REPORT

Tonkin+Taylor

Level One Inspection and Testing Services

Stage 7B, River Valley Estate, Sunshine North

Prepared for
Maribyrnong Riverside Development Pty Ltd
Prepared by
Tonkin & Taylor Pty Ltd
Date
June 2020
Job Number
1000780.1000.R3

Exceptional thinking together
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Document Control

Title: Level One Inspection and Testing Services					
Date	**Version**	**Description**	**Prepared by:**	**Reviewed by:**	**Authorised by:**
24-06-20	1	Draft issued to client (final level survey pending)	P. Toro	R. Barden	T. Smith
08-07-20	1	Final issued to client	P. Toro	R. Barden	T. Smith

Distribution:

Maribyrnong Riverside Development Pty Ltd	1 electronic copy
YourLand Developments Pty Ltd	1 electronic copy
Tonkin & Taylor Pty Ltd (FILE)	1 electronic copy

1 Introduction

As part of the construction of the River Valley Estate residential development in Sunshine North, Tonkin & Taylor Pty Ltd (T+T) has been engaged by Maribyrnong Riverside Development Pty Ltd to provide Geotechnical Inspection and Testing Authority (GITA) services for the earthworks within Stages 7A and 7B. This report presents the density testing for Stage 7B for the supervision works carried out from 15 June 2019 until 26 March 2020. A separated report presenting the test results for Stage 7A has been prepared.

2 Project details

2.1 Location

The site is situated within an area of previous basalt quarrying activities. Stages 7A and 7B are located on sloping ground between the old quarry pit and the Maribyrnong River. The proposed use for the site is to raise site levels and to develop the new surface for a residential subdivision, including pavements, service connections and residential lots.

The project included the preparation and filling of lots 30 to 45 in stage 7B and River Valley Boulevard from chainage CH 0.000 to CH 538.899. The specification required the earthworks to be completed under Level 1 Supervision, that is, full-time Inspection and Testing of the earthworks. Chadwick Geotechnics were onsite for the duration of the earthworks program.

2.2 Specification

A specification for the bulk earthworks for both stages was prepared by T+T in May 2018[1]. It was specified that all residential lot subgrade fill shall be compacted to achieve at least a Maximum Dry Density (MDD) ratio of 95% Standard compaction in accordance with AS 1289.5.3.1 (or at least a 95% Hilf Density ratio in accordance with AS 1289.5.7.1) and 98% Standard compaction in accordance with AS 1289.5.3.1 (or 98% Hilf Density ratio in accordance with AS 1289.5.7.1) for all pavement filling. The moisture variation shall not exceed ±2% for pavements and residential lots.

2.3 Roles

The organisations and their roles are presented in Table 2.1 below.

Table 2.1 Project roles

Role	Organisation
Owner	Maribyrnong River Developments Pty Ltd
Developer	YourLand Developments Pty Ltd
Geotechnical Inspection and Testing Authority (GITA)	Tonkin & Taylor Pty Ltd
Geotechnical Testing Authority (GITA)	Chadwick Geotechnics Pty Ltd
Designer / Superintendent	Dalton Consulting Engineers Pty Ltd
Earthworks Contractor	Winslow Constructors Pty Ltd

[1] Tonkin & Taylor Pty Ltd (May 2018) River Valley Estate Stages 7A and 7B Bulk Earthworks Specification. Ref. 1000780.S1v2.

3 Source of material

The material imported and placed at the Site by Winslow was assessed by Winslow's consultants as being derived from natural soils and meeting the classification of 'Fill Material' as defined in EPA Publication IWRG621.

4 Inspection and testing

The inspection and testing of earthworks have been carried out in accordance with AS3798-2007, 'Guidelines on earthworks for commercial and residential developments', with a frequency of field density tests as per a type 1 project (large scale operation). Compaction control laboratory testing was undertaken by Chadwick Geotechnics' NATA accredited laboratories in accordance with AS1289 'Methods of Testing Soils for Engineering Purposes'.

Prior to fill being placed the subgrade was inspected. Significant excavation was required to remove existing uncontrolled fill to expose the natural subgrade. The inspections were performed in accordance with the Level 1 guidelines presented in AS 3798–2007 Section 5.5. No soft spots were encountered during the inspections, the area was found to be firm and free of vegetation and other deleterious material. All pre-existing uncontrolled fill was removed prior to the placement of engineered fill to achieve the design levels.

Full time Level 1 Inspection and testing of the filling operations commenced on 30 October 2018 and was completed on 28 April 2020. During this period Chadwick Geotechnics was on site all the time (except when there were no earthworks) and observed the earthworks , the placing of fill including the supply of material, conditioning of material (moisture conditioning and oversize removal), placement and compaction of the fill material.

All fill material was placed in lift sequences and Chadwick Geotechnics verified that the surface of the stripped subgrade and additional lifts were thoroughly scarified and moisture conditioned prior to placement of additional layers to prevent delamination at the layer interface. The survey of the stripped surface/subgrade prior filling and the final surface after filling has been carried out by Taylors and is presented in Appendix B.

Field density and moisture content testing was carried out using a calibrated portable density and moisture gauge in accordance with AS 1289.5.8.1. The HILF rapid compaction test was used for peak converted wet density determinations in accordance with AS 1289.5.7.1. Test locations were recorded using a handheld GPS unit and levels, shown in test reports, were provided by Winslow. A site plan showing the field density test locations is provided in Appendix A. Coordinates of the tests are presented within the summary table of Hilf density tests in Appendix C.

A total of 184 tests have been performed in stage 7B during the filling process. The results show that all tests met the specification requirements for the project. The final results show the tests achieved the specification requirements for the project. A summary table of Hilf density tests is provided in Appendix C and the Hilf density test reports are provided within Appendix D.

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 able to be determined, that:

- The materials used by the earthworks contractor met the geotechnical property requirements of the specification.
- The fill material placed was tested at a suitable frequency in accordance with AS 3798-2007- Table 8.1 and the results indicate the compacted material achieved the minimum density requirement of the specification.
- Given the consistent construction practices followed by the earthworks contractor, and as witnessed by 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.

It is our opinion that the earthworks undertaken have been performed in accordance with the requirements of Section 8.2 of AS3798-2007 - Level 1 Inspection and Testing.

6 Applicability

This report has been prepared for the exclusive use of our client Maribyrnong Riverside Development Pty Ltd, with respect to the particular brief given to us and it may not be relied upon in other contexts or for any other purpose, or by any person other than our client, without our prior written agreement.

Recommendations and opinions in this report are based on data from discrete investigation locations. The nature and continuity of subsoil away from these locations are inferred but it must be appreciated that actual conditions could vary from the assumed model.

Tonkin & Taylor Pty Ltd

Report prepared by:	Authorised for Tonkin & Taylor Pty Ltd by:
.....	.....
Pablo Toro Senior Geotechnical Engineer	Trevor Smith Project Director

9-Jul-20
\\meldc1\corporate\south melbourne\projects\1000780\1000780.1000\workingmaterial\level 1 final report data\1000780.1000.r3 level 1 report for stage 7b.docx

Appendix A: Site plan

- **Figure 1 Overall plan**
- **Figure 2 Sheet 1 of 3**
- **Figure 3 Sheet 2 of 3**
- **Figure 4 Sheet 3 of 3**

SITE LOCATION PLAN

SCALE: 1:20000

SHEET 1 OF 3

SHEET 2 OF 3

SHEET 3 OF 3

PERENNIAL DRIVE

RIVERVALLEY BLVD

SCALE 1:20000

0 200 400 600 800 1000 (m)

A3 SCALE 1:2000

0 20 40 60 80 100 (m)

ORIGINAL IN COLOUR

NOTES:
1. AERIAL IMAGE SOURCED FROM NEARMAP. COPYRIGHT NEARMAP PTY LTD IMAGERY DATE: 28/04/2020.
2. BASE PLAN PROVIDED BY DALTON CONSULTING ENGINEERS. FILE REFERENCE: 12050 _Stage 7A Base Plan.dwg DATE RECEIVED: 06/05/2019.

LEGEND

HILF DENSITY TEST LOCATION

P:\1000780\1000780.1000\WorkingMaterial\CAD\FIG\1000780.1000-F01.dwg 2020-Jun-11 3:42:26 PM Plotted By: KATHRYN JACKSON

Tonkin+Taylor

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PROJECT No.	1000780.1000	
DESIGNED	PTO	Mar.20
DRAWN	KMJA	Mar.20
CHECKED		
APPROVED	DATE	

CLIENT **MARIBYRNONG RIVERSIDE DEVELOPMENT PTY LTD**

PROJECT **RIVER VALLEY ESTATE - STAGES 7A & 7B SUNSHINE NORTH**

TITLE LEVEL ONE INSPECTION & TESTING HILF DENSITY HILF TEST LOCATION PLAN

SCALE (A3) AS SHOWN FIG No. 1000780.1000-F01 REV 1

NOTES:
1. BASE PLAN PROVIDED BY DALTON CONSULTING ENGINEERS. FILE REFERENCE: 12050 _Stage 7A Base Plan.dwg DATE RECEIVED: 06/05/2019.

JOIN LINE - SHEET 2

A3 SCALE 1:750

0 5 10 15 20 25 30 35 40 (m

ORIGINAL IN COLOUR

LEGEND

HILF DENSITY TEST LOCATION

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PROJECT No.	1000780.1000	
DESIGNED	PTO	Mar.20
DRAWN	KMJA	Mar.20
CHECKED		
APPROVED	DATE	

CLIENT **MARIBYRNONG RIVERSIDE DEVELOPMENT PTY LTD**

PROJECT **RIVER VALLEY ESTATE - STAGES 7A & 7B SUNSHINE NORTH**

TITLE LEVEL ONE INSPECTION & TESTING HILF DENSITY HILF TEST LOCATION PLAN (SHEET 1 OF 3)

SCALE (A3) 1:750 FIG No. 1000780.1000-F02 REV 1

NOTES:
1. BASE PLAN PROVIDED BY DALTON CONSULTING ENGINEERS. FILE REFERENCE: 12050 _Stage 7A Base Plan.dwg DATE RECEIVED: 06/05/2019.

