



# Australian Geotechnical Testing

## Level One Inspection and Testing

**Project No: AGTE230090**  
**Project: Alluvium Estate Stage 5**  
**Suburb: Delacombe**



**Client: Wayne Horne Earthmoving**

**Date: 7<sup>th</sup> March 2023**

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Geotechnical	Pavement	Environmental	Residential	Design
Slope Stability Assessment	Land Capability Assessments	Erosion and Sediment Control Plan		
Retaining Walls	Level 1 Supervision	Earthworks Specification's	Percolation	

**Adelaide | Brisbane | Ballarat | Melbourne | Warrnambool**

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## 1 Introduction

Australian Geotechnical Testing (AGT) has been engaged by Wayne Horne Earthmoving to provide Level 1 Geotechnical Supervision for the Alluvium Estate Stage 5 project. The Estate is located in Delacombe.

This Level 1 report presents the results of supervision activities, compaction and moisture control, material placement and laboratory testing for ground works undertaken for the project. This report covers construction activities carried out from **20<sup>th</sup> December 2022 to 10<sup>th</sup> February 2023**.

## 2 Scope of Works

The scope of works involved the placement of on-site General Fill. Fill Material was placed in Level one fill areas, in accordance with **AS 3798-2007, *Guidelines on earthworks for commercial and residential developments and project specifications***. The level of FILL to be placed is less than 5m as per AS3798 Section 1.1.

The fill material is required as per AS3798 and the project specification to achieve:

- **95% Standard Maximum Dry Density (Compaction)**

General fill material used for the construction was locally sourced and predominantly comprising of Brown Silty Clay.

## 3 Inspections / Supervision

Full-time Level 1 supervision and inspection was undertaken including the supervision and inspections regarding the stripping and removal as per AS3798 Section 3 shall have removed:

- Organic soils, such as topsoils, severely root affected subsoils and peat;
- Contaminated soils are part of the brief;
- Materials which undergo volume change or loss of strength when disturbed and exposed to moisture;
- Silts, or materials that have deleterious engineering properties of silt;
- Other materials with properties that are unsuitable for the forming of structural fill;
- Fill that contains wood, metal plastic, boulders or other deleterious material, in sufficient proportions to affect the required performance of the fill.
- The maximum particle size of any rocks or other lumps, within the layer, has not exceeded two-thirds ( $\frac{2}{3}$ ) of the compacted layer thickness.

The lots inspected were essentially homogeneous in relation to material type and moisture condition, rolling response and compaction technique and which has been used for the assessment of relative compaction of an area of work (AS3798 Section 1.2.8).

Prior to placement any existing filled ground, for which the conditions of the placement are not adequately documented have not been assumed to have been of either standard compaction or of the composition adequate to support fill or any loads has been removed (AS3798 Section 2).

## 4 Testing

The project was classified as **Residential**, thereby requiring a minimum compaction result of **95%** density ratio Standard Compaction for the **cohesive soils** (AS 1289 5.7.1 & 5.1.1) throughout the Level 1 Fill and in accordance with AS 3798-2007 – Table 5.2. The test was performed using a Nuclear Density Gauge for field density determination AS 1289.5.8.1.

As a minimum testing was undertaken either 3 tests per lot, 1 test per 2,500m<sup>2</sup> per layer, or 1 test per 500m<sup>3</sup> throughout the placement of fill as per AS3798 Table 8.1.

The material was site derived Brown Silty Clay. The material was placed in approximately 200mm loose layers, rolling effort with on-site Compactor (to seal of each layer of placed General Fill material) to a compacted 150mm layer that achieved 95% Standard Compaction which met Australian Standards specifications. This was considered the best method to achieve compaction using the plant and machinery available.

The NATA compaction reports verify the achievement of the minimum density requirement of 95% Standard Compaction throughout the full depth area, with each layer tested accordingly. All test results were provided to our client: Wayne Horn Earthmoving for inclusion within their internal quality system.

At the completion of the structural layers and material within 150mm of permanent subgrade level in cuttings, test rolling was undertaken, and the layers withstood test rolling without visible deformation or springing (AS 3798 Section 5.5).

