0	18.6	1.98
15/16/17	ME-2681C	28/11/2025	LOT 15/16	**	**	**	4TH LYER	96.0	-3.5	18.4	2.01
15/16/17	ME-2681E	28/11/2025	LOT 17/18	**	**	**	4TH LYER	95.5	-1.5	18.0	1.99
15/16/17	ME-2681B	28/11/2025	LOT 14/15	**	**	**	FSL	95.0	-1.5	18.1	1.99
15/16/17	ME-2681D	28/11/2025	LOT 15/16	**	**	**	FSL	95.5	-2.5	18.2	2.02
15/16/17	ME-2681F	28/11/2025	LOT 17/18	**	**	**	FSL	95.0	-3.0	17.7	2.02
**	ME-2774A	09/12/2025	LOT 23-FRONT	**	**	**	1ST LAYER	103.0	2.0	15.8	2.10
**	ME-2774B	09/12/2025	LOT 24-FRONT	**	**	**	1ST LAYER	102.0	0.5	14.3	2.10
**	ME-2774C	09/12/2025	LOT 25/26-FRONT	**	**	**	1ST LAYER	104.0	0.5	14.4	2.11
**	ME-2862A	16/12/2025	LOT 27	**	**	**	1ST LIFT	95.5	2.0	9.3	1.92
**	ME-2862B	16/12/2025	LOT 27	**	**	**	2ND LIFT	95.5	1.5	10.2	1.94
**	ME-2862C	16/12/2025	LOT 27	**	**	**	3RD LIFT	96.5	1.5	9.7	1.94
**	ME-2862D	16/12/2025	LOT 28	**	**	**	4TH LIFT	98.0	1.5	10.4	1.97
**	ME-2862E	16/12/2025	LOT 28	**	**	**	5TH LIFT	98.5	2.0	9.6	1.97
**	ME-2862F	16/12/2025	LOT 28	**	**	**	6TH LIFT	96.5	1.0	9.8	1.98
**	ME-2910A	13/01/2026	LOT 24	**	**	**	-0.3 FSL	95.0	-3.5	14.5	2.02
**	ME-2910B	13/01/2026	LOT 25/26	**	**	**	-0.3 FSL	95.0	-3.5	12.3	2.01
**	ME-2910C	13/01/2026	LOT 27	**	**	**	-0.2 FSL	97.0	2.0	11.4	2.04
**	ME-2910D	13/01/2026	LOT 28	**	**	**	-0.2 FSL	96.0	-0.5	11.8	2.03
**	ME-2916A	14/01/2026	LOT 30	**	**	**	-0.3m FSL	100.5	5.0	6.1	2.05
**	ME-2916B	14/01/2026	LOT 30	**	**	**	FSL	99.5	5.0	6.3	2.05
**	ME-2916C	14/01/2026	LOT 29/28	**	**	**	FSL	100.5	5.0	6.1	2.04
**	ME-2959A	20/01/2026	LOT 27	**	**	**	FSL	98.5	2.0	9.6	2.06
**	ME-2959B	20/01/2026	LOT 25/26	**	**	**	FSL	99.5	2.5	7.7	2.06
**	ME-2959C	20/01/2026	LOT 24/23	**	**	**	FSL	99.0	2.5	**	2.07
**	ME-3003A	22/01/2026	RIX ROAD	**	**	**	FSL	99.0	1.0	4.6	2.27
**	ME-3003B	22/01/2026	RIX ROAD	**	**	**	FSL	99.5	1.0	4.9	2.26
**	ME-3099A	04/02/2026	LOT-19	**	**	**	1 ST LAYER	96.0	-0.5	13.8	2.06
**	ME-3099B	04/02/2026	LOT-20	**	**	**	1 ST LAYER	100.0	2.5	10.8	2.05
**	ME-3099C	04/02/2026	LOT-22	**	**	**	1 ST LAYER	98.5	2.5	9.7	2.03
**	ME-3113A	05/02/2026	LOT 19	**	**	**	2ND LAYER	98.5	4.0	12.5	1.94
**	ME-3113B	05/02/2026	LOT 20/21	**	**	**	2ND LAYER	97.5	4.5	12.7	1.93
**	ME-3113C	05/02/2026	LOT 20/21	**	**	**	3RD LAYER	98.5	4.5	11.8	1.93
**	ME-3113D	05/02/2026	LOT 19	**	**	**	3RD LAYER	97.0	4.0	11.1	1.94
**	ME-3113E	05/02/2026	LOT 20	**	**	**	FSL	97.0	4.0	11.2	1.92
**	ME-3113F	05/02/2026	LOT 21	**	**	**	FSL	98.0	4.0	25.6	1.94

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

x - approximate test location

Material Test Report

Report Number: GSE998.1-6
Issue Number: 1
Date Issued: 11/11/2025
Client: SANDRIDGE ROADS (TOORADIN)

Contact: BRETT MCINNES
Project Number: GSE998.1
Project Name: 165 RIX ROAD
Project Location: OFFICER
Work Request: 2508
Date Sampled: 10/11/2025 13:00
Dates Tested: 10/11/2025 - 10/11/2025
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 Compaction
Location: OFFICER
Material: Silty Clay, medium - high plasticity
Material Source: IMPORTED-DIFFERENT LOCATIONS

MACQUARIE GEOTECH

Macquarie Geotechnical Pty Ltd
Melbourne Laboratory
113 Wedgewood Road Hallam VIC 3803
Phone: (02) 6332 2011
Email: grant@macgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

(Signature)

Approved Signatory: Grant Sloan
LABORATORY 2IC

Laboratory Accreditation Number: 14874

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	ME-2508A	ME-2508B	ME-2508C	ME-2508D	ME-2508E	ME-2508F
Client Sample #	**	**	**	**	**	**
Date Tested	07/11/2025	07/11/2025	07/11/2025	07/11/2025	07/11/2025	07/11/2025
Time Tested	13:45	13:50	13:55	14:00	14:08	14:15
Test Request #/Location	LOT 3/4	LOT 5/6	LOT 7/8	LOT 9/10	LOT 11/12	LOT 13/14
Layer / Reduced Level	1ST LAYER	1ST LAYER	1ST LAYER	1ST LAYER	1ST LAYER	1ST LAYER
Thickness of Layer (mm)	300	300	300	300	300	300
Soil Description	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity
Test Depth (mm)	275	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.09	2.09	2.11	2.08	2.05	2.05
Field Moisture Content %	20.9	20.0	15.2	15.7	17.9	17.6
Field Dry Density (FDD) t/m ³	1.73	1.74	1.83	1.80	1.74	1.74
Peak Converted Wet Density t/m ³	2.09	2.09	2.12	2.10	2.08	2.07
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	-2.0	-2.5	-1.0	-0.5	-3.0	-2.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	100.0	100.0	100.0	99.0	98.5	99.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Remarks	**	**	**	**	**	**

