REPORT

Tonkin+Taylor

Level One Inspection and Testing Services

Stage 7A, 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.R2

Exceptional thinking together
www.tonkintaylor.com.au

Document Control

Title: Level One Inspection and Testing Services					
Date	**Version**	**Description**	**Prepared by:**	**Reviewed by:**	**Authorised by:**
09-06-20	1	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 7A for the supervision works carried out from 30 October 2018 until 28 April 2020. A separated report presenting the test results for Stage 7B 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 1 to 29 in stage 7A and Rivervalley 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 687 tests have been performed in stage 7A during the filling process. The results show that 14 tests failed to meet the specification requirements for the project. The earthworks contractor was advised of the tests that failed and the fill relevant to those areas was reworked, reconditioned, re-compacted and subsequently retested. The final results show the tests achieved the specification requirements for the project. A summary table of Hilf density tests is provided in Appendix B 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

16-Jun-20
\\meldc1\corporate\south melbourne\projects\1000780\1000780.1000\workingmaterial\level 1 final report data\1000780.1000.r2 level 1 report for stage 7a.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

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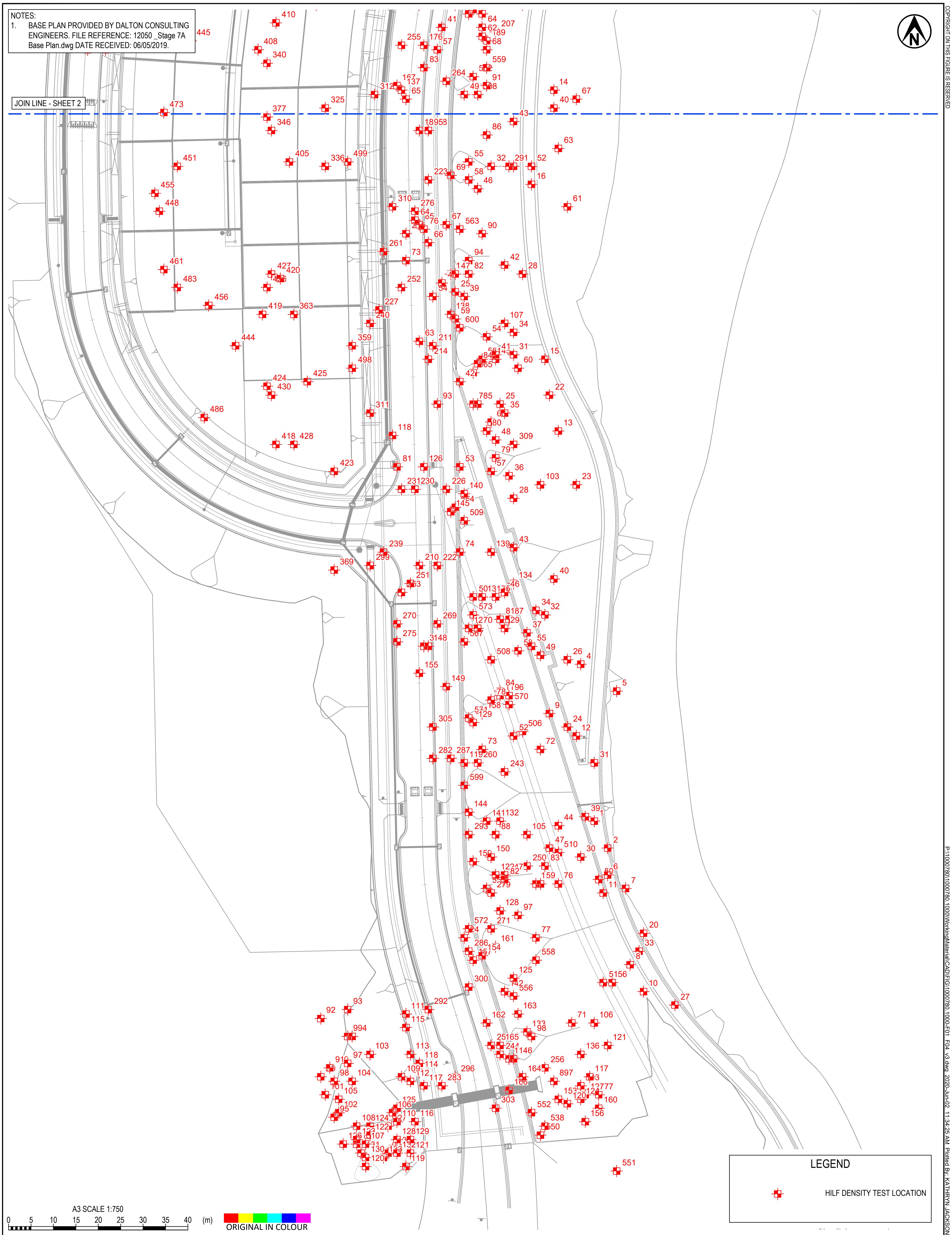
PROJECT No.	1000780.1000	
DESIGNED	PTO	Mar.20
DRAWN	KMJA	Mar.20
CHECKED		
APPROVED	DATE	