The area covered by this Level 1 Supervision report is shown in the Site Plan (Refer to Appendix A). The results of the laboratory Testing are indicated in Appendix B.

## 5 Conclusion

On the completion of the earthworks and after analysing the materials used, it has been concluded that the filling procedure conducted by our client **Wayne Horne Earthmoving** **satisfied** the general requirements of AS 3798 regards to the placement of fill materials on a project under Level 1 Supervision and in accordance with the project specification as provided to AGT.

The fill meets the requirements for “structural fill for residential applications” in accordance with AS3798. The fill has been placed, compacted and tested in accordance with AS3798 and the fill meets the requirements for controlled fill in accordance with AS2870 (2011) “Residential Slabs and Footings”.

This report has been prepared for the benefit of our client with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose without our prior review and agreement. No responsibility for this report will be taken by AGT if it is altered in any way, or not reproduced in full.

## 6 Applicability

The findings and conclusions contained in this Report are made based on site conditions that existed at the time this work was conducted. The conclusions presented in this report are relevant to the conditions of the site and the state of legislation currently enacted as at the date of this report.

Findings and conclusions are made assuming that the soil, groundwater, geological and chemical conditions detailed within this report are accurate and remain applicable to the site at the time of writing. The conclusions of this report may become invalid if filling or excavation occurs after the boreholes and test pits referred to in this report were drilled or excavated. No other warranties are made or intended.

AGT has used a degree of skill and care ordinarily exercised by reputable members of our profession practicing in the same or similar locality.

AGT does not make any representation or warranty that the conclusions in this report will be applicable in the future as there may be changes in the condition of the site, applicable legislation or other factors that would affect the conclusions contained in this report. This report has been prepared exclusively for use by our client. This report cannot be reproduced without the written authorisation of AGT and then can only be reproduced in its entirety.