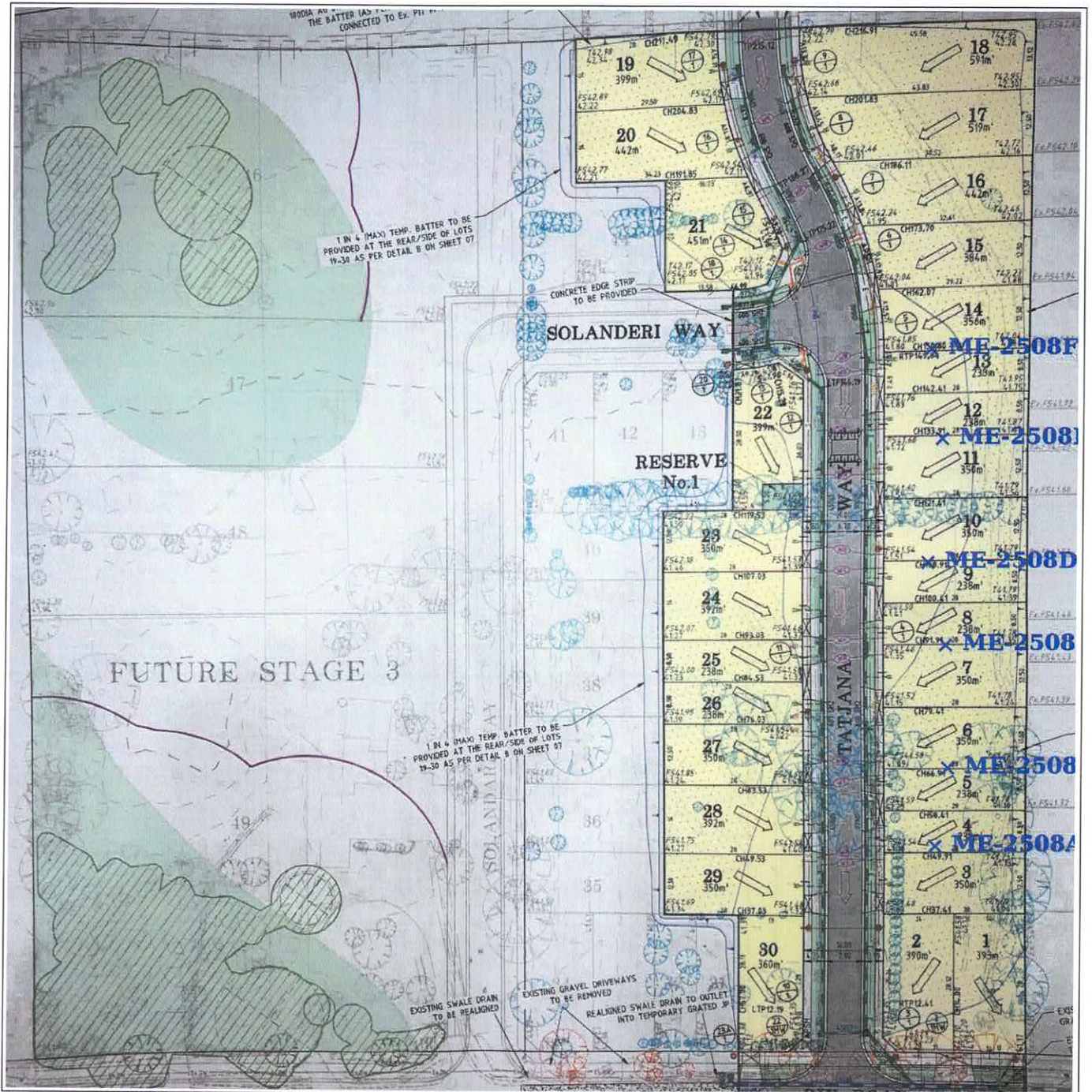
Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location



Material Test Report

Report Number: GSE998.1-7
Issue Number: 2 - This version supersedes all previous issues
Reissue Reason: ,
Date Issued: 06/03/2026
Client: SANDRIDGE ROADS (TOORADIN)

Contact: BRETT MCINNES
Project Number: GSE998.1
Project Name: 165 RIX ROAD
Project Location: OFFICER
Work Request: 2530
Date Sampled: 13/11/2025
Dates Tested: 13/11/2025 - 17/11/2025
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 Compaction
Location: OFFICER
Material: Silty Clay

**MACQUARIE
GEOTECH**

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 Email: mlongfield@macgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Mark Longfield
 Laboratory Manager
 Laboratory Accreditation Number: 14874

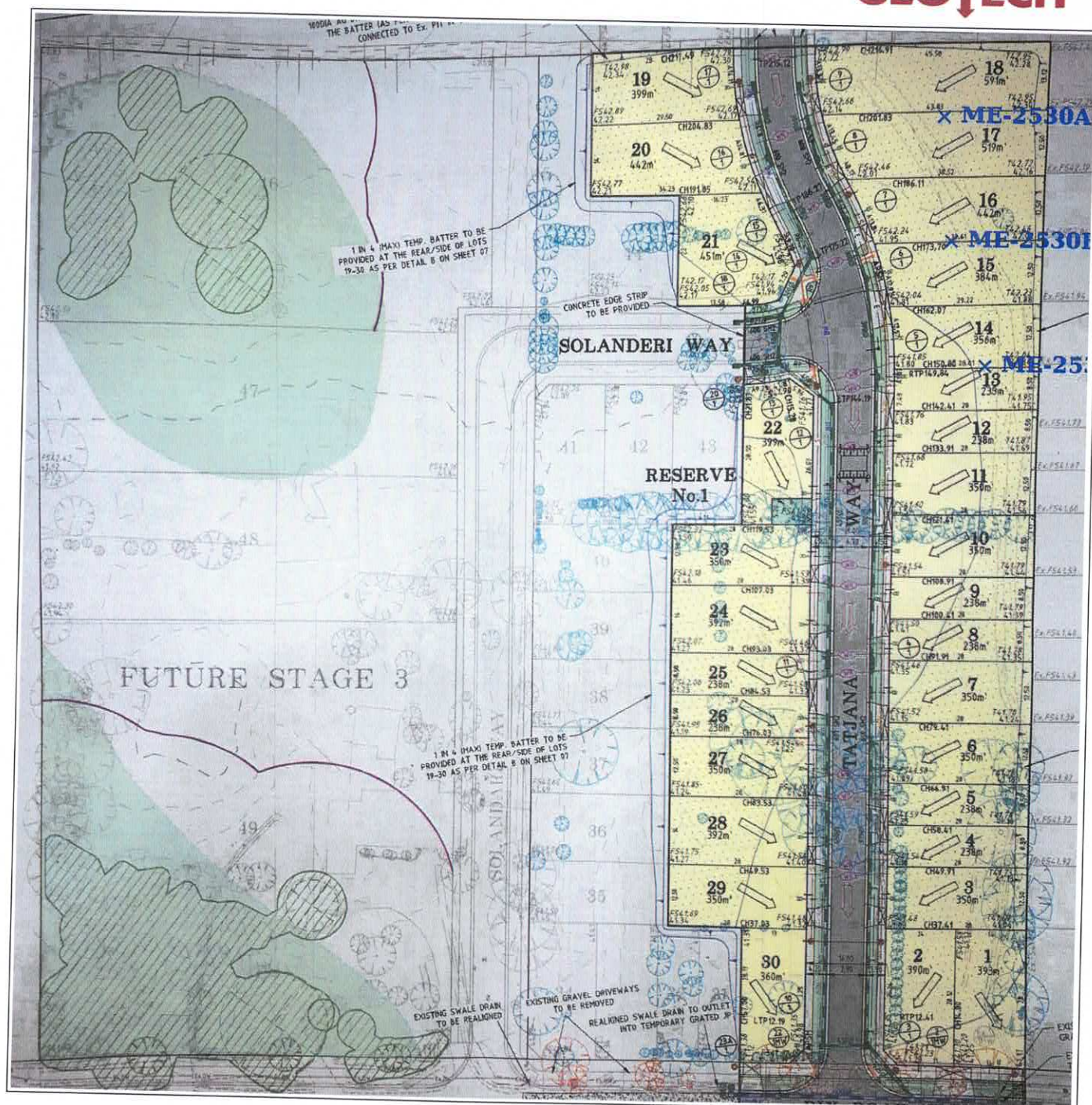
Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	ME-2530A	ME-2530B	ME-2530C
Client Sample #	**	**	**
Date Tested	14/11/2025	14/11/2025	14/11/2025
Time Tested	**	**	**
Test Request #/Location	LOT 18/17	LOT 16/15	LOT 14/13
Chainage (m)	**	**	**
Location Offset (m)	BOUNDARY	BOUNDARY	BOUNDARY
Layer / Reduced Level	LAYER 2	LAYER 2	LAYER 2
Thickness of Layer (mm)	200	200	200
Soil Description	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity
Test Depth (mm)	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Percentage of Dry Oversize (%) (AS1289.5.4.1)	**	**	**
Field Wet Density (FWD) t/m ³	2.06	2.11	1.99
Field Moisture Content %	13.7	14.3	14.3
Field Dry Density (FDD) t/m ³	1.81	1.85	1.74
Peak Converted Wet Density t/m ³	2.15	2.17	2.07
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Adj. Optimum Moisture Content % (AS1289.5.4.1)	**	**	**
Adj. Field Moisture Content % (AS1289.5.4.1)	13.7	14.3	14.3
Moisture Ratio % (AS1289.5.4.1)	104.0	104.0	98.5
Adjusted Moisture Ratio % (AS1289.5.4.1)	**	**	**
Moisture Variation (Wv) %	-0.5	-0.5	0.0
Adjusted Moisture Variation %	**	**	**
Hill Density Ratio (%)	95.5	97.5	96.5
Compaction Method	Standard	Standard	Standard
Remarks	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

x - approximate test location



Material Test Report

Report Number: GSE998.1-8
Issue Number: 1
Date Issued: 27/11/2025
Client: SANDRIDGE ROADS (TOORADIN)