JOIN LINE - SHEET 1

JOIN LINE - SHEET 3

A3 SCALE 1:750

0 5 10 15 20 25 30 35 40 (m

ORIGINAL IN COLOUR

LEGEND

HILF DENSITY TEST LOCATION

P:\1000780\1000\WorkingMaterial\CAD\FIG\1000780.1000-F01 F04 v3.dwg 2020-Jun-02 11:32:40 AM Plotted By: KATHRYN JACKSON

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PROJECT No.	1000780.1000	
DESIGNED	PTO	Mar.20
DRAWN	KMJA	Mar.20
CHECKED		
APPROVED	DATE	

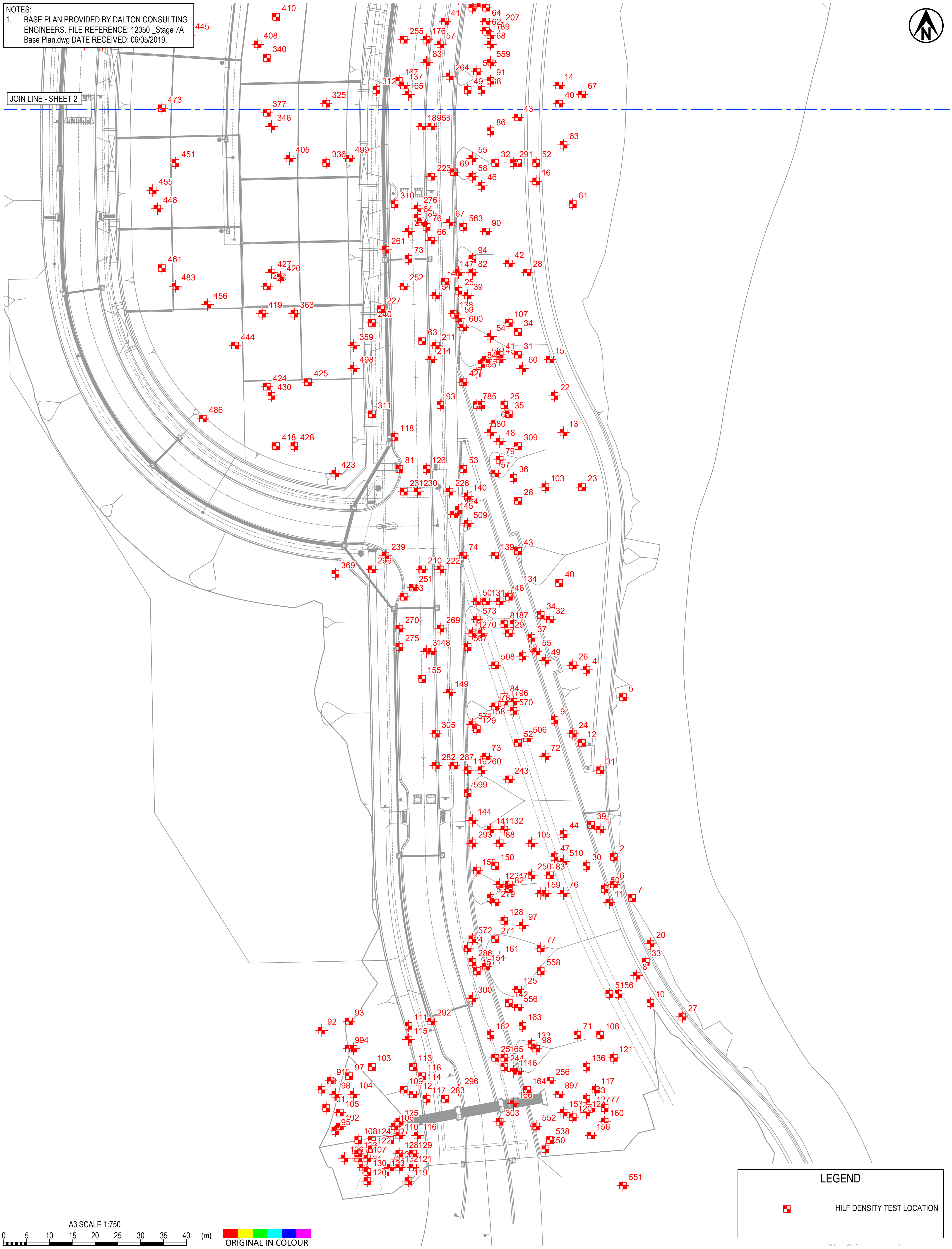
CLIENT **MARIBYRNONG RIVERSIDE DEVELOPMENT PTY LTD**

PROJECT **RIVER VALLEY ESTATE - STAGES 7A & 7B SUNSHINE NORTH**

TITLE LEVEL ONE INSPECTION & TESTING HILF DENSITY HILF TEST LOCATION PLAN (SHEET 2 OF 3)

SCALE (A3) 1:750 FIG No. 1000780.1000-F03 REV 1

NOTES:
1. BASE PLAN PROVIDED BY DALTON CONSULTING ENGINEERS. FILE REFERENCE: 12050 _Stage 7A Base Plan.dwg DATE RECEIVED: 06/05/2019.



LEGEND

HILF DENSITY TEST LOCATION

P:\1000780\1000780.1000\WorkingMaterial\CAD\FIG\1000780.1000-F01 F04 v3.dwg 2020-Jun-02 11:34:25 AM Plotted By: KATHRYN JACKSON

Tonkin+Taylor

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PROJECT No.	1000780.1000	
DESIGNED	PTO	May.19
DRAWN	KAH	May.19
CHECKED		
APPROVED	DATE	

CLIENT	MARIBYRNONG RIVERSIDE DEVELOPMENT PTY LTD
PROJECT	RIVER VALLEY ESTATE - STAGES 7A & 7B SUNSHINE NORTH
TITLE	LEVEL ONE INSPECTION & TESTING HILF DENSITY HILF TEST LOCATION PLAN (SHEET 3 OF 3)
SCALE (A3)	1:750
FIG No.	1000780.1000-F04
REV	1

Appendix B: Survey plans

- **Taylor's Drawing 02044-D3 Stage 7B "Plan of stripped surface survey" Version 01 dated 09/08/18**
- **Taylor's Drawing 02044-D17 Stage 7B "Surface level plan" Version 01 dated 08/07/20**

AMENDMENTS:

Version	Details	Surveyor	Drawn	Checked	Approved By	Survey Date	Plan Date	Approved Date
1	INITIAL DRAWING	SMK	SMK	LRS	MJS (LS)	18/07/2018	08/08/2018	09/08/2018

N

MGA94 ZONE 55

MINERAL TERRACE

CHANGE OF GRADE

UNABLE TO SURVEY DUE TO STOCKPILES

BOULEVARD

RIVERVALLEY

STOCKPILE

DRIVE

PERENNIAL

CHANGE OF GRADE

Reserve No.1

R1

38 37 39 36 40 41 34 42 33 43 35 32 44 31 45 30

1 2 3 4 5 6

TBM
SPIKE
RL: 25.30

Release 7A

UNDER CONSTRUCTION

LEGEND:

- 1 IMAGE LOCATION & NUMBER
- BENCHMARK
- TOP OF BANK
- TOE OF BANK
- ANNOTATION CLOUD

NOTES:

DATE OF SURVEY:18/07/2018

DATA ON THIS PLAN MAY ONLY BE MANIPULATED WITH THE PERMISSION OF TAYLORS DEVELOPMENT STRATEGISTS PTY. LTD.

RELATIVE ACCURACY:
- FEATURE LOCATION ± 0.03m
- FEATURE LEVEL ± 0.02m.

CONTOUR INTERVAL IS 0.5m.
- BEARING DATUM: MGA ZONE 55
- COORDINATE DATUM: LOCAL SITE DATUM

LEVEL DATUM: AUSTRALIAN HEIGHT DATUM
- BASED ON DOUTTA GALLA PM 173 - RL:38.405. AHD. (20/07/2018 - SMES)
- CONTROL POINTS SHOWN HEREON HAVE BEEN DERIVED FROM GNSS OBSERVATIONS USING NETWORK REAL-TIME KINEMATIC SOLUTION FROM VRSNOW AND ADJUSTED TO THE ABOVE PUBLISHED AHD LEVEL.

WHILST EVERY EFFORT HAS BEEN MADE TO LOCATE ALL FEATURES AND SERVICES WITHIN THE SURVEYED AREA, TAYLORS CANNOT BE HELD RESPONSIBLE FOR FEATURES CONCEALED, BURIED, OR UNDER CONSTRUCTION AT THE TIME OF SURVEY.

LINEWORK SOURCED FROM THE PS740161W. VER:7

DTM TRIANGLES ARE CONTAINED WITHIN THE RELEVANT CAD FILE

CLIENT:

Atlantic Link Pty Ltd

PROJECT:

STAGE 7B: RIVER VALLEY ESTATE
HALONG DRIVE
Sunshine North, 3020

DRAWING:

PLAN OF STRIPPED SURFACE SURVEY

Proj. Ref:	02044/S	Approved by:	MJS (LS)
Sheet:	1 of 1	Approval Date:	09/08/2018

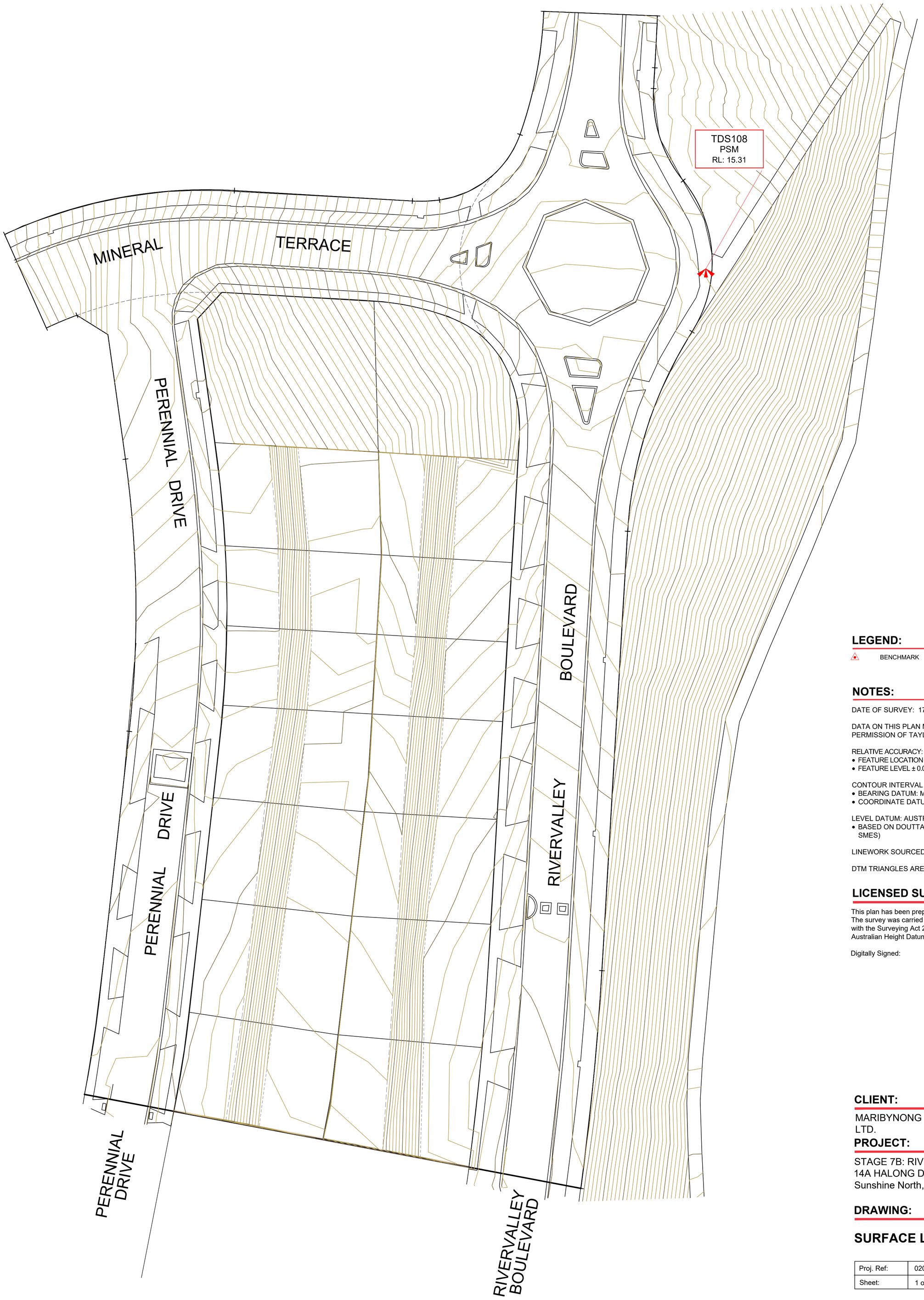
5 0m 5 10 15 20

1:250 @ A1

DRAWING NUMBER: 02044-D3

VERSION: 01

TAYLORS
Urban Development | Infrastructure
8/270 Ferntree Gully Road, Notting Hill VIC 3168
Phone: (03) 9501 2800 | **www.taylorsds.com.au**



LEGEND:

BENCHMARK

NOTES:

DATE OF SURVEY: 17/06/2020-08/07/2020

DATA ON THIS PLAN MAY ONLY BE MANIPULATED WITH THE PERMISSION OF TAYLORS DEVELOPMENT STRATEGISTS PTY. LTD.