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



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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

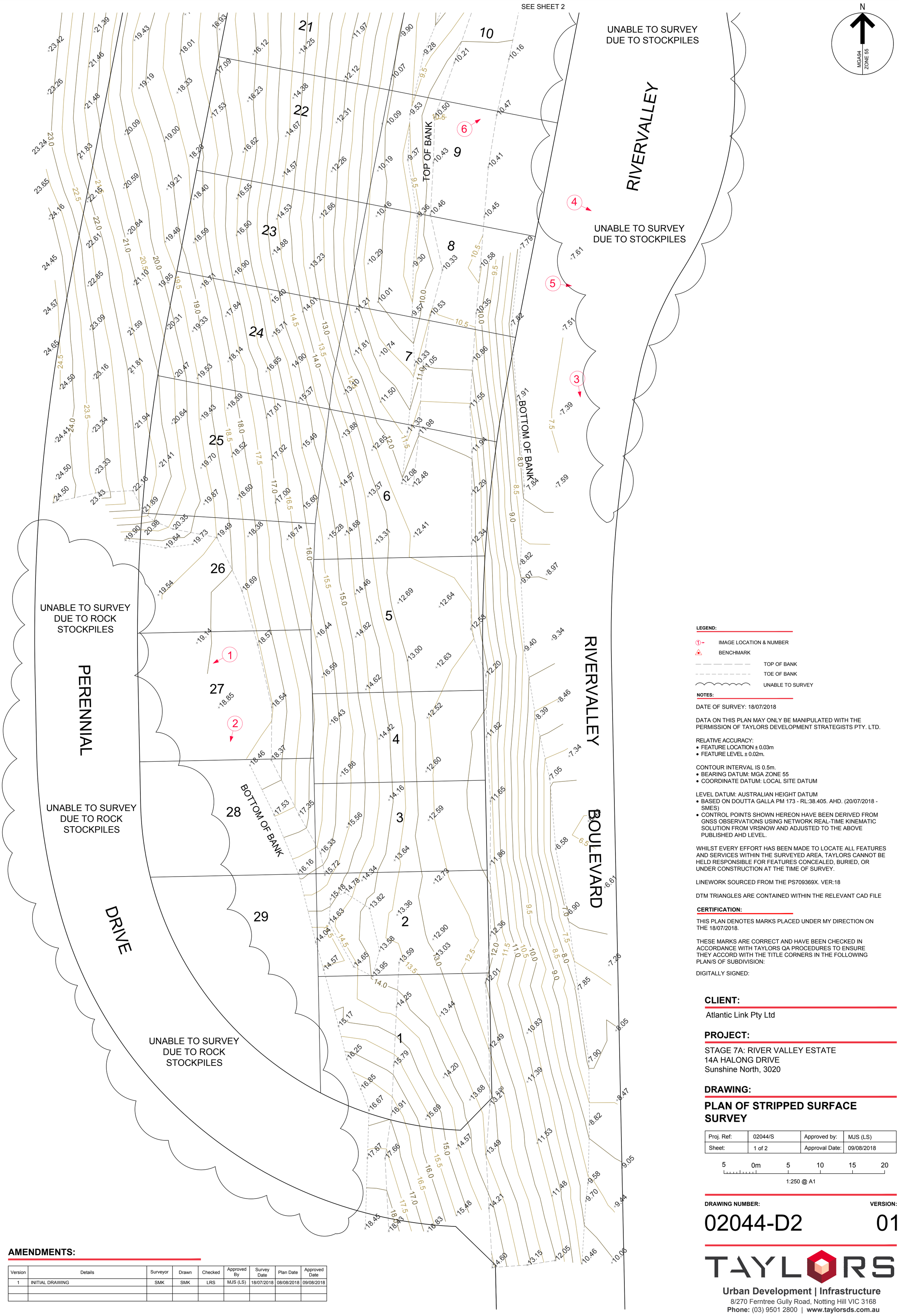
PROJECT RIVER VALLEY ESTATE - STAGES 7A & 7B SUNSHINE NORTH

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-D2 Stage 7A "Plan of stripped surface survey" Version 01 dated 09/08/18**
- **Taylor's Drawing 02044-D15 Stage 7A "Surface level plan" Version 01 dated 04/06/20**



LEGEND:

- IMAGE LOCATION & NUMBER
- BENCHMARK
- TOP OF BANK
- TOE OF BANK
- UNABLE TO SURVEY

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 PS709369X. VER:18

DTM TRIANGLES ARE CONTAINED WITHIN THE RELEVANT CAD FILE

CERTIFICATION:

THIS PLAN DENOTES MARKS PLACED UNDER MY DIRECTION ON THE 18/07/2018.

