CHADWICK GEOTECHNICS

REPORT

Level 1 Geotechnical Inspection and Testing Authority Services

Smiths Lane Stage 33, Clyde North
Lots 3301 to 3350

Prepared for:

Beveridge Williams & Co Pty Ltd

August 2026

Our Ref: 1101685.0033.R1.V1

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1 Introduction

Chadwick Geotechnics Pty Ltd (Chadwick Geotechnics) was engaged by Beveridge Williams & Co Pty Ltd (Beveridge Williams) to provide Level 1 Geotechnical Inspection and Testing Authority (GITA) services for the earthworks conducted within Stage 33 of the Smiths Lane Estate in Clyde North.

The site was previously excavated to form a temporary retarding basin for the management of stormwater during the construction of earlier stages to the north. Filling was therefore required to establish design levels for the future residential lots. The earthworks at the site were undertaken between 27 January 2026 and 6 May 2026.

This report provides a summary of the earthworks carried out within Stage 33 of the Smiths Lane Estate development.

2 Project details

2.1 Location

Stage 33 is located towards the southeast corner of the Smiths Lane Estate development, bounded by Burbank Road to the west, Zale Road to the north and Stage 34 to the east.

The included works area is shown on the Site Plan in Appendix A and within Figure 2.1 below.

Figure 2.1: Approximate site of Stage 33 (extract from Metromap 15 May 2026)



2.2 Roles and abbreviations

The organisations involved with the project and their roles are presented in Table 2.1

Table 2.1: Roles on the Project

Role	Organisation
Developer	Mirvac Pty Ltd
Geotechnical Inspection and Testing Authority (GITA)	Chadwick Geotechnics Pty Ltd
Designer / Superintendent	Beveridge Williams & Co Pty Ltd
Earthworks Contractor	Winslow Constructions Pty Ltd

Chadwick Geotechnics undertook the field density testing, and the compaction laboratory testing was conducted in our NATA accredited laboratory in Dandenong South (NATA No.12719).

The abbreviations used in this report are listed in Table 2.2 below.

Table 2.2: Abbreviations

Abbreviation	Definition
AS	Australian Standard
AS3798-2007	Guidelines on earthworks for commercial and residential developments
EPA	Environmental Protection Authority
GITA	Geotechnical Inspection and Testing Authority
MC	Moisture Content
SMDD	Standard Maximum Dry Density
NATA	National Association of Testing Authorities (Australia)
SOMC	Standard Optimum Moisture Content
PI	Plasticity Index
PSD	Particle Size Distribution

2.3 Dates on Site

Geotechnical and engineering staff from Chadwick Geotechnics were onsite for the duration of the earthworks program on the days shown in Table 2.3 below.

Table 2.3: Level 1 GITA – Onsite Presence

Month	Dates on site
January 2026	27, 29, 30, 31
February 2026	2, 3, 4, 5, 6, 10, 11, 12, 13, 16, 17, 18, 19, 20, 21, 23, 24, 25, 26, 27, 28
March 2026	3, 4, 5, 6, 24
May 2026	6

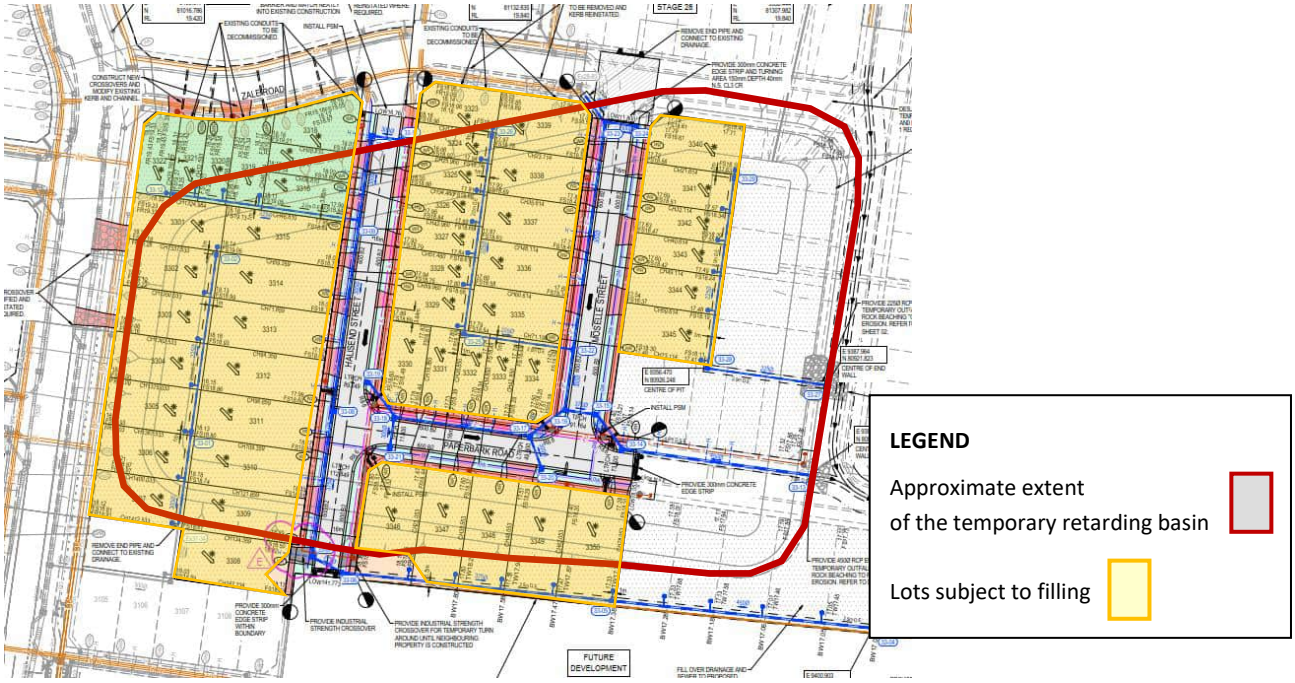
2.4 Included Areas

This report is applicable to fill material placed by the Contractor within the previous temporary retarding basin area and other areas requiring fill placement within the Stages 33 site as shown on Figure 2.1, Figure 2.2 and on the Site Plan in Appendix A, with reference to Section 2.5 (Excluded Areas) of this report.

The following Lots were filled (or partially filled) during the Level 1 GITA supervision:

- Lots 3301 to 3350

Figure 2.2: Stage 33 lots and temporary retarding basin extents (extract from Beveridge Williams stage plan)



2.5 Excluded Areas

This report does not include fill outside the general boundary of the filled lots mentioned in Section 2.4 and as shown in Figure 2.1.

Backfill of trenches for the underground services, fill on footpaths, driveways and roads, or placement of topsoil, were not part of the scope for the works supervised by Chadwick Geotechnics.

3 Specification

Tonkin & Taylor Pty Ltd (T+T) prepared an earthworks specification for the backfilling of the temporary retarding basin that was present at the site (T+T report reference 1099762.SPE. GT.001.v1, November 2025). The following requirements were adopted:

- All filling in excess of 200 mm depth within the residential lots shall be undertaken in accordance with AS3798-2007 “Guidelines on Earthworks for Commercial and Residential Developments”.
- The fill soils to comply with Section 3.5.1.1 and 3.5.1.2 of the specification:
  - **Type 1 Engineered Fill** be placed in areas no greater than 3.0 m depth:
    - Type 1 Engineered Fill to be CL, Cl, CH, SC, GC

    - No topsoil, organic materials, contaminated soil or foreign matter
    - 100% passing the 75 mm sieve
    - No less than 80% passing the 19 mm sieve
    - No less than 20% passing the 75 µm sieve
  - **Type 2 Engineered Fill** be placed in areas between 3.0 m and 5.0 m depth:
    - No topsoil, organic materials, contaminated soil or foreign matter
    - 100% passing the 75 mm sieve
    - More than 50% and less than 85% passing the 19 mm sieve
    - More than 40% and less than 75% passing the 4.75 mm sieve
    - More than 20% and less than 60% passing the 0.425 mm sieve
    - More than 12% and less than 40% passing the 75 µm sieve
    - Liquid limit no greater than 40%
    - Plasticity index between 0% and 20%
- Fill to be compacted in near horizontal layers not exceeding 200mm compacted thickness.
- Fill to achieve the following compaction and moisture content requirements:
  - Type 1 Engineered Fill compaction to achieve a ratio of at least 98% Standard Maximum Dry Density (SMDD) and moisture content 2% Wet to 2% Dry of (SOMC).
  - Type 2 Engineered Fill compaction to achieve a ratio of at least 98% Standard Maximum Dry Density (SMDD) and moisture content between 2% Wet and 3% Dry of (SOMC).
- Frequency of density testing to be in accordance with Table 8.1 of AS3798-2007 and the technical specification which states 1 test per 500 m^3 of material placed or 1 test per 2500 m^2 or 3 tests per visit.

4 Inspection and Testing

The inspection and testing of earthworks was carried out in accordance with AS3798-2007, with a frequency of field density tests as per Table 8.1 (explained in Section 4.5 of this report). Compaction control laboratory testing was performed in a Chadwick Geotechnics NATA accredited laboratory in accordance with AS1289 'Methods of Testing Soils for Engineering Purposes'.

4.1 Earthworks process

The earthworks for the project comprised of the following phases:

- Stripping of topsoil and any wet or otherwise unsuitable material from the proposed fill areas.
- Assessment, remediation, and proof rolling of subgrade.
- Placement and compaction of engineered fill.

4.2 Fill material

4.2.1 Type 1 Engineered Fill

Type 1 Engineered Fill comprised of local gravelly and sandy clay won from the road boxing and trench excavations on this and surrounding sites. Bulk samples were taken during earthwork construction for laboratory testing. The samples were taken for geotechnical compliance testing, the results of which are summarised in **Table 4.1** below**.** The laboratory test certificates are attached in **Appendix D.**

Table 4.1: Type 1 Engineered Fill compliance test result summary

Sample #	Particle Size Distribution (PSD)					Pass /Fail
	100% 75mm	>80% 19mm	>20% 0.075mm	Liquid Limit %	Plastic Limit %	
S26DS-00354/1	100	100	47	36	13	Pass
S26DS-00355/1	100	100	46	34	14	Pass
S26DS-00356/1	100	100	45	35	14	Pass
S26DS-00490/1	100	100	54	36	14	Pass
S26DS-00491/1	100	100	52	36	14	Pass
S26DS-00640/1	100	100	62	40	15	Pass
S26DS-01062/1	100	97	41	36	16	Pass
S26DS-01239/1	100	100	58	43	15	Pass
S26DS-01322/1	100	99	84	53	18	Pass
S26DS-01323/1	100	100	61	52	23	Pass
S26DS-01795/1	100	100	79	50	17	Pass
S26DS-02101/1	100	100	66	43	27	Pass
S26DS-02102/1	100	100	77	45	15	Pass

The laboratory test results indicate that the fill material satisfied the requirements of the specification. The material was deemed as being derived from natural soils. The soil was considered as 'Suitable Material' in accordance with Section 4.4 of the AS3798-2007.

The material imported and placed at the site was assessed by the Superintendent as being derived from natural soils and meeting the classification of 'Fill Material' as defined in EPA publication 1828.3-2024 "Waste disposal categories: characteristics and thresholds". Environmental testing of the material was not within Chadwick Geotechnics' scope.

Any observed organic or deleterious matter including any oversize cobbles or boulders were removed from the tested areas during the fill placement.

Photographs of typical materials used during construction are shown below.

Photograph 4.1: Photographs of the Type 1 Engineered Fill material used on site



Photograph 1: Typical material used on site



Photograph 2: Type 1 Sandy Clay

4.2.2 Type 2 Engineered Fill

The sump in the northeast corner of the temporary retarding basin was between 3.0 m and 5.0 m deep and consequently required Type 2 Engineered Fill to be placed up to 3.0 m bgl.

Type 2 Engineered Fill comprised of a graded gravel imported to the site from Fulton Hogan Quarry in Tynong. A bulk sample was taken during earthwork construction for laboratory testing. The sample was taken for geotechnical compliance testing, the results of which are summarised in **Table 4.2** below**.** The laboratory test certificates are attached in **Appendix D.**

Table 4.2: Type 2 Engineered Fill compliance test result summary

Sample #	Particle Size Distribution (PSD) % Passing					Liquid Limit %	Plastic Limit %	Pass /Fail
	100 % 75 mm	50-85% 19 mm	40-75% 4.75mm	20-60% 0.425 mm	12-40% 0.075mm	< 40%	0-20%	
S26DS-00391/1	100	**92**[1]	64	29	13	27	17	**Pass**[1]

Note 1: *The proposed Type 2 Engineered Fill source material did not satisfy the 19 mm specification criterion. The result was discussed with T+T as the specification author on 4 February 2026. T+T confirmed that the non-conformance was minor and that the proposed material would still achieve the design intent of the specification.*

The material imported and placed at the site was assessed by the Superintendent as being derived from natural soils and meeting the classification of 'Fill Material' as defined in EPA publication 1828.3-2024 "Waste disposal categories: characteristics and thresholds". Environmental testing of the material was not within Chadwick Geotechnics' scope.

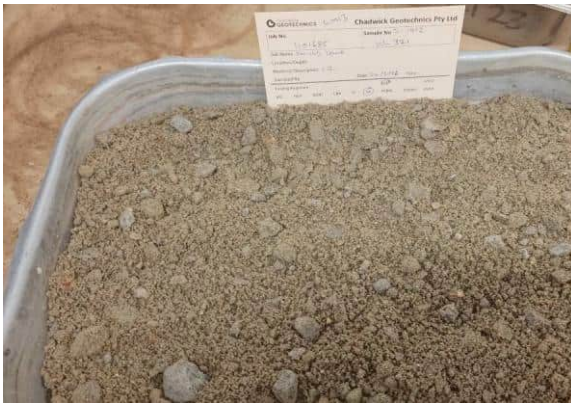
Any observed organic or deleterious matter including any oversize cobbles or boulders were removed from the tested areas during the fill placement.

Photographs of typical materials used during construction are shown below.

Photograph 4.2: Photographs of the Type 2 Engineered Fill material used on site



Photograph 3: Material used on site



Photograph 4: Type 2 material imported

4.3 Machinery

All fill material was brought by dump trucks from local stockpiles, spread with a bulldozer and compacted with a pad foot roller, smooth drum roller or compactor. A water cart was present onsite during all earthworks.

The following machinery was on site during earthworks.

Table 4.1: Earthworks plant on site

Equipment type	Model
Bulldozer	CAT D6
Pad foot roller	CAT 15T
Compactor	CAT 815F
Smooth Drum roller	CAT 15T
Water cart	CAT 25T (modified dump truck) and road-going truck
Dump/Road Trucks	Various
Excavator	CAT 25T

Photographs of typical machinery on site used during construction are shown below.

Photograph 4.3: General earthwork machinery and fill construction photographs.