RELATIVE ACCURACY:
- FEATURE LOCATION ± 0.03m
- FEATURE LEVEL ± 0.02m.

CONTOUR INTERVAL IS 0.5m.
- BEARING DATUM: MGA ZONE 55
- COORDINATE DATUM: LOCAL SITE DATUM

LEVEL DATUM: AUSTRALIAN HEIGHT DATUM
- BASED ON DOUTTA GALLA PM 173 - RL:38.405. AHD. (20/07/2018 - SMES)

LINEWORK SOURCED FROM THE PS740161W. VER:11

DTM TRIANGLES ARE CONTAINED WITHIN THE RELEVANT CAD FILE

LICENSED SURVEYOR CERTIFICATION:

This plan has been prepared from a survey completed on the 24/06/2020. The survey was carried out under my direction and supervision in accordance with the Surveying Act 2004. I certify that the As Constructed levels are to the Australian Height Datum.

Digitally Signed:

CLIENT:

MARIBYNONG RIVERSIDE DEVELOPMENT PTY LTD.

PROJECT:

STAGE 7B: RIVER VALLEY ESTATE
14A HALONG DRIVE
Sunshine North, 3020

DRAWING:

SURFACE LEVEL PLAN

Proj. Ref:	02044/S	Approved by:	MJS
Sheet:	1 of 1	Approval Date:	08/07/2020

7 0m 7 14 21 28

1:350 @ A1

DRAWING NUMBER: 02044-D17

VERSION: 01

AMENDMENTS:

Version	Details	Surveyor	Drawn	Checked	Approved By	Survey Date	Plan Date	Approved Date
1	INITIAL DRAWING	LLO/AKF	SHO	SHO	MJS	17/06/20	08/07/20	08/07/20

TAYLORS
Urban Development | Infrastructure
8/270 Ferntree Gully Road, Notting Hill VIC 3168
Phone: (03) 9501 2800 | **www.taylorsds.com.au**

Appendix C: Summary table of Hilf density tests

CHADWICK GEOTECHNICS

Hilf Summary Table

Chadwick Geotechnics
25 Metcalf Street
Dandenong South VIC 3175
Tel : (03) 8796 7900
Fax: (03) 8796 7944

Think Act Be Safe

1003809 Rivervalley Estate Stage 7B

Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Layer	Density Ratio HILF test (≥95%)	Moisture Variation From OMC (±2%)	Pass / Fail	Remarks
HDR:W19RV00142	S19RV-00334	15/06/2019	1	E 0310427	N 5819075	FSL -1390mm	100.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00142	S19RV-00335	15/06/2019	2	E 0310425	N 5819073	FSL -1190mm	99	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00147	S19RV-00342	18/06/2019	1	E 0310422	N 5819082	FSL -980mm	98	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00147	S19RV-00343	18/06/2019	2	E 0310425	N 5819085	FSL -760mm	98	1.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00188	S19RV-00411	6/08/2019	1	E 0310430	N 5819003	FSL -3930mm	99	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00188	S19RV-00412	6/08/2019	2	E 0310423	N 5819013	FSL -3680mm	99	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00189	S19RV-00413	7/08/2019	1	E 0310439	N 5819028	FSL -3420mm	101	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00189	S19RV-00414	7/08/2019	2	E 0310428	N 5819028	FSL -3100mm	100	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00189	S19RV-00415	7/08/2019	3	E 0310433	N 5819014	FSL -2830mm	99	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00227	S19RV-00496	23/09/2019	1	E 0310435	N 5819047	FSL -3400mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00227	S19RV-00497	23/09/2019	2	E 0310431	N 5819007	FSL -3090mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00233	S19RV-00511	3/10/2019	1	E 0310428	N 5819046	FSL -2850mm	101.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00233	S19RV-00512	3/10/2019	2	E 0310429	N 5818924	FSL -2610mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00233	S19RV-00513	3/10/2019	3	E 0310418	N 5818996	FSL -2500mm	101.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00234	S19RV-00514	4/10/2019	1	E 0310419	N 5819016	FSL -2270mm	101	2.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00234	S19RV-00515	4/10/2019	2	E 0310431	N 5818993	FSL -2030mm	100	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00234	S19RV-00516	4/10/2019	3	E 0310440	N 5819049	FSL -1790mm	100.5	2.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00236	S19RV-00518	7/10/2019	1	E 0310420	N 5818999	FSL -1560mm	99.5	0.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00236	S19RV-00519	7/10/2019	2	E 0310428	N 5819061	FSL -1340mm	101	2.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00237	S19RV-00520	8/10/2019	1	E 0310427	N 5819009	FSL -1120mm	101.5	1.5 dry	Pass	Rivervalley Boulevard Roadway

Hilf Summary Table

Chadwick Geotechnics
25 Metcalf Street
Dandenong South VIC 3175
Tel : (03) 8796 7900
Fax: (03) 8796 7944

1003809 Rivervalley Estate Stage 7B

Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Layer	Density Ratio HILF test (≥95%)	Moisture Variation From OMC (±2%)	Pass / Fail	Remarks
HDR:W19RV00237	S19RV-00521	8/10/2019	2	E 0310429	N 5819070	FSL -1180mm	100.5	2.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00238	S19RV-00522	9/10/2019	1	E 0310428	N 5819080	FSL -530mm	99.5	2.0 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00238	S19RV-00523	9/10/2019	2	E 0310426	N 5819075	FSL -280mm	101	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00239	S19RV-00524	10/10/2019	1	E 0310379	N 5819065	FSL -290mm	101.5	omc	Pass	Lot 42
HDR:W19RV00240	S19RV-00525	11/10/2019	1	E 0310422	N 5819010	FSL -870mm	100	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00240	S19RV-00526	11/10/2019	2	E 0310433	N 5819080	FSL -940mm	100	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00241	S19RV-00527	12/10/2019	1	E 0310438	N 5819080	FSL -680mm	100.5	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00241	S19RV-00528	12/10/2019	2	E 0310425	N 5819009	FSL -760mm	100	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00242	S19RV-00529	14/10/2019	1	E 0310416	N 5818995	FSL -500mm	102	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00242	S19RV-00530	14/10/2019	2	E 0310422	N 5819072	FSL -610mm	102	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00244	S19RV-00533	16/10/2019	1	E 0310432	N 5819083	FSL -460mm	100.5	0.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00245	S19RV-00534	17/10/2019	1	E 0310423	N 5819005	FSL -250mm	99	0.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00246	S19RV-00535	18/10/2019	1	E 0310408	N 5819065	FSL	100	1.0 dry	Pass	Lot 32
HDR:W19RV00246	S19RV-00536	18/10/2019	2	E 0310411	N 5819106	FSL	98.5	1.0 wet	Pass	Lot 35
HDR:W19RV00248	S19RV-00539	21/10/2019	1	E 0310420	N 5819011	FSL	98	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00248	S19RV-00540	21/10/2019	2	E 0310434	N 5819106	FSL -220mm	99.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00249	S19RV-00541	22/10/2019	1	E 0310449	N 5819148	FSL -2730mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00249	S19RV-00542	22/10/2019	2	E 0310447	N 5819142	FSL -2500mm	99.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00250	S19RV-00543	23/10/2019	1	E 0310453	N 5819152	FSL -2240mm	100.5	0.5 wet	Pass	Rivervalley Boulevard Roadway

CHADWICK GEOTECHNICS

Hilf Summary Table

Chadwick Geotechnics
25 Metcalf Street
Dandenong South VIC 3175
Tel : (03) 8796 7900
Fax: (03) 8796 7944

Think Act Be Safe

1003809 Rivervalley Estate Stage 7B

Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Layer	Density Ratio HILF test (≥95%)	Moisture Variation From OMC (±2%)	Pass / Fail	Remarks
HDR:W19RV00250	S19RV-00544	23/10/2019	2	E 0310449	N 5819145	FSL -2010mm	98.5	2.0 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00251	S19RV-00545	24/10/2019	1	E 0310452	N 5819144	FSL -1770mm	100.5	1.0 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00251	S19RV-00546	24/10/2019	2	E 0310449	N 5819164	FSL -1490mm	99.5	1.0 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00252	S19RV-00547	25/10/2019	1	E 0310448	N 5819149	FSL -1230mm	99	1.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00252	S19RV-00548	25/10/2019	2	E 0310448	N 5819157	FSL -990mm	101	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00252	S19RV-00549	25/10/2019	3	E 0310439	N 5819163	FSL -740mm	101	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00254	S19RV-00553	29/10/2019	1	E 0310442	N 5819143	FSL -510mm	100	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00254	S19RV-00554	29/10/2019	2	E 0310441	N 5819159	FSL -240mm	99.5	0.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00254	S19RV-00555	29/10/2019	3	E 0310434	N 5819170	FSL	99.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00263	S19RV-00579	25/11/2019	1	E 0310377	N 5819085	FSL -990mm	95.5	0.5 dry	Pass	Lot 41
HDR:W19RV00263	S19RV-00580	25/11/2019	2	E 0310365	N 5819052	FSL -780mm	99	0.5 dry	Pass	Lot 43
HDR:W19RV00263	S19RV-00581	25/11/2019	3	E 0310363	N 5819017	FSL -510mm	100	0.5 dry	Pass	Lot 45
HDR:W19RV00264	S19RV-00582	26/11/2019	1	E 0310361	N 5819020	FSL -240mm	96.5	0.5 dry	Pass	Lot 44
HDR:W19RV00264	S19RV-00583	26/11/2019	2	E 0310365	N 5819060	FSL	98	0.5 wet	Pass	Lot 42
HDR:W19RV00265	S19RV-00584	27/11/2019	1	E 0310369	N 5819023	FSL -2230mm	99.5	2.0 wet	Pass	Lot 44
HDR:W19RV00265	S19RV-00585	27/11/2019	2	E 0310371	N 5819050	FSL -1970mm	97.5	0.5 wet	Pass	Lot 42
HDR:W19RV00265	S19RV-00586	27/11/2019	3	E 0310373	N 5819077	FSL -1740mm	99	0.5 dry	Pass	Lot 40
HDR:W19RV00266	S19RV-00587	28/11/2019	1	E 0310373	N 5819064	FSL -1510mm	99	1.5 wet	Pass	Lot 42
HDR:W19RV00266	S19RV-00588	28/11/2019	2	E 0310368	N 5819035	FSL -1230mm	99.5	0.5 dry	Pass	Lot 44
HDR:W19RV00266	S19RV-00589	28/11/2019	3	E 0310369	N 5819035	FSL -1000mm	98	2.0 wet	Pass	Lot 43
HDR:W19RV00267	S19RV-00590	29/11/2019	1	E 0310363	N 5819013	FSL -780mm	99.5	0.5 wet	Pass	Lot 45