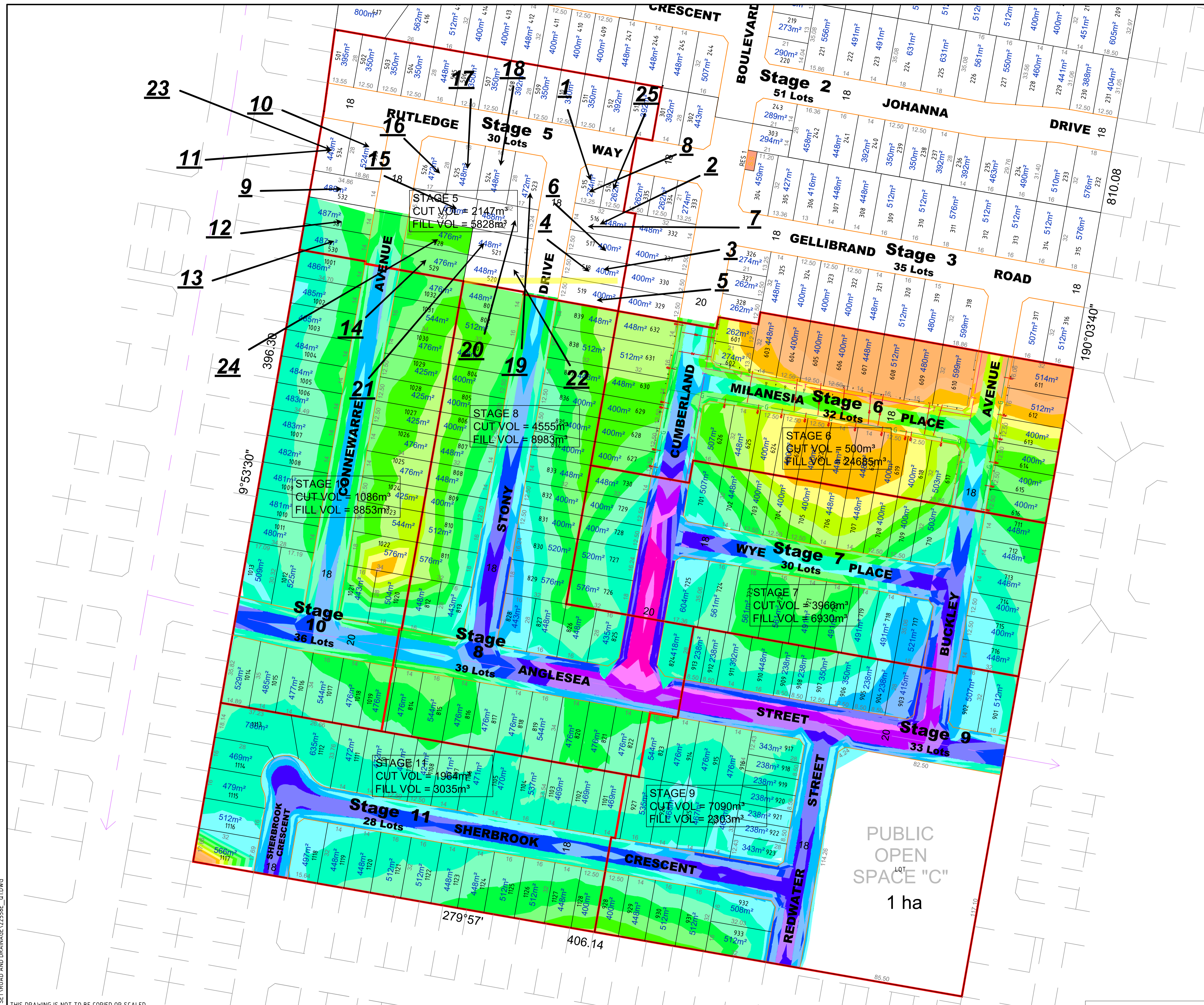


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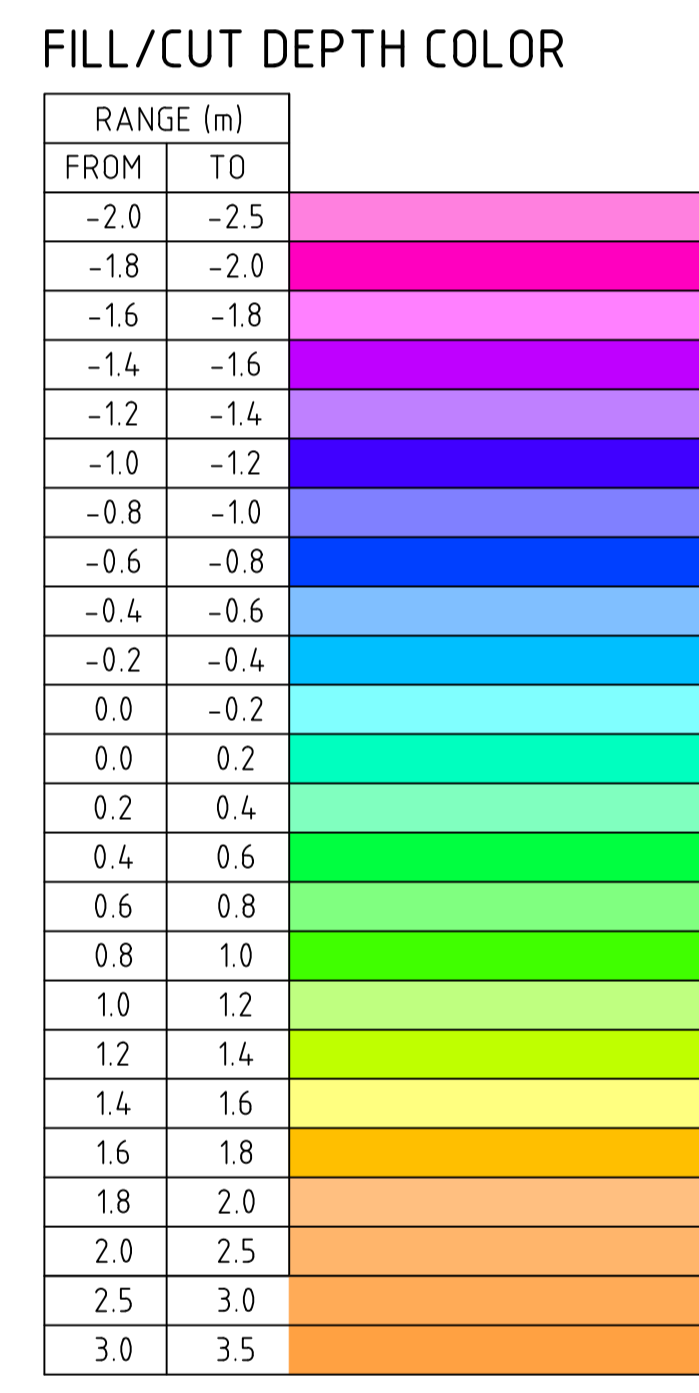