THESE MARKS ARE CORRECT AND HAVE BEEN CHECKED IN ACCORDANCE WITH TAYLORS QA PROCEDURES TO ENSURE THEY ACCORD WITH THE TITLE CORNERS IN THE FOLLOWING PLAN/S OF SUBDIVISION:

DIGITALLY SIGNED:

CLIENT:

Atlantic Link Pty Ltd

PROJECT:

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

DRAWING:

PLAN OF STRIPPED SURFACE SURVEY

Proj. Ref:	02044/S	Approved by:	MJS (LS)
Sheet:	1 of 2	Approval Date:	09/08/2018

5 0m 5 10 15 20

1:250 @ A1

DRAWING NUMBER: 02044-D2

VERSION: 01

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

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

LEGEND:

- IMAGE LOCATION & NUMBER
- BENCHMARK
- TOP OF BANK
- TOE OF BANK
- UNABLE TO SURVEY

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 PS709369X. VER:18

DTM TRIANGLES ARE CONTAINED WITHIN THE RELEVANT CAD FILE

TBM
SPIKE
RL: 25.30

N

MGA94
ZONE 55

Release 7B

UNDER CONSTRUCTION

Reserve No.1

DRIVE

PERENNIAL

BOULEVARD

RIVERVALLEY

TOP OF BANK

BOTTOM OF BANK

UNABLE TO SURVEY
DUE TO STOCKPILES

SEE SHEET 1

CLIENT:

Atlantic Link Pty Ltd

PROJECT:

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

DRAWING:

PLAN OF STRIPPED SURFACE SURVEY

Proj. Ref:	02044/S	Approved by:	MJS (LS)
Sheet:	2 of 2	Approval Date:	09/08/2018

5 0m 5 10 15 20

1:250 @ A1

DRAWING NUMBER: 02044-D2

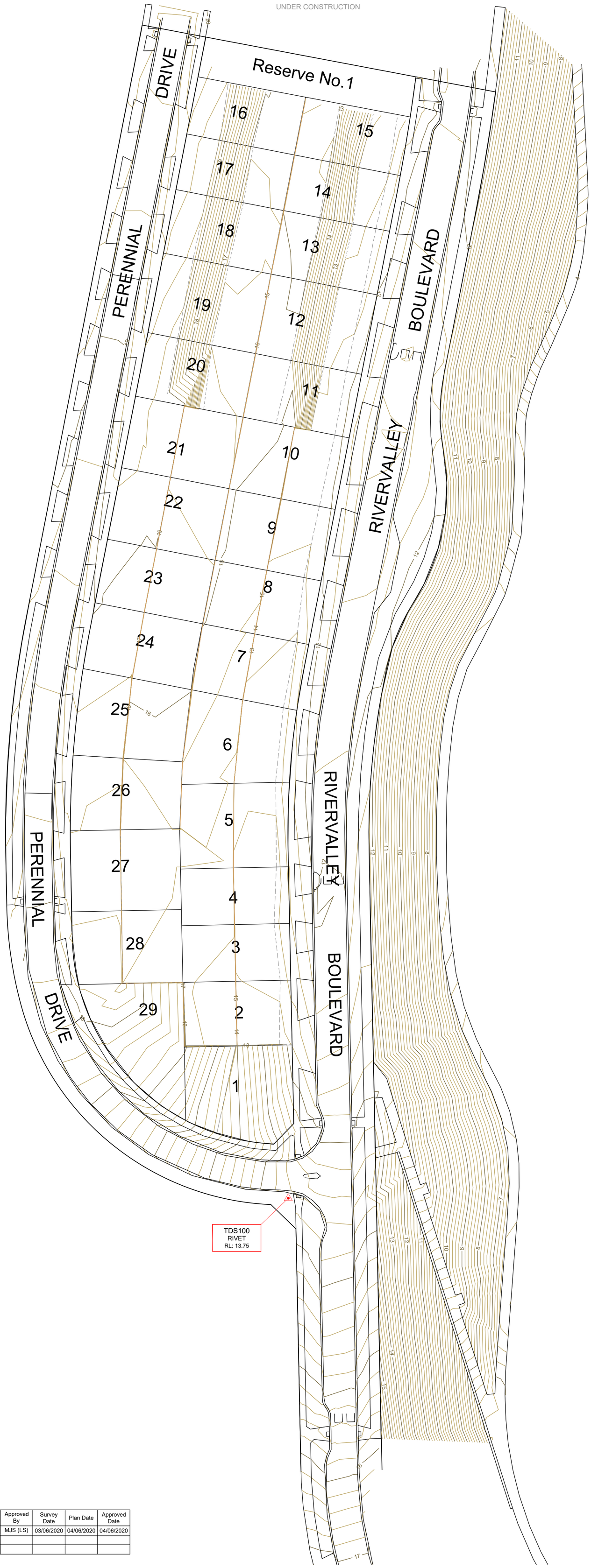
VERSION: 01

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

N

MGA94
ZONE 55

Release 7B
UNDER CONSTRUCTION



LEGEND:

BENCHMARK

NOTES:

DATE OF SURVEY: 20/05/2020 - 03/06/2020
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 PS709369X. VER:18

DTM TRIANGLES ARE CONTAINED WITHIN THE RELEVANT CAD FILE

LICENSED SURVEYOR CERTIFICATION:

This plan has been prepared from a survey completed on the 03/06/2020. 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:

AMENDMENTS:

Version	Details	Surveyor	Drawn	Checked	Approved By	Survey Date	Plan Date	Approved Date
1	INITIAL DRAWING	LLO/HVN	MJL		MJS (LS)	03/06/2020	04/06/2020	04/06/2020

CLIENT:

Atlantic Link Pty Ltd

PROJECT:

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

DRAWING:

SURFACE LEVEL PLAN

Proj. Ref:	02044/S	Approved by:	MJS (LS)
Sheet:	1 of 1	Approval Date:	04/06/2020

10 0m 10 20 30 40

1:500 @ A1

DRAWING NUMBER: 02044-D15

VERSION: 01

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 7A

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:W18RV00001	S18RV-00001	30/10/2018	1	E 0310429	N 5818654	FSL - 1758mm	96.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00001	S18RV-00002	30/10/2018	2	E 0310432	N 5818648	FSL - 2760mm	98.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00002	S18RV-00003	31/10/2018	1	E 0310429	N 5818667	FSL - 1955mm	100	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00003	S18RV-00004	1/11/2018	1	E 0310426	N 5818689	FSL -1508mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00003	S18RV-00005	1/11/2018	2	E 0310434	N 5818683	FSL -1560mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00003	S18RV-00006	1/11/2018	3	E 0310432	E 5818642	FSL -1198mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00004	S18RV-00007	2/11/2018	1	E 0310436	N 5818639	FSL -1137mm	97	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00004	S18RV-00008	2/11/2018	2	E 0310437	N 5818622	FSL -850mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00004	S18RV-00009	2/11/2018	3	E 0310419	N 5818678	FSL -1062mm	98	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00005	S18RV-00010	8/11/2018	1	E 0310440	N 5818616	FSL -673mm	101	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00005	S18RV-00011	8/11/2018	2	E 0310431	N 5818638	FSL -516mm	99	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00005	S18RV-00012	8/11/2018	3	E 0310425	N 5818673	FSL -1420mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00006	S18RV-00013	9/11/2018	1	E 0310421	N 5818741	FSL -2870mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00006	S18RV-00014	9/11/2018	2	E 0310420	N 5818817	FSL -1710mm	99	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00006	S18RV-00015	9/11/2018	3	E 0310418	N 5818757	FSL -1880mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00006	S18RV-00016	9/11/2018	4	E 0310415	E 5818796	FSL -2610mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00007	S18RV-00017	10/11/2018	1	E 0310402	N 5818890	FSL -7610mm	97.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00007	S18RV-00018	10/11/2018	2	E 0310401	N 5818888	FSL -7280mm	98	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00007	S18RV-00019	10/11/2018	3	E 0310401	N 5818886	FSL -7055mm	97.5	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00007	S18RV-00020	10/11/2018	4	E 0310440	N 5818629	FSL -160mm	98.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