Photograph 5: Pad foot roller preparing fill



Photograph 6: Dump truck delivering fill material.



Photograph 7: Bulldozer spreading fill



Photograph 8: Water cart conditioning clay

4.4 Subgrade assessment

The subgrade of the site was progressively assessed during the period Chadwick Geotechnics personnel were on site. Subgrade assessments were conducted following the removal of any wet or unsuitable material within the temporary retarding basin, or natural grasses and topsoil, that was present on site.

No soft spots or deflections were encountered during the inspections, and the area was found to be firm and free of vegetation and other deleterious material.

Two photographs of the subgrade assessment phase at the project are shown below.

Photograph 4.4: Subgrade assessment photographs



Photograph 9: Subgrade assessed with loaded water truck



Photograph 10: Subgrade Photo prior to filling retarding basin and import of Type 2 gravel.

4.5 Engineered Fill Construction

All fill material was placed in horizontal layers. Chadwick Geotechnics verified that the surface of the stripped area, and that of additional lifts, was thoroughly scarified and moisture conditioned prior to placement of additional layers to prevent delamination at the layer interface. Once the placed fill was approved, the layer was compacted accordingly.

Chadwick Geotechnics personnel were on site on a fulltime basis during the placement, moisture conditioning, compaction, and testing of the fill on the dates noted in Table 2.3 of this report.

Photograph 4.5: Fill construction photographs



Photograph 11: Water cart moisture conditioning



Photograph 12: Fill placement

4.6 Density and moisture testing

Field density and moisture content testing was undertaken progressively during the construction of the compacted fill using a calibrated portable density and moisture gauge in accordance with AS1289.5.8.1. The Hilf rapid compaction test was used for peak converted wet density determinations in accordance with AS1289.5.7.1. Test locations were recorded using a handheld GPS unit. A site plan showing the field density test locations is provided in **Appendix A**.

Testing was undertaken at the frequencies listed below, subject to the area and volume worked on the day of testing:

- 1 test per material type per layer per 2,500 m² or 1 test per 500 m³ distributed reasonably evenly or 3 tests per lot – whichever requires the most tests in accordance with Type 1 Earthworks (large scale operations) as defined in Table 8.1 of the AS3798-2007.

139 tests were performed during the filling process. Twenty-five (25) tests did not achieve the required density and or moisture ratio. These areas were reworked and retested until a pass for moisture and compaction was achieved.

A summary table of Hilf density tests is provided in **Appendix B** and the laboratory test reports are provided in **Appendix C**. Two photographs of field density testing conducted on site are shown below.

Photograph 4.4: Field Density/Moisture Testing photographs



Photo 13: Field density/moisture test



Photo 14: Field density/moisture test

5 Conclusion

On the basis, of our inspections and after considering all test results relating to the project, it is our opinion, so far as it is to be determined, that:

- The materials, used by the earthworks contractor met the geotechnical property requirements of the specification.
- The sourced fill was considered to be natural, clean, and suitable for use at the site.
- The fill material placed was tested at a suitable frequency in accordance with AS3798-2007- Table 8.1 and the results indicate the compacted clay achieved the density requirement of the specification.
- Given the consistent construction practices followed by the earthworks contractor and as witnessed by the Chadwick Geotechnics, combined with the satisfactory verification of test results achieved, it is inferred that areas of the site between test locations were performed to the same standard as those areas that have been tested.
- Based on observations made by Chadwick Geotechnics Level 1 personal and the results of field and laboratory tests, we consider that the engineered fill within the site (noted in Section 2.5), as far as we have been able to reasonably determine, have been placed in general accordance with the intent of the specification.
- It is our opinion that the earthworks undertaken have been performed in accordance with the requirements of Section 8.2 – Level 1 Inspection and Testing - AS3798-2007 Guidelines on Earthworks for Commercial and Residential Developments.

Chadwick Geotechnics completed its Inspection and testing services on 6 May 2026. After this date, the maintenance of the fill is the sole responsibility of the Contractor. If the fill is not well maintained or protected with a sacrificial layer of topsoil or other fill, the uppermost layers and the exposed faces of the engineered fill may deteriorate as a result of exposure to varying weather conditions which can cause cracking or heaving of the fill.

Any deterioration will need to be remediated prior to further construction on the site. Chadwick Geotechnics has not provided supervision since the above date and is not responsible for any subsequent deterioration that may have occurred or may occur since that date.

6 Applicability

This report has been prepared for the exclusive use of our client Beveridge Williams Pty Ltd in good faith and in accordance with the Chadwick Geotechnics quality system for the earthworks filling at the site.

Should you require any further information regarding this report, please do not hesitate to contact the undersigned on (03) 8796 7900.

Chadwick Geotechnics Pty Ltd

Report prepared by:

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Robert Barden

Project Manager

Authorised for Chadwick Geotechnics Pty Ltd by:

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Michael Di Meglio

Project Director

Report reviewed by:

.....

David Glover (PE0015860)

Principal Geotechnical Engineer

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Appendix A Test location plan

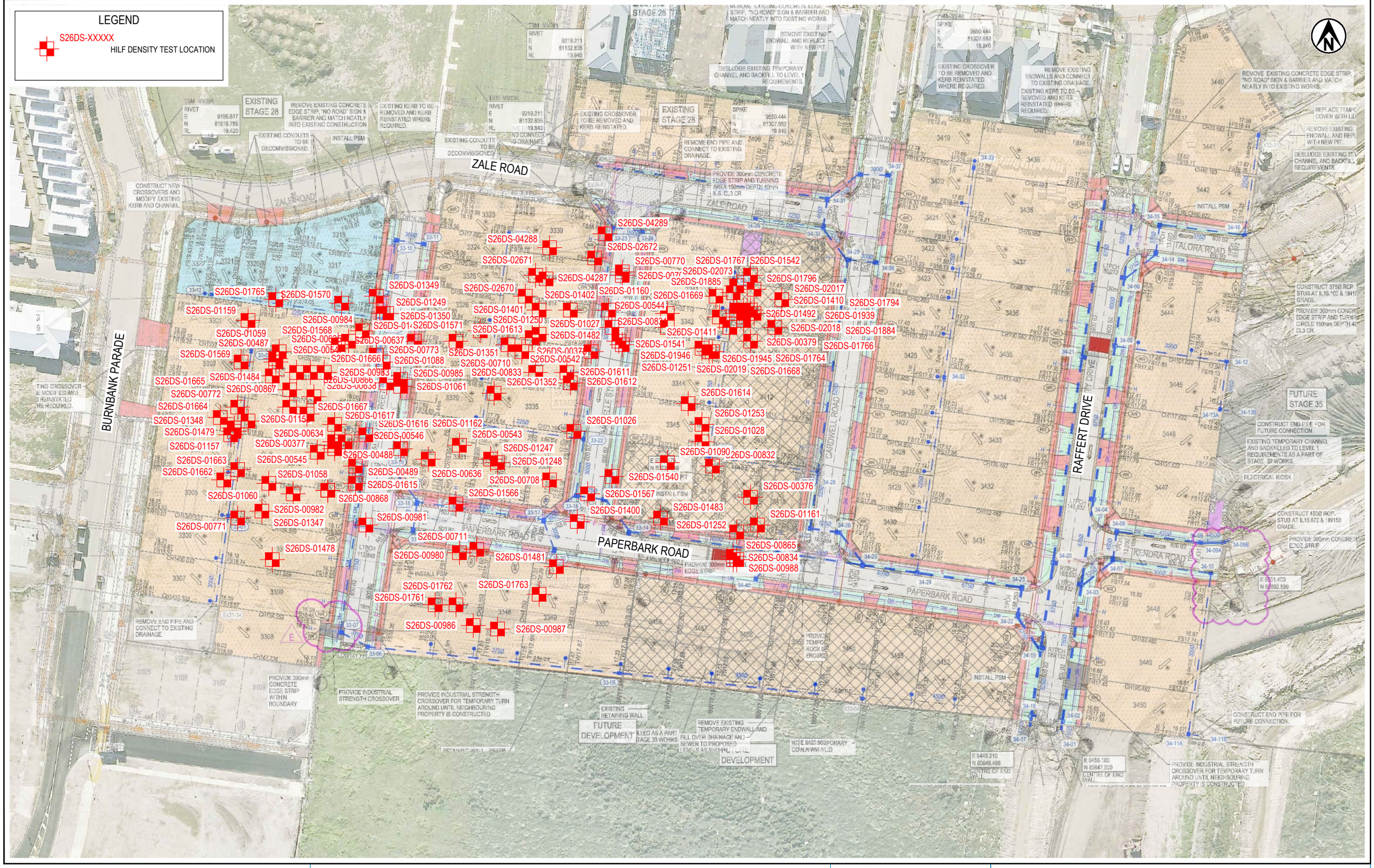
COPYRIGHT ON THIS FIGURE IS RESERVED DO NOT SCALE FROM THIS FIGURE - IF IN DOUBT, ASK.

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LEGEND

S26DS-XXXXX
HILF DENSITY TEST LOCATION

S26DS-04289 S26DS-04288 S26DS-02672 S26DS-02671 S26DS-04287 S26DS-00770 S26DS-01767 S26DS-01542 S26DS-02073 S26DS-01796 S26DS-01885 S26DS-02017 S26DS-01669 S26DS-01410 S26DS-01794 S26DS-01492 S26DS-01939 S26DS-02018 S26DS-01884 S26DS-00379 S26DS-01766 S26DS-01945 S26DS-01764 S26DS-02019 S26DS-01668 S26DS-01765 S26DS-01570 S26DS-01159 S26DS-01349 S26DS-01249 S26DS-01350 S26DS-01571 S26DS-00984 S26DS-01568 S26DS-00637 S26DS-00773 S26DS-01059 S26DS-00487 S26DS-00541 S26DS-01569 S26DS-01666 S26DS-01088 S26DS-01665 S26DS-01484 S26DS-00867 S26DS-00772 S26DS-01664 S26DS-01667 S26DS-01348 S26DS-01115 S26DS-01617 S26DS-01479 S26DS-00634 S26DS-01616 S26DS-01162 S26DS-00546 S26DS-01157 S26DS-00377 S26DS-00488 S26DS-01663 S26DS-00545 S26DS-01662 S26DS-01058 S26DS-00489 S26DS-00636 S26DS-01060 S26DS-00982 S26DS-01347 S26DS-00771 S26DS-00868 S26DS-01615 S26DS-00981 S26DS-00711 S26DS-01478 S26DS-00980 S26DS-01481 S26DS-01762 S26DS-01763 S26DS-01761 S26DS-00986 S26DS-00987 S26DS-01670 S26DS-01402 S26DS-01160 S26DS-01669 S26DS-00544 S26DS-01401 S26DS-01250 S26DS-01027 S26DS-00831 S26DS-01613 S26DS-01482 S26DS-01411 S26DS-01541 S26DS-01946 S26DS-01251 S26DS-00542 S26DS-00710 S26DS-01351 S26DS-00833 S26DS-01611 S26DS-01612 S26DS-01352 S26DS-01061 S26DS-00985 S26DS-00983 S26DS-01026 S26DS-01614 S26DS-01253 S26DS-01028 S26DS-01090 S26DS-00832 S26DS-00543 S26DS-01247 S26DS-01248 S26DS-00708 S26DS-01540 S26DS-01567 S26DS-01566 S26DS-01400 S26DS-01483 S26DS-01252 S26DS-01161 S26DS-00376 S26DS-00865 S26DS-00834 S26DS-00988



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NOTES:
1. AERIAL IMAGE SOURCED FROM METROMAP BY AEROMETREX 2026. COPYRIGHT MAPBOX. COPYRIGHT OPENSTREET MAP. IMAGERY DATE: 15/05/2026.

A3 SCALE 1:1000
0 5 10 15 20 30 40 50 (m)

ORIGINAL IN COLOUR

PROJECT No.	1101685		
DESIGNED	RHB	Aug.26	
DRAWN	KMJA	Aug.26	
CHECKED	RHB	Aug.26	
	R. BARDEN	20.08.2026	
	APPROVED	DATE	

CLIENT BEVERIDGE WILLIAMS & CO PTY LTD
PROJECT SMITHS LANE ESTATE - STAGES 33 AND 34
TITLE LEVEL ONE HILF DENSITY TESTING
HILF DENSITY TEST LOCATION PLAN
SCALE (A3) 1:1000 FIG No. 1101685-F01 REV 1

Appendix B Hilf Density and moisture test summary

CHADWICK GEOTECHNICS

Smiths Lane Stages 33

HILF Density Testing - Field Summary

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Think Act Be Safe

Report No	Sample No	Date	Test Number	Easting	Northing	Density Ratio (≥98% for works within lower retarding basin and 95% for residential blocks)	Moisture Variation (2% Wet to 3% Dry for the lower Retarding Basin backfill) and (2% Wet to 2% Dry for the Retarding Basin clay backfill) and (3% Wet to 3% Dry for Residential lot construction)	Pass / Fail	Comments
HDR:W26DS00116	S26DS-00376	27/01/2026	1	359369	5780916	105	2 dry	Pass	
HDR:W26DS00116	S26DS-00377	27/01/2026	2	359244	5780929	103	0 dry	Pass	
HDR:W26DS00116	S26DS-00378	27/01/2026	3	359306	5780962	101.5	0.5 dry	Pass	
HDR:W26DS00116	S26DS-00379	27/01/2026	4	359369	5780961	101	0 wet	Pass	
HDR:W26DS00148	S26DS-00487	29/01/2026	1	359233	5780958	99	2 dry	Pass	
HDR:W26DS00148	S26DS-00488	29/01/2026	2	359249	5780931	106	2 dry	Pass	See Retest S26DS-00545
HDR:W26DS00148	S26DS-00489	29/01/2026	3	359255	5780925	101	2 dry	Pass	
HDR:W26DS00161	S26DS-00542	30/01/2026	1	359323	5780958	100	0 dry	Pass	
HDR:W26DS00161	S26DS-00543	30/01/2026	2	359285	5780931	100.5	0 dry	Pass	
HDR:W26DS00161	S26DS-00544	30/01/2026	3	359345	5780969	100	2 dry	Pass	
HDR:W26DS00161	S26DS-00545	30/01/2026	4	359249	5780930	100	2.5 dry	Fail	Retest of S26DS-00488, See Retest S26DS-00634
HDR:W26DS00162	S26DS-00546	31/01/2026	1	359252	5780932	99.5	0.5 wet	Pass	
HDR:W26DS00162	S26DS-00547	31/01/2026	2	359232	5780955	102	2 dry	Pass	See Retest S26DS-00635
HDR:W26DS00175	S26DS-00634	2/02/2026	1	359249	5780932	99.5	0 wet	Pass	Retest of S26DS-00545
HDR:W26DS00175	S26DS-00635	2/02/2026	2	359232	5780956	99.5	0 wet	Pass	Retest of S26DS-00547
HDR:W26DS00175	S26DS-00636	2/02/2026	3	359276	5780927	98.5	0.5 dry	Pass	