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## Appendix A – Site Plan



- NOTES:**
- THE WORKS SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE CURRENT COUNCIL STANDARD DRAWINGS AND SPECIFICATIONS. WORKS TO BE CARRIED OUT TO THE SATISFACTION OF THE WORKS SUPERINTENDENT.
  - THE CONTRACTOR IS RESPONSIBLE FOR SAFETY OF WORK ON SITE IN ACCORDANCE WITH APPROPRIATE LEGISLATION. HE/SHE SHALL ERRECT AND MAINTAIN ALL SHORING, PLANKING AND STRUTTING, DEWATERING DEVICES, BARRICADES, SIGNS, LIGHTS, ETC. NECESSARY TO KEEP WORKS IN A SAFE AND STABLE CONDITION, AND TO PROTECT THE PUBLIC FROM HAZARDS ASSOCIATED WITH THE WORKS.
  - THE CONTRACTOR SHALL:
    - COMPLY WITH THE SAFETY REQUIREMENTS OF THE MINES ACT, GENERAL REGULATIONS AND STATUTORY RULES, AND THE MINES (TRENCHES) REGULATIONS 1982.
    - NOTIFY THE OCCUPATIONAL HEALTH AND SAFETY AUTHORITY OF HIS INTENTION TO COMMENCE TRENCHING OPERATIONS WHERE TRENCHES ARE 15 METERS OR DEEPER.
    - ENSURE THAT THE MINE MANAGER OR HIS DEPUTY AS REQUIRED BY THE REGULATIONS IS IN ATTENDANCE WHEN TRENCHING OPERATIONS ARE IN PROGRESS.
    - OBTAIN A ROAD OPENING PERMIT FOR ANY WORKS WITHIN EXISTING ROAD RESERVES OR ANY WORKS ON EXISTING INFRASTRUCTURE.
  - THE CONTRACTOR SHALL NOTIFY COUNCIL'S SURVEILLANCE CO-ORDINATOR AND ALL SERVICE AUTHORITIES SEVEN (7) DAYS PRIOR TO COMMENCEMENT OF CONSTRUCTION.
  - THE LOCATION OF EXISTING SERVICES SHALL BE DETERMINED BY THE CONTRACTOR PRIOR TO COMMENCING ANY EXCAVATION BY CONTACTING ALL RELEVANT SERVICE AUTHORITIES. ANY EXISTING SERVICES SHOWN ON THE DRAWINGS ARE OFFERED AS A GUIDE ONLY AND ARE NOT GUARANTEED AS CORRECT.
  - ALL LEVELS ARE TO AUSTRALIAN HEIGHT DATUM.
  - TREES AND SHRUBS SHALL BE RETAINED, UNLESS REMOVAL IS DIRECTED BY SUPERINTENDENT.
  - THE CONTRACTOR IS TO ENSURE THAT THEIR CONSTRUCTION PROCEDURES AND STANDARDS CONTROL THE VOLUME AND LOCATION FOR COLLECTION OF SEDIMENT RUNOFF ACCORDING TO CONSTRUCTION SITES.
  - UPON COMPLETION OF CONSTRUCTION THE WHOLE SITE SHALL BE CLEANED UP, GRADED AND ALL RUBBISH REMOVED. THE SITE IS TO BE LEFT IN A CLEAN AND TIDY CONDITION TO THE SATISFACTION OF THE SUPERINTENDENT.
  - EARTHWORK FILLING TO BE COMPACTED TO 95% STANDARD IN ACCORDANCE WITH AS 1289.5-2.1