Hilf Summary Table

Chadwick Geotechnics
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1003809 Rivervalley Estate Stage 7B

Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Layer	Density Ratio HILF test (≥95%)	Moisture Variation From OMC (±2%)	Pass / Fail	Remarks
HDR:W19RV00267	S19RV-00591	29/11/2019	2	E 0310370	N 5819059	FSL -610mm	100	omc	Pass	Lot 42
HDR:W19RV00267	S19RV-00592	29/11/2019	3	E 0310375	N 5819089	FSL -420mm	100	omc	Pass	Lot 40
HDR:W19RV00268	S19RV-00593	30/11/2019	1	E 0310365	N 5819031	FSL -390mm	99	2.0 wet	Pass	Lot 44
HDR:W19RV00269	S19RV-00594	2/12/2019	1	E 0310371	N 5819086	FSL -230mm	100	0.5 wet	Pass	Lot 41
HDR:W19RV00269	S19RV-00595	2/12/2019	2	E 0310364	N 5819005	FSL -200mm	99.5	0.5 wet	Pass	Lot 44
HDR:W19RV00270	S19RV-00596	3/12/2019	1	E 0310371	N 5819105	FSL -490mm	100	0.5 wet	Pass	Lot 39
HDR:W19RV00270	S19RV-00597	3/12/2019	2	E 0310366	N 5819039	FSL	101	2.0 dry	Pass	Lot 43
HDR:W19RV00270	S19RV-00598	3/12/2019	3	E 0310370	N 5819107	FSL -250mm	100	omc	Pass	Lot 39
HDR:W19RV00272	S19RV-00601	5/12/2019	1	E 0310392	N 5819035	FSL -750mm	99	0.5 dry	Pass	Lot 43
HDR:W19RV00272	S19RV-00602	5/12/2019	2	E 0310392	N 5819064	FSL -1080mm	99	omc	Pass	Lot 41
HDR:W19RV00272	S19RV-00603	5/12/2019	3	E 0310392	N 5819091	FSL -690mm	100.5	omc	Pass	Lot 40
HDR:W19RV00273	S19RV-00604	6/12/2019	1	E 0310373	N 5819107	FSL	100	0.5 wet	Pass	Lot 39
HDR:W19RV00273	S19RV-00605	6/12/2019	2	E 0310388	N 5819128	FSL -240mm	100.5	0.5 wet	Pass	Lot 38
HDR:W19RV00274	S19RV-00606	7/12/2019	1	E 0310386	N 5819014	FSL -510mm	101	1.5 dry	Pass	Lot 45
HDR:W19RV00274	S19RV-00607	7/12/2019	2	E 0310388	N 5819092	FSL -490mm	98.5	1.5 dry	Pass	Lot 40
HDR:W19RV00275	S19RV-00608	9/12/2019	1	E 0310391	N 5819116	FSL -230mm	98.5	2.0 wet	Pass	Lot 39
HDR:W19RV00275	S19RV-00609	9/12/2019	2	E 0310388	N 5819051	FSL	100	0.5 dry	Pass	Lot 43
HDR:W19RV00275	S19RV-00610	9/12/2019	3	E 0310375	N 5819134	FSL	100.5	omc	Pass	Lot 38
HDR:W19RV00276	S19RV-00611	10/12/2019	1	E 0310446	N 5819065	FSL -680mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00276	S19RV-00612	10/12/2019	2	E 0310448	N 5819030	FSL -720mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00276	S19RV-00613	10/12/2019	3	E 0310452	N 5819045	FSL -1560mm	98.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00277	S19RV-00614	11/12/2019	1	E 0310480	N 5819140	FSL -3530mm	99	0.5 wet	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

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1003809 Rivervalley Estate Stage 7B

Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Layer	Density Ratio HILF test (≥95%)	Moisture Variation From OMC (±2%)	Pass / Fail	Remarks
HDR:W19RV00277	S19RV-00615	11/12/2019	2	E 0310478	N 5819168	FSL -3280mm	99	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00277	S19RV-00616	11/12/2019	3	E 0310474	N 5819155	FSL -1520mm	98.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00278	S19RV-00617	12/12/2019	1	E 0310489	N 5819149	FSL -630mm	100	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00278	S19RV-00618	12/12/2019	2	E 0310483	N 5819141	FSL -240mm	100.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00278	S19RV-00619	12/12/2019	3	E 0310481	N 5819178	FSL -4890mm	98.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00279	S19RV-00620	13/12/2019	1	E 0310484	N 5819169	FSL -3010mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00279	S19RV-00621	13/12/2019	2	E 0310480	N 5819179	FSL -4490mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00279	S19RV-00622	13/12/2019	3	E 0310478	N 5819152	FSL -1510mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00280	S19RV-00623	16/12/2019	1	E 0310471	N 5819158	FSL -1340mm	99.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00280	S19RV-00624	16/12/2019	2	E 0310490	N 5819172	FSL -2290mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00280	S19RV-00625	16/12/2019	3	E 0310468	N 5819172	FSL -4950mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00281	S19RV-00626	17/12/2019	1	E 0310475	N 5819157	FSL -4160mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00281	S19RV-00627	17/12/2019	2	E 0310476	N 5819157	FSL -2250mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00281	S19RV-00628	17/12/2019	3	E 0310493	N 5819178	FSL -1810mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00282	S19RV-00629	18/12/2019	1	E 0310481	N 5819176	FSL -2020mm	100	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00282	S19RV-00630	18/12/2019	2	E 0310475	N 5819186	FSL -3180mm	101	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00282	S19RV-00631	18/12/2019	3	E 0310476	N 5819144	FSL -710mm	99.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00283	S19RV-00632	19/12/2019	1	E 0310468	N 5819180	FSL -4320mm	98.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00283	S19RV-00633	19/12/2019	2	E 0310475	N 5819186	FSL -3000mm	98	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00001	S20RV-00001	14/01/2020	1	E 0310489	N 5819201	FSL -2020mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00001	S20RV-00002	14/01/2020	2	E 0310506	N 5819210	FSL -1640mm	100	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00001	S20RV-00003	14/01/2020	3	E 0310483	N 5819215	FSL -1390mm	98.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard

Hilf Summary Table

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1003809 Rivervalley Estate Stage 7B

Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Layer	Density Ratio HILF test (≥95%)	Moisture Variation From OMC (±2%)	Pass / Fail	Remarks
HDR:W20RV00002	S20RV-00004	15/01/2020	1	E 0310466	N 5819166	FSL -1520mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00002	S20RV-00005	15/01/2020	2	E 0310470	N 5819197	FSL -930mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00002	S20RV-00006	15/01/2020	3	E 0310472	N 5819206	FSL -760mm	100	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00003	S20RV-00007	16/01/2020	1	E 0310465	N 5819165	FSL -4020mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00003	S20RV-00008	16/01/2020	2	E 0310473	N 5819127	FSL -840mm	100.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00003	S20RV-00009	16/01/2020	3	E 0310446	N 5819076	FSL -330mm	100	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00004	S20RV-00010	17/01/2020	1	E 0310439	N 5819022	FSL -420mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00004	S20RV-00011	17/01/2020	2	E 0310446	N 5819059	FSL -960mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00004	S20RV-00012	17/01/2020	3	E 0310428	N 5819042	FSL -1470mm	100.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00005	S20RV-00013	18/01/2020	1	E 0310441	N 5819029	FSL -870mm	100.5	0.5 wet	Pass	Batter east of Rivervalley Boulevard
HDR:W20RV00005	S20RV-00014	18/01/2020	2	E 0310435	N 5818996	FSL -520mm	100.5	omc	Pass	Batter east of Rivervalley Boulevard
HDR:W20RV00006	S20RV-00015	20/01/2020	1	E 0310440	N 5819049	FSL -850mm	100	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00006	S20RV-00016	20/01/2020	2	E 0310432	N 5818992	FSL -230mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00006	S20RV-00017	20/01/2020	3	E 0310434	N 5819037	FSL -710mm	97.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00007	S20RV-00018	21/01/2020	1	E 0310446	N 5819079	FSL -930mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00007	S20RV-00019	21/01/2020	2	E 0310466	N 5819107	FSL -650mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00007	S20RV-00020	21/01/2020	3	E 0310468	N 5819141	FSL -1390mm	98	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00008	S20RV-00021	22/01/2020	1	E 0310470	N 5819174	FSL -2630mm	97.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00008	S20RV-00022	22/01/2020	2	E 0310469	N 5819143	FSL -770mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00008	S20RV-00023	22/01/2020	3	E 0310473	N 5819110	FSL -600mm	100.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00012	S20RV-00029	29/01/2020	1	E 0310465	N 5819132	FSL -370mm	101	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00012	S20RV-00030	29/01/2020	2	E 0310486	N 5819188	FSL -2010mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00013	S20RV-00031	11/02/2020	1	E 0310475	N 5819171	FSL -3040mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

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1003809 Rivervalley Estate Stage 7B

Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Layer	Density Ratio HILF test (≥95%)	Moisture Variation From OMC (±2%)	Pass / Fail	Remarks
HDR:W20RV00013	S20RV-00032	11/02/2020	2	E 0310489	N 5819205	FSL	101.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00013	S20RV-00033	11/02/2020	3	E 0310465	N 5819143	FSL -2050mm	101	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00014	S20RV-00034	12/02/2020	1	E 0310445	N 5819080	FSL -660mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00014	S20RV-00035	12/02/2020	2	E 0310465	N 5819133	FSL -430mm	101.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00014	S20RV-00036	12/02/2020	3	E 0310472	N 5819156	FSL -1290mm	101.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00015	S20RV-00037	13/02/2020	1	E 0310478	N 5819160	FSL -2020mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00015	S20RV-00038	13/02/2020	2	E 0310454	N 5819120	FSL -1190mm	98.5	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00015	S20RV-00039	13/02/2020	3	E 0310470	N 5819158	FSL -650mm	100.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00016	S20RV-00040	14/02/2020	1	E 0310461	N 5819131	FSL -870mm	100	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00016	S20RV-00041	14/02/2020	2	E 0310445	N 5819098	FSL -660mm	101	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00016	S20RV-00042	14/02/2020	3	E 0310479	N 5819183	FSL -910mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00017	S20RV-00043	15/02/2020	1	E 0310462	N 5819169	FSL -2890mm	100	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00018	S20RV-00044	17/02/2020	1	E 0310476	N 5819168	FSL -1810mm	101.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00018	S20RV-00045	17/02/2020	2	E 0310448	N 5819111	FSL -720mm	99.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00018	S20RV-00046	17/02/2020	3	E 0310468	N 5819158	FSL -980mm	101	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00019	S20RV-00047	18/02/2020	1	E 0310464	N 5819152	FSL -1760mm	101	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00019	S20RV-00048	18/02/2020	2	E 0310467	N 5819173	FSL -2340mm	101	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00019	S20RV-00049	18/02/2020	3	E 0310448	N 5819121	FSL -790mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00020	S20RV-00050	19/02/2020	1	E 0310446	N 5819125	FSL -1030mm	100.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00020	S20RV-00051	19/02/2020	2	E 0310474	N 5819185	FSL -260mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00020	S20RV-00052	19/02/2020	3	E 0310452	N 5819138	FSL -950mm	98.5	1.0 wet	Pass	Batter East of Rivervalley Boulevard

Hilf Summary Table

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1003809 Rivervalley Estate Stage 7B