Contact: BRETT MCINNES
Project Number: GSE998.1
Project Name: 165 RIX ROAD
Project Location: OFFICER
Work Request: 2598
Date Sampled: 21/11/2025 7:30
Dates Tested: 21/11/2025 - 26/11/2025
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 Compaction
Site Selection: Selected by Client
Location: OFFICER
Material: Silty Clay, medium - high plasticity
Material Source: IMPORTED

MACQUARIE GEOTECH

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(Signature)

Approved Signatory: Grant Sloan
LABORATORY 2IC

Laboratory Accreditation Number: 14874

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	ME-2598A	ME-2598B	ME-2598C	ME-2598D	ME-2598E	ME-2598F
Client Sample #	**	**	**	**	**	**
Date Tested	21/11/2025	21/11/2025	21/11/2025	21/11/2025	21/11/2025	21/11/2025
Time Tested	09:10	09:15	09:20	09:45	09:50	09:55
Test Request #/Location	LOT 1/2	LOT 6/7	LOT 10/11	LOT 14/15	LOT 16/17	LOT 18
Layer / Reduced Level	FSL	FSL	FSL	3RD LAYER	3RD LAYER	3RD LAYER
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity
Test Depth (mm)	175	175	175	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	2.08	2.07	2.14	2.13	2.09	2.08
Field Moisture Content %	15.3	14.6	15.0	15.7	13.7	14.1
Field Dry Density (FDD) t/m ³	1.80	1.81	1.86	1.84	1.84	1.82
Peak Converted Wet Density t/m ³	2.13	2.13	2.11	2.12	2.12	2.10
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	0.0	-0.5	-0.5	0.0	-0.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	98.0	97.0	101.5	100.5	98.5	99.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Remarks	**	**	**	**	**	**

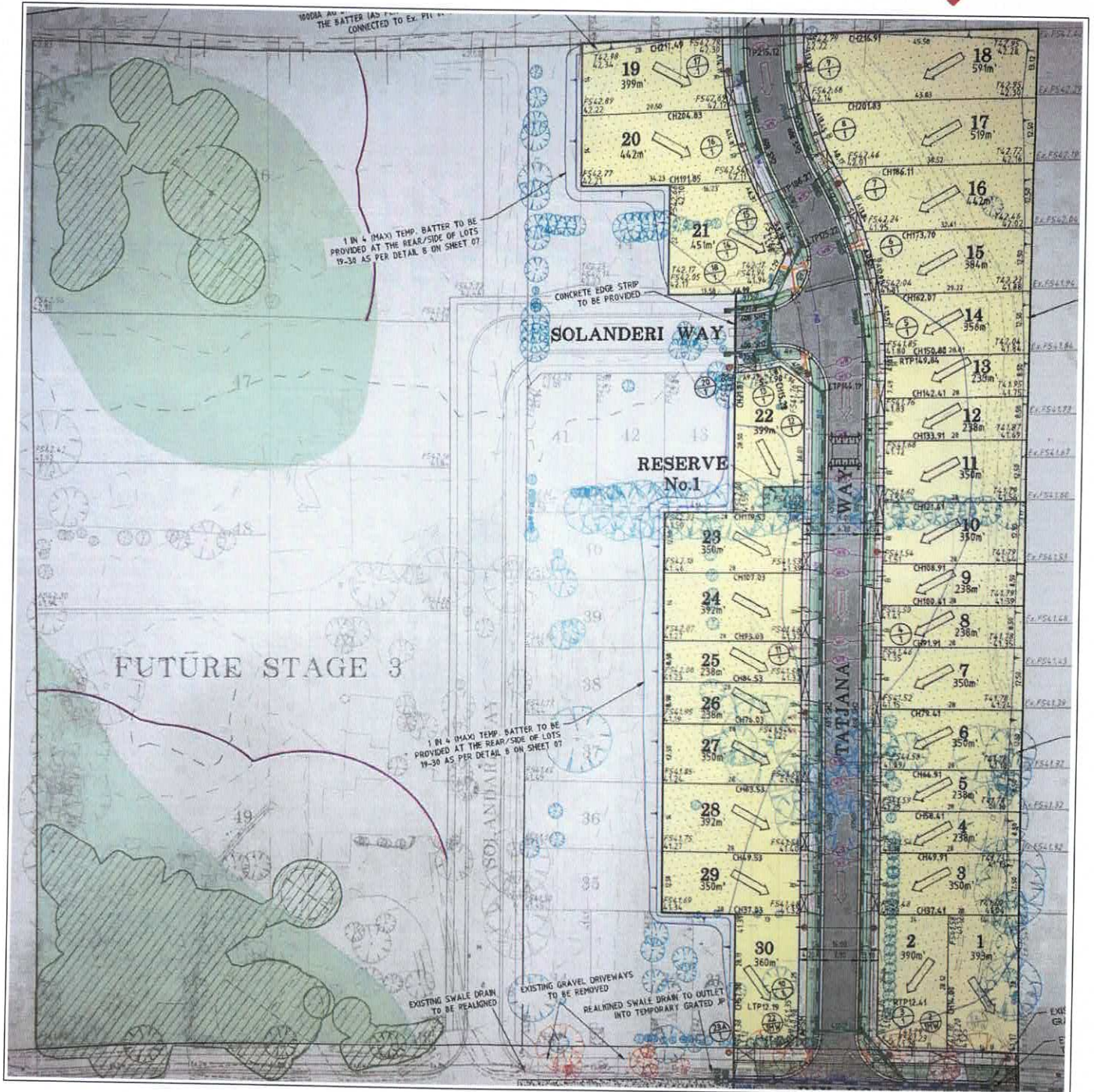
Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location



Material Test Report

Report Number: GSE998.1-9
Issue Number: 1
Date Issued: 19/12/2025
Client: SANDRIDGE ROADS (TOORADIN)

Contact: BRETT MCINNES
Project Number: GSE998.1
Project Name: 165 RIX ROAD
Project Location: OFFICER
Work Request: 2862
Date Sampled: 16/12/2025 13:30
Dates Tested: 16/12/2025 - 18/12/2025
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
Remarks: TESTED TWO DAYS AND ENTERED FOR SINGLE WORK ORDER
DUE TO RESULTS ARE ONE WORK ORDER.
TESTED LAYER WISE AND CUT TO DEPTH ON THE DAY.

Specification: 95% Standard Compaction
Site Selection: Selected by Client
Location: OFFICER
Material: Silty Clay, medium - high plasticity
Material Source: IMPORTED-DIFFERENT LOCATIONS

MACQUARIE GEOTECH

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Approved Signatory: Grant Sloan

LABORATORY 2IC

Laboratory Accreditation Number: 14874

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	ME-2862A	ME-2862B	ME-2862C	ME-2862D	ME-2862E	ME-2862F
Client Sample #	**	**	**	**	**	**
Date Tested	16/12/2025	16/12/2025	16/12/2025	16/12/2025	16/12/2025	16/12/2025
Time Tested	**	**	**	**	**	**
Test Request #/Location	LOT 27	LOT 27	LOT 27	LOT 28	LOT 28	LOT 28
Layer / Reduced Level	1ST LIFT	2ND LIFT	3RD LIFT	4TH LIFT	5TH LIFT	6TH LIFT
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity
Test Depth (mm)	175	175	175	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	1.92	1.94	1.94	1.97	1.97	1.98
Field Moisture Content %	9.3	10.2	9.7	10.4	9.6	9.8
Field Dry Density (FDD) t/m ³	1.76	1.76	1.77	1.79	1.80	1.80
Peak Converted Wet Density t/m ³	2.02	2.03	2.01	2.01	2.00	2.05
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	2.0	1.5	1.5	1.5	2.0	1.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	95.5	95.5	96.5	98.0	98.5	96.5
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Remarks	**	**	**	**	**	**

Moisture Variation Note:

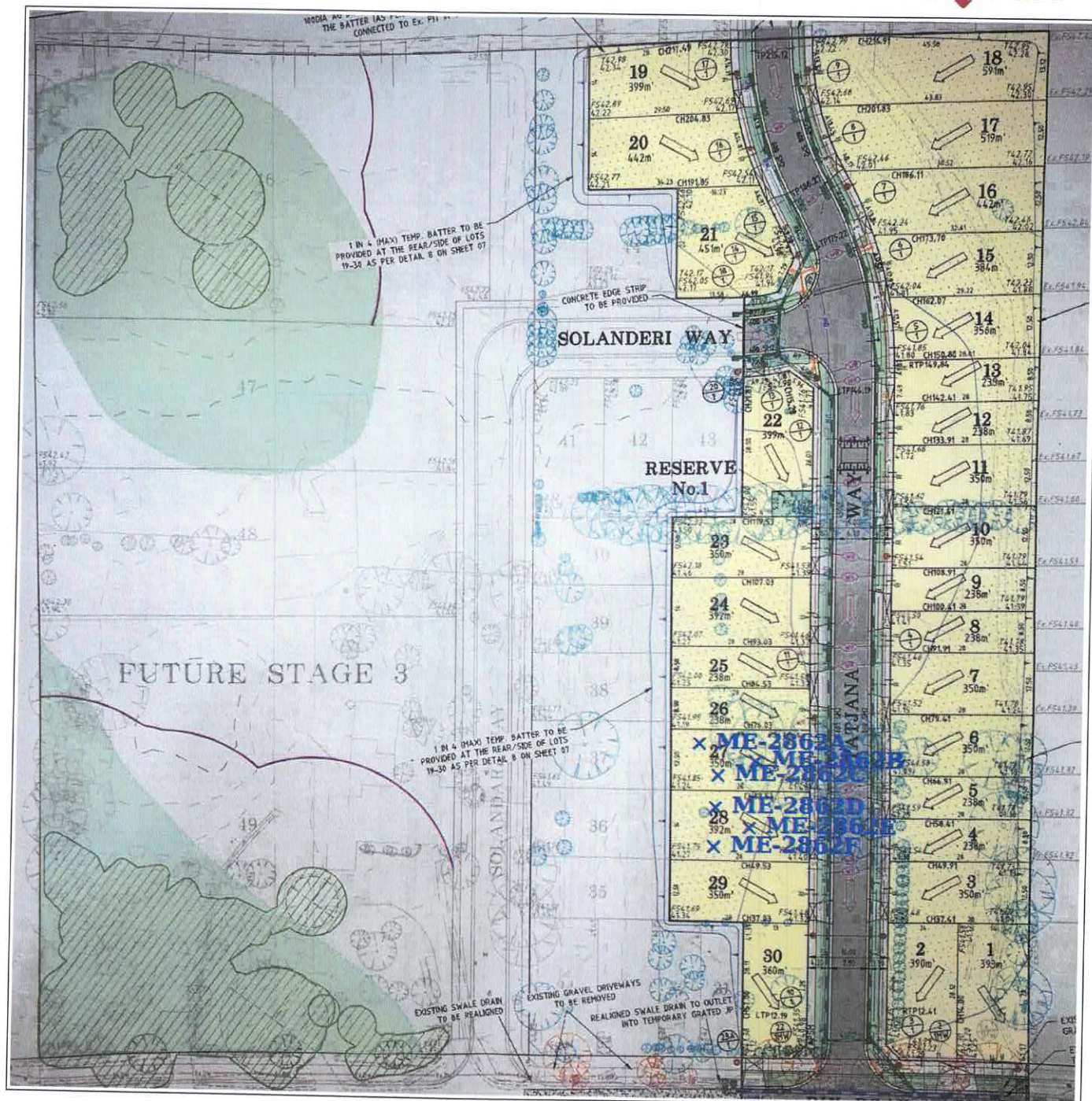
Positive values = test is dry of OMC

Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location

**MACQUARIE
GEOTECH**



Material Test Report

Report Number: GSE998.1-10
Issue Number: 1
Date Issued: 19/12/2025
Client: SANDRIDGE ROADS (TOORADIN)

Contact: BRETT MCINNES
Project Number: GSE998.1
Project Name: 165 RIX ROAD
Project Location: OFFICER
Work Request: 2681
Date Sampled: 28/11/2025 8:00
Dates Tested: 28/11/2025 - 01/12/2025
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 Compaction
Site Selection: Selected by Client
Location: OFFICER
Lot Number: 15/16/17
Material: Silty Clay, medium - high plasticity
Material Source: IMPORTED+ ONSITE

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(Signature)

Approved Signatory: Grant Sloan
LABORATORY 2IC

Laboratory Accreditation Number: 14874

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	ME-2681A	ME-2681B	ME-2681C	ME-2681D	ME-2681E	ME-2681F
Client Sample #	**	**	**	**	**	**
Date Tested	28/11/2025	28/11/2025	28/11/2025	28/11/2025	28/11/2025	28/11/2025
Time Tested	11:00	12:30	11:05	12:37	11:10	12:40
Test Request #/Location	LOT 14/15	LOT 14/15	LOT 15/16	LOT 15/16	LOT 17/18	LOT 17/18
Layer / Reduced Level	4TH LYER	FSL	4TH LYER	FSL	4TH LYER	FSL
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity
Test Depth (mm)	175	175	175	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0	0	0	0
Field Wet Density (FWD) t/m ³	1.98	1.99	2.01	2.02	1.99	2.02
Field Moisture Content %	18.6	18.1	18.4	18.2	18.0	17.7
Field Dry Density (FDD) t/m ³	1.67	1.68	1.70	1.71	1.69	1.72
Peak Converted Wet Density t/m ³	2.08	2.09	2.10	2.11	2.09	2.13
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**	**	**
Moisture Variation (Wv) %	-2.0	-1.5	-3.5	-2.5	-1.5	-3.0
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	95.5	95.0	96.0	95.5	95.5	95.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Remarks	**	**	**	**	**	**

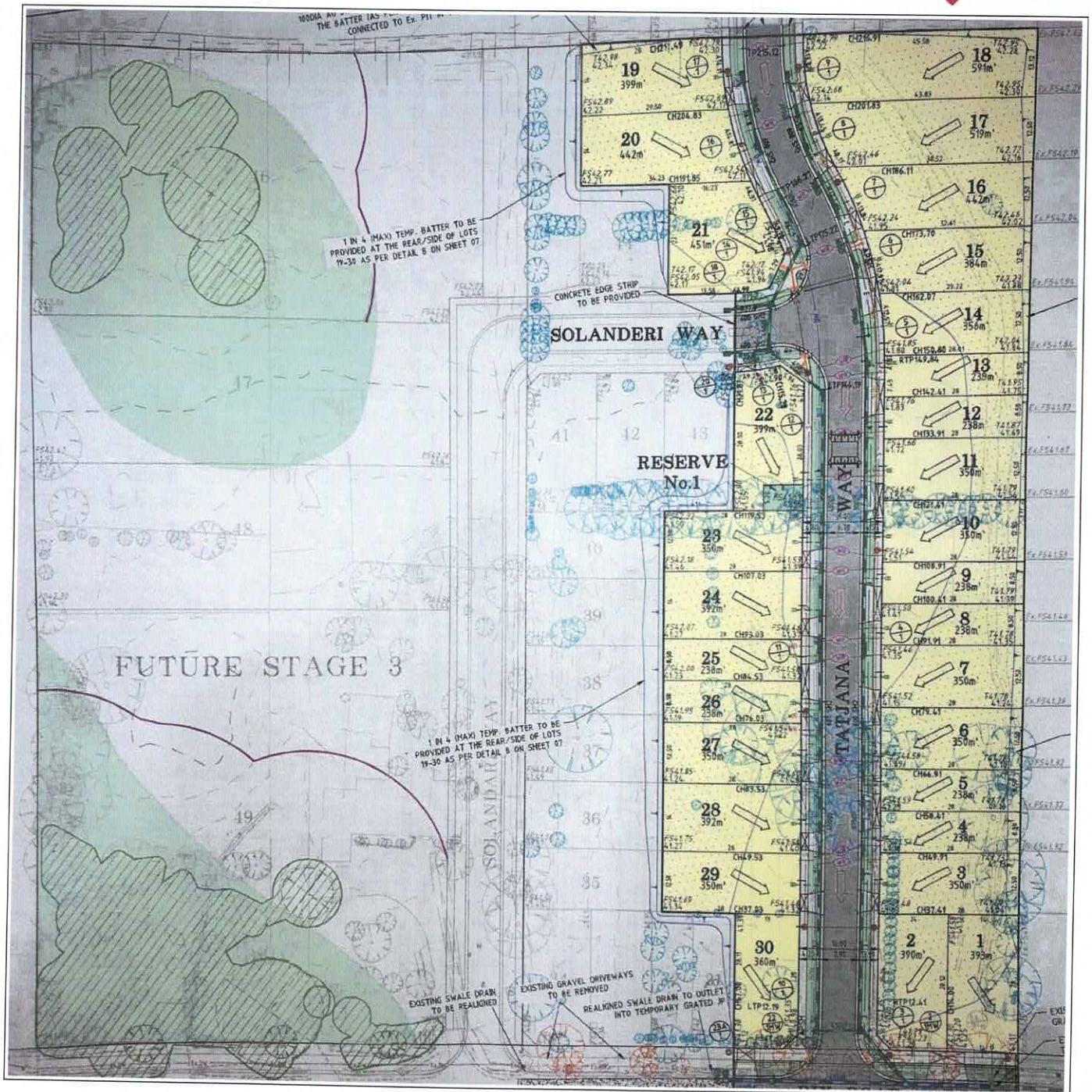
Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location