THIS DRAWING IS NOT TO BE COPIED OR SCALED

VERSION	REMARKS	DATE	BY
D	CUT & FILL QUANTITIES REVISED	11.11.22	MW
C	STAGE 5 INCLUDED	30.08.22	MW
B	PRELIMINARY RE-ISSUE	25.08.22	MW
A	PRELIMINARY ISSUE	11.07.22	MW

DRAWN BY	M.WEE	DESIGNED BY	M.WEE
MELWAY	565, N10	CHECKED BY	XXX
DATUM	AHD	AUTHORISED BY	XXX

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CITY OF BALLARAT		DRAWING No.	VERSION
ALLUVIUM ESTATE, WINTER VALLEY		Q1	D
BULK EARTHWORKS		REFERENCE	
		22558E	
		SHEET	1 OF 1

## Appendix B – Laboratory Testing



# Material Test Report

**Report Number:** AGT60197-1  
**Issue Number:** 1  
**Date Issued:** 22/12/2022  
**Client:** Wayne Horne Earthmoving  
 3 Trewin Street, Wendouree VIC 3355  
**Project Number:** AGT60197  
**Project Name:** Alluvium Estate Stage 5  
**Project Location:** Delacombe  
**Work Request:** 1237  
**Dates Tested:** 20/12/2022 - 21/12/2022  
**Location:** Alluvium Estate Stage 5



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Approved Signatory: Paul Francis  
 Laboratory Manager - Ballarat  
 NATA Accredited Laboratory Number: 20457

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	60197-1	60197-2	60197-3
Date Tested	20/12/2022	20/12/2022	20/12/2022
Time Tested	13:00	13:10	13:20
Test Request #/Location	Alluvium Estate Stage 5 Lot 515	Alluvium Estate Stage 5 Lot 516	Alluvium Estate Stage 5 Lot 518
Latitude	-37.57192	-37.57177	-37.57192
Longitude	143.79274	143.79259	143.79274
Layer / Reduced Level	150mm below FSL	150mm below FSL	150mm below FSL
Thickness of Layer (mm)	150	150	150
Soil Description	Silty CLAY	Silty CLAY	Silty CLAY
Test Depth (mm)	125	125	125
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.05	1.97	2.06
Field Moisture Content %	18.5	18.9	17.8
Field Dry Density (FDD) t/m <sup>3</sup>	1.73	1.66	1.75
Peak Converted Wet Density t/m <sup>3</sup>	2.09	2.05	2.10
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	0.0	0.5	0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>98.0</b>	<b>96.5</b>	<b>98.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

## Moisture Variation Note:

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

# Material Test Report

**Report Number:** AGT60197-2  
**Issue Number:** 1  
**Date Issued:** 24/01/2023  
**Client:** Wayne Horne Earthmoving  
 3 Trewin Street, Wendouree VIC 3355  
**Project Number:** AGT60197  
**Project Name:** Alluvium Estate Stage 5  
**Project Location:** Delacombe  
**Work Request:** 1253  
**Date Sampled:** 12/01/2023  
**Dates Tested:** 13/01/2023 - 13/01/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% Standard  
**Site Selection:** Selected by Client  
**Location:** Alluvium Estate Stage 5  
**Material:** (CH) silty CLAY- Brown  
**Material Source:** Onsite



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 NATA Accredited Laboratory Number: 20457