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

Think Act Safe Be

1003809 Rivervalley Estate Stage 7A

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:W18RV00007	S18RV-00021	10/11/2018	5	E 0310429	N 5818667	FSL -380mm	100	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00008	S18RV-00022	12/11/2018	1	E 0310419	N 5818749	FSL -1670mm	96.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00008	S18RV-00023	12/11/2018	2	E 0310425	N 5818729	FSL -3100mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00008	S18RV-00024	12/11/2018	3	E 0310423	N 5818675	FSL -1220mm	96.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00009	S18RV-00025	13/11/2018	1	E 0310408	N 5818747	FSL -3980mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00009	S18RV-00026	13/11/2018	2	E 0310423	N 5818690	FSL -2190mm	97.5	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00009	S18RV-00027	13/11/2018	3	E 0310447	N 5818613	FSL -440mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00010	S18RV-00028	15/11/2018	1	E 0310411	N 5818726	FSL -3900mm	98	1.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00010	S18RV-00029	15/11/2018	2	E 0310409	N 5818697	FSL -3050mm	98	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00010	S18RV-00030	15/11/2018	3	E 0310426	N 5818646	FSL -1130mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00011	S18RV-00031	16/11/2018	1	E 0310411	N 5818758	FSL -2790mm	101.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00011	S18RV-00032	16/11/2018	2	E 0310418	N 5818700	FSL -2700mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00011	S18RV-00033	16/11/2018	3	E 0310439	N 5818625	FSL -400mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00012	S18RV-00034	17/11/2018	1	E 0310416	N 5818701	FSL -2500mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00012	S18RV-00035	17/11/2018	2	E 0310409	N 5818745	FSL -3190mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00013	S18RV-00036	19/11/2018	1	E 0310410	N 5818731	FSL -4460mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00013	S18RV-00037	19/11/2018	2	E 0310414	N 5818696	FSL -2070mm	97.5	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00013	S18RV-00038	19/11/2018	3	E 0310426	N 5818646	FSL -950mm	98.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00014	S18RV-00039	20/11/2018	1	E 0310427	N 5818655	FSL -740mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00014	S18RV-00040	20/11/2018	2	E 0310420	N 5818708	FSL -4460mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

Chadwick Geotechnics
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1003809 Rivervalley Estate Stage 7A

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:W18RV00014	S18RV-00041	20/11/2018	3	E 0310407	N 5818758	FSL -3280mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00015	S18RV-00042	21/11/2018	1	E 0310399	N 5818752	FSL -5550mm	97.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00015	S18RV-00043	21/11/2018	2	E 0310411	N 5818715	FSL -4460mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00015	S18RV-00044	21/11/2018	3	E 0310421	N 5818653	FSL-1730mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00016	S18RV-00045	22/11/2018	1	E 0310407	N 5818757	FSL -4780mm	97	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00016	S18RV-00046	22/11/2018	2	E 0310409	N 5818705	FSL -4160mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00016	S18RV-00047	22/11/2018	3	E 0310419	N 5818648	FSL -1560mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00017	S18RV-00048	26/11/2018	1	E 0310407	N 5818739	FSL -3390mm	99	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00017	S18RV-00049	26/11/2018	2	E 0310417	N 5818691	FSL -1530mm	99	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00017	S18RV-00050	26/11/2018	3	E 0310430	N 5818641	FSL -1140mm	100	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00018	S18RV-00051	27/11/2018	1	E 0310431	N 5818618	FSL -1710mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00018	S18RV-00052	27/11/2018	2	E 0310411	N 5818673	FSL -1980mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00018	S18RV-00053	27/11/2018	3	E 0310399	N 5818733	FSL -4270mm	100	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00019	S18RV-00054	28/11/2018	1	E 0310405	N 5818762	FSL -3940mm	100.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00019	S18RV-00055	28/11/2018	2	E 0310415	N 5818693	FSL -2320mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00019	S18RV-00056	28/11/2018	3	E 0310433	N 5818618	FSL -1620mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00020	S18RV-00057	29/11/2018	1	E 0310406	N 5818732	FSL -3670mm	97.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00020	S18RV-00058	29/11/2018	2	E 0310412	N 5818692	FSL -1980mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00020	S18RV-00059	29/11/2018	3	E 0310417	N 5818640	FSL -1960mm	100.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00021	S18RV-00060	30/11/2018	1	E 0310412	N 5818755	FSL -4210mm	99	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00021	S18RV-00061	30/11/2018	2	E 0310423	N 5818791	FSL -1400mm	98.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00021	S18RV-00062	30/11/2018	3	E 0310404	N 5818829	FSL -3250mm	99	omc	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

Chadwick Geotechnics
25 Metcalf Street
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1003809 Rivervalley Estate Stage 7A