Material Test Report

Report Number: GSE998.1-11
Issue Number: 1
Date Issued: 30/12/2025
Client: SANDRIDGE ROADS (TOORADIN)

Contact: BRETT MCINNES

Project Number: GSE998.1

Project Name: 165 RIX ROAD

Project Location: OFFICER

Work Request: 2774

Date Sampled: 09/12/2025 8:30

Dates Tested: 09/12/2025 - 16/12/2025

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 Compaction

Site Selection: Selected by Client

Location: OFFICER

Material: Silty Clay, medium - high plasticity

Material Source: IMPORTED

MACQUARIE GEOTECH

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Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Mark Longfield

Laboratory Manager

Laboratory Accreditation Number: 14874

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	ME-2774A	ME-2774B	ME-2774C
Client Sample #	**	**	**
Date Tested	09/12/2025	09/12/2025	09/12/2025
Time Tested	09:00	09:10	09:20
Test Request #/Location	LOT 23-FRONT	LOT 24-FRONT	LOT 25/26-FRONT
Layer / Reduced Level	1ST LAYER	1ST LAYER	1ST LAYER
Thickness of Layer (mm)	200	200	200
Soil Description	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity
Test Depth (mm)	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	**	0
Field Wet Density (FWD) t/m ³	2.10	2.10	2.11
Field Moisture Content %	15.8	14.3	14.4
Field Dry Density (FDD) t/m ³	1.82	1.83	1.85
Peak Converted Wet Density t/m ³	2.05	2.05	2.03
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	2.0	0.5	0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	103.0	102.0	104.0
Compaction Method	Standard	Standard	Standard
Remarks	**	**	**

Moisture Variation Note:

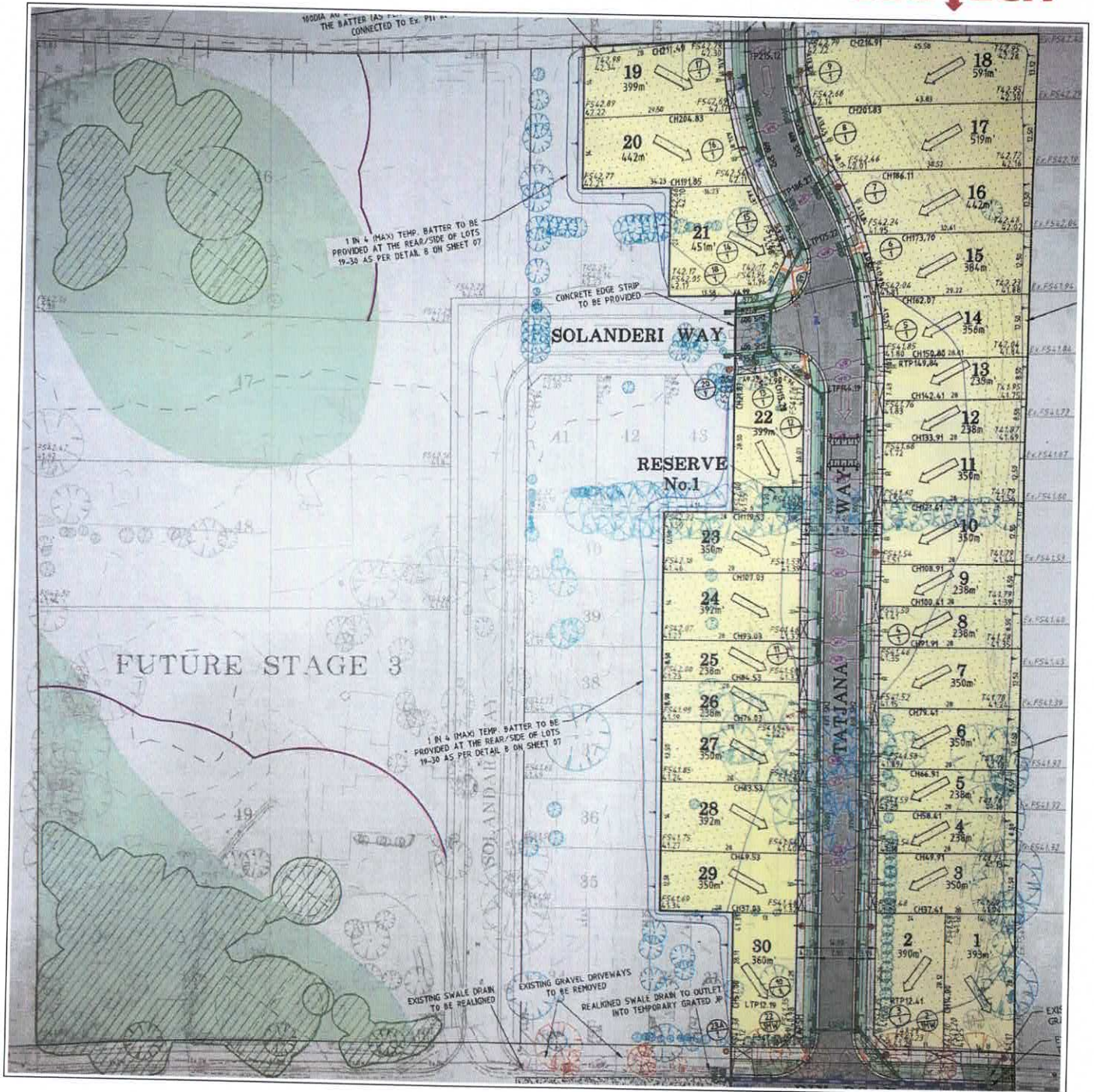
Positive values = test is dry of OMC

Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location

**MACQUARIE
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Material Test Report

Report Number: GSE998.1-12
Issue Number: 1
Date Issued: 19/01/2026
Client: SANDRIDGE ROADS (TOORADIN)

Contact: BRETT MCINNES
Project Number: GSE998.1
Project Name: 165 RIX ROAD
Project Location: OFFICER
Work Request: 2910
Date Sampled: 13/01/2026 7:30
Dates Tested: 13/01/2026 - 14/01/2026
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 Compaction
Site Selection: Selected by Client
Location: OFFICER
Material: Silty Clay, medium - high plasticity
Material Source: ONSITE

MACQUARIE GEOTECH

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(Signature)

Approved Signatory: Grant Sloan
LABORATORY 21C

Laboratory Accreditation Number: 14874

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	ME-2910A	ME-2910B	ME-2910C	ME-2910D
Client Sample #	**	**	**	**
Date Tested	13/01/2026	13/01/2026	13/01/2026	13/01/2026
Time Tested	12:30	12:35	12:41	12:47
Test Request #/Location	LOT 24	LOT 25/26	LOT 27	LOT 28
Layer / Reduced Level	-0.3 FSL	-0.3 FSL	-0.2 FSL	-0.2 FSL
Thickness of Layer (mm)	300	300	300	300
Soil Description	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity
Test Depth (mm)	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	**	0
Field Wet Density (FWD) t/m ³	2.02	2.01	2.04	2.03
Field Moisture Content %	14.5	12.3	11.4	11.8
Field Dry Density (FDD) t/m ³	1.76	1.79	1.83	1.82
Peak Converted Wet Density t/m ³	2.12	2.12	2.10	2.11
Adjusted Peak Converted Wet Density t/m ³	**	**	**	**
Moisture Variation (Wv) %	-3.5	-3.5	2.0	-0.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	95.0	95.0	97.0	96.0
Compaction Method	Standard	Standard	Standard	Standard
Remarks	**	**	**	**