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	60197-4	60197-5	
Date Tested	12/01/2023	12/01/2023	
Time Tested	15:00	15:10	
Test Request #/Location	Alluvium Estate Stage 5 Lot 519	Alluvium Estate Stage 5 Lot 518	
Latitude	-37.57228	-37.57218	
Longitude	143.74287	143.72974	
Layer / Reduced Level	FSL	FSL	
Thickness of Layer (mm)	150	150	
Soil Description	(CH) silty CLAY- Brown	(CH) silty CLAY- Brown	
Test Depth (mm)	125	125	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	**	**	
Field Wet Density (FWD) t/m <sup>3</sup>	2.10	2.04	
Field Moisture Content %	18.0	16.4	
Field Dry Density (FDD) t/m <sup>3</sup>	1.78	1.75	
Peak Converted Wet Density t/m <sup>3</sup>	2.16	2.09	
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	
Moisture Variation (Wv) %	2.0	2.5	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	<b>97.5</b>	<b>97.5</b>	
Compaction Method	<b>Standard</b>	<b>Standard</b>	
Report Remarks	**	**	

## Moisture Variation Note:

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

# Material Test Report

**Report Number:** AGT60197-3  
**Issue Number:** 1  
**Date Issued:** 24/01/2023  
**Client:** Wayne Horne Earthmoving  
 3 Trewin Street, Wendouree VIC 3355  
**Project Number:** AGT60197  
**Project Name:** Alluvium Estate Stage 5  
**Project Location:** Delacombe  
**Work Request:** 1262  
**Date Sampled:** 13/01/2023  
**Dates Tested:** 13/01/2023 - 13/01/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% Standard  
**Site Selection:** Selected by Client  
**Location:** Alluvium Estate Stage 5  
**Material:** (CH) silty CLAY- Brown  
**Material Source:** Onsite



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Approved Signatory: Paul Francis  
 Laboratory Manager - Ballarat  
 NATA Accredited Laboratory Number: 20457

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	60197-6	60197-7	60197-8
Date Tested	13/01/2023	13/01/2023	13/01/2023
Time Tested	13:05	13:15	13:25
Test Request #/Location	Alluvium Estate Stage 5 Lot 517	Alluvium Estate Stage 5 Lot 516	Alluvium Estate Stage 5 Lot 515
Latitude	-37.57681	-37.57184	-37.57195
Longitude	143.815542	143.792289	143.79277
Layer / Reduced Level	FSL	FSL	FSL
Thickness of Layer (mm)	150	150	150
Soil Description	(CH) silty CLAY- Brown	(CH) silty CLAY- Brown	(CH) silty CLAY- Brown
Test Depth (mm)	125	125	125
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.01	2.03	2.02
Field Moisture Content %	30.1	25.4	23.5
Field Dry Density (FDD) t/m <sup>3</sup>	1.54	1.62	1.64
Peak Converted Wet Density t/m <sup>3</sup>	2.11	2.10	2.08
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	-1.0	-1.0	-0.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>95.0</b>	<b>96.5</b>	<b>97.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

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

# Material Test Report

**Report Number:** AGT60197-4  
**Issue Number:** 1  
**Date Issued:** 20/02/2023  
**Client:** Wayne Horne Earthmoving  
 3 Trewin Street, Wendouree VIC 3355  
**Project Number:** AGT60197  
**Project Name:** Alluvium Estate Stage 5  
**Project Location:** Delacombe  
**Work Request:** 1279  
**Date Sampled:** 30/01/2023 8:00  
**Dates Tested:** 06/02/2023 - 09/02/2023  
**Sampling Method:** RMS T100/TS 02794.01 - AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% Standard  
**Site Selection:** Selected by Client  
**Location:** Alluvium Estate Stage 5  
**Material:** (CH) silty CLAY- Brown  
**Material Source:** In Situ