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:W18RV00022	S18RV-00063	1/12/2018	1	E 0310421	N 5818804	FSL -2280mm	96.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00022	S18RV-00064	1/12/2018	2	E 0310404	N 5818831	FSL -3770mm	97	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00022	S18RV-00065	1/12/2018	3	E 0310434	N 5818868	FSL -2450mm	98	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00023	S18RV-00066	3/12/2018	1	E 0310392	N 5818783	FSL -5640mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00023	S18RV-00067	3/12/2018	2	E 0310425	N 5818815	FSL -1370mm	98.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00023	S18RV-00068	3/12/2018	3	E 0310405	N 5818826	FSL -2290mm	98	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00024	S18RV-00069	4/12/2018	1	E 0310397	N 5818798	FSL -3780mm	100.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00024	S18RV-00070	4/12/2018	2	E 0310403	N 5818697	FSL -1910mm	100.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00024	S18RV-00071	4/12/2018	3	E 0310424	N 5818609	FSL -1860mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00025	S18RV-00072	5/12/2018	1	E 0310417	N 5818670	FSL -4510mm	96.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00025	S18RV-00073	5/12/2018	2	E 0310404	N 5818670	FSL -3520mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00025	S18RV-00074	5/12/2018	3	E 0310399	N 5818714	FSL -3190mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00026	S18RV-00075	6/12/2018	1	E 0310320	N 5818826	FSL -1630mm	101	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00026	S18RV-00076	6/12/2018	2	E 0310391	N 5818786	FSL -5600mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00027	S18RV-00077	7/12/2018	1	E 0310416	N 5818628	FSL -3178mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00027	S18RV-00078	7/12/2018	2	E 0310406	N 5818681	FSL -2050mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00027	S18RV-00079	7/12/2018	3	E 0310407	N 5818735	FSL -2010mm	97	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00028	S18RV-00080	8/12/2018	1	E 0310405	N 5818741	FSL -3550mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00028	S18RV-00081	8/12/2018	2	E 0310408	N 5818699	FSL -2220mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00028	S18RV-00082	8/12/2018	3	E 0310409	N 5818641	FSL - 3670mm	97.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00029	S18RV-00083	10/12/2018	1	E 0310418	N 5818644	FSL -2990mm	101	omc	Pass	Batter East of Rvervalley Boulevard
HDR:W18RV00029	S18RV-00084	10/12/2018	2	E 0310408	N 5818683	FSL -1970mm	100	0.5 wet	Pass	Batter East of Rvervalley Boulevard
HDR:W18RV00029	S18RV-00085	10/12/2018	3	E 0310403	N 5818747	FSL -2710mm	97.5	1.0 wet	Pass	Batter East of Rvervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

Chadwick Geotechnics
25 Metcalf Street
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1003809 Rivervalley Estate Stage 7A

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:W18RV00030	S18RV-00086	11/12/2018	1	E 0310395	N 5818990	FSL -6070mm	98	1.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00030	S18RV-00087	11/12/2018	2	E 0310404	N 5818834	FSL -5210mm	97.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00030	S18RV-00088	11/12/2018	3	E 0310432	N 5818923	FSL -3020mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00030	S18RV-00089	11/12/2018	4	E 0310436	N 5818923	FSL -3440mm	98.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00031	S18RV-00090	12/12/2018	1	E 0310404	N 5818785	FSL -2540mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00031	S18RV-00091	12/12/2018	2	E 0310405	N 5818818	FSL -3830mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00031	S18RV-00092	12/12/2018	3	E 0310431	N 5818868	FSL -3050mm	97	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00031	S18RV-00093	12/12/2018	4	E 0310439	N 5818913	FSL -2750mm	98.5	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00032	S18RV-00094	17/12/2018	1	E 0310407	N 5818884	FSL -6830mm	98	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00032	S18RV-00095	17/12/2018	2	E 0310403	N 5818850	FSL -6140mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00033	S18RV-00096	18/12/2018	1	E 0310429	N 5818864	FSL -3090mm	97	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00033	S18RV-00097	18/12/2018	2	E 0310441	N 5818900	FSL -2140mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00033	S18RV-00098	18/12/2018	3	E 0310405	N 5818863	FSL -6380mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00034	S18RV-00099	19/12/2018	1	E 0310434	N 5818858	FSL -2240mm	97.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00034	S18RV-00100	19/12/2018	2	E 0310436	N 5818898	FSL -1760mm	98	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W18RV00034	S18RV-00101	19/12/2018	3	E 0310403	N 5818857	FSL -6390mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00001	S19RV-00001	11/01/2019	1	E 0310408	N 5818875	FSL -1000mm	102.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00001	S19RV-00002	11/01/2019	2	E 0310427	N 5818868	FSL -1000mm	103	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00001	S19RV-00003	11/01/2019	3	E 0310418	N 5818896	FSL -1400mm	102.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00002	S19RV-00004	14/01/2019	1	E 0310439	N 5818887	FSL -1720mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00002	S19RV-00005	14/01/2019	2	E 0310390	N 5818890	FSL -6190mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00002	S19RV-00006	14/01/2019	3	E 0310438	N 5818904	FSL -1960mm	100	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00003	S19RV-00007	15/01/2019	1	E 0310412	N 5818856	FSL -6420mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