Moisture Variation Note:

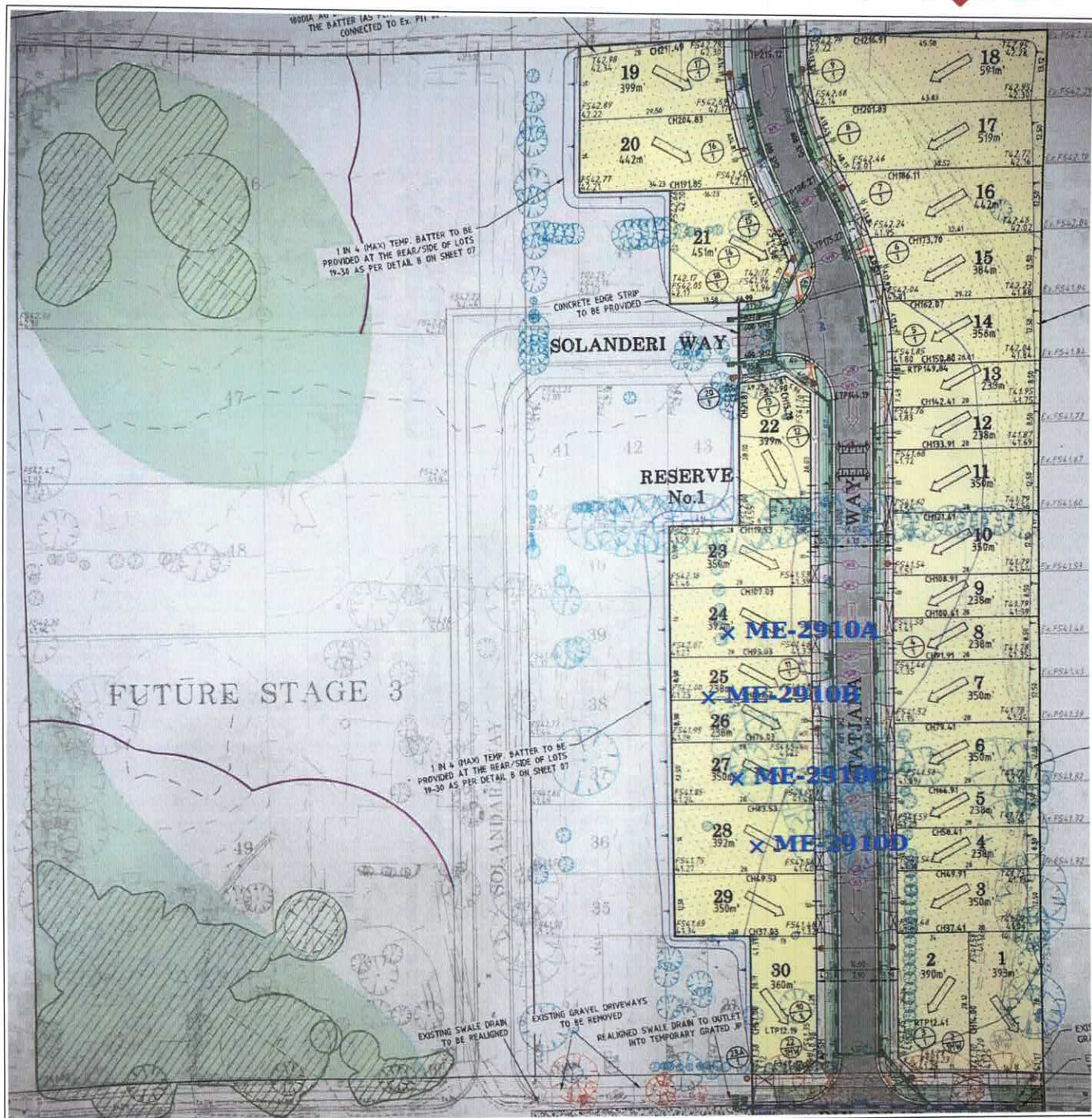
Positive values = test is dry of OMC

Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location

**MACQUARIE
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Material Test Report

Report Number: GSE998.1-13
Issue Number: 1
Date Issued: 19/01/2026
Client: SANDRIDGE ROADS (TOORADIN)
Contact: BRETT MCINNES
Project Number: GSE998.1
Project Name: 165 RIX ROAD
Project Location: OFFICER
Work Request: 2916
Date Sampled: 14/01/2026 8:00
Dates Tested: 14/01/2026 - 15/01/2026
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 Compaction
Site Selection: Selected by Client
Location: OFFICER
Material: Sandy Clay
Material Source: IMPORTED-HAMPTON

MACQUARIE GEOTECH

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Approved Signatory: Grant Sloan
 LABORATORY 21C

Laboratory Accreditation Number: 14874

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	ME-2916A	ME-2916B	ME-2916C
Client Sample #	**	**	**
Date Tested	14/01/2026	14/01/2026	14/01/2026
Time Tested	13:40	13:45	13:50
Test Request #/Location	LOT 30	LOT 30	LOT 29/28
Layer / Reduced Level	-0.3m FSL	FSL	FSL
Thickness of Layer (mm)	300	300	300
Soil Description	Silty Clay	Silty Clay	Silty Clay
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.05	2.05	2.04
Field Moisture Content %	6.1	6.3	6.1
Field Dry Density (FDD) t/m ³	1.93	1.93	1.93
Peak Converted Wet Density t/m ³	2.04	2.07	2.04
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	5.0	5.0	5.0
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	100.5	99.5	100.5
Compaction Method	Standard	Standard	Standard
Remarks	**	**	**

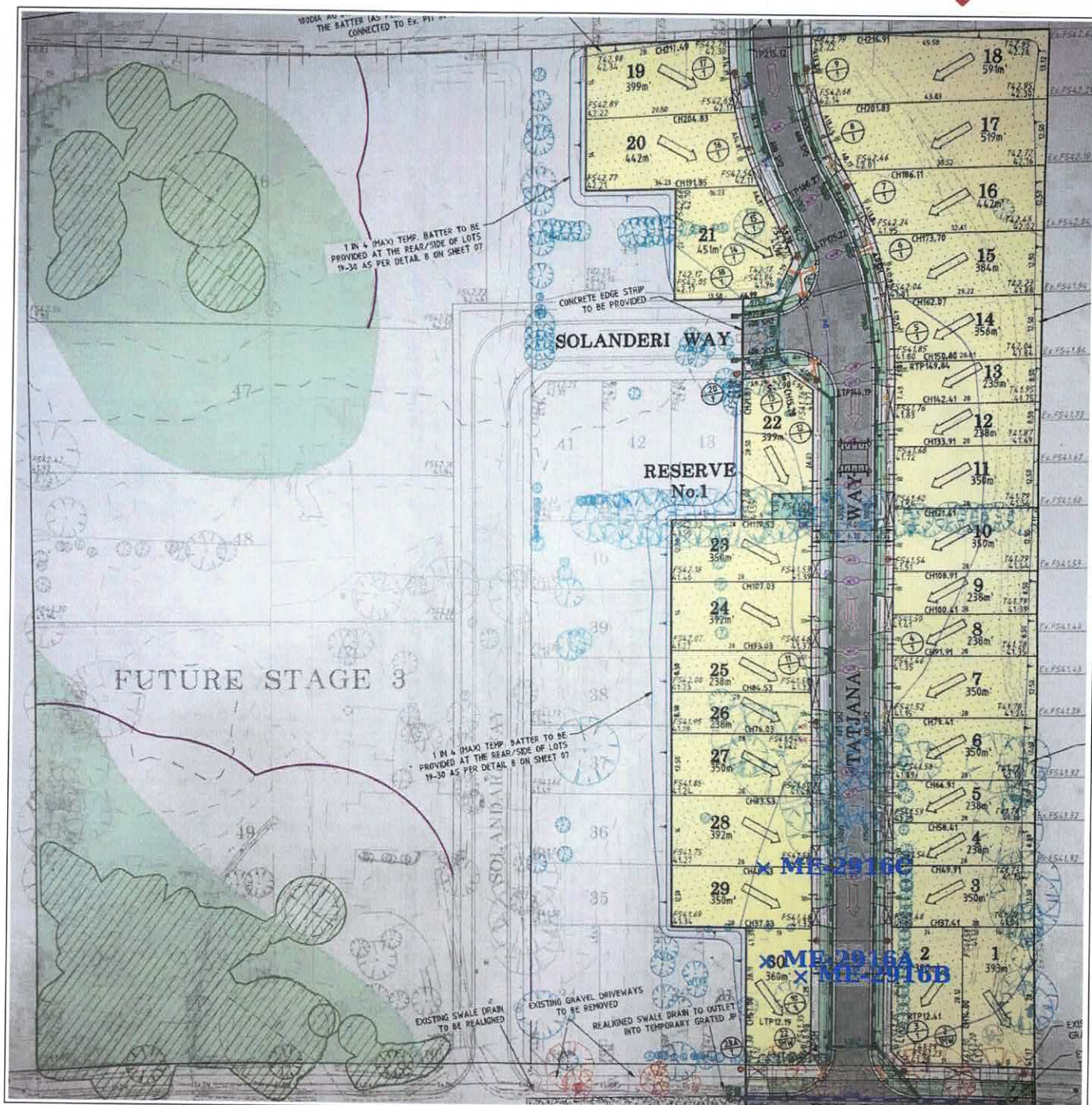
Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location