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Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1						
Sample Number	60197-9	60197-10	60197-11	60197-12	60197-13	60197-14
Date Tested	06/02/2023	06/02/2023	06/02/2023	06/02/2023	06/02/2023	06/02/2023
Time Tested	08:45	08:55	09:00	16:00	16:10	16:27
Test Request #/Location	Alluvium Estate - Stage 5 Lot 532	Alluvium Estate - Stage 5 Lot 533	Alluvium Estate - Stage 5 Lot 534	Alluvium Estate - Stage 5 Lot 531	Alluvium Estate - Stage 5 Lot 530	Alluvium Estate - Stage 5 Lot 529
Latitude	-37.571757	-37.571917	-37.571955	-37.571860	-37.571993	-37.572001
Longitude	143.791875	143.791683	143.791688	143.791528	143.791532	143.791547
Layer / Reduced Level	FSL	FSL	FSL	FSL	FSL	FSL
Thickness of Layer (mm)	150	150	150	150	150	150
Soil Description	(CH) silty CLAY- Brown	(CH) silty CLAY- Brown	(CH) silty CLAY- Brown	(CH) silty CLAY- Brown	(CH) silty CLAY- Brown	(CH) silty CLAY- Brown
Test Depth (mm)	125	125	125	125	125	125
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.17	2.10	1.98	2.02	2.06	2.07
Field Moisture Content %	15.8	19.4	15.3	15.7	20.2	12.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.88	1.76	1.71	1.75	1.71	1.85
Peak Converted Wet Density t/m <sup>3</sup>	2.16	2.12	2.10	2.13	2.14	2.14
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**	**	**
Moisture Variation (Wv) %	0.0	-2.0	-0.5	1.0	0.0	0.5
Adjusted Moisture Variation %	**	**	**	**	**	**
Hilf Density Ratio (%)	100.5	98.5	94.5	95.0	96.0	97.0
Compaction Method	Standard	Standard	Standard	Standard	Standard	Standard
Report Remarks	**	**	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** AGT60197-5  
**Issue Number:** 1  
**Date Issued:** 20/02/2023  
**Client:** Wayne Horne Earthmoving  
 3 Trewin Street, Wendouree VIC 3355  
**Project Number:** AGT60197  
**Project Name:** Alluvium Estate Stage 5  
**Project Location:** Delacombe  
**Work Request:** 1292  
**Date Sampled:** 09/02/2023  
**Dates Tested:** 09/02/2023 - 13/02/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% Standard  
**Site Selection:** Selected by Client  
**Location:** Alluvium Estate Stage 5  
**Material:** (Cl) silty CLAY- Brown  
**Material Source:** Onsite



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Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	60197-15	60197-16	60197-17	60197-18
Date Tested	09/02/2023	09/02/2023	09/02/2023	09/02/2023
Time Tested	09:30	09:35	09:40	12:10
Test Request #/Location	Alluvium Estate Stage 5 LOT 527	Alluvium Estate Stage 5 LOT 526	Alluvium Estate Stage 5 LOT 525	Alluvium Estate Stage 5 LOT 524
Latitude	-37.57170	-37.57182	-37.57180	-37.57183
Longitude	143.79083	143.79184	143.79196	143.79192
Layer / Reduced Level	FSL	FSL	FSL	FSL
Thickness of Layer (mm)	125	125	125	125
Soil Description	**	**	**	**
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.03	2.04	1.94	2.00
Field Moisture Content %	12.5	12.3	12.0	17.0
Field Dry Density (FDD) t/m <sup>3</sup>	1.80	1.82	1.74	1.71
Peak Converted Wet Density t/m <sup>3</sup>	1.99	2.01	1.99	2.02
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**
Moisture Variation (Wv) %	5.5	5.5	3.0	2.5
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	<b>102.0</b>	<b>101.5</b>	<b>97.5</b>	<b>99.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** AGT60197-5  
**Issue Number:** 1  
**Date Issued:** 20/02/2023  
**Client:** Wayne Horne Earthmoving  
 3 Trewin Street, Wendouree VIC 3355  
**Project Number:** AGT60197  
**Project Name:** Alluvium Estate Stage 5  
**Project Location:** Delacombe  
**Work Request:** 1292  
**Date Sampled:** 09/02/2023  
**Dates Tested:** 09/02/2023 - 13/02/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% Standard  
**Site Selection:** Selected by Client  
**Location:** Alluvium Estate Stage 5  
**Material:** (Cl) silty CLAY- Brown  
**Material Source:** Onsite