Chadwick Geotechnics
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1003809 Rivervalley Estate Stage 7A

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:W19RV00003	S19RV-00008	15/01/2019	2	E 0310400	N 5818887	FSL -6000mm	100	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00003	S19RV-00009	15/01/2019	3	E 0310421	N 5818915	FSL -5270mm	97.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00004	S19RV-00010	16/01/2019	1	E 0310443	N 5818948	FSL -2850mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00004	S19RV-00011	16/01/2019	2	E 0310444	N 5818951	FSL -2690mm	99.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00004	S19RV-00012	16/01/2019	3	E 0310449	N 5818946	FSL -2470mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00005	S19RV-00013	17/01/2019	1	E 0310441	N 5818955	FSL -2170mm	98	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00005	S19RV-00014	17/01/2019	2	E 0310435	N 5818945	FSL -4030mm	97.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00005	S19RV-00015	17/01/2019	3	E 0310441	N 5818945	FSL -4670mm	98.5	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00005	S19RV-00016	17/01/2019	4	E 0310444	N 5818946	FSL -3750mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00005	S19RV-00017	17/01/2019	5	E 0310440	N 5818946	FSL -3470mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00005	S19RV-00018	17/01/2019	6	E 0310448	N 5818942	FSL -1710mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00006	S19RV-00019	18/01/2019	1	E 0310446	N 5818957	FSL -1930mm	98	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00006	S19RV-00020	18/01/2019	2	E 0310436	N 5818949	FSL -2330mm	96.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00006	S19RV-00021	18/01/2019	3	E 0310431	N 5818955	FSL -3110mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00007	S19RV-00022	19/01/2019	1	E 0310434	N 5818943	FSL -3690mm	100	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00007	S19RV-00023	19/01/2019	2	E 0310451	N 5818933	FSL -1070mm	97.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00007	S19RV-00024	19/01/2019	3	E 0310426	N 5818941	FSL -7030mm	96.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00008	S19RV-00025	21/01/2019	1	E 0310433	N 5818946	FSL -1710mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00008	S19RV-00026	21/01/2019	2	E 0310420	N 5818960	FSL -6960mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00008	S19RV-00027	21/01/2019	3	E 0310432	N 5818944	FSL -4530mm	97	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00009	S19RV-00028	22/01/2019	1	E 0310413	N 5818776	FSL -1820mm	100.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

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1003809 Rivervalley Estate Stage 7A

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:W19RV00009	S19RV-00029	22/01/2019	2	E 0310410	N 5818800	FSL -3370mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00009	S19RV-00030	22/01/2019	3	E 0310401	N 5818834	FSL -5130mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00010	S19RV-00031	23/01/2019	1	E 0310411	N 5818800	FSL -1410mm	98.5	2.5 dry	Fail	See retest S19RV-00034
HDR:W19RV00010	S19RV-00032	23/01/2019	2	E 0310406	N 5818800	FSL -5230mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00010	S19RV-00033	23/01/2019	3	E 0310397	N 5818838	FSL -6380mm	98.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00011	S19RV-00034	24/01/2019	1	E 0310411	N 5818763	FSL -1410mm	97	0.5 dry	Pass	Retest of S19RV-00031
HDR:W19RV00011	S19RV-00035	24/01/2019	2	E 0310404	N 5818868	FSL -5900mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00011	S19RV-00036	24/01/2019	3	E 0310404	N 5818890	FSL -6230mm	99	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00011	S19RV-00037	24/01/2019	4	E 0310424	N 5818925	FSL -5210mm	97.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00012	S19RV-00038	25/01/2019	1	E 0310432	N 5818946	FSL -4420mm	99.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00013	S19RV-00039	30/01/2019	1	E 0310400	N 5818771	FSL -4230mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00013	S19RV-00040	30/01/2019	2	E 0310420	N 5818813	FSL -2900mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00013	S19RV-00041	30/01/2019	3	E 0310395	N 5818831	FSL -5550mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00014	S19RV-00042	31/01/2019	1	E 0310409	N 5818778	FSL -2070mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00014	S19RV-00043	31/01/2019	2	E 0310411	N 5818810	FSL -940mm	97.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00014	S19RV-00044	31/01/2019	3	E 0310413	N 5818836	FSL -1490mm	98	0.8 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00015	S19RV-00045	1/02/2019	1	E 0310398	N 5818836	FSL -5180mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00015	S19RV-00046	1/02/2019	2	E 0310403	N 5818795	FSL -4040mm	97	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00015	S19RV-00047	1/02/2019	3	E 0310398	N 5818776	FSL -4020mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00016	S19RV-00048	4/02/2019	1	E 0310395	N 5818774	FSL -4210mm	97.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00016	S19RV-00049	4/02/2019	2	E 0310400	N 5818816	FSL -4320mm	98	omc	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