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HDR:W20RV00021	S20RV-00053	20/02/2020	1	E 0310462	N 5819170	FSL -2100mm	101.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00022	S20RV-00054	3/03/2020	1	E 0310449	N 5819128	FSL -1570mm	101	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00022	S20RV-00055	3/03/2020	2	E 0310450	N 5819133	FSL -1390mm	101	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00022	S20RV-00056	3/03/2020	3	E 0310446	N 5819129	FSL -1200mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00023	S20RV-00057	4/03/2020	1	E 0310454	N 5819125	FSL -980mm	100	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00023	S20RV-00058	4/03/2020	2	E 0310444	N 5819111	FSL -720mm	100.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00023	S20RV-00059	4/03/2020	3	E 0310453	N 5819136	FSL -590mm	100.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00025	S20RV-00062	11/03/2020	1	E 0310449	N 5819126	FSL -410mm	101	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00025	S20RV-00063	11/03/2020	2	E 0310453	N 5819141	FSL -190mm	100	1.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00025	S20RV-00064	11/03/2020	3	E 0310432	N 5819098	FSL	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00026	S20RV-00065	12/03/2020	1	E 0310463	N 5819152	FSL -1890mm	100	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00026	S20RV-00066	12/03/2020	2	E 0310462	N 5819163	FSL -1680mm	101	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00026	S20RV-00067	12/03/2020	3	E 0310453	N 5819146	FSL -1450mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00027	S20RV-00068	13/03/2020	1	E 0310455	N 5819154	FSL -1230mm	101	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00027	S20RV-00069	13/03/2020	2	E 0310452	N 5819149	FSL -1010mm	101.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00027	S20RV-00070	13/03/2020	3	E 0310465	N 5819157	FSL -870mm	100.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00028	S20RV-00071	16/03/2020	1	E 0310460	N 5819156	FSL -680mm	101	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00028	S20RV-00072	16/03/2020	2	E 0310467	N 5819169	FSL -500mm	101	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00028	S20RV-00073	16/03/2020	3	E 0310457	N 5819168	FSL -290mm	100	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00029	S20RV-00074	17/03/2020	1	E 0310460	N 5819170	FSL -180mm	101	1.0 dry	Pass	Batter East of Rivervalley Boulevard

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Report No	Sample No	Date	Test Number	Location [E]	Location [N]	Layer	Density Ratio HILF test (≥95%)	Moisture Variation From OMC (±2%)	Pass / Fail	Remarks
HDR:W20RV00029	S20RV-00075	17/03/2020	2	E 0310466	N 5819170	FSL	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00029	S20RV-00076	17/03/2020	3	E 0310469	N 5819176	FSL	101	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00030	S20RV-00077	18/03/2020	1	E 0310499	N 5819226	FSL -1010mm	100.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00030	S20RV-00078	18/03/2020	2	E 0310510	N 5819255	FSL -680mm	101.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00031	S20RV-00079	19/03/2020	1	E 0310501	N 5819226	FSL -730mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00031	S20RV-00080	19/03/2020	2	E 0310509	N 5819265	FSL -490mm	100	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00032	S20RV-00081	20/03/2020	1	E 0310505	N 5819222	FSL -490mm	98.5	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00032	S20RV-00082	20/03/2020	2	E 0310502	N 5819222	FSL -250mm	100	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00033	S20RV-00083	21/03/2020	1	E 0310507	N 5819259	FSL	100.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00033	S20RV-00084	21/03/2020	2	E 0310511	N 5819284	FSL	98.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00034	S20RV-00085	23/03/2020	1	E 0310494	N 5819207	FSL -240mm	101.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00034	S20RV-00086	23/03/2020	2	E 0310503	N 5819220	FSL	101	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00035	S20RV-00087	24/03/2020	1	E 0310493	N 5819205	FSL	101	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00035	S20RV-00088	24/03/2020	2	E 0310485	N 5819191	FSL	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00036	S20RV-00089	26/03/2020	1	E 0310474	N 5819175	FSL	100.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00036	S20RV-00090	26/03/2020	2	E 0310481	N 5819183	FSL	100.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard

Appendix D: Hilf density testing reports

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00142
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Ground Floor, 95 coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 17/06/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00334	S19RV-00335				
Field Sample ID	1	2				
Date Tested	15/06/2019	15/06/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310427	E 0310425				
	N 5819075	N 5819073				
	FSL -1390mm	FSL -1190mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	6	9				
Field Wet Density (t/m³)	2.14	2.13				
Peak Converted Wet Density (t/m³)	2.13	2.15				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	**100.5**	**99.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00147
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Ground Floor, 95 coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 19/06/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00342	S19RV-00343				
Field Sample ID	1	2				
Date Tested	18/06/2019	18/06/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310422	E 0310425				
	N 5819082	N 5819085				
	FSL -980mm	FSL -760mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	9	11				
Field Wet Density (t/m³)	2.13	2.15				
Peak Converted Wet Density (t/m³)	2.17	2.19				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	1.5 wet				
Hilf Density Ratio (%)	**98.0**	**98.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00188
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Ground Floor, 95 coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 7/08/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00411	S19RV-00412				
Field Sample ID	1	2				
Date Tested	6/08/2019	6/08/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310430	E 0310423				
	N 5819003	N 5819013				
	FSL -3930mm	FSL -3680mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	4	3				
Field Wet Density (t/m³)	1.87	1.79				
Peak Converted Wet Density (t/m³)	1.89	1.81				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	1.0 dry				
Hilf Density Ratio (%)	**99.0**	**99.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00189
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Ground Floor, 95 coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 8/08/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00413	S19RV-00414	S19RV-00415			
Field Sample ID	1	2	3			
Date Tested	7/08/2019	7/08/2019	7/08/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310439	E 0310428	E 0310433			
	N 5819028	N 5819028	N 5819014			
	FSL -3420mm	FSL -3100mm	FSL -2830mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	16	9	5			
Field Wet Density (t/m³)	2.08	1.98	1.85			
Peak Converted Wet Density (t/m³)	2.07	1.98	1.87			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	1.0 dry	1.0 dry			
Hilf Density Ratio (%)	**101.0**	**100.0**	**99.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00227
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 24/09/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: Gravelly Clay

Sample ID	S19RV-00496	S19RV-00497				
Field Sample ID	1	2				
Date Tested	23/09/2019	23/09/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310435	E 0310431				
	N 5819047	N 5819007				
	FSL -3400mm	FSL -3090mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	13	11				
Field Wet Density (t/m³)	1.98	1.93				
Peak Converted Wet Density (t/m³)	1.99	1.95				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
Hilf Density Ratio (%)	**99.5**	**99.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00233
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 4/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00511	S19RV-00512	S19RV-00513			
Field Sample ID	1	2	3			
Date Tested	3/10/2019	3/10/2019	3/10/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310428	E 0310429	E 0310418			
	N 5819046	N 5818924	N 5818996			
	FSL -2850mm	FSL -2610mm	FSL -2500mm			
Depth of Test (mm)	2225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	16	13	18			
Field Wet Density (t/m³)	2.18	2.08	2.21			
Peak Converted Wet Density (t/m³)	2.15	2.10	2.18			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	0.5 wet			
Hilf Density Ratio (%)	**101.5**	**99.0**	**101.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00234
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 5/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00514	S19RV-00515	S19RV-00516			
Field Sample ID	1	2	3			
Date Tested	4/10/2019	4/10/2019	4/10/2019			
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway			
	E 0310419	E 0310431	E 0310440			
	N 5819016	N 5818993	N 5819049			
	FSL -2270mm	FSL -2030mm	FSL -1790mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	19	18	17			
Field Wet Density (t/m³)	2.24	2.21	2.22			
Peak Converted Wet Density (t/m³)	2.22	2.20	2.21			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	1.5 dry	2.0 dry			
Hilf Density Ratio (%)	**101.0**	**100.0**	**100.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00236
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 8/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00518	S19RV-00519				
Field Sample ID	1	2				
Date Tested	7/10/2019	7/10/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310420	E 0310428				
	N 5818999	N 5819061				
	FSL -1560mm	FSL -1340mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	19	17				
Field Wet Density (t/m³)	2.18	2.19				
Peak Converted Wet Density (t/m³)	2.19	2.17				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	2.0 dry				
Hilf Density Ratio (%)	**99.5**	**101.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00237
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 9/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00520	S19RV-00521				
Field Sample ID	1	2				
Date Tested	8/10/2019	8/10/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310427	E 0310429				
	N 5819009	N 5819070				
	FSL -1120mm	FSL -1180mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	18	17				
Field Wet Density (t/m³)	2.23	2.21				
Peak Converted Wet Density (t/m³)	2.20	2.20				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 dry	2.0 dry				
Hilf Density Ratio (%)	**101.5**	**100.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00238
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 10/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00522	S19RV-00523				
Field Sample ID	1	2				
Date Tested	9/10/2019	9/10/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310428	E 0310426				
	N 5819080	N 5819075				
	FSL -530mm	FSL -280mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	14	15				
Field Wet Density (t/m³)	2.17	2.20				
Peak Converted Wet Density (t/m³)	2.19	2.18				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 wet	1.5 dry				
Hilf Density Ratio (%)	**99.5**	**101.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00239
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 11/10/2019

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample ID	S19RV-00524					
Field Sample ID	1					
Date Tested	10/10/2019					
Location	Lot 42					
	E 0310379					
	N 5819065					
	FSL -290mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	8					
Field Wet Density (t/m³)	1.99					
Peak Converted Wet Density (t/m³)	1.96					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
Hilf Density Ratio (%)	**101.5**					

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00240
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 12/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00525	S19RV-00526				
Field Sample ID	1	2				
Date Tested	11/10/2019	11/10/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310422	E 0310433				
	N 5819010	N 5819080				
	FSL -870mm	FSL -940mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	16	15				
Field Wet Density (t/m³)	2.20	2.17				
Peak Converted Wet Density (t/m³)	2.19	2.17				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 dry	1.5 dry				
Hilf Density Ratio (%)	**100.0**	**100.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00241
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 14/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00527	S19RV-00528				
Field Sample ID	1	2				
Date Tested	12/10/2019	12/10/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310438	E 0310425				
	N 5819080	N 5819009				
	FSL -680mm	FSL -760mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	16	15				
Field Wet Density (t/m³)	2.18	2.17				
Peak Converted Wet Density (t/m³)	2.17	2.18				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.5 dry				
Hilf Density Ratio (%)	**100.5**	**100.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00242
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 15/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00529	S19RV-00530				
Field Sample ID	1	2				
Date Tested	14/10/2019	14/10/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310416	E 0310422				
	N 5818995	N 5819072				
	FSL -500mm	FSL -610mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	19	19				
Field Wet Density (t/m³)	2.25	2.27				
Peak Converted Wet Density (t/m³)	2.21	2.23				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	1.5 dry				
Hilf Density Ratio (%)	**102.0**	**102.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00244
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 17/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00533					
Field Sample ID	1					
Date Tested	16/10/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310432					
	N 5819083					
	FSL -460mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	19					
Field Wet Density (t/m³)	2.22					
Peak Converted Wet Density (t/m³)	2.22					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	**100.5**					

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00245
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 18/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Characteristic Density Ratio - 95% Modified
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00534					
Field Sample ID	1					
Date Tested	17/10/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310423					
	N 5819005					
	FSL -250mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	16					
Field Wet Density (t/m³)	2.19					
Peak Converted Wet Density (t/m³)	2.21					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	**99.0**					

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00246
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 19/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: Gravelly Clay