Australian Geotechnical Testing  
 Ballarat Laboratory  
 2/55 Heinz Road Delacombe VIC 3356  
 Phone: 1300 026 583  
 Email: PaulF@ausgeotest.com.au

Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Paul Francis  
 Laboratory Manager - Ballarat  
 NATA Accredited Laboratory Number: 20457

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1				
Sample Number	60197-19	60197-20	60197-21	60197-22
Date Tested	09/02/2023	09/02/2023	09/02/2023	09/02/2023
Time Tested	12:15	12:20	12:25	12:30
Test Request #/Location	Alluvium Estate Stage 5 LOT 523	Alluvium Estate Stage 5 LOT 522	Alluvium Estate Stage 5 LOT 521	Alluvium Estate Stage 5 LOT 520
Latitude	37.57185	-37.57182	-37.37.57183	-37.57186
Longitude	143.79197	143.7919	143.79097	143.79094
Layer / Reduced Level	FSL	FSL	FSL	FSL
Thickness of Layer (mm)	125	125	125	125
Soil Description	**	**	**	**
Test Depth (mm)	150	150	150	150
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	1.97	1.92	2.00	2.13
Field Moisture Content %	19.6	18.9	15.7	12.2
Field Dry Density (FDD) t/m <sup>3</sup>	1.65	1.61	1.73	1.90
Peak Converted Wet Density t/m <sup>3</sup>	2.00	2.01	2.00	2.07
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**	**
Moisture Variation (Wv) %	3.0	1.0	3.5	3.0
Adjusted Moisture Variation %	**	**	**	**
Hilf Density Ratio (%)	<b>98.5</b>	<b>95.0</b>	<b>100.0</b>	<b>103.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**	**

**Moisture Variation Note:**

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

# Material Test Report

**Report Number:** AGT60197-6  
**Issue Number:** 1  
**Date Issued:** 27/02/2023  
**Client:** Wayne Horne Earthmoving  
 3 Trewin Street, Wendouree VIC 3355

**Project Number:** AGT60197  
**Project Name:** Alluvium Estate Stage 5  
**Project Location:** Delacombe  
**Work Request:** 1306  
**Date Sampled:** 10/02/2023  
**Dates Tested:** 10/02/2023 - 16/02/2023  
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted  
**Specification:** 95% Standard  
**Site Selection:** Selected by Client  
**Location:** Alluvium Estate Stage 5  
**Material:** (CH) silty CLAY- Brown  
**Material Source:** Onsite



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Approved Signatory: Paul Francis  
 Laboratory Manager - Ballarat  
 NATA Accredited Laboratory Number: 20457

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1			
Sample Number	60197-23	60197-24	60197-25
Date Tested	10/02/2023	10/02/2023	10/02/2023
Time Tested	10:00	10:05	10:10
Test Request #/Location	Alluvium Estate Stage 5 Lot 534 - Retest #11	Alluvium Estate Stage 5 Lot 528	Alluvium Estate Stage 5 Lot 514
Latitude	37.1955	37.57185	-37.57182
Longitude	143.791688	143.79197	143.7911
Layer / Reduced Level	FSL	FSL	FSL
Thickness of Layer (mm)	150	150	150
Soil Description	Silty CLAY	Silty CLAY	Silty CLAY
Test Depth (mm)	125	125	125
Sieve used to determine oversize (mm)	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**
Field Wet Density (FWD) t/m <sup>3</sup>	2.02	1.96	1.91
Field Moisture Content %	**	**	**
Field Dry Density (FDD) t/m <sup>3</sup>	**	**	**
Peak Converted Wet Density t/m <sup>3</sup>	1.91	1.96	1.83
Adjusted Peak Converted Wet Density t/m <sup>3</sup>	**	**	**
Moisture Variation (Wv) %	5.0	7.0	6.5
Adjusted Moisture Variation %	**	**	**
Hilf Density Ratio (%)	<b>106.0</b>	<b>100.0</b>	<b>104.0</b>
Compaction Method	<b>Standard</b>	<b>Standard</b>	<b>Standard</b>
Report Remarks	**	**	**

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

## Appendix C – Site Photos