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Smiths Lane Stages 33

HILF Density Testing - Field Summary

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Think Act Be Safe

Report No	Sample No	Date	Test Number	Easting	Northing	Density Ratio (≥98% for works within lower retarding basin and 95% for residential blocks)	Moisture Variation (2% Wet to 3% Dry for the lower Retarding Basin backfill) and (2% Wet to 2% Dry for the Retarding Basin clay backfill) and (3% Wet to 3% Dry for Residential lot construction)	Pass / Fail	Comments
HDR:W26DS00175	S26DS-00637	2/02/2026	4	359272	5780961	98	0 dry	Pass	
HDR:W26DS00175	S26DS-00638	2/02/2026	5	359243	5780945	98.5	0 wet	Pass	
HDR:W26DS00192	S26DS-00708	3/02/2026	1	359311	5780921	99.5	0.5 wet	Pass	
HDR:W26DS00192	S26DS-00709	3/02/2026	2	359332	5780980	101	2 dry	Pass	See Retest S26DS-00770
HDR:W26DS00192	S26DS-00710	3/02/2026	3	359303	5780958	100.5	2 dry	Pass	
HDR:W26DS00192	S26DS-00711	3/02/2026	4	359290	5780901	100	0.5 dry	Pass	
HDR:W26DS00214	S26DS-00770	4/02/2026	1	359332	5780981	99	1 dry	Pass	Retest of S26DS-00709
HDR:W26DS00214	S26DS-00771	4/02/2026	2	359221	5780910	98.5	0.5 dry	Pass	
HDR:W26DS00214	S26DS-00772	4/02/2026	3	359236	5780942	99	2 dry	Pass	
HDR:W26DS00214	S26DS-00773	4/02/2026	4	359261	5780957	98.5	2 dry	Pass	
HDR:W26DS00228	S26DS-00831	5/02/2026	1	359331	5780961	98	0.5 dry	Pass	
HDR:W26DS00228	S26DS-00832	5/02/2026	2	359358	5780925	101	1 dry	Pass	
HDR:W26DS00228	S26DS-00833	5/02/2026	3	359307	5780952	100	0 dry	Pass	
HDR:W26DS00228	S26DS-00834	5/02/2026	4	359364	5780898	105.5	2.5 dry	Fail	See Retest S26DS-00865
HDR:W26DS00236	S26DS-00865	6/02/2026	1	359364	5780899	102	2.5 dry	Fail	Retest of S26DS-00834, See Retest S26DS-00988
HDR:W26DS00236	S26DS-00866	6/02/2026	2	359264	5780949	101.5	0 dry	Pass	
HDR:W26DS00236	S26DS-00867	6/02/2026	3	359236	5780947	99.5	0 dry	Pass	

CHADWICK GEOTECHNICS

Smiths Lane Stages 33

HILF Density Testing - Field Summary

Chadwick Geotechnics
25 Metcalf Street
Dandenong South VIC 3175
Tel : (03) 8796 7900
Fax: (03) 9706 9431
www.chadwickgeotechnics.com.au

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Report No	Sample No	Date	Test Number	Easting	Northing	Density Ratio (≥98% for works within lower retarding basin and 95% for residential blocks)	Moisture Variation (2% Wet to 3% Dry for the lower Retarding Basin backfill) and (2% Wet to 2% Dry for the Retarding Basin clay backfill) and (3% Wet to 3% Dry for Residential lot construction)	Pass / Fail	Comments
HDR:W26DS00236	S26DS-00868	6/02/2026	4	359247	5780918	99.5	0 wet	Pass	
HDR:W26DS00236	S26DS-00869	6/02/2026	5	359357	5780865	99.5	2 dry	Pass	
HDR:W26DS00257	S26DS-00980	10/02/2026	1	359285	5780900	102	0.5 dry	Pass	
HDR:W26DS00257	S26DS-00981	10/02/2026	2	359258	5780908	102	0 dry	Pass	
HDR:W26DS00257	S26DS-00982	10/02/2026	3	359237	5780917	101	0.5 wet	Pass	
HDR:W26DS00257	S26DS-00983	10/02/2026	4	359242	5780952	100	0.5 dry	Pass	
HDR:W26DS00257	S26DS-00984	10/02/2026	5	359253	5780961	100.5	2 dry	Pass	
HDR:W26DS00257	S26DS-00985	10/02/2026	6	359268	5780950	101.5	2.5 dry	Fail	See Retest S26DS-01061
HDR:W26DS00257	S26DS-00986	10/02/2026	7	359289	5780879	101	0.5 dry	Pass	
HDR:W26DS00257	S26DS-00987	10/02/2026	8	359296	5780878	102.5	0 wet	Pass	
HDR:W26DS00257	S26DS-00988	10/02/2026	9	359365	5780898	99.5	0 dry	Pass	Retest of S26DS-00865
HDR:W26DS00270	S26DS-01026	11/02/2026	1	359318	5780935	111	6.5 dry	Fail	See Retest S26DS-1158
HDR:W26DS00270	S26DS-01027	11/02/2026	2	359328	5780970	109	5 dry	Fail	See Retets S26DS-1160
HDR:W26DS00270	S26DS-01028	11/02/2026	3	359355	5780932	112.5	4 dry	Fail	See Retest S26DS-1161
HDR:W26DS00282	S26DS-01058	12/02/2026	1	359247	5780918	103	2.5 wet	Fail	See Retest S26DS-1162
HDR:W26DS00282	S26DS-01059	12/02/2026	2	359238	5780952	101	0.5 dry	Pass	
HDR:W26DS00282	S26DS-01060	12/02/2026	3	359230	5780920	100	0.5 wet	Pass	

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Report No	Sample No	Date	Test Number	Easting	Northing	Density Ratio (≥98% for works within lower retarding basin and 95% for residential blocks)	Moisture Variation (2% Wet to 3% Dry for the lower Retarding Basin backfill) and (2% Wet to 2% Dry for the Retarding Basin clay backfill) and (3% Wet to 3% Dry for Residential lot construction)	Pass / Fail	Comments
HDR:W26DS00282	S26DS-01061	12/02/2026	4	359268	5780948	107	2 dry	Pass	Retest of S26DS-00985
HDR:W26DS00289	S26DS-01088	13/02/2026	1	359263	5780955	106.5	2.5 dry	Fail	See Retest S26DS-01249
HDR:W26DS00289	S26DS-01089	13/02/2026	2	359291	5790972	103.5	2.5 dry	Fail	See Retest S26DS 1250
HDR:W26DS00289	S26DS-01090	13/02/2026	3	359345	5780926	104	3 dry	Fail	See Retest S26DS-01251
HDR:W26DS00310	S26DS-01157	16/02/2026	1	359220	5780935	105	1.5 dry	Pass	
HDR:W26DS00310	S26DS-01158	16/02/2026	2	359224	5780938	105.5	2 dry	Pass	Retest of S26DS-01026
HDR:W26DS00310	S26DS-01159	16/02/2026	3	359224	5780967	107.5	1.5 dry	Pass	
HDR:W26DS00310	S26DS-01160	16/02/2026	4	359329	5780965	107.5	2 dry	Pass	Retest of S26DS-01027
HDR:W26DS00310	S26DS-01161	16/02/2026	5	359371	5780908	104	1 dry	Pass	Retest of S26DS-01028
HDR:W26DS00310	S26DS-01162	16/02/2026	6	359268	5780930	105	1.5 dry	Pass	Retest of S26DS-1058
HDR:W26DS00323	S26DS-01247	17/02/2026	1	359294	5780927	101	0 dry	Pass	
HDR:W26DS00323	S26DS-01248	17/02/2026	2	359296	5780926	103.5	0.5 dry	Pass	
HDR:W26DS00323	S26DS-01249	17/02/2026	3	359263	5780969	103.5	2 dry	Pass	Retest of S26DS-1088
HDR:W26DS00323	S26DS-01250	17/02/2026	4	359291	5780964	106.5	2.5 dry	Fail	Retest of S26DS 01089, See Retest S26DS-1352
HDR:W26DS00323	S26DS-01251	17/02/2026	5	359345	5780965	102.5	0.5 dry	Pass	Retest of S26DS-1090
HDR:W26DS00323	S26DS-01252	17/02/2026	6	359365	5780906	98	0.5 dry	Pass	
HDR:W26DS00323	S26DS-01253	17/02/2026	7	359355	5780937	99	0 dry	Pass	

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Report No	Sample No	Date	Test Number	Easting	Northing	Density Ratio (≥98% for works within lower retarding basin and 95% for residential blocks)	Moisture Variation (2% Wet to 3% Dry for the lower Retarding Basin backfill) and (2% Wet to 2% Dry for the Retarding Basin clay backfill) and (3% Wet to 3% Dry for Residential lot construction)	Pass / Fail	Comments
HDR:W26DS00351	S26DS-01347	18/02/2026	1	359228	5780912	100.5	0.5 wet	Pass	
HDR:W26DS00351	S26DS-01348	18/02/2026	2	359220	5780936	100	0.5 dry	Pass	
HDR:W26DS00351	S26DS-01349	18/02/2026	3	359261	5780974	99	1.5 dry	Pass	
HDR:W26DS00351	S26DS-01350	18/02/2026	4	359264	5780969	101.5	0.5 dry	Pass	
HDR:W26DS00351	S26DS-01351	18/02/2026	5	359299	5780960	102	2 dry	Pass	
HDR:W26DS00351	S26DS-01352	18/02/2026	6	359295	5780946	104.5	2.5 dry	Fail	Retest of S26DS-01250
HDR:W26DS00367	S26DS-01400	19/02/2026	1	359319	5780909	102.5	1.5 dry	Pass	
HDR:W26DS00367	S26DS-01401	19/02/2026	2	359308	5780970	102.5	2 dry	Pass	
HDR:W26DS00367	S26DS-01402	19/02/2026	3	359317	5780970	106	2 dry	Pass	
HDR:W26DS00370	S26DS-01410	19/02/2026	1	359368	5780970	94	4 dry	Fail	See Retest S26DS-01542
HDR:W26DS00370	S26DS-01411	19/02/2026	2	359360	5780968	101	0.5 dry	Pass	
HDR:W26DS00392	S26DS-01478	20/02/2026	1	359231	5780898	103	0 dry	Pass	
HDR:W26DS00392	S26DS-01479	20/02/2026	2	359219	5780934	102.5	0.5 dry	Pass	
HDR:W26DS00392	S26DS-01480	20/02/2026	3	359257	5780964	102	0.5 wet	Pass	
HDR:W26DS00392	S26DS-01481	20/02/2026	4	359313	5780896	98.5	0.5 wet	Pass	
HDR:W26DS00392	S26DS-01482	20/02/2026	5	359308	5780963	104.5	2 dry	Pass	
HDR:W26DS00393	S26DS-01483	21/02/2026	1	359343	5780910	96.5	0 dry	Fail	See Retest S26DS-1567

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Report No	Sample No	Date	Test Number	Easting	Northing	Density Ratio (≥98% for works within lower retarding basin and 95% for residential blocks)	Moisture Variation (2% Wet to 3% Dry for the lower Retarding Basin backfill) and (2% Wet to 2% Dry for the Retarding Basin clay backfill) and (3% Wet to 3% Dry for Residential lot construction)	Pass / Fail	Comments
HDR:W26DS00393	S26DS-01484	21/02/2026	2	359231	5780951	96.5	3.5 wet	Fail	See Retest S26DS-01568
HDR:W26DS00398	S26DS-01492	20/02/2026	1	359367	5780968	102.5	2.5 dry	Pass	
HDR:W26DS00409	S26DS-01540	23/02/2026	1	359329	5780922	98	0 wet	Pass	
HDR:W26DS00409	S26DS-01541	23/02/2026	2	359332	5780960	98	4.5 wet	Fail	See Retest S26DS-01614
HDR:W26DS00410	S26DS-01542	23/02/2026	1	359365	5780969	100	3.5 dry	Fail	Retest of S26DS-01410, See Retest S26DS-01668
HDR:W26DS00424	S26DS-01566	24/02/2026	1	359284	5780914	103.5	2 dry	Pass	
HDR:W26DS00424	S26DS-01567	24/02/2026	2	359322	5780917	99.5	0.5 dry	Pass	Retest of S26DS-01483
HDR:W26DS00424	S26DS-01568	24/02/2026	3	359250	5780960	100	0 dry	Pass	Retest of S26DS-01484
HDR:W26DS00424	S26DS-01569	24/02/2026	4	359222	5780955	106	1.5 dry	Pass	
HDR:W26DS00424	S26DS-01570	24/02/2026	5	359251	5780972	100.5	2 wet	Pass	
HDR:W26DS00424	S26DS-01571	24/02/2026	6	359284	5780961	100	0 dry	Pass	
HDR:W26DS00435	S26DS-01611	25/02/2026	1	359316	5780952	106.5	2 dry	Pass	
HDR:W26DS00435	S26DS-01612	25/02/2026	2	359317	5780949	102.5	0.5 dry	Pass	
HDR:W26DS00435	S26DS-01613	25/02/2026	3	359306	5780962	102	0.5 dry	Pass	
HDR:W26DS00435	S26DS-01614	25/02/2026	4	359351	5780943	103	2 dry	Pass	Retest of S26DS-01541
HDR:W26DS00435	S26DS-01615	25/02/2026	5	359255	5780920	102	0.5 dry	Pass	
HDR:W26DS00435	S26DS-01616	25/02/2026	6	359258	5780934	103	1.5 dry	Pass	