Sample ID	S19RV-00535	S19RV-00536				
Field Sample ID	1	2				
Date Tested	18/10/2019	18/10/2019				
Location	Lot 32	Lot 35				
	E 0310408	E 0310411				
	N 5819065	N 5819106				
	FSL	FSL				
Depth of Test (mm)	250	250				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	5	4				
Field Wet Density (t/m³)	2.03	2.01				
Peak Converted Wet Density (t/m³)	2.04	2.03				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 dry	1.0 wet				
Hilf Density Ratio (%)	**100.0**	**98.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00248
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 22/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00539	S19RV-00540				
Field Sample ID	1	2				
Date Tested	21/10/2019	21/10/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310420	E 0310434				
	N 5819011	N 5819106				
	FSL	FSL -220mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	11	12				
Field Wet Density (t/m³)	2.12	2.14				
Peak Converted Wet Density (t/m³)	2.16	2.15				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.0				
Hilf Density Ratio (%)	**98.0**	**99.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00249
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 23/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Dry Density Ratio of 95% Modified Compaction
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: Gravelly Clay

Sample ID	S19RV-00541	S19RV-00542				
Field Sample ID	1	2				
Date Tested	22/10/2019	22/10/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310449	E 0310447				
	N 5819148	N 5819142				
	FSL -2730mm	FSL -2500mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	5	7				
Field Wet Density (t/m³)	1.95	2.01				
Peak Converted Wet Density (t/m³)	1.97	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	2.0 dry				
Hilf Density Ratio (%)	**98.5**	**99.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00250
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 24/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00543	S19RV-00544				
Field Sample ID	1	2				
Date Tested	23/10/2019	23/10/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310453	E 0310449				
	N 5819152	N 5819145				
	FSL -2240mm	FSL -2010mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	11	13				
Field Wet Density (t/m³)	2.13	2.14				
Peak Converted Wet Density (t/m³)	2.13	2.17				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	2.0 wet				
Hilf Density Ratio (%)	**100.5**	**98.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00251
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 25/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00545	S19RV-00546				
Field Sample ID	1	2				
Date Tested	24/10/2019	24/10/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310452	E 0310449				
	N 5819144	N 5819164				
	FSL -1770mm	FSL -1490mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	11	11				
Field Wet Density (t/m³)	2.14	2.13				
Peak Converted Wet Density (t/m³)	2.13	2.14				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 wet	1.0 wet				
Hilf Density Ratio (%)	**100.5**	**99.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00252
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 28/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00547	S19RV-00548	S19RV-00549			
Field Sample ID	1	2	3			
Date Tested	25/10/2019	25/10/2019	25/10/2019			
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway			
	E 0310448	E 0310448	E 0310439			
	N 5819149	N 5819157	N 5819163			
	FSL -1230mm	FSL -990mm	FSL -740mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	11	11	12			
Field Wet Density (t/m³)	2.12	2.13	2.15			
Peak Converted Wet Density (t/m³)	2.15	2.12	2.12			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 wet	0.5 dry	1.5 dry			
Hilf Density Ratio (%)	**99.0**	**101.0**	**101.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00254
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 30/10/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 98% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00553	S19RV-00554	S19RV-00555			
Field Sample ID	1	2	3			
Date Tested	29/10/2019	29/10/2019	29/10/2019			
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway			
	E 0310442	E 0310441	E 0310434			
	N 5819143	N 5819159	N 5819170			
	FSL -510mm	FSL -240mm	FSL			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	11	18	10			
Field Wet Density (t/m³)	2.11	2.17	2.12			
Peak Converted Wet Density (t/m³)	2.12	2.18	2.13			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 wet	0.0			
Hilf Density Ratio (%)	**100.0**	**99.5**	**99.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00263
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 26/11/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00579	S19RV-00580	S19RV-00581			
Field Sample ID	1	2	3			
Date Tested	25/11/2019	25/11/2019	25/11/2019			
Location	Lot 41	Lot 43	Lot 45			
	E 0310377	E 0310365	E 0310363			
	N 5819085	N 5819052	N 5819017			
	FSL -990mm	FSL -780mm	FSL -510mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	15	18	17			
Field Wet Density (t/m³)	1.93	2.03	2.05			
Peak Converted Wet Density (t/m³)	2.02	2.05	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 dry	0.5 dry			
Hilf Density Ratio (%)	**95.5**	**99.0**	**100.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00264
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 3/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S19RV-00582	S19RV-00583				
Field Sample ID	1	2				
Date Tested	26/11/2019	26/11/2019				
Location	Lot 44	Lot 42				
	E 0310361	E 0310365				
	N 5819020	N 5819060				
	FSL -240mm	FSL				
Field and Laboratory Data						
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	14	15				
Field Wet Density (t/m³)	1.94	1.97				
Peak Converted Wet Density (t/m³)	2.01	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.5 wet				
Hilf Density Ratio (%)	**96.5**	**98.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00265
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 28/11/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00584	S19RV-00585	S19RV-00586			
Field Sample ID	1	2	3			
Date Tested	27/11/2019	27/11/2019	27/11/2019			
Location	Lot 44	Lot 42	Lot 40			
	E 0310369	E 0310371	E 0310373			
	N 5819023	N 5819050	N 5819077			
	FSL -2230mm	FSL -1970mm	FSL -1740mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	16	11	15			
Field Wet Density (t/m³)	2.04	1.94	2.01			
Peak Converted Wet Density (t/m³)	2.05	1.99	2.03			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 wet	0.5 wet	0.5 dry			
Hilf Density Ratio (%)	**99.5**	**97.5**	**99.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00266
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 29/11/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00587	S19RV-00588	S19RV-00589			
Field Sample ID	1	2	3			
Date Tested	28/11/2019	28/11/2019	28/11/2019			
Location	Lot 42	Lot 44	Lot 43			
	E 0310373	E 0310368	E 0310369			
	N 5819064	N 5819035	N 5819035			
	FSL -1510mm	FSL -1230mm	FSL -1000mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	16	15	15			
Field Wet Density (t/m³)	2.03	2.01	2.02			
Peak Converted Wet Density (t/m³)	2.05	2.02	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 wet	0.5 dry	2.0 wet			
Hilf Density Ratio (%)	**99.0**	**99.5**	**98.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00267
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 3/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00590	S19RV-00591	S19RV-00592			
Field Sample ID	1	2	3			
Date Tested	29/11/2019	29/11/2019	29/11/2019			
Location	Lot 45	Lot 42	Lot 40			
	E 0310363	E 0310370	E 0310375			
	N 5819013	N 5819059	N 5819089			
	FSL -780mm	FSL -610mm	FSL -420mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	15	17	4			
Field Wet Density (t/m³)	2.00	2.04	2.04			
Peak Converted Wet Density (t/m³)	2.02	2.03	2.04			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	0.0			
Hilf Density Ratio (%)	**99.5**	**100.0**	**100.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00268
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 3/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00593					
Field Sample ID	1					
Date Tested	30/11/2019					
Location	Lot 44					
	E 0310365					
	N 5819031					
	FSL -390mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	5					
Field Wet Density (t/m³)	2.02					
Peak Converted Wet Density (t/m³)	2.04					
Compactive Effort	Standard					
Moisture Variation (%)	2.0 wet					
Hilf Density Ratio (%)	**99.0**					

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00269
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 3/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00594	S19RV-00595				
Field Sample ID	1	2				
Date Tested	2/12/2019	2/12/2019				
Location	Lot 41	Lot 44				
	E 0310371	E 0310364				
	N 5819086	N 5819005				
	FSL -230mm	FSL -200mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	16	14				
Field Wet Density (t/m³)	2.10	2.02				
Peak Converted Wet Density (t/m³)	2.11	2.03				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.5 wet				
Hilf Density Ratio (%)	**100.0**	**99.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00270
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 4/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00596	S19RV-00597	S19RV-00598			
Field Sample ID	1	2	3			
Date Tested	3/12/2019	3/12/2019	3/12/2019			
Location	Lot 39	Lot 43	Lot 39			
	E 0310371	E 0310366	E 0310370			
	N 5819105	N 5819039	N 5819107			
	FSL -490mm	FSL	FSL -250mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	13	18	16			
Field Wet Density (t/m³)	2.15	2.20	2.17			
Peak Converted Wet Density (t/m³)	2.15	2.17	2.16			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	2.0 dry	0.0			
Hilf Density Ratio (%)	**100.0**	**101.0**	**100.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00272
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 7/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00601	S19RV-00602	S19RV-00603			
Field Sample ID	1	2	3			
Date Tested	5/12/2019	5/12/2019	5/12/2019			
Location	Lot 43	Lot 41	Lot 40			
	E 0310392	E 0310392	E 0310392			
	N 5819035	N 5819064	N 5819091			
	FSL -750mm	FSL -1080mm	FSL -690mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	10	10	14			
Field Wet Density (t/m³)	1.96	1.94	2.02			
Peak Converted Wet Density (t/m³)	1.98	1.96	2.00			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	0.0			
Hilf Density Ratio (%)	**99.0**	**99.0**	**100.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00273
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 7/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00604	S19RV-00605				
Field Sample ID	1	2				
Date Tested	6/12/2019	6/12/2019				
Location	Lot 39	Lot 38				
	E 0310373	E 0310388				
	N 5819107	N 5819128				
	FSL	FSL -240mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	10	11				
Field Wet Density (t/m³)	1.99	2.00				
Peak Converted Wet Density (t/m³)	1.98	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.5 wet				
Hilf Density Ratio (%)	**100.0**	**100.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00274
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 9/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00606	S19RV-00607				
Field Sample ID	1	2				
Date Tested	7/12/2019	7/12/2019				
Location	Lot 45	Lot 40				
	E 0310386	E 0310388				
	N 5819014	N 5819092				
	FSL -510mm	FSL -490mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	13	12				
Field Wet Density (t/m³)	2.02	2.00				
Peak Converted Wet Density (t/m³)	2.01	2.02				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 dry	1.5 dry				
Hilf Density Ratio (%)	**101.0**	**98.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00275
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 10/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00608	S19RV-00609	S19RV-00610			
Field Sample ID	1	2	3			
Date Tested	9/12/2019	9/12/2019	9/12/2019			
Location	Lot 39	Lot 43	Lot 38			
	E 0310391	E 0310388	E 0310375			
	N 5819116	N 5819051	N 5819134			
	FSL -230mm	FSL	FSL			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	10	14	16			
Field Wet Density (t/m³)	1.96	2.01	2.05			
Peak Converted Wet Density (t/m³)	1.99	2.01	2.03			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 wet	0.5 dry	0.0			
Hilf Density Ratio (%)	**98.5**	**100.0**	**100.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00276
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 11/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00611	S19RV-00612	S19RV-00613			
Field Sample ID	1	2	3			
Date Tested	10/12/2019	10/12/2019	10/12/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310446	E 0310448	E 0310452			
	N 5819065	N 5819030	N 5819045			
	FSL -680mm	FSL -720mm	FSL -1560mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	14	8	11			
Field Wet Density (t/m³)	1.99	1.92	2.10			
Peak Converted Wet Density (t/m³)	2.00	1.94	2.13			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	2.0 dry			
Hilf Density Ratio (%)	**99.5**	**99.0**	**98.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00277
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 12/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00614	S19RV-00615	S19RV-00616			
Field Sample ID	1	2	3			
Date Tested	11/12/2019	11/12/2019	11/12/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310480	E 0310478	E 0310474			
	N 5819140	N 5819168	N 5819155			
	FSL -3530mm	FSL -3280mm	FSL -1520mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	9	10	9			
Field Wet Density (t/m³)	1.92	1.95	1.90			
Peak Converted Wet Density (t/m³)	1.94	1.96	1.93			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 wet	2.0 dry			
Hilf Density Ratio (%)	**99.0**	**99.0**	**98.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00278
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 13/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00617	S19RV-00618	S19RV-00619			
Field Sample ID	1	2	3			
Date Tested	12/12/2019	12/12/2019	12/12/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310489	E 0310483	E 0310481			
	N 5819149	N 5819141	N 5819178			
	FSL -630mm	FSL -240mm	FSL -4890mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	15	16	15			
Field Wet Density (t/m³)	2.00	2.04	1.98			
Peak Converted Wet Density (t/m³)	2.00	2.02	2.01			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.0 dry	1.5 dry	1.5 wet			
Hilf Density Ratio (%)	**100.0**	**100.5**	**98.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00279
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 4/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S19RV-00620	S19RV-00621	S19RV-00622			
Field Sample ID	1	2	3			
Date Tested	13/12/2019	13/12/2019	13/12/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310484	E 0310480	E 0310478			
	N 5819169	N 5819179	N 5819152			
	FSL -3010mm	FSL -4490mm	FSL -1510mm			
Field and Laboratory Data						
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	10	8	11			
Field Wet Density (t/m³)	1.94	1.91	1.95			
Peak Converted Wet Density (t/m³)	1.97	1.93	1.98			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	0.5 dry			
Hilf Density Ratio (%)	**98.5**	**99.0**	**98.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00280
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 18/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00623	S19RV-00624	S19RV-00625			
Field Sample ID	1	2	3			
Date Tested	16/12/2019	16/12/2019	16/12/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310471	E 0310490	E 0310468			
	N 5819158	N 5819172	N 5819172			
	FSL -1340mm	FSL -2290mm	FSL -4950mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	10	9	14			
Field Wet Density (t/m³)	1.96	1.97	2.02			
Peak Converted Wet Density (t/m³)	1.97	1.99	2.02			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 dry	0.0			
Hilf Density Ratio (%)	**99.5**	**99.5**	**100.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00281
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 18/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00626	S19RV-00627	S19RV-00628			
Field Sample ID	1	2	3			
Date Tested	17/12/2019	17/12/2019	17/12/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310475	E 0310476	E 0310493			
	N 5819157	N 5819157	N 5819178			
	FSL -4160mm	FSL -2250mm	FSL -1810mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	12	14	11			
Field Wet Density (t/m³)	1.99	2.00	2.00			
Peak Converted Wet Density (t/m³)	1.99	2.00	2.00			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.0	0.0			
Hilf Density Ratio (%)	**100.0**	**99.5**	**100.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00282
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 19/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00629	S19RV-00630	S19RV-00631			
Field Sample ID	1	2	3			
Date Tested	18/12/2019	18/12/2019	18/12/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310481	E 0310475	E 0310476			
	N 5819176	N 5819186	N 5819144			
	FSL -2020mm	FSL -3180mm	FSL -710mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	15	16	10			
Field Wet Density (t/m³)	2.03	2.06	1.97			
Peak Converted Wet Density (t/m³)	2.03	2.04	1.98			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	0.5 wet			
Hilf Density Ratio (%)	**100.0**	**101.0**	**99.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W19RV00283
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 19/12/2019