Material Test Report

Report Number: GSE998.1-14
Issue Number: 1
Date Issued: 27/01/2026
Client: SANDRIDGE ROADS (TOORADIN)

Contact: BRETT MCINNES
Project Number: GSE998.1
Project Name: 165 RIX ROAD
Project Location: OFFICER
Work Request: 2959
Date Sampled: 20/01/2026 7:45
Dates Tested: 20/01/2026 - 22/01/2026
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 Compaction
Site Selection: Selected by Client
Location: OFFICER
Material: Silty Clay, medium - high plasticity
Material Source: IMPORTED

MACQUARIE GEOTECH

Macquarie Geotechnical Pty Ltd
Melbourne Laboratory
113 Wedgewood Road Hallam VIC 3803
Phone: (02) 6332 2011
Email: grant@macgeo.com.au



Accredited for compliance with ISO/IEC 17025 - Testing

(Signature)

Approved Signatory: Grant Sloan
LABORATORY 21C

Laboratory Accreditation Number: 14874

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	ME-2959A	ME-2959B	ME-2959C
Client Sample #	**	**	**
Date Tested	20/01/2026	20/01/2026	20/01/2026
Time Tested	08:00	08:10	08:15
Test Request #/Location	LOT 27	LOT 25/26	LOT 24/23
Layer / Reduced Level	FSL	FSL	FSL
Thickness of Layer (mm)	300	300	300
Soil Description	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity
Test Depth (mm)	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.06	2.06	2.07
Field Moisture Content %	9.6	7.7	**
Field Dry Density (FDD) t/m ³	1.88	1.91	**
Peak Converted Wet Density t/m ³	2.09	2.07	2.09
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	2.0	2.5	2.5
Adjusted Moisture Variation %	**	**	**
Hill Density Ratio (%)	98.5	99.5	99.0
Compaction Method	Standard	Standard	Standard
Remarks	**	**	**

Moisture Variation Note:

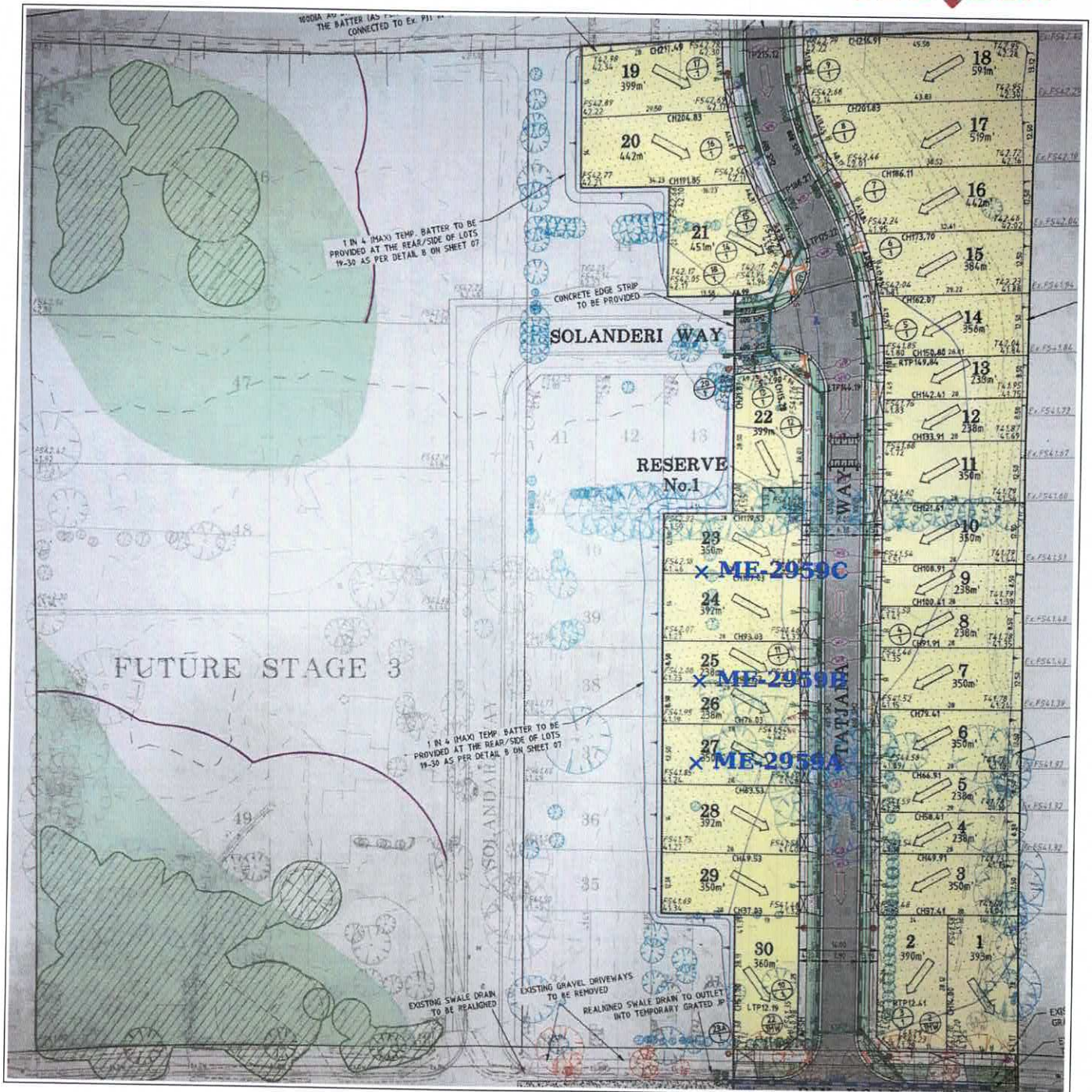
Positive values = test is dry of OMC

Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location

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Material Test Report

Report Number: GSE998.1-15
Issue Number: 1
Date Issued: 27/01/2026
Client: SANDRIDGE ROADS (TOORADIN)
Contact: BRETT MCINNES
Project Number: GSE998.1
Project Name: 165 RIX ROAD
Project Location: OFFICER
Work Request: 3003
Date Sampled: 22/01/2026
Dates Tested: 22/01/2026 - 22/01/2026
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% Modified
Location: OFFICER
Material: 20MM CLASS 3 CRUSHED ROCK + 3% CEMENT
Material Source: FULTON HOGAN - TYNONG

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Approved Signatory: Grant Sloan
 LABORATORY 21C

Laboratory Accreditation Number: 14874

Compaction Control AS 1289 5.2.1 & 5.4.1 & 5.8.1 & 2.1.1

Sample Number	ME-3003A	ME-3003B	
Date Tested	22/01/2026	22/01/2026	
Time Tested	14:20	14:30	
Test Request #/Location	RIX ROAD	RIX ROAD	
Layer / Reduced Level	FSL	FSL	
Thickness of Layer (mm)	200	200	
Soil Description	20MM CLASS 3 CRUSHED ROCK+3% CEMENT	20MM CLASS 3 CRUSHED ROCK+3% CEMENT	
Test Depth (mm)	175	175	
Fraction Tested (mm)	19.0	19.0	
Oversize (wet basis) %	0	0	
Oversize (dry basis) %	0	0	
Curing Hours	2	2.9	
Method used to Determine Plasticity	**	**	
Field Wet Density (FWD) t/m ³	2.27	2.26	
Field Moisture Content %	4.6	4.9	
Field Dry Density t/m ³	2.17	2.16	
Maximum Dry Density t/m ³	2.19	2.17	
Adjusted Maximum Dry Density t/m ³	**	**	
Optimum Moisture Content (OMC) %	5.5	6.0	
Adjusted Optimum Moisture Content (OMC) %	**	**	
Moisture Variation %	1.0	1.0	
Moisture Ratio %	81.0	84.0	
Density Ratio %	99.0	99.5	
Compaction Method	Modified	Modified	