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Report No	Sample No	Date	Test Number	Easting	Northing	Density Ratio (≥98% for works within lower retarding basin and 95% for residential blocks)	Moisture Variation (2% Wet to 3% Dry for the lower Retarding Basin backfill) and (2% Wet to 2% Dry for the Retarding Basin clay backfill) and (3% Wet to 3% Dry for Residential lot construction)	Pass / Fail	Comments
HDR:W26DS00435	S26DS-01617	25/02/2026	7	359249	5780937	103	1.5 wet	Pass	
HDR:W26DS00447	S26DS-01662	26/02/2026	1	359217	5780921	98	0 wet	Pass	
HDR:W26DS00447	S26DS-01663	26/02/2026	2	359221	5780924	102	0.5 dry	Pass	
HDR:W26DS00447	S26DS-01664	26/02/2026	3	359216	5780939	103	0.5 dry	Pass	
HDR:W26DS00447	S26DS-01665	26/02/2026	4	359221	5780942	101.5	0.5 dry	Pass	
HDR:W26DS00447	S26DS-01666	26/02/2026	5	359246	5780952	101	0.5 dry	Pass	
HDR:W26DS00447	S26DS-01667	26/02/2026	6	359241	5780940	102	0.5 dry	Pass	
HDR:W26DS00448	S26DS-01668	26/02/2026	1	359363	5780965	97	2.5 dry	Fail	Retest of S26DS-01542, See Retest S26DS-01764
HDR:W26DS00448	S26DS-01669	26/02/2026	2	359359	5780974	101.5	2 dry	Pass	
HDR:W26DS00467	S26DS-01761	27/02/2026	1	359278	5780885	100.5	0 wet	Pass	
HDR:W26DS00467	S26DS-01762	27/02/2026	2	359284	5780885	100.5	0.5 wet	Pass	
HDR:W26DS00467	S26DS-01763	27/02/2026	3	359308	5780888	98.5	0 dry	Pass	
HDR:W26DS00467	S26DS-01764	27/02/2026	4	359367	5780967	99	0.5 wet	Pass	Retest of S26DS-1668
HDR:W26DS00467	S26DS-01765	27/02/2026	5	359232	5780973	100	0.5 wet	Pass	
HDR:W26DS00467	S26DS-01766	27/02/2026	6	359367	5780970	102	2 dry	Pass	
HDR:W26DS00467	S26DS-01767	27/02/2026	7	359369	5780980	99	0 dry	Pass	
HDR:W26DS00475	S26DS-01794	27/02/2026	1	359365	5780970	100.5	4.5 wet	Fail	See Retest S26DS-01885

Smiths Lane Stages 33

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Report No	Sample No	Date	Test Number	Easting	Northing	Density Ratio (≥98% for works within lower retarding basin and 95% for residential blocks)	Moisture Variation (2% Wet to 3% Dry for the lower Retarding Basin backfill) and (2% Wet to 2% Dry for the Retarding Basin clay backfill) and (3% Wet to 3% Dry for Residential lot construction)	Pass / Fail	Comments
HDR:W26DS00477	S26DS-01796	28/02/2026	1	359370	5780976	100.5	2.5 dry	Fail	See Retest S26DS-02018
HDR:W26DS00501	S26DS-01884	3/03/2026	1	359369	5780970	99.5	0.5 dry	Pass	
HDR:W26DS00501	S26DS-01885	3/03/2026	2	359364	5780975	96.5	0 wet	Fail	Retest of S26DS-01794, See Retest S26DS-01946
HDR:W26DS00519	S26DS-01939	4/03/2026	1	359370	5780969	102	0.5 dry	Pass	
HDR:W26DS00519	S26DS-01940	4/03/2026	2	359394	5780869	98	0 dry	Pass	
HDR:W26DS00519	S26DS-01941	4/03/2026	3	359384	5780871	97.5	0 dry	Pass	
HDR:W26DS00519	S26DS-01942	4/03/2026	4	359431	5780920	98.5	0 dry	Pass	
HDR:W26DS00519	S26DS-01943	4/03/2026	5	359450	5780914	103.5	0.5 dry	Pass	
HDR:W26DS00519	S26DS-01944	4/03/2026	6	359387	5780878	100	0.5 dry	Pass	
HDR:W26DS00519	S26DS-01945	4/03/2026	7	359358	5780958	101	0.5 dry	Pass	
HDR:W26DS00519	S26DS-01946	4/03/2026	8	359355	5780959	102	0.5 dry	Pass	Retest of S26DS-01885
HDR:W26DS00543	S26DS-02017	5/03/2026	1	359378	5780973	98.5	0 wet	Pass	
HDR:W26DS00543	S26DS-02018	5/03/2026	2	359376	5780965	101.5	0.5 dry	Pass	Retest of S26DS-01796
HDR:W26DS00543	S26DS-02019	5/03/2026	3	359357	5780958	98	0 wet	Pass	
HDR:W26DS00563	S26DS-02073	6/03/2026	1	359365	57780977	102.5	0.5 wet	Pass	

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Report No	Sample No	Date	Test Number	Easting	Northing	Density Ratio (≥98% for works within lower retarding basin and 95% for residential blocks)	Moisture Variation (2% Wet to 3% Dry for the lower Retarding Basin backfill) and (2% Wet to 2% Dry for the Retarding Basin clay backfill) and (3% Wet to 3% Dry for Residential lot construction)	Pass / Fail	Comments
HDR:W26DS00743	S26DS-02670	24/03/2026	1	359304	5780974	106	4.5 dry	Fail	See Retest S26DS-04287
HDR:W26DS00743	S26DS-02671	24/03/2026	2	359307	5780980	103.5	3 dry	Fail	See Retest S26DS-04288
HDR:W26DS00743	S26DS-02672	24/03/2026	3	359324	5780985	105.5	4.5 dry	Fail	See Retest S26DS-04289
HDR:W26DS01152	S26DS-04287	6/05/2026	1	359310	5780979	102	0.5 dry	Pass	Retest of S26DS-02670
HDR:W26DS01152	S26DS-04288	6/05/2026	2	359311	5780988	98	0 dry	Pass	Retest of S26DS-02671
HDR:W26DS01152	S26DS-04289	6/05/2026	3	359327	580992	99.5	0.5 dry	Pass	Retest of S26DS-02672

Appendix C NATA, Hilf density and moisture test laboratory reports

CHADWICK GEOTECHNICS

Dandenong South
ACN 143 009 330
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Ph: + 61 3 8796 7900
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Report No: HDR:W26DS00116
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-00376	S26DS-00377	S26DS-00378	S26DS-00379		
Field Sample ID	1	2	3	4		
Date Tested	27/01/2026	27/01/2026	27/01/2026	27/01/2026		
Time Tested	12:59	13:30	13:50	14:50		
E:	359369	359244	359306	359369		
N:	5780916	5780929	5780962	5780961		
Field and Laboratory Data						
Depth of Test (mm)	275	275	275	275		
Depth of Layer (mm)	300	300	300	300		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0	0		
Field Moisture Content (%)	15.5	20.4	17.8	15.4		
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1		
Field Wet Density (t/m³)	2.10	2.09	2.10	2.10		
Field Dry Density (t/m³)	1.82	1.74	1.78	1.82		
Peak Converted Wet Density (t/m³)	2.00	2.02	2.06	2.08		
Optimum Moisture Content (%)	17.5	20.5	18.0	15.0		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Ratio (%)	87.5	100.0	98.0	101.5		
Moisture Variation (%)	2.0 dry	0.0	0.5 dry	0.0		
Hilf Density Ratio (%)	**105.0**	**103.0**	**101.5**	**101.0**		

Comments

Results relate only to the items tested/sampled.

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DANDENONG SOUTH, VIC 3175

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Report No: HDR:W26DS00148
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-00487	S26DS-00488	S26DS-00489			
Field Sample ID	1	2	3			
Date Tested	29/01/2026	29/01/2026	29/01/2026			
Time Tested	12:45	13:30	13:55			
E:	359233	359249	359255			
N:	5780958	5780931	5780925			
Layer:	1	1	1			
Field and Laboratory Data						
Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	10.3	15.3	10.3			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.06	2.07	2.07			
Field Dry Density (t/m³)	1.86	1.79	1.88			
Peak Converted Wet Density (t/m³)	2.08	1.95	2.05			
Optimum Moisture Content (%)	12.5	17.0	12.5			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	83.5	88.5	83.0			
Moisture Variation (%)	2.0 dry	2.0 dry	2.0 dry			
Hilf Density Ratio (%)	**99.0**	**106.0**	**101.0**			

Comments

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CHADWICK GEOTECHNICS

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Report No: HDR:W26DS00161
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-00542	S26DS-00543	S26DS-00544	S26DS-00545		
Field Sample ID	1	2	3	4		
Date Tested	30/01/2026	30/01/2026	30/01/2026	30/01/2026		
Time Tested	10:30	11:30	11:55	12:30		
E:	359323	359285	359345	359249		
N:	5780958	5780931	5780969	5780930		
Layer:	1	1	1	1		
Area:	North	North	-	Corner		
				North		
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175		
Depth of Layer (mm)	200	200	200	200		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0	0		
Field Moisture Content (%)	13.8	14.2	13.8	10.5		
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1		
Field Wet Density (t/m³)	2.08	2.07	2.08	2.06		
Field Dry Density (t/m³)	1.82	1.81	1.82	1.86		
Peak Converted Wet Density (t/m³)	2.08	2.06	2.08	2.06		
Optimum Moisture Content (%)	14.0	14.5	16.0	13.0		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Ratio (%)	99.5	98.5	87.5	82.0		
Moisture Variation (%)	0.0	0.0	2.0 dry	2.5 dry		
Hilf Density Ratio (%)	**100.0**	**100.5**	**100.0**	**100.0**		

Comments

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Report No: HDR:W26DS00162
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-00546	S26DS-00547				
Field Sample ID	1	2				
Date Tested	31/01/2026	31/01/2026				
Time Tested	10:50	11:10				
E:	359252	359232				
N:	5780932	5780955				
Layer:	2	2				
Area:	-	-				

Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	15.3	12.6				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	2.09	2.08				
Field Dry Density (t/m³)	1.81	1.85				
Peak Converted Wet Density (t/m³)	2.11	2.04				
Optimum Moisture Content (%)	15.0	14.5				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	102.0	85.5				
Moisture Variation (%)	0.5 wet	2.0 dry				
Hilf Density Ratio (%)	**99.5**	**102.0**				

Comments

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Report No: HDR:W26DS00175
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-00634	S26DS-00635	S26DS-00636	S26DS-00637	S26DS-00638	
Field Sample ID	1	2	3	4	5	
Date Tested	2/02/2026	2/02/2026	2/02/2026	2/02/2026	2/02/2026	
Time Tested	10:30	11:00	13:50	14:15	15:15	
E:	-	-	359276	359272	359243	
N:	-	-	5780927	5780961	5780945	
Layer:	-	-	2	2	2	
	Retest of S26DS-00545	Retest of S26DS-00547				
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	
Depth of Layer (mm)	200	200	200	200	200	
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	
Oversize Wet (%)	0	0	0	0	0	
Field Moisture Content (%)	14.2	14.0	13.2	13.6	12.8	
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	
Field Wet Density (t/m³)	2.08	2.08	2.09	2.05	2.06	
Field Dry Density (t/m³)	1.82	1.82	1.84	1.81	1.82	
Peak Converted Wet Density (t/m³)	2.10	2.09	2.12	2.09	2.08	
Optimum Moisture Content (%)	14.0	14.0	13.5	13.5	12.5	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Ratio (%)	101.0	100.0	96.5	99.0	100.0	
Moisture Variation (%)	0.0	0.0	0.5 dry	0.0	0.0	
Hilf Density Ratio (%)	**99.5**	**99.5**	**98.5**	**98.0**	**98.5**	

Comments

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Report No: HDR:W26DS00192
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-00708	S26DS-00709	S26DS-00710	S26DS-00711		
Field Sample ID	1	2	3	4		
Date Tested	3/02/2026	3/02/2026	3/02/2026	3/02/2026		
Time Tested	13:50	14:30	14:45	15:10		
E:	359311	359332	359303	359290		
N:	5780921	5780980	5780958	5780901		
Layer:	2	2	2	2		
	North					

Field and Laboratory Data

Depth of Test (mm)	175	175	175	175		
Depth of Layer (mm)	200	200	200	200		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0	0		
Field Moisture Content (%)	13.2	12.9	12.9	14.9		
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1		
Field Wet Density (t/m³)	2.07	2.06	2.07	2.09		
Field Dry Density (t/m³)	1.82	1.82	1.83	1.82		
Peak Converted Wet Density (t/m³)	2.08	2.04	2.06	2.09		
Optimum Moisture Content (%)	12.5	15.0	15.0	15.5		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Ratio (%)	103.5	85.5	86.0	97.0		
Moisture Variation (%)	0.5 wet	2.0 dry	2.0 dry	0.5 dry		
Hilf Density Ratio (%)	**99.5**	**101.0**	**100.5**	**100.0**		

Comments

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Report No: HDR:W26DS00214
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-00770	S26DS-00771	S26DS-00772	S26DS-00773		
Field Sample ID	1	2	3	4		
Date Tested	4/02/2026	4/02/2026	4/02/2026	4/02/2026		
Time Tested	10:30	15:10	15:25	15:40		
E:	-	359221	359236	359261		
N:	-	5780910	5780942	5780957		
Layer:	-	3 South West	3	3		
	Retest of S26DS-00709					

Field and Laboratory Data

Depth of Test (mm)	175	175	175	175		
Depth of Layer (mm)	200	200	200	200		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0	0		
Field Moisture Content (%)	12.5	10.9	11.3	12.9		
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1		
Field Wet Density (t/m³)	2.06	2.08	2.06	2.06		
Field Dry Density (t/m³)	1.83	1.87	1.85	1.82		
Peak Converted Wet Density (t/m³)	2.08	2.11	2.08	2.09		
Optimum Moisture Content (%)	13.5	11.0	13.0	15.0		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Ratio (%)	93.5	97.5	86.0	86.0		
Moisture Variation (%)	1.0 dry	0.5 dry	2.0 dry	2.0 dry		
Hilf Density Ratio (%)	**99.0**	**98.5**	**99.0**	**98.5**		

Comments

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Report No: HDR:W26DS00228
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-00831	S26DS-00832	S26DS-00833	S26DS-00834		
Field Sample ID	1	2	3	4		
Date Tested	5/02/2026	5/02/2026	5/02/2026	5/02/2026		
Time Tested	13:10	13:30	14:30	14:50		
E:	359331	359358	359307	359364		
N:	5780961	5780925	5780952	5780898		
Layer:	3	3	3	3		
	Middle to North		North	Middle		

Field and Laboratory Data

Depth of Test (mm)	175	175	175	175		
Depth of Layer (mm)	200	200	200	200		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0	0		
Field Moisture Content (%)	12.7	13.4	14.3	16.5		
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1		
Field Wet Density (t/m³)	2.06	2.06	2.08	2.07		
Field Dry Density (t/m³)	1.83	1.82	1.82	1.78		
Peak Converted Wet Density (t/m³)	2.10	2.04	2.08	1.96		
Optimum Moisture Content (%)	13.0	14.5	14.5	19.5		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Ratio (%)	96.5	94.0	98.5	85.5		
Moisture Variation (%)	0.5 dry	1.0 dry	0.0	2.5 dry		
Hilf Density Ratio (%)	**98.0**	**101.0**	**100.0**	**105.5**		

Comments

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Report No: HDR:W26DS00236
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: CLAY