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S19RV-00632	S19RV-00633				
Field Sample ID	1	2				
Date Tested	19/12/2019	19/12/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310468	E 0310475				
	N 5819180	N 5819186				
	FSL -4320mm	FSL -3000mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	11	12				
Field Wet Density (t/m³)	1.98	1.94				
Peak Converted Wet Density (t/m³)	2.01	1.98				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	1.5 dry				
Hilf Density Ratio (%)	**98.5**	**98.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00001
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 15/01/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: Gravelly Clay

Sample ID	S20RV-00001	S20RV-00002	S20RV-00003			
Field Sample ID	1	2	3			
Date Tested	14/01/2020	14/01/2020	14/01/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310489	E 0310506	E 0310483			
	N 5819201	N 5819210	N 5819215			
	FSL -2020mm	FSL -1640mm	FSL -1390mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	10	15	16			
Field Wet Density (t/m³)	1.93	2.05	2.06			
Peak Converted Wet Density (t/m³)	1.95	2.05	2.09			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 dry	1.5 dry			
Hilf Density Ratio (%)	**99.0**	**100.0**	**98.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00002
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 16/01/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: Gravelly Clay

Sample ID	S20RV-00004	S20RV-00005	S20RV-00006			
Field Sample ID	1	2	3			
Date Tested	15/01/2020	15/01/2020	15/01/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310466	E 0310470	E 0310472			
	N 5819166	N 5819197	N 5819206			
	FSL -1520mm	FSL -930mm	FSL -760mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	12	9	13			
Field Wet Density (t/m³)	2.02	1.95	2.02			
Peak Converted Wet Density (t/m³)	2.01	1.96	2.02			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry	0.5 wet			
Hilf Density Ratio (%)	**100.5**	**99.0**	**100.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00003
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 17/01/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Site Derived
Material: Gravelly Clay

Sample ID	S20RV-00007	S20RV-00008	S20RV-00009			
Field Sample ID	1	2	3			
Date Tested	16/01/2020	16/01/2020	16/01/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310465	E 0310473	E 0310446			
	N 5819165	N 5819127	N 5819076			
	FSL -4020mm	FSL -840mm	FSL -330mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	11	16	17			
Field Wet Density (t/m³)	2.03	2.05	2.06			
Peak Converted Wet Density (t/m³)	2.03	2.04	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 wet	0.5 dry			
Hilf Density Ratio (%)	**99.5**	**100.5**	**100.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00004
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 18/01/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00010	S20RV-00011	S20RV-00012			
Field Sample ID	1	2	3			
Date Tested	17/01/2020	17/01/2020	17/01/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310439	E 0310446	E 0310428			
	N 5819022	N 5819059	N 5819042			
	FSL -420mm	FSL -960mm	FSL -1470mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	11	10	12			
Field Wet Density (t/m³)	2.04	2.10	2.16			
Peak Converted Wet Density (t/m³)	2.03	2.11	2.15			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry	1.5 dry			
Hilf Density Ratio (%)	**100.5**	**99.5**	**100.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00005
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 20/01/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00013	S20RV-00014				
Field Sample ID	1	2				
Date Tested	18/01/2020	18/01/2020				
Location	Batter east of Rivervalley Boulevard	Batter east of Rivervalley Boulevard				
	E 0310441	E 0310435				
	N 5819029	N 5818996				
	FSL -870mm	FSL -520mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	11	15				
Field Wet Density (t/m³)	2.00	2.09				
Peak Converted Wet Density (t/m³)	2.00	2.08				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.0				
Hilf Density Ratio (%)	**100.5**	**100.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00006
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 21/01/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00015	S20RV-00016	S20RV-00017			
Field Sample ID	1	2	3			
Date Tested	20/01/2020	20/01/2020	20/01/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310440	E 0310432	E 0310434			
	N 5819049	N 5818992	N 5819037			
	FSL -850mm	FSL -230mm	FSL -710mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	17	8	10			
Field Wet Density (t/m³)	2.10	1.95	1.94			
Peak Converted Wet Density (t/m³)	2.09	1.97	1.99			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 dry	0.0			
Hilf Density Ratio (%)	**100.0**	**99.0**	**97.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00007
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 22/01/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00018	S20RV-00019	S20RV-00020			
Field Sample ID	1	2	3			
Date Tested	21/01/2020	21/01/2020	21/01/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310446	E 0310466	E 0310468			
	N 5819079	N 5819107	N 5819141			
	FSL -930mm	FSL -650mm	FSL -1390mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	10	12	10			
Field Wet Density (t/m³)	1.98	1.99	1.94			
Peak Converted Wet Density (t/m³)	1.99	2.01	1.98			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 dry	2.0 dry			
Hilf Density Ratio (%)	**99.5**	**99.0**	**98.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00008
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 23/01/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00021	S20RV-00022	S20RV-00023			
Field Sample ID	1	2	3			
Date Tested	22/01/2020	22/01/2020	22/01/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310470	E 0310469	E 0310473			
	N 5819174	N 5819143	N 5819110			
	FSL -2630mm	FSL -770mm	FSL -600mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	8	10	11			
Field Wet Density (t/m³)	1.90	2.00	2.03			
Peak Converted Wet Density (t/m³)	1.94	2.01	2.03			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	0.5 dry	0.5 dry			
Hilf Density Ratio (%)	**97.5**	**99.5**	**100.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00012
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 29/01/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00029	S20RV-00030				
Field Sample ID	1	2				
Date Tested	29/01/2020	29/01/2020				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310465	E 0310486				
	N 5819132	N 5819188				
	FSL -370mm	FSL -2010mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	15	8				
Field Wet Density (t/m³)	2.07	1.93				
Peak Converted Wet Density (t/m³)	2.05	1.96				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
Hilf Density Ratio (%)	**101.0**	**98.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00013
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 12/02/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00031	S20RV-00032	S20RV-00033			
Field Sample ID	1	2	3			
Date Tested	11/02/2020	11/02/2020	11/02/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310475	E 0310489	E 0310465			
	N 5819171	N 5819205	N 5819143			
	FSL -3040mm	FSL	FSL -2050mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	9	19	16			
Field Wet Density (t/m³)	1.96	2.09	2.04			
Peak Converted Wet Density (t/m³)	1.98	2.06	2.02			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.0	0.0			
Hilf Density Ratio (%)	**98.5**	**101.5**	**101.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00014
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 13/02/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00034	S20RV-00035	S20RV-00036			
Field Sample ID	1	2	3			
Date Tested	12/02/2020	12/02/2020	12/02/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310445	E 0310465	E 0310472			
	N 5819080	N 5819133	N 5819156			
	FSL -660mm	FSL -430mm	FSL -1290mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	13	15	15			
Field Wet Density (t/m³)	2.02	2.16	2.18			
Peak Converted Wet Density (t/m³)	2.02	2.13	2.14			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	2.0 dry	1.5 dry			
Hilf Density Ratio (%)	**100.0**	**101.5**	**101.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00015
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 14/02/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00037	S20RV-00038	S20RV-00039			
Field Sample ID	1	2	3			
Date Tested	13/02/2020	13/02/2020	13/02/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310478	E 0310454	E 0310470			
	N 5819160	N 5819120	N 5819158			
	FSL -2020mm	FSL -1190mm	FSL -650mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	9	14	18			
Field Wet Density (t/m³)	1.97	2.00	2.06			
Peak Converted Wet Density (t/m³)	1.97	2.03	2.05			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	1.0 dry	2.0 dry			
Hilf Density Ratio (%)	**99.5**	**98.5**	**100.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00016
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 15/02/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00040	S20RV-00041	S20RV-00042			
Field Sample ID	1	2	3			
Date Tested	14/02/2020	14/02/2020	14/02/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310461	E 0310445	E 0310479			
	N 5819131	N 5819098	N 5819183			
	FSL -870mm	FSL -660mm	FSL -910mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	15	16	16			
Field Wet Density (t/m³)	2.03	2.06	2.07			
Peak Converted Wet Density (t/m³)	2.03	2.04	2.05			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	0.5 dry	0.0			
Hilf Density Ratio (%)	**100.0**	**101.0**	**100.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00017
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 17/02/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00043					
Field Sample ID	1					
Date Tested	15/02/2020					
Location	Batter East of Rivervalley Boulevard					
	E 0310462					
	N 5819169					
	FSL -2890mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	18					
Field Wet Density (t/m³)	2.05					
Peak Converted Wet Density (t/m³)	2.05					
Compactive Effort	Standard					
Moisture Variation (%)	2.0 dry					
Hilf Density Ratio (%)	**100.0**					