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Material Test Report

Report Number: GSE998.1-16
Issue Number: 3 - This version supersedes all previous issues
Reissue Reason: ,
Date Issued: 13/03/2026
Client: SANDRIDGE ROADS (TOORADIN)

Contact: BRETT MCINNES
Project Number: GSE998.1
Project Name: 165 RIX ROAD
Project Location: OFFICER
Work Request: 3099
Date Sampled: 04/02/2026 7:00
Dates Tested: 04/02/2026 - 09/02/2026
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 Compaction
Site Selection: Selected by Client
Location: OFFICER
Material: Silty Clay, medium - high plasticity
Material Source: IMPORTED

**MACQUARIE
GEO TECH**

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Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Mark Longfield
 Laboratory Manager
 Laboratory Accreditation Number: 14874

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	ME-3099A	ME-3099B	ME-3099C
Client Sample #	**	**	**
Date Tested	04/02/2026	04/02/2026	04/02/2026
Time Tested	07:10	07:14	07:16
Test Request #/Location	LOT-19	LOT-20	LOT-22
Layer / Reduced Level	1 ST LAYER	1 ST LAYER	1 ST LAYER
Thickness of Layer (mm)	200	200	200
Soil Description	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity
Test Depth (mm)	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0	0	0
Field Wet Density (FWD) t/m ³	2.06	2.05	2.03
Field Moisture Content %	13.8	10.8	9.7
Field Dry Density (FDD) t/m ³	1.81	1.85	1.85
Peak Converted Wet Density t/m ³	2.14	2.06	2.06
Adjusted Peak Converted Wet Density t/m ³	**	**	**
Moisture Variation (Wv) %	-0.5	2.5	2.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	96.0	100.0	98.5
Compaction Method	Standard	Standard	Standard
Remarks	**	**	**

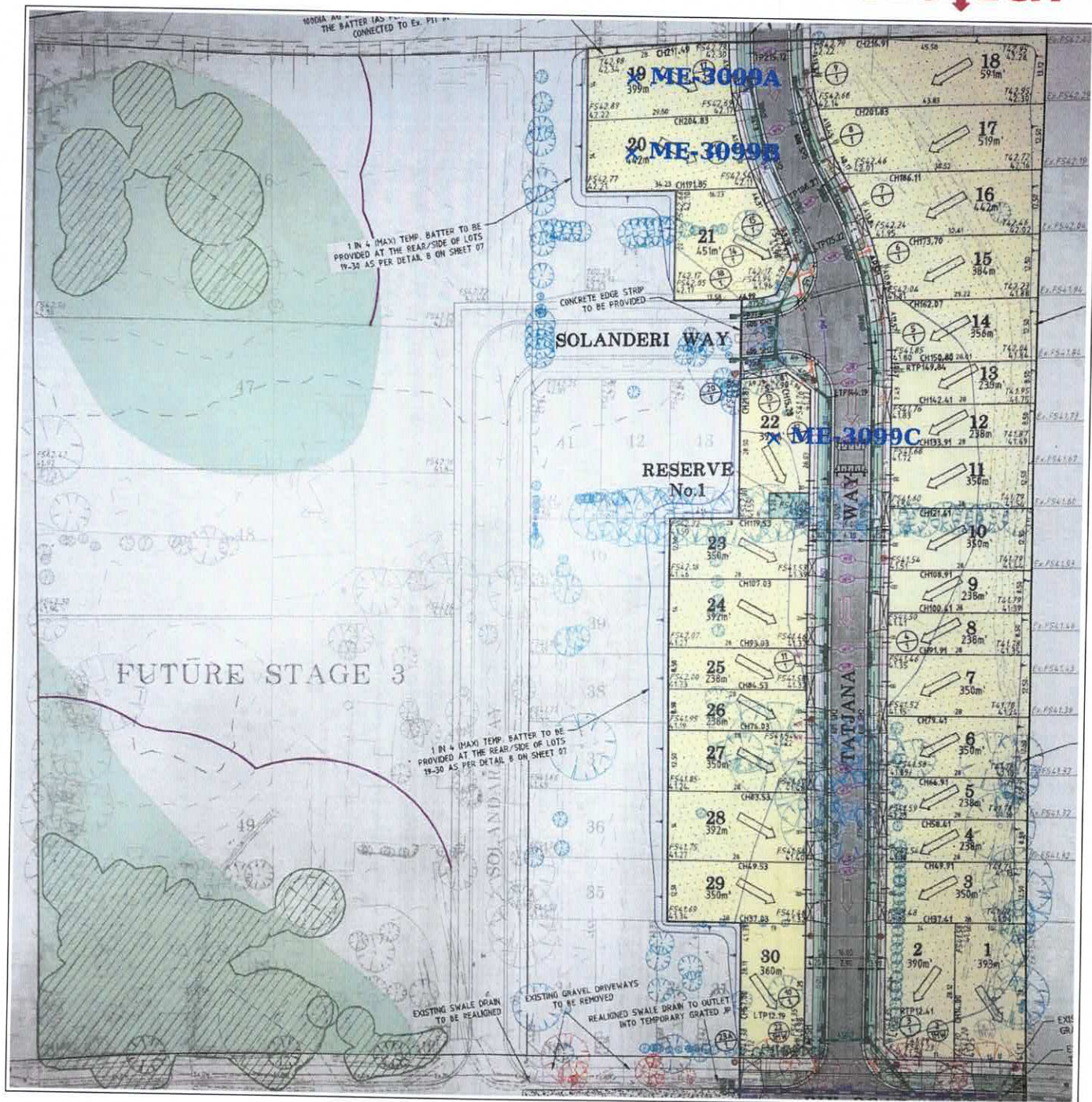
Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location

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Material Test Report

Report Number: GSE998.1-17
 Issue Number: 1
 Date Issued: 17/02/2026
 Client: SANDRIDGE ROADS (TOORADIN)

Contact: BRETT MCINNES
 Project Number: GSE998.1
 Project Name: 165 RIX ROAD
 Project Location: OFFICER
 Work Request: 3113
 Date Sampled: 05/02/2026 8:35
 Dates Tested: 05/02/2026 - 10/02/2026
 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 Compaction
 Site Selection: Selected by Client
 Location: OFFICER
 Material: Silty Clay, medium - high plasticity
 Material Source: IMPORTED

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Approved Signatory: Mark Longfield
 Laboratory Manager
 Laboratory Accreditation Number: 14874

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	ME-3113A	ME-3113B	ME-3113C	ME-3113D	ME-3113E	ME-3113F
Client Sample #	**	**	**	**	**	**
Date Tested	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026	05/02/2026
Time Tested	08:39	08:42	08:45	08:50	08:53	08:55
Test Request #/Location	LOT 19	LOT 20/21	LOT 20/21	LOT 19	LOT 20	LOT 21
Layer / Reduced Level	2ND LAYER	2ND LAYER	3RD LAYER	3RD LAYER	FSL	FSL
Thickness of Layer (mm)	200	200	200	200	200	200
Soil Description	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity	Silty Clay, medium - high plasticity
Test Depth (mm)	175	175	175	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	5	**	**	**	**	**
Field Wet Density (FWD) t/m ³	1.94	1.93	1.93	1.94	1.92	1.94
Field Moisture Content %	12.5	12.7	11.8	11.1	11.2	25.6
Field Dry Density (FDD) t/m ³	1.72	1.71	1.73	1.75	1.73	1.55
Peak Converted Wet Density t/m ³	**	1.98	1.96	2.00	1.98	1.99
Adjusted Peak Converted Wet Density t/m ³	1.97	**	**	**	**	**
Moisture Variation (Wv) %	**	4.5	4.5	4.0	4.0	4.0
Adjusted Moisture Variation %	4.0	**	**	**	**	**
Hilf Density Ratio (%)	98.5	97.5	98.5	97.0	97.0	98.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Remarks	**	**	**	**	**	**

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC

Sample Locations Plan

x - approximate test location

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