Sample Data

Sample ID	S26DS-00865	S26DS-00866	S26DS-00867	S26DS-00868	S26DS-00869	
Field Sample ID	1	2	3	4	5	
Date Tested	6/02/2026	6/02/2026	6/02/2026	6/02/2026	6/02/2026	
Time Tested	12:15	13:30	13:50	14:10	14:25	
E:	-	359264	359236	359247	359357	
N:	-	5780949	5780947	5780918	5780865	
Layer:	3 (middle)	4	4	4	4	
	Retest of S26DS-00834					
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	
Depth of Layer (mm)	200	200	200	200	200	
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	
Oversize Wet (%)	0	0	0	0	0	
Field Moisture Content (%)	12.9	18.5	12.7	15.3	12.1	
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	
Field Wet Density (t/m³)	2.07	2.09	2.08	2.08	2.06	
Field Dry Density (t/m³)	1.83	1.76	1.84	1.81	1.84	
Peak Converted Wet Density (t/m³)	2.03	2.05	2.09	2.09	2.07	
Optimum Moisture Content (%)	15.5	18.5	13.0	15.0	14.0	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Ratio (%)	84.0	99.5	98.5	101.5	86.0	
Moisture Variation (%)	2.5 dry	0.0	0.0	0.0	2.0 dry	
Hilf Density Ratio (%)	**102.0**	**101.5**	**99.5**	**99.5**	**99.5**	

Comments

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Report No: HDR:W26DS00257
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 15/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-00980	S26DS-00981	S26DS-00982	S26DS-00983	S26DS-00984	S26DS-00985
Field Sample ID	1	2	3	4	5	6
Date Tested	10/02/2026	10/02/2026	10/02/2026	10/02/2026	10/02/2026	10/02/2026
Time Tested	09:10	09:15	09:20	09:30	09:40	09:45
E:	359285	359258	359237	359242	359253	359268
N:	5780900	5780908	5780917	5780952	5780961	5780950
Layer:	4	4	5	5	5	5
Area:	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Moisture Content (%)	13.6	14.6	14.8	13.8	11.8	11.3
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Field Wet Density (t/m³)	2.08	2.10	2.12	2.10	2.09	2.10
Field Dry Density (t/m³)	1.83	1.83	1.85	1.85	1.87	1.89
Peak Converted Wet Density (t/m³)	2.05	2.06	2.10	2.11	2.08	2.07
Optimum Moisture Content (%)	14.5	15.0	14.5	14.0	13.5	13.5
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	95.0	99.0	102.0	97.5	86.0	83.0
Moisture Variation (%)	0.5 dry	0.0	0.5 wet	0.5 dry	2.0 dry	2.5 dry
Hilf Density Ratio (%)	**102.0**	**102.0**	**101.0**	**100.0**	**100.5**	**101.5**

Comments

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Report No: HDR:W26DS00257
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 15/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-00986	S26DS-00987	S26DS-00988			
Field Sample ID	7	8	9			
Date Tested	10/02/2026	10/02/2026	10/02/2026			
Time Tested	09:50	10:00	10:10			
E:	359289	359296	359365			
N:	5780879	5780878	5780898			
Layer:	4	4	3			
Area:	Retarding Basin	Retarding Basin	Retarding Basin			
			Retest of S26DS-00865			
Field and Laboratory Data						
Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	15.3	17.6	14.4			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.09	2.11	2.11			
Field Dry Density (t/m³)	1.81	1.79	1.84			
Peak Converted Wet Density (t/m³)	2.07	2.05	2.11			
Optimum Moisture Content (%)	15.5	17.5	14.5			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	98.0	100.5	99.0			
Moisture Variation (%)	0.5 dry	0.0	0.0			
Hilf Density Ratio (%)	**101.0**	**102.5**	**99.5**			

Comments

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Dandenong South
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Report No: HDR:W26DS00270
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: CLAY

Sample Data

Sample ID	S26DS-01026	S26DS-01027	S26DS-01028			
Field Sample ID	1	2	3			
Date Tested	11/02/2026	11/02/2026	11/02/2026			
Time Tested	10:10	10:15	10:20			
E:	359318	359328	359355			
N:	5780935	5780970	5780932			
Layer:	5	5	5			
Field and Laboratory Data						
Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	10.8	12.3	9.6			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.10	2.10	2.12			
Field Dry Density (t/m³)	1.89	1.87	1.94			
Peak Converted Wet Density (t/m³)	1.89	1.93	1.89			
Optimum Moisture Content (%)	17.5	17.5	13.5			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	62.0	70.5	71.5			
Moisture Variation (%)	6.5 dry	5.0 dry	4.0 dry			
Hilf Density Ratio (%)	**111.0**	**109.0**	**112.5**			

Comments

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Report No: HDR:W26DS00282
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: CLAY

Sample Data

Sample ID	S26DS-01058	S26DS-01059	S26DS-01060	S26DS-01061		
Field Sample ID	1	2	3	4		
Date Tested	12/02/2026	12/02/2026	12/02/2026	12/02/2026		
Time Tested	12:10	12:15	13:50	14:00		
E:	359247	359238	359230	359268		
N:	5780918	5780952	5780920	5780948		
Layer:	6	6	6	5		
				Retest of S26DS-00985		

Field and Laboratory Data

Depth of Test (mm)	175	175	175	175		
Depth of Layer (mm)	200	200	200	200		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	0	0	0	0		
Field Moisture Content (%)	21.1	12.8	13.8	17.2		
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1		
Field Wet Density (t/m³)	2.10	2.10	2.10	2.08		
Field Dry Density (t/m³)	1.73	1.86	1.85	1.78		
Peak Converted Wet Density (t/m³)	2.03	2.08	2.10	1.94		
Optimum Moisture Content (%)	18.5	13.5	13.5	19.0		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Ratio (%)	112.5	96.0	103.5	90.5		
Moisture Variation (%)	2.5 wet	0.5 dry	0.5 wet	2.0 dry		
Hilf Density Ratio (%)	**103.0**	**101.0**	**100.0**	**107.0**		

Comments

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CHADWICK GEOTECHNICS

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Report No: HDR:W26DS00289
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01088	S26DS-01089	S26DS-01090			
Field Sample ID	1	2	3			
Date Tested	13/02/2026	13/02/2026	13/02/2026			
Time Tested	09:50	10:00	10:15			
E:	359263	359291	359345			
N:	5780955	5790972	5780926			
Layer:	6	6	6			
	Retarding Basin	Retarding Basin	Retarding Basin			

Field and Laboratory Data

Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	14.2	12.3	10.2			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.10	2.09	2.11			
Field Dry Density (t/m³)	1.84	1.87	1.91			
Peak Converted Wet Density (t/m³)	1.98	2.03	2.03			
Optimum Moisture Content (%)	16.5	15.0	13.0			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	85.0	82.5	78.5			
Moisture Variation (%)	2.5 dry	2.5 dry	3.0 dry			
Hilf Density Ratio (%)	**106.5**	**103.5**	**104.0**			

Comments

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Report No: HDR:W26DS00310
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00310'.

HILF Density Ratio Report

Client: Beveridge Williams & Co Pty Ltd
Address: PO Box 2205
CAULFIELD JUNCTION VIC 3161
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: B. Taseski (Branch Laboratory Manager - Date of Issue: 13/08/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01157	S26DS-01158	S26DS-01159	S26DS-01160	S26DS-01161	S26DS-01162
Field Sample ID	1	2	3	4	5	6
Date Tested	16/02/2026	16/02/2026	16/02/2026	16/02/2026	16/02/2026	16/02/2026
Time Tested	09:20	09:25	09:35	09:45	12:05	12:10
E:	359220	359224	359224	359329	359371	359268
N:	5780935	5780938	5780967	5780965	5780908	5780930
Layer:	7	5	7	5	5	6
Area:	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin
		Retest of S26DS-01026		Retest of S26DS-01027	Retest of S26DS-01028	Retest of S26DS-1058
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Moisture Content (%)	15.7	16.1	15.8	17.5	15.5	15.4
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Field Wet Density (t/m³)	2.11	2.11	2.10	2.09	2.11	2.11
Field Dry Density (t/m³)	1.82	1.82	1.81	1.78	1.83	1.83
Peak Converted Wet Density (t/m³)	2.01	2.00	1.95	1.94	2.03	2.00
Optimum Moisture Content (%)	17.0	18.0	17.5	20.0	16.5	17.0
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	91.5	89.5	91.0	88.5	95.0	91.5
Moisture Variation (%)	1.5 dry	2.0 dry	1.5 dry	2.0 dry	1.0 dry	1.5 dry
Hilf Density Ratio (%)	**105.0**	**105.5**	**107.5**	**107.5**	**104.0**	**105.0**

Comments

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Amendment to locations.

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Report No: HDR:W26DS00323
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00323'.

HILF Density Ratio Report

Client: Beveridge Williams & Co Pty Ltd
Address: PO Box 2205
CAULFIELD JUNCTION VIC 3161
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01247	S26DS-01248	S26DS-01249	S26DS-01250	S26DS-01251	S26DS-01252
Field Sample ID	1	2	3	4	5	6
Date Tested	17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026	17/02/2026
Time Tested	10:10	10:15	10:20	10:30	10:34	13:35
E:	359294	359296	359263	359291	359345	359365
N:	5780927	5780926	5780969	5780964	5780965	5780906
Layer:	7	7	6	6	6	7
Area:	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin
			Retest of S26DS-1088	Retest of S26DS-1089	Retest of S26DS-1090	

Field and Laboratory Data

Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Moisture Content (%)	16.5	16.1	11.9	16.5	16.7	12.2
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Field Wet Density (t/m³)	2.09	2.10	2.09	2.08	2.09	2.07
Field Dry Density (t/m³)	1.79	1.80	1.87	1.79	1.79	1.85
Peak Converted Wet Density (t/m³)	2.07	2.02	2.02	1.96	2.04	2.11
Optimum Moisture Content (%)	16.5	16.5	14.0	19.0	17.0	13.0
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	99.0	98.0	84.5	86.5	97.5	95.5
Moisture Variation (%)	0.0	0.5 dry	2.0 dry	2.5 dry	0.5 dry	0.5 dry
Hilf Density Ratio (%)	**101.0**	**103.5**	**103.5**	**106.5**	**102.5**	**98.0**

Comments

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Report No: HDR:W26DS00323
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00323'.

HILF Density Ratio Report

Client: Beveridge Williams & Co Pty Ltd
Address: PO Box 2205
CAULFIELD JUNCTION VIC 3161
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01253					
Field Sample ID	7					
Date Tested	17/02/2026					
Time Tested	13:45					
E:	359355					
N:	5780937					
Layer:	7					
Area:	Retarding Basin					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	13.8					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.10					
Field Dry Density (t/m³)	1.84					
Peak Converted Wet Density (t/m³)	2.11					
Optimum Moisture Content (%)	14.0					
Compactive Effort	Standard					
Moisture Ratio (%)	98.0					
Moisture Variation (%)	0.0					
Hilf Density Ratio (%)	**99.0**					

Comments

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Report No: HDR:W26DS00351
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00351'.

HILF Density Ratio Report

Client: Beveridge Williams & Co Pty Ltd
Address: PO Box 2205
CAULFIELD JUNCTION VIC 3161
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clau trace of Sand

Sample Data

Sample ID	S26DS-01347	S26DS-01348	S26DS-01349	S26DS-01350	S26DS-01351	S26DS-01352
Field Sample ID	1	2	3	4	5	6
Date Tested	18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026	18/02/2026
Time Tested	10:10	10:15	10:20	10:30	13:50	14:00
E:	359228	359220	359261	359264	359299	359295
N:	5780912	5780936	5780974	5780969	5780960	5780946
Layer:	8	8	8	6	6	6
						Retest of S26DS-01250

Field and Laboratory Data

Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Moisture Content (%)	16.4	14.4	13.7	14.9	14.5	14.5
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Field Wet Density (t/m³)	2.04	2.06	2.03	2.07	2.08	2.10
Field Dry Density (t/m³)	1.75	1.80	1.79	1.81	1.81	1.83
Peak Converted Wet Density (t/m³)	2.04	2.06	2.06	2.04	2.04	2.01
Optimum Moisture Content (%)	16.0	15.0	15.5	15.5	16.5	17.0
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	104.0	97.5	89.0	96.5	87.5	85.5
Moisture Variation (%)	0.5 wet	0.5 dry	1.5 dry	0.5 dry	2.0 dry	2.5 dry
Hilf Density Ratio (%)	**100.5**	**100.0**	**99.0**	**101.5**	**102.0**	**104.5**

Comments

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Report No: HDR:W26DS00367
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01400	S26DS-01401	S26DS-01402			
Field Sample ID	2	3	4			
Date Tested	19/02/2026	19/02/2026	19/02/2026			
Time Tested	12:00	12:10	12:15			
E:	359319	359308	359317			
N:	5780909	5780970	5780970			
Layer:	8	8	7			
Area:	Retarding Basin	Retarding Basin	Retarding Basin			
Field and Laboratory Data						
Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	15.2	12.8	16.0			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.06	2.07	2.08			
Field Dry Density (t/m³)	1.79	1.83	1.79			
Peak Converted Wet Density (t/m³)	2.01	2.02	1.96			
Optimum Moisture Content (%)	17.0	14.5	18.5			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	90.5	86.5	87.5			
Moisture Variation (%)	1.5 dry	2.0 dry	2.0 dry			
Hilf Density Ratio (%)	**102.5**	**102.5**	**106.0**			

Comments

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25 Metcalf Street
DANDENONG SOUTH, VIC 3175

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Report No: HDR:W26DS00370
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% (3% Dry to 2% Wet of OMC)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: FH Tynong
Material: 40mm Type 2 NDCR

Sample Data

Sample ID	S26DS-01410	S26DS-01411				
Field Sample ID	1	5				
Date Tested	19/02/2026	19/02/2026				
Time Tested	11:35	15:00				
E:	359368	359360				
N:	5780970	5780968				
Layer:	1	3				
Field and Laboratory Data						
Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	4.9	7.0				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	2.08	2.23				
Field Dry Density (t/m³)	1.98	2.09				
Peak Converted Wet Density (t/m³)	2.21	2.21				
Optimum Moisture Content (%)	9.0	7.5				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	54.0	93.0				
Moisture Variation (%)	4.0 dry	0.5 dry				
Hilf Density Ratio (%)	**94.0**	**101.0**				

Comments

Results relate only to the items tested/sampled.

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Report No: HDR:W26DS00392
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00392'.

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Dry Density Ratio of 98% Standard Compaction
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01478	S26DS-01479	S26DS-01480	S26DS-01481	S26DS-01482	
Field Sample ID	1	2	3	4	5	
Date Tested	20/02/2026	20/02/2026	20/02/2026	20/02/2026	20/02/2026	
Time Tested	09:00	09:05	09:10	11:45	11:50	
E:	359231	359219	359257	359313	359308	
N:	5780898	5780934	5780964	5780896	5780963	
Layer:	9	9	9	9	9	
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	
Depth of Layer (mm)	200	200	200	200	200	
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	
Oversize Wet (%)	0	0	0	0	0	
Field Moisture Content (%)	14.1	15.2	16.9	16.5	19.7	
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	
Field Wet Density (t/m³)	2.10	2.09	2.07	1.94	2.05	
Field Dry Density (t/m³)	1.84	1.82	1.77	1.66	1.71	
Peak Converted Wet Density (t/m³)	2.04	2.04	2.03	1.97	1.96	
Optimum Moisture Content (%)	14.0	15.5	16.5	16.0	21.5	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Ratio (%)	99.0	98.0	101.5	102.0	91.0	
Moisture Variation (%)	0.0	0.5 dry	0.5 wet	0.5 wet	2.0 dry	
Hilf Density Ratio (%)	**103.0**	**102.5**	**102.0**	**98.5**	**104.5**	

Comments

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Report No: HDR:W26DS00393
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00393'.