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00018
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 18/02/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00044	S20RV-00045	S20RV-00046			
Field Sample ID	1	2	3			
Date Tested	17/02/2020	17/02/2020	17/02/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310476	E 0310448	E 0310468			
	N 5819168	N 5819111	N 5819158			
	FSL -1810mm	FSL -720mm	FSL -980mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	18	13	16			
Field Wet Density (t/m³)	2.09	2.01	2.09			
Peak Converted Wet Density (t/m³)	2.07	2.02	2.07			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	2.0 dry	2.0 dry			
Hilf Density Ratio (%)	**101.5**	**99.5**	**101.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00019
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 19/02/2020

Sample Details

Location: Stage 7B
Client Request ID:
Specification Requirements: Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures: AS 1289.5.8.1
Laboratory Test procedures: AS 1289.5.7.1
Sampling Method: AS1289.1.2.1 Clause 6.4 (b)
Source: Imported
Material: Gravelly Clay

Sample ID	S20RV-00047	S20RV-00048	S20RV-00049			
Field Sample ID	1	2	3			
Date Tested	18/02/2020	18/02/2020	18/02/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310464	E 0310467	E 0310448			
	N 5819152	N 5819173	N 5819121			
	FSL -1760mm	FSL -2340mm	FSL -790mm			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	17	18	17			
Field Wet Density (t/m³)	2.07	2.13	2.12			
Peak Converted Wet Density (t/m³)	2.05	2.10	2.11			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.0	0.0			
Hilf Density Ratio (%)	**101.0**	**101.0**	**100.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00020
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 20/02/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00050	S20RV-00051	S20RV-00052			
Field Sample ID	1	2	3			
Date Tested	19/02/2020	19/02/2020	19/02/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310446	E 0310474	E 0310452			
	N 5819125	N 5819185	N 5819138			
	FSL -1030mm	FSL -260mm	FSL -950mm			

Field and Laboratory Data

Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	15	14	12			
Field Wet Density (t/m³)	2.06	2.00	1.94			
Peak Converted Wet Density (t/m³)	2.05	2.02	1.96			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.5 dry	1.0 wet			
Hilf Density Ratio (%)	**100.5**	**99.0**	**98.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00021
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 20/02/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00053					
Field Sample ID	1					
Date Tested	20/02/2020					
Location	Batter East of Rivervalley Boulevard					
	E 0310462					
	N 5819170					
	FSL -2100mm					

Field and Laboratory Data

Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	15					
Field Wet Density (t/m³)	2.08					
Peak Converted Wet Density (t/m³)	2.05					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	**101.5**					

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00022
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 4/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00054	S20RV-00055	S20RV-00056			
Field Sample ID	1	2	3			
Date Tested	3/03/2020	3/03/2020	3/03/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310449	E 0310450	E 0310446			
	N 5819128	N 5819133	N 5819129			
	FSL -1570mm	FSL -1390mm	FSL -1200mm			

Field and Laboratory Data

Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	14	19	11			
Field Wet Density (t/m³)	2.03	2.10	1.99			
Peak Converted Wet Density (t/m³)	2.02	2.08	2.00			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	0.5 dry			
Hilf Density Ratio (%)	**101.0**	**101.0**	**99.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00023
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 5/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00057	S20RV-00058	S20RV-00059			
Field Sample ID	1	2	3			
Date Tested	4/03/2020	4/03/2020	4/03/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310454	E 0310444	E 0310453			
	N 5819125	N 5819111	N 5819136			
	FSL -980mm	FSL -720mm	FSL -590mm			

Field and Laboratory Data

Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	19	12	18			
Field Wet Density (t/m³)	2.12	2.00	2.11			
Peak Converted Wet Density (t/m³)	2.12	1.99	2.10			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 wet	0.5 dry			
Hilf Density Ratio (%)	**100.0**	**100.5**	**100.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00025
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 12/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00062	S20RV-00063	S20RV-00064			
Field Sample ID	1	2	3			
Date Tested	11/03/2020	11/03/2020	11/03/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310449	E 0310453	E 0310432			
	N 5819126	N 5819141	N 5819098			
	FSL -410mm	FSL -190mm	FSL			
Field and Laboratory Data						
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	14	12	13			
Field Wet Density (t/m³)	2.04	2.03	2.03			
Peak Converted Wet Density (t/m³)	2.03	2.03	2.03			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	1.0 wet	0.0			
Hilf Density Ratio (%)	**101.0**	**100.0**	**99.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00026
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 13/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00065	S20RV-00066	S20RV-00067			
Field Sample ID	1	2	3			
Date Tested	12/03/2020	12/03/2020	12/03/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310463	E 0310462	E 0310453			
	N 5819152	N 5819163	N 5819146			
	FSL -1890mm	FSL -1680mm	FSL -1450mm			

Field and Laboratory Data

Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	9	17	12			
Field Wet Density (t/m³)	1.97	2.09	2.02			
Peak Converted Wet Density (t/m³)	1.97	2.07	2.01			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	0.0			
Hilf Density Ratio (%)	**100.0**	**101.0**	**100.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00027
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 16/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00068	S20RV-00069	S20RV-00070			
Field Sample ID	1	2	3			
Date Tested	13/03/2020	13/03/2020	13/03/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310455	E 0310452	E 0310465			
	N 5819154	N 5819149	N 5819157			
	FSL -1230mm	FSL -1010mm	FSL -870mm			

Field and Laboratory Data

Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	12	14	16			
Field Wet Density (t/m³)	2.05	2.06	2.06			
Peak Converted Wet Density (t/m³)	2.03	2.03	2.05			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.0	0.5 wet			
Hilf Density Ratio (%)	**101.0**	**101.5**	**100.5**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00028
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 17/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00071	S20RV-00072	S20RV-00073			
Field Sample ID	1	2	3			
Date Tested	16/03/2020	16/03/2020	16/03/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310460	E 0310467	E 0310457			
	N 5819156	N 5819169	N 5819168			
	FSL -680mm	FSL -500mm	FSL -290mm			

Field and Laboratory Data

Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	17	16	12			
Field Wet Density (t/m³)	2.09	2.09	2.03			
Peak Converted Wet Density (t/m³)	2.07	2.07	2.02			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	2.0 dry	0.5 wet			
Hilf Density Ratio (%)	**101.0**	**101.0**	**100.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00029
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 18/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00074	S20RV-00075	S20RV-00076			
Field Sample ID	1	2	3			
Date Tested	17/03/2020	17/03/2020	17/03/2020			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310460	E 0310466	E 0310469			
	N 5819170	N 5819170	N 5819176			
	FSL -180mm	FSL	FSL			
Field and Laboratory Data						
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	14	11	14			
Field Wet Density (t/m³)	2.06	1.99	2.05			
Peak Converted Wet Density (t/m³)	2.04	1.99	2.02			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.0 dry	0.0	0.5 dry			
Hilf Density Ratio (%)	**101.0**	**100.0**	**101.0**			

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00030
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 19/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00077	S20RV-00078				
Field Sample ID	1	2				
Date Tested	18/03/2020	18/03/2020				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310499	E 0310510				
	N 5819226	N 5819255				
	FSL -1010mm	FSL -680mm				

Field and Laboratory Data

Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	15	17				
Field Wet Density (t/m³)	2.06	2.09				
Peak Converted Wet Density (t/m³)	2.04	2.06				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.0				
Hilf Density Ratio (%)	**100.5**	**101.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00031
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 20/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00079	S20RV-00080				
Field Sample ID	1	2				
Date Tested	19/03/2020	19/03/2020				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310501	E 0310509				
	N 5819226	N 5819265				
	FSL -730mm	FSL -490mm				
Field and Laboratory Data						
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	13	15				
Field Wet Density (t/m³)	2.00	2.05				
Peak Converted Wet Density (t/m³)	2.03	2.05				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
Hilf Density Ratio (%)	**98.5**	**100.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00032
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 21/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00081	S20RV-00082				
Field Sample ID	1	2				
Date Tested	20/03/2020	20/03/2020				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310505	E 0310502				
	N 5819222	N 5819222				
	FSL -490mm	FSL -250mm				
Field and Laboratory Data						
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	12	12				
Field Wet Density (t/m³)	1.99	2.04				
Peak Converted Wet Density (t/m³)	2.02	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 wet	2.0 wet				
Hilf Density Ratio (%)	**98.5**	**100.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00033
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 23/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00083	S20RV-00084				
Field Sample ID	1	2				
Date Tested	21/03/2020	21/03/2020				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310507	E 0310511				
	N 5819259	N 5819284				
	FSL	FSL				
Field and Laboratory Data						
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	14	11				
Field Wet Density (t/m³)	2.05	1.98				
Peak Converted Wet Density (t/m³)	2.03	2.00				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	1.5 wet				
Hilf Density Ratio (%)	**100.5**	**98.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00034
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 24/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00085	S20RV-00086				
Field Sample ID	1	2				
Date Tested	23/03/2020	23/03/2020				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310494	E 0310503				
	N 5819207	N 5819220				
	FSL -240mm	FSL				

Field and Laboratory Data

Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	16	16				
Field Wet Density (t/m³)	2.08	2.06				
Peak Converted Wet Density (t/m³)	2.05	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
Hilf Density Ratio (%)	**101.5**	**101.0**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00035
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 26/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00087	S20RV-00088				
Field Sample ID	1	2				
Date Tested	24/03/2020	24/03/2020				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310493	E 0310485				
	N 5819205	N 5819191				
	FSL	FSL				

Field and Laboratory Data

Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	18	12				
Field Wet Density (t/m³)	2.08	2.00				
Peak Converted Wet Density (t/m³)	2.06	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.5 dry				
Hilf Density Ratio (%)	**101.0**	**99.5**				

Comments

River Valley Estate Stage 7 Annex Laboratory
Base Laboratory Accreditation No. 12719
ACN 143 009 330
River Valley Boulevard
Sunshine Nth VIC 3020

Report No: HDR:W20RV00036
Issue No: 1

HILF Density Ratio Report

Client: Tonkin & Taylor (Aus) Pty Limited
Address: Level 3, 99 Coventry Street
SOUTH MELBOURNE VIC 3006
Project: River Valley Estate Stage 7B
Project No.: 1003809.007B
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/national standards.

Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 27/03/2020

Sample Details

Location:	Stage 7B
Client Request ID:	
Specification Requirements:	Minimum Hilf Density Ratio of 95% Standard Compaction +- 2% of OMC
Field Test procedures:	AS 1289.5.8.1
Laboratory Test procedures:	AS 1289.5.7.1
Sampling Method:	AS1289.1.2.1 Clause 6.4 (b)
Source:	Imported
Material:	Gravelly Clay

Sample Data

Sample ID	S20RV-00089	S20RV-00090				
Field Sample ID	1	2				
Date Tested	26/03/2020	26/03/2020				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310474	E 0310481				
	N 5819175	N 5819183				
	FSL	FSL				
Field and Laboratory Data						
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	17	13				
Field Wet Density (t/m³)	2.07	2.01				
Peak Converted Wet Density (t/m³)	2.05	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	2.0 dry				
Hilf Density Ratio (%)	**100.5**	**100.5**				

Comments

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