HILF Density Ratio Report

Client: Beveridge Williams & Co Pty Ltd
Address: PO Box 2205
CAULFIELD JUNCTION VIC 3161
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: B. Taseski (Branch Laboratory Manager - Date of Issue: 7/08/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01483	S26DS-01484				
Field Sample ID	1	2				
Date Tested	21/02/2026	21/02/2026				
Time Tested	09:40	09:45				
E:	359343	359231				
N:	5780910	5780951				
Layer:	10	10				
Field and Laboratory Data						
Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	17.6	21.2				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	1.97	1.99				
Field Dry Density (t/m³)	1.68	1.64				
Peak Converted Wet Density (t/m³)	2.05	2.06				
Optimum Moisture Content (%)	17.5	18.0				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	99.5	118.5				
Moisture Variation (%)	0.0	3.5 wet				
Hilf Density Ratio (%)	**96.5**	**96.5**				

Comments

Results relate only to the items tested/sampled.
Amendment to locations.

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Report No: HDR:W26DS00398
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% (3% Dry to 2% Wet of OMC)
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: FH Tynong
Material: 40mm NDCR Type 2

Sample Data

Sample ID	S26DS-01492					
Field Sample ID	6					
Date Tested	20/02/2026					
Time Tested	13:00					
E:	359367					
N:	5780968					
Layer:	5					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	6.3					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.25					
Field Dry Density (t/m³)	2.11					
Peak Converted Wet Density (t/m³)	2.20					
Optimum Moisture Content (%)	8.5					
Compactive Effort	Standard					
Moisture Ratio (%)	72.5					
Moisture Variation (%)	2.5 dry					
Hilf Density Ratio (%)	**102.5**					

Comments

Results relate only to the items tested/sampled.

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CHADWICK GEOTECHNICS

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Report No: HDR:W26DS00409
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01540	S26DS-01541				
Field Sample ID	1	2				
Date Tested	23/02/2026	23/02/2026				
Time Tested	13:50	14:00				
E:	359329	359332				
N:	5780922	5780960				
Layer:	10	10				
Area:	Retarding Basin	Retarding Basin				
Field and Laboratory Data						
Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	15.6	19.8				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	2.05	2.06				
Field Dry Density (t/m³)	1.77	1.72				
Peak Converted Wet Density (t/m³)	2.09	2.10				
Optimum Moisture Content (%)	15.5	15.5				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	101.0	128.0				
Moisture Variation (%)	0.0	4.5 wet				
Hilf Density Ratio (%)	**98.0**	**98.0**				

Comments

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Report No: HDR:W26DS00410
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio (Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: FH Tynong
Material: 20mm NDCR Type 2

Sample Data

Sample ID	S26DS-01542					
Field Sample ID	1					
Date Tested	23/02/2026					
Time Tested	08:50					
E:	359365					
N:	5780969					
Layer:	1					
Area:	Retarding Basin					
	Retest of S26DS-01410					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	5.1					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.19					
Field Dry Density (t/m³)	2.08					
Peak Converted Wet Density (t/m³)	2.19					
Optimum Moisture Content (%)	8.5					
Compactive Effort	Standard					
Moisture Ratio (%)	59.5					
Moisture Variation (%)	3.5 dry					
Hilf Density Ratio (%)	**100.0**					

Comments

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Report No: HDR:W26DS00424
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01566	S26DS-01567	S26DS-01568	S26DS-01569	S26DS-01570	S26DS-01571
Field Sample ID	1	2	3	4	5	6
Date Tested	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026	24/02/2026
Time Tested	08:55	09:10	09:15	09:20	09:30	09:40
E:	359284	359322	359250	359222	359251	359284
N:	5780914	5780917	5780960	5780955	5780972	5780961
Layer:	10	10	10	11	11	11
Area:	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin
		Retest of S26DS-01483	Retest of S26DS-01484			
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Moisture Content (%)	12.5	15.2	16.5	20.2	18.2	17.0
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Field Wet Density (t/m³)	2.09	2.07	2.09	2.04	2.07	2.06
Field Dry Density (t/m³)	1.85	1.80	1.79	1.70	1.75	1.76
Peak Converted Wet Density (t/m³)	2.01	2.09	2.08	1.93	2.05	2.06
Optimum Moisture Content (%)	14.5	15.5	16.5	22.0	16.0	17.0
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	86.0	98.0	99.5	92.0	113.5	99.5
Moisture Variation (%)	2.0 dry	0.5 dry	0.0	1.5 dry	2.0 wet	0.0
Hilf Density Ratio (%)	**103.5**	**99.5**	**100.0**	**106.0**	**100.5**	**100.0**

Comments

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Report No: HDR:W26DS00435
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00435'.

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio (Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01611	S26DS-01612	S26DS-01613	S26DS-01614	S26DS-01615	S26DS-01616
Field Sample ID	1	2	3	4	5	6
Date Tested	25/02/2026	25/02/2026	25/02/2026	25/02/2026	25/02/2026	25/02/2026
Time Tested	09:00	09:10	09:15	09:20	14:30	14:40
E:	359316	359317	359306	359351	359255	359258
N:	5780952	5780949	5780962	5780943	5780920	5780934
Layer:	11	10	11	10	12	12
Area:	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin	Retarding Basin
				Retest of S26DS-01541		

Field and Laboratory Data

Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Moisture Content (%)	17.5	16.6	16.1	14.8	15.7	14.5
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Field Wet Density (t/m³)	2.10	2.10	2.06	2.08	2.07	2.08
Field Dry Density (t/m³)	1.79	1.80	1.78	1.81	1.79	1.82
Peak Converted Wet Density (t/m³)	1.97	2.05	2.02	2.02	2.04	2.02
Optimum Moisture Content (%)	19.5	17.0	16.5	17.0	16.0	16.0
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	88.5	97.5	96.5	87.0	98.0	90.0
Moisture Variation (%)	2.0 dry	0.5 dry	0.5 dry	2.0 dry	0.5 dry	1.5 dry
Hilf Density Ratio (%)	**106.5**	**102.5**	**102.0**	**103.0**	**102.0**	**103.0**

Comments

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Report No: HDR:W26DS00435
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00435'.

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01617					
Field Sample ID	7					
Date Tested	25/02/2026					
Time Tested	14:45					
E:	359249					
N:	5780937					
Layer:	12					
Area:	Retarding Basin					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	19.4					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.10					
Field Dry Density (t/m³)	1.76					
Peak Converted Wet Density (t/m³)	2.04					
Optimum Moisture Content (%)	17.5					
Compactive Effort	Standard					
Moisture Ratio (%)	109.5					
Moisture Variation (%)	1.5 wet					
Hilf Density Ratio (%)	**103.0**					

Comments

Results relate only to the items tested/sampled.

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CHADWICK GEOTECHNICS

Dandenong South
ACN 143 009 330
25 Metcalf Street
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Ph: + 61 3 8796 7900
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Report No: HDR:W26DS00447
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00447'.

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: CLAY

Sample Data

Sample ID	S26DS-01662	S26DS-01663	S26DS-01664	S26DS-01665	S26DS-01666	S26DS-01667
Field Sample ID	1	2	3	4	5	6
Date Tested	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026	26/02/2026
Time Tested	10:00	10:10	10:15	10:20	14:19	14:20
E:	359217	359221	359216	359221	359246	359241
N:	5780921	5780924	5780939	5780942	5780952	5780940
Layer:	13	9	13	5	13	10
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Moisture Content (%)	15.1	16.2	19.3	16.5	15.3	17.4
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Field Wet Density (t/m³)	2.05	2.10	2.06	2.06	2.05	2.06
Field Dry Density (t/m³)	1.78	1.80	1.73	1.77	1.78	1.76
Peak Converted Wet Density (t/m³)	2.10	2.06	2.01	2.03	2.03	2.02
Optimum Moisture Content (%)	15.0	16.5	19.5	17.0	16.0	18.0
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	100.0	97.5	98.0	96.5	96.5	97.5
Moisture Variation (%)	0.0	0.5 dry	0.5 dry	0.5 dry	0.5 dry	0.5 dry
Hilf Density Ratio (%)	**98.0**	**102.0**	**103.0**	**101.5**	**101.0**	**102.0**

Comments

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CHADWICK GEOTECHNICS

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Ph: + 61 3 8796 7900
Fax: +61 3 9706 9431

Report No: HDR:W26DS00448
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: FH Tynong
Material: 40mm NDCR

Sample Data

Sample ID	S26DS-01668	S26DS-01669				
Field Sample ID	1	2				
Date Tested	26/02/2026	26/02/2026				
Time Tested	12:20	12:25				
E:	359363	359359				
N:	5780965	5780974				
Layer:	1	7				

Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	6.2	6.8				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	2.21	2.24				
Field Dry Density (t/m³)	2.08	2.10				
Peak Converted Wet Density (t/m³)	2.28	2.21				
Optimum Moisture Content (%)	9.0	9.0				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	70.0	76.0				
Moisture Variation (%)	2.5 dry	2.0 dry				
Hilf Density Ratio (%)	**97.0**	**101.5**				

Comments

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Report No: HDR:W26DS00467
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 20/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: CLAY

Sample Data

Sample ID	S26DS-01761	S26DS-01762	S26DS-01763	S26DS-01764	S26DS-01765	S26DS-01766
Field Sample ID	1	2	3	4	5	6
Date Tested	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026	27/02/2026
Time Tested	08:40	08:45	08:50	09:15	11:40	12:10
E:	359278	359284	359308	359367	359232	359367
N:	5780885	5780885	5780888	5780967	5780973	5780970
Layer:	10	14	14	1	14	2
				Rock Backfill		Rock Backfill

Field and Laboratory Data

Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Moisture Content (%)	18.1	19.8	15.3	15.7	15.6	15.4
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Field Wet Density (t/m³)	2.04	2.03	2.05	2.07	2.06	2.06
Field Dry Density (t/m³)	1.72	1.69	1.78	1.79	1.78	1.78
Peak Converted Wet Density (t/m³)	2.03	2.01	2.08	2.09	2.07	2.02
Optimum Moisture Content (%)	18.0	19.0	15.5	15.0	15.0	17.5
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	100.5	103.0	99.0	103.5	103.5	88.5
Moisture Variation (%)	0.0	0.5 wet	0.0	0.5 wet	0.5 wet	2.0 dry
Hilf Density Ratio (%)	**100.5**	**100.5**	**98.5**	**99.0**	**100.0**	**102.0**

Comments

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Report No: HDR:W26DS00467
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 20/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: CLAY

Sample Data

Sample ID	S26DS-01767					
Field Sample ID	7					
Date Tested	27/02/2026					
Time Tested	15:00					
E:	359369					
N:	5780980					
Layer:	3					
	Rock Backfill					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	15.4					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.07					
Field Dry Density (t/m³)	1.79					
Peak Converted Wet Density (t/m³)	2.09					
Optimum Moisture Content (%)	15.5					
Compactive Effort	Standard					
Moisture Ratio (%)	99.5					
Moisture Variation (%)	0.0					
Hilf Density Ratio (%)	**99.0**					

Comments

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Report No: HDR:W26DS00475
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 20/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: CLAY

Sample Data

Sample ID	S26DS-01794					
Field Sample ID	1					
Date Tested	27/02/2026					
Time Tested	12:00					
E:	359365					
N:	5780970					
Layer:	4					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	23.6					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.03					
Field Dry Density (t/m³)	1.64					
Peak Converted Wet Density (t/m³)	2.01					
Optimum Moisture Content (%)	19.0					
Compactive Effort	Standard					
Moisture Ratio (%)	124.5					
Moisture Variation (%)	4.5 wet					
Hilf Density Ratio (%)	**100.5**					

Comments

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Report No: HDR:W26DS00477
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 20/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: FH Tynong
Material: 40mm NDCR

Sample Data

Sample ID	S26DS-01796					
Field Sample ID	1					
Date Tested	28/02/2026					
Time Tested	12:00					
E:	359370					
N:	5780976					
Layer:	1					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	7.1					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.27					
Field Dry Density (t/m³)	2.12					
Peak Converted Wet Density (t/m³)	2.26					
Optimum Moisture Content (%)	9.5					
Compactive Effort	Standard					
Moisture Ratio (%)	75.5					
Moisture Variation (%)	2.5 dry					
Hilf Density Ratio (%)	**100.5**					

Comments

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Report No: HDR:W26DS00501
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 20/03/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01884	S26DS-01885				
Field Sample ID	1	2				
Date Tested	3/03/2026	3/03/2026				
Time Tested	11:50	11:55				
E:	359369	359364				
N:	5780970	5780975				
Layer:	5	4				
		Retest of S26DS-01794				

Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	16.0	14.1				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	2.06	2.04				
Field Dry Density (t/m³)	1.78	1.79				
Peak Converted Wet Density (t/m³)	2.07	2.12				
Optimum Moisture Content (%)	16.5	14.0				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	98.0	100.5				
Moisture Variation (%)	0.5 dry	0.0				
Hilf Density Ratio (%)	**99.5**	**96.5**				

Comments

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Report No: HDR:W26DS00519
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00519'.

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01939	S26DS-01940	S26DS-01941	S26DS-01942	S26DS-01943	S26DS-01944
Field Sample ID	1	2	3	4	5	6
Date Tested	4/03/2026	4/03/2026	4/03/2026	4/03/2026	4/03/2026	4/03/2026
Time Tested	07:30	08:20	08:25	11:30	11:35	12:50
E:	359370	359394	359384	359431	359450	359387
N:	5780969	5780869	5780871	5780920	5780914	5780878
Layer:	6	7	10	1	1	11
Area:	Backfill	-	-	Stage 34	Stage 34	-
Field and Laboratory Data						
Depth of Test (mm)	175	175	175	175	175	175
Depth of Layer (mm)	200	200	200	200	200	200
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	0	0	0	0	0	0
Field Moisture Content (%)	17.5	11.9	11.9	12.7	17.8	16.1
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1
Field Wet Density (t/m³)	2.05	2.10	2.08	2.10	2.06	2.03
Field Dry Density (t/m³)	1.74	1.88	1.86	1.87	1.75	1.75
Peak Converted Wet Density (t/m³)	2.00	2.14	2.14	2.14	2.00	2.02
Optimum Moisture Content (%)	18.0	12.0	12.0	13.0	18.5	16.5
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Ratio (%)	98.0	98.0	99.5	99.5	96.0	97.5
Moisture Variation (%)	0.5 dry	0.0	0.0	0.0	0.5 dry	0.5 dry
Hilf Density Ratio (%)	**102.0**	**98.0**	**97.5**	**98.5**	**103.5**	**100.0**

Comments

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Report No: HDR:W26DS00519
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00519'.

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project:
Project No.:
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-01945	S26DS-01946				
Field Sample ID	7	8				
Date Tested	4/03/2026	4/03/2026				
Time Tested	13:10	13:15				
E:	359358	359355				
N:	5780958	5780959				
Layer:	7	4				
Area:	Backfill	Backfill				
		Retest of S26DS-01885				

Field and Laboratory Data

Depth of Test (mm)	175	175				
Depth of Layer (mm)	200	200				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	0	0				
Field Moisture Content (%)	15.9	15.1				
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1				
Field Wet Density (t/m³)	2.03	2.07				
Field Dry Density (t/m³)	1.75	1.80				
Peak Converted Wet Density (t/m³)	2.01	2.03				
Optimum Moisture Content (%)	16.5	15.5				
Compactive Effort	Standard	Standard				
Moisture Ratio (%)	96.5	97.5				
Moisture Variation (%)	0.5 dry	0.5 dry				
Hilf Density Ratio (%)	**101.0**	**102.0**				

Comments

Results relate only to the items tested/sampled.

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Report No: HDR:W26DS00543
Issue No: 2
This report replaces all previous issues of report no 'HDR:W26DS00543'.

HILF Density Ratio Report

Client: Beveridge Williams & Co Pty Ltd
Address: PO Box 2205
CAULFIELD JUNCTION VIC 3161
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 25/06/2026

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-02017	S26DS-02018	S26DS-02019			
Field Sample ID	1	2	3			
Date Tested	5/03/2026	5/03/2026	5/03/2026			
Time Tested	11:20	11:30	11:45			
E:	359378	359376	359357			
N:	5780973	5780965	5780958			
Layer:	8	1	7			
Area:	Backfill	Backfill	Retarding Basin			
		Retest of S26DS-01796				
Field and Laboratory Data						
Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	81.5	16.6	17.1			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.04	2.05	2.05			
Field Dry Density (t/m³)	1.12	1.76	1.75			
Peak Converted Wet Density (t/m³)	2.07	2.01	2.09			
Optimum Moisture Content (%)	81.5	17.0	17.0			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	100.0	97.0	101.5			
Moisture Variation (%)	0.0	0.5 dry	0.0			
Hilf Density Ratio (%)	**98.5**	**101.5**	**98.0**			

Comments

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Report No: HDR:W26DS00563
Issue No: 1

HILF Density Ratio Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 20/03/2026

THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-02073					
Field Sample ID	1					
Date Tested	6/03/2026					
Time Tested	12:05					
E:	359365					
N:	57780977					
Layer:	9					
Area:	Backfill					

Field and Laboratory Data

Depth of Test (mm)	175					
Depth of Layer (mm)	200					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	0					
Field Moisture Content (%)	18.8					
Field Moisture Content Method	AS 1289.2.1.1					
Field Wet Density (t/m³)	2.07					
Field Dry Density (t/m³)	1.74					
Peak Converted Wet Density (t/m³)	2.02					
Optimum Moisture Content (%)	18.0					
Compactive Effort	Standard					
Moisture Ratio (%)	103.5					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	**102.5**					

Comments

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CHADWICK GEOTECHNICS

Dandenong South
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25 Metcalf Street
DANDENONG SOUTH, VIC 3175

Ph: + 61 3 8796 7900
Fax: +61 3 9706 9431

Report No: HDR:W26DS00743
Issue No: 1

HILF Density Ratio Report

Client: Beveridge Williams & Co Pty Ltd
Address: PO Box 2205
CAULFIELD JUNCTION VIC 3161
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 5/05/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-02670	S26DS-02671	S26DS-02672			
Field Sample ID	1	2	3			
Date Tested	24/03/2026	24/03/2026	24/03/2026			
Time Tested	10:50	10:55	11:00			
E:	359304	359307	359324			
N:	5780974	5780980	5780985			
Layer:	14	14	14			
Lot:	3338	-	-			

Field and Laboratory Data

Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	190.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	12.6	11.8	10.4			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.09	2.08	2.09			
Field Dry Density (t/m³)	1.86	1.86	1.89			
Peak Converted Wet Density (t/m³)	1.97	2.02	1.98			
Optimum Moisture Content (%)	17.0	14.5	15.0			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	73.5	81.0	69.5			
Moisture Variation (%)	4.5 dry	3.0 dry	4.5 dry			
Hilf Density Ratio (%)	**106.0**	**103.5**	**105.5**			

Comments

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Report No: HDR:W26DS01152
Issue No: 1

HILF Density Ratio Report

Client: Beveridge Williams & Co Pty Ltd
Address: PO Box 2205
CAULFIELD JUNCTION VIC 3161
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 26/05/2026

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Sample Details

Location:
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95%
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.2.1.1, AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Onsite
Material: Clay

Sample Data

Sample ID	S26DS-04287	S26DS-04288	S26DS-04289			
Field Sample ID	1	2	3			
Date Tested	6/05/2026	6/05/2026	6/05/2026			
Time Tested	12:30	12:45	12:55			
E:	359310	359311	359327			
N:	5780979	5780988	580992			
Layer:	FSL	FSL	FSL			
	Retest of S26DS-02670	Retest of S26DS-02671	Retest of S26DS-02672			

Field and Laboratory Data

Depth of Test (mm)	175	175	175			
Depth of Layer (mm)	200	200	200			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	0	0	0			
Field Moisture Content (%)	11.7	15.4	14.5			
Field Moisture Content Method	AS 1289.2.1.1	AS 1289.2.1.1	AS 1289.2.1.1			
Field Wet Density (t/m³)	2.09	2.09	2.08			
Field Dry Density (t/m³)	1.87	1.81	1.82			
Peak Converted Wet Density (t/m³)	2.05	2.13	2.09			
Optimum Moisture Content (%)	12.0	15.5	15.0			
Compactive Effort	Standard	Standard	Standard			
Moisture Ratio (%)	96.0	99.0	98.5			
Moisture Variation (%)	0.5 dry	0.0	0.5 dry			
Hilf Density Ratio (%)	**102.0**	**98.0**	**99.5**			

Comments

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Appendix D NATA compliance laboratory report

Dandenong South
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Ph: + 61 3 8796 7900
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Report No: MAT:S26DS-00354/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. Lamont
(Base Laboratory Manager -
Date of Issue: 10/02/2026

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Sample Details

Location	Retarding Basin
Sample Location	Sample 1, Stockpile, E: 359476, N: 5780871
Field Sample ID	1
Date Sampled	22/01/2026
Source	Onsite
Material	CI; Sandy CLAY trace gravel, brown, medium plasticity.
Specification	AS Grading
Sampling Method	AS1141.3.1 Clause 8.4.3 (Stockpile side)
Sample ID	S26DS-00354

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	12.6	
Date Tested		4/02/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	8.5	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		Yes	
Liquid Limit (%)	AS 1289.3.1.2	36	
Plastic Limit (%)	AS 1289.3.2.1	13	
Plasticity Index (%)	AS 1289.3.3.1	23	
Date Tested		9/02/2026	

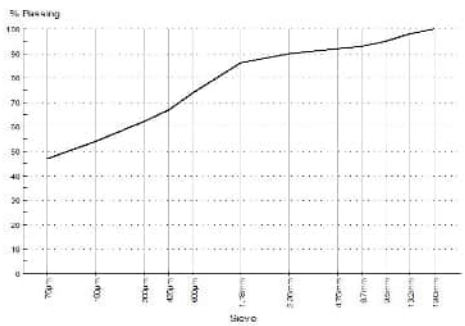
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 5/02/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
13.2mm	98	
9.5mm	95	
6.7mm	93	
4.75mm	92	
2.36mm	90	
1.18mm	86	
600µm	74	
425µm	67	
300µm	62	
150µm	54	
75µm	47	

Chart



Comments

Results relate only to the items tested/sampled.

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Report No: MAT:S26DS-00355/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. Lamont
(Base Laboratory Manager -
Date of Issue: 10/02/2026

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Sample Details

Location	Retarding Basin
Sample Location	Sample2, Stockpile, E: 359476, N: 5780871
Field Sample ID	2
Date Sampled	22/01/2026
Source	Onsite
Material	CL; Sandy CLAY trace gravel, grey brown, low plasticity.
Specification	AS Grading
Sampling Method	AS1141.3.1 Clause 8.4.3 (Stockpile side)
Sample ID	S26DS-00355

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	14.9	
Date Tested		4/02/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	8.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		Yes	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	34	
Plastic Limit (%)	AS 1289.3.2.1	14	
Plasticity Index (%)	AS 1289.3.3.1	20	
Date Tested		9/02/2026	

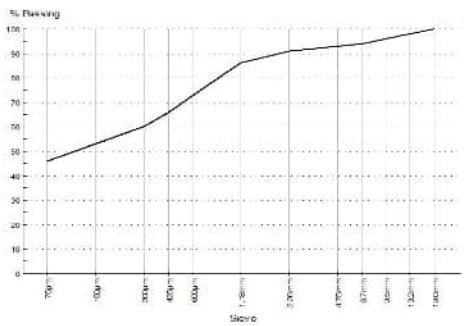
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 5/02/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
13.2mm	98	
9.5mm	96	
6.7mm	94	
4.75mm	93	
2.36mm	91	
1.18mm	86	
600µm	73	
425µm	66	
300µm	60	
150µm	53	
75µm	46	

Chart



Comments

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Report No: MAT:S26DS-00356/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. Lamont
(Base Laboratory Manager -
Date of Issue: 10/02/2026

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Sample Details

Location	Retarding Basin
Sample Location	Sample3, Stockpile, E: 359476, N: 5780871
Field Sample ID	3
Date Sampled	22/01/2026
Source	Onsite
Material	CL; Sandy CLAY trace gravel, grey brown, low plasticity.
Specification	AS Grading
Sampling Method	AS1141.3.1 Clause 8.4.3 (Stockpile side)
Sample ID	S26DS-00356

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	14.5	
Date Tested		4/02/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	8.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		Yes	
Liquid Limit (%)	AS 1289.3.1.2	35	
Plastic Limit (%)	AS 1289.3.2.1	14	
Plasticity Index (%)	AS 1289.3.3.1	21	
Date Tested		9/02/2026	

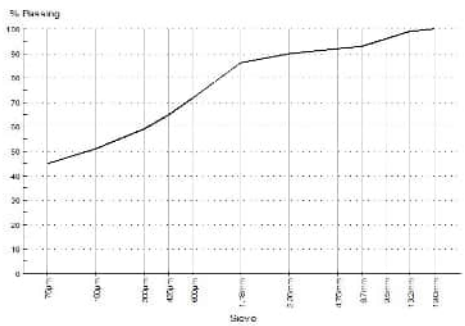
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 5/02/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
13.2mm	99	
9.5mm	96	
6.7mm	93	
4.75mm	92	
2.36mm	90	
1.18mm	86	
600µm	72	
425µm	65	
300µm	59	
150µm	51	
75µm	45	

Chart



Comments

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Report No: MAT:S26DS-00490/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Sample Location	Sample 4, E: 359233, N: 5780958, Layer: 1
Field Sample ID	1
Date Sampled	29/01/2026
Time Sampled	12:45
Source	Onsite
Material	Clay
Specification	AS Grading
Sampling Method	AS1289.1.2.1 Clause 6.4 (b)
Sample ID	S26DS-00490

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	7.4	
Date Tested		2/02/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	11.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		Yes	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	36	
Plastic Limit (%)	AS 1289.3.2.1	14	
Plasticity Index (%)	AS 1289.3.3.1	22	
Date Tested		9/02/2026	

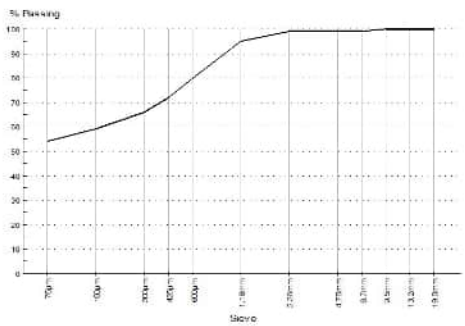
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 3/02/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
13.2mm	100	
9.5mm	100	
6.7mm	99	
4.75mm	99	
2.36mm	99	
1.18mm	95	
600µm	80	
425µm	72	
300µm	66	
150µm	59	
75µm	54	

Chart



Comments

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Report No: MAT:S26DS-00491/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Sample Location	Sample 5, E: 359233, N: 5780958, Layer: 1
Field Sample ID	2
Date Sampled	29/01/2026
Source	Onsite
Material	Clay
Specification	AS Grading
Sampling Method	AS1289.1.2.1 Clause 6.4 (b)
Sample ID	S26DS-00491

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	7.3	
Date Tested		2/02/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	9.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		Yes	
Liquid Limit (%)	AS 1289.3.1.2	36	
Plastic Limit (%)	AS 1289.3.2.1	14	
Plasticity Index (%)	AS 1289.3.3.1	22	
Date Tested		9/02/2026	

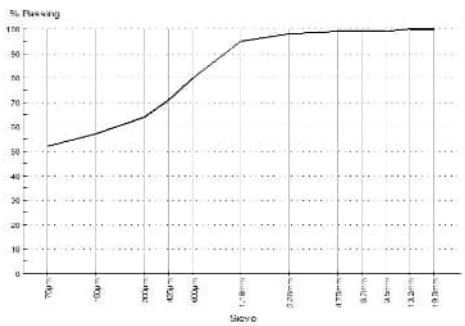
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 3/02/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
13.2mm	100	
9.5mm	99	
6.7mm	99	
4.75mm	99	
2.36mm	98	
1.18mm	95	
600µm	80	
425µm	71	
300µm	64	
150µm	57	
75µm	52	

Chart



Comments

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Report No: MAT:S26DS-00640/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Sample Location	E: 359272, N: 5780961, Layer: 2
Field Sample ID	1
Date Sampled	2/02/2026
Time Sampled	15:25
Source	Onsite
Material	Clay
Specification	AS Grading
Sampling Method	AS1289.1.2.1 Clause 6.4 (b)
Sample ID	S26DS-00640

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	12.4	
Date Tested		4/02/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	11.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		Yes	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	40	
Plastic Limit (%)	AS 1289.3.2.1	15	
Plasticity Index (%)	AS 1289.3.3.1	25	
Date Tested		9/02/2026	

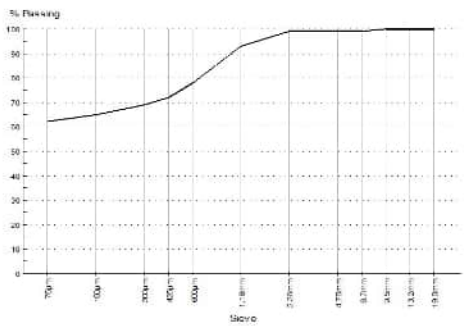
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 5/02/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
13.2mm	100	
9.5mm	100	
6.7mm	99	
4.75mm	99	
2.36mm	99	
1.18mm	93	
600µm	78	
425µm	72	
300µm	69	
150µm	65	
75µm	62	

Chart



Comments

Results relate only to the items tested/sampled.

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Report No: MAT:S26DS-01062/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. Lamont (Base Laboratory Manager - Date of Issue: 19/03/2026

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Sample Details

Sample Location	E 359229, N: 5780948, Layer 5
Field Sample ID	1
Date Sampled	12/02/2026
Time Sampled	14:00
Material	CI; Sandy CLAY trace gravel, grey brown, medium plasticity.
Specification	AS Grading
Sampling Method	AS1289.1.2.1 Clause 6.4 (b)
Sample ID	S26DS-01062

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	20.4	
Date Tested		13/03/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	10.5	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	36	
Plastic Limit (%)	AS 1289.3.2.1	16	
Plasticity Index (%)	AS 1289.3.3.1	20	
Date Tested		19/03/2026	

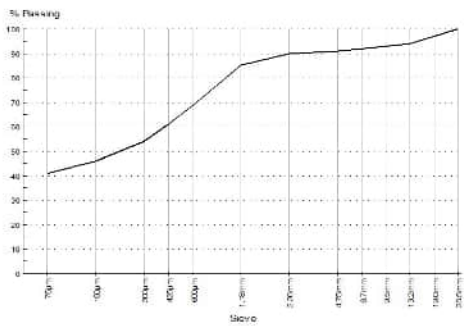
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 17/03/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
26.5mm	100	
19.0mm	97	
13.2mm	94	
9.5mm	93	
6.7mm	92	
4.75mm	91	
2.36mm	90	
1.18mm	85	
600µm	69	
425µm	61	
300µm	54	
150µm	46	
75µm	41	

Chart



Comments

Results relate only to the items tested/sampled.

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Ph: + 61 3 8796 7900
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Report No: MAT:S26DS-01239/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. Lamont
(Base Laboratory Manager -
Date of Issue: 19/03/2026

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Sample Details

Sample Location	E: 359295, N: 5780946, Layer: 6
Field Sample ID	1
Date Sampled	18/02/2026
Time Sampled	12:00
Source	Onsite
Material	CI; Sandy CLAY trace gravel, brown, medium plasticity.
Specification	AS Grading
Sampling Method	AS1141.3.1 Clause 8.4.3 (Stockpile side)
Sample ID	S26DS-01239

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	14.1	
Date Tested		23/02/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	12.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	43	
Plastic Limit (%)	AS 1289.3.2.1	15	
Plasticity Index (%)	AS 1289.3.3.1	28	
Date Tested		14/03/2026	

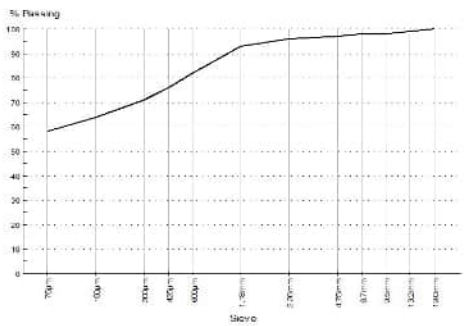
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 24/02/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
13.2mm	99	
9.5mm	98	
6.7mm	98	
4.75mm	97	
2.36mm	96	
1.18mm	93	
600µm	82	
425µm	76	
300µm	71	
150µm	64	
75µm	58	

Chart



Comments

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Report No: MAT:S26DS-01322/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. Lamont
(Base Laboratory Manager -
Date of Issue: 13/03/2026

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Sample Details

Sample Location	E: 359675, N: 5779901
Field Sample ID	1
Date Sampled	13/02/2026
Source	Site Derived
Material	CH: CLAY trace gravel & sand, dark brown, high plasticity.
Specification	AS Grading
Sampling Method	AS1289.1.2.1 Clause 6.4 (b)
Sample ID	S26DS-01322

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	16.2	
Date Tested		23/02/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	15.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		Yes	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	53	
Plastic Limit (%)	AS 1289.3.2.1	18	
Plasticity Index (%)	AS 1289.3.3.1	35	
Date Tested		3/03/2026	

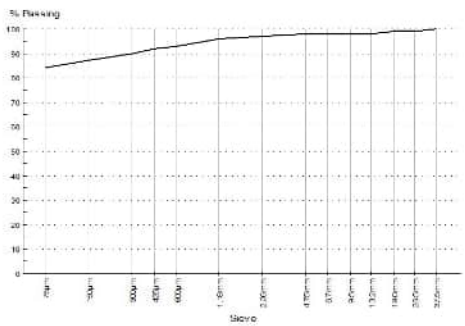
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 24/02/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
37.5mm	100	
26.5mm	99	
19.0mm	99	
13.2mm	98	
9.5mm	98	
6.7mm	98	
4.75mm	98	
2.36mm	97	
1.18mm	96	
600µm	93	
425µm	92	
300µm	90	
150µm	87	
75µm	84	

Chart



Comments

Results relate only to the items tested/sampled.

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Report No: MAT:S26DS-01323/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. Lamont (Base Laboratory Manager -
Date of Issue: 13/03/2026

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Sample Details

Sample Location	E: 359702, N: 5779863
Field Sample ID	2
Date Sampled	13/02/2026
Source	Site Derived
Material	CH; CLAY with sand trace gravel, brown, high plasticity.
Specification	AS Grading
Sampling Method	AS1289.1.2.1 Clause 6.4 (b)
Sample ID	S26DS-01323

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	17.7	
Date Tested		23/02/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	12.5	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	52	
Plastic Limit (%)	AS 1289.3.2.1	23	
Plasticity Index (%)	AS 1289.3.3.1	29	
Date Tested		3/03/2026	

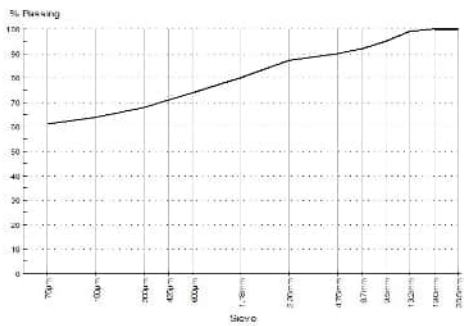
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 24/02/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
26.5mm	100	
19.0mm	100	
13.2mm	99	
9.5mm	95	
6.7mm	92	
4.75mm	90	
2.36mm	87	
1.18mm	80	
600µm	74	
425µm	71	
300µm	68	
150µm	64	
75µm	61	

Chart



Comments

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Report No: MAT:S26DS-01795/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: J. Lamont
(Base Laboratory Manager -
Date of Issue: 19/03/2026

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Sample Details

Sample Location	359365, 5780970, 4
Field Sample ID	1
Date Sampled	27/02/2026
Time Sampled	12:00
Source	Site Derived
Material	CI; CLAY with sand, brown mottled grey, medium plasticity.
Specification	AS Grading
Sampling Method	AS1289.1.2.1 Clause 6.4 (b)
Sample ID	S26DS-01795

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	23.1	
Date Tested		6/03/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	11.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	50	
Plastic Limit (%)	AS 1289.3.2.1	17	
Plasticity Index (%)	AS 1289.3.3.1	33	
Date Tested		13/03/2026	

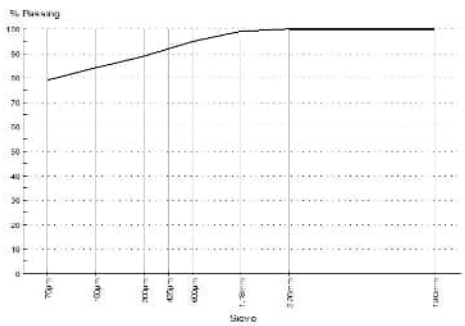
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 10/03/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
2.36mm	100	
1.18mm	99	
600µm	95	
425µm	92	
300µm	89	
150µm	84	
75µm	79	

Chart



Comments

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Report No: MAT:S26DS-02101/1
Issue No: 1

Material Test Report

Client: Beveridge Williams & Co Pty Ltd
Address: PO Box 2205
CAULFIELD JUNCTION VIC 3161
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 22/04/2026

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Sample Details

Sample Location	
Field Sample ID	1
Date Sampled	6/03/2026
Source	Onsite stockpile / wetland
Material	Cl Sandy CLAY, trace gravel, grey brown, medium plasticity, fine to coarse grained sand
Specification	AS Grading
Sampling Method	AS1289.1.2.1 Clause 6.2
Sample ID	S26DS-02101

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	16.9	
Date Tested		11/03/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	9.5	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	43	
Plastic Limit (%)	AS 1289.3.2.1	16	
Plasticity Index (%)	AS 1289.3.3.1	27	
Date Tested		24/03/2026	

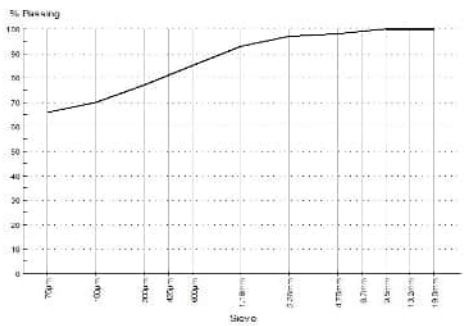
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 20/03/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
13.2mm	100	
9.5mm	100	
6.7mm	99	
4.75mm	98	
2.36mm	97	
1.18mm	93	
600µm	85	
425µm	81	
300µm	77	
150µm	70	
75µm	66	

Chart



Comments

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Report No: MAT:S26DS-02102/1
Issue No: 1

Material Test Report

Client: Beveridge Williams & Co Pty Ltd
Address: PO Box 2205
CAULFIELD JUNCTION VIC 3161
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 22/04/2026

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Sample Details

Sample Location	
Field Sample ID	2
Date Sampled	6/03/2026
Source	Onsite stockpile / wetland
Material	Cl Sandy CLAY, trace gravel, grey brown, medium plasticity, fine to coarse grained sand
Specification	AS Grading
Sampling Method	AS1289.1.2.1 Clause 6.2
Sample ID	S26DS-02102

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	20.7	
Date Tested		11/03/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	13.5	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	45	
Plastic Limit (%)	AS 1289.3.2.1	15	
Plasticity Index (%)	AS 1289.3.3.1	30	
Date Tested		21/03/2026	

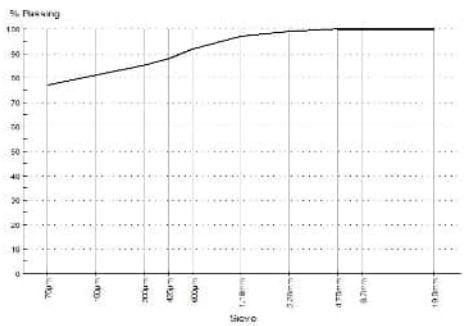
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 19/03/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
19.0mm	100	
6.7mm	100	
4.75mm	100	
2.36mm	99	
1.18mm	97	
600µm	92	
425µm	88	
300µm	85	
150µm	81	
75µm	77	

Chart



Comments

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Report No: MAT:S26DS-00391/1
Issue No: 1

Material Test Report

Client: Mirvac Group Ltd
Address: Level 5, Building Q3
SOUTHBANK VIC 3006
Project: Smiths Lane Estate, Stage 33/34 RB
Project No.: 1101685
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

Accreditation Number: 12719
Site Number: 12712
Approved Signatory: M. Di Meglio
(Practice Lead - Technical Services)
Date of Issue: 6/03/2026

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Sample Details

Sample Location	Site Stockpile
Field Sample ID	1
Date Sampled	28/01/2026
Source	FH Tynong
Material	40mm NDCR
Specification	AS Grading
Sampling Method	As Received
Sample ID	S26DS-00391

Other Test Results

Description	Method	Result	Limits
Moisture Content (%)	AS 1289.2.1.1	3.6	
Date Tested		28/01/2026	
Sample History	AS 1289.1.1	Oven-Dried	
Preparation	AS 1289.1.1	Dry Sieved	
Linear Shrinkage (%)	AS 1289.3.4.1	3.0	
Mould Length (mm)		250	
Crumbling		No	
Curling		No	
Cracking		No	
Liquid Limit (%)	AS 1289.3.1.2	27	
Plastic Limit (%)	AS 1289.3.2.1	17	
Plasticity Index (%)	AS 1289.3.3.1	10	
Date Tested		2/02/2026	

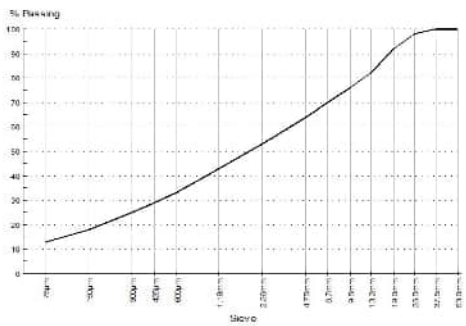
Particle Size Distribution

Method: AS 1289.3.6.1
Drying By: Oven
Date Tested: 29/01/2026

Note: Sample Washed

Sieve Size	% Passing	Limits
53.0mm	100	
37.5mm	100	
26.5mm	98	
19.0mm	92	
13.2mm	82	
9.5mm	76	
6.7mm	70	
4.75mm	64	
2.36mm	53	
1.18mm	43	
600µm	33	
425µm	29	
300µm	25	
150µm	18	
75µm	13	

Chart



Comments

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Appendix E Controlled fill certificate

CONTROLLED FILL CERTIFICATE - LEVEL 1 INSPECTION & TESTING

PROJECT : Smiths Lane, Stage 33
Lots 3301 to 3350

Chadwick Geotechnics REF: 1101685.33.R1.v1

CLIENT : Beveridge Williams & Co Pty Ltd
1 Glenferrie Rd, Malvern Vic 3144

DATE: 20 August 2026

SUMMARY

Chadwick Geotechnics Pty Ltd conducted Level 1 inspection and testing in accordance with Section 8.2 of *AS3798-2007, Guidelines on earthworks for commercial and residential developments,* during the filling of the site.

So far as can be determined, the fill was placed in accordance with the specification requirements.

LIMITATIONS

This Certificate has been commissioned for the filling of the lots mentioned above and is based on the site conditions present at the time of the inspections (27 January 2026 to 6 May 2026). No responsibility or liability will be accepted for the use of this report for any purpose other than that for which Chadwick Geotechnics Pty Ltd was engaged, or where there has been a change in the nature of the project or the site conditions since the site testing.

Chadwick Geotechnics Pty Ltd

Robert Barden
Project Manager

Michael Di Meglio
Project Director

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