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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:W19RV00016	S19RV-00050	4/02/2019	3	E 0310406	N 5818849	FSL -4730mm	98.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00017	S19RV-00051	5/02/2019	1	E 0310410	N 0818767	FSL -1350mm	97.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00017	S19RV-00052	5/02/2019	2	E 0310415	N 5818800	FSL -490mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00017	S19RV-00053	5/02/2019	3	E 0310413	N 5818839	FSL -3460mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00018	S19RV-00054	6/02/2019	1	E 0310393	N 5818771	FSL -3510mm	97	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00018	S19RV-00055	6/02/2019	2	E 0310401	N 5818801	FSL -4190mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00018	S19RV-00056	6/02/2019	3	E 0310386	N 5818846	FSL -4830mm	99.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00019	S19RV-00057	7/02/2019	1	E 0310394	N 5818826	FSL -4370mm	97.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00019	S19RV-00058	7/02/2019	2	E 0310401	N 5818797	FSL -4050mm	98.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00019	S19RV-00059	7/02/2019	3	E 0310398	N 5818766	FSL -3640mm	97.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00020	S19RV-00060	8/02/2019	1	E 0310425	N 5818858	FSL -4580mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00020	S19RV-00061	8/02/2019	2	E 0310401	N 5818898	FSL -5830mm	97.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00020	S19RV-00062	8/02/2019	3	E 0310422	N 5818955	FSL -6870mm	95	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00021	S19RV-00063	9/02/2019	1	E 0310390	N 5818761	FSL -3360mm	97.5	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00021	S19RV-00064	9/02/2019	2	E 0310389	N 5818788	FSL -3440mm	97.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00021	S19RV-00065	9/02/2019	3	E 0310387	N 5818815	FSL -3870mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00022	S19RV-00066	11/02/2019	1	E 0310406	N 5818743	FSL -2740mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00022	S19RV-00067	11/02/2019	2	E 0310396	N 5818787	FSL -3370mm	99	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00022	S19RV-00068	11/02/2019	3	E 0310406	N 5818839	FSL -3710mm	97.5	1.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00023	S19RV-00069	12/02/2019	1	E 0310433	N 5818872	FSL -2430mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00023	S19RV-00070	12/02/2019	2	E 0310400	N 5818885	FSL -5640mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00023	S19RV-00071	12/02/2019	3	E 0310427	N 5818928	FSL -5170mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00024	S19RV-00072	13/02/2019	1	E 0310402	N 5818747	FSL -2440mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00024	S19RV-00073	13/02/2019	2	E 0310387	N 5818779	FSL -3260mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

Chadwick Geotechnics
25 Metcalf Street
Dandenong South VIC 3175
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1003809 Rivervalley Estate Stage 7A

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:W19RV00024	S19RV-00074	13/02/2019	3	E 0310402	N 5818835	FSL -3870mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00025	S19RV-00075	14/02/2019	1	E 0310407	N 5818704	FSL -2810mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00025	S19RV-00076	14/02/2019	2	E 0310421	N 5818640	FSL -2230mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00025	S19RV-00077	14/02/2019	3	E 0310430	N 5818593	FSL -2980mm	101	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00026	S19RV-00078	15/02/2019	1	E 0310396	N 5818862	FSL -5030mm	98.5	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00026	S19RV-00079	15/02/2019	2	E 0310393	N 5818894	FSL -5910mm	99.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00026	S19RV-00080	15/02/2019	3	E 0310416	N 5818924	FSL -6090mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00027	S19RV-00081	16/02/2019	1	E 0310385	N 5818733	FSL -3490mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00027	S19RV-00082	16/02/2019	2	E 0310401	N 5818776	FSL -2430mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00027	S19RV-00083	16/02/2019	3	E 0310391	N 5818822	FSL -3850mm	99.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00028	S19RV-00084	18/02/2019	1	E 0310403	N 5818756	FSL -3190mm	99.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00028	S19RV-00085	18/02/2019	2	E 0310390	N 5818787	FSL -1160mm	99.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00028	S19RV-00086	18/02/2019	3	E 0310405	N 5818807	FSL -2130mm	99.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00029	S19RV-00087	19/02/2019	1	E 0310410	N 5818699	FSL -3220mm	96.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00029	S19RV-00088	19/02/2019	2	E 0310407	N 5818651	FSL -3270mm	97	1.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00029	S19RV-00089	19/02/2019	3	E 0310420	N 5818596	FSL -2540mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00030	S19RV-00090	20/02/2019	1	E 0310414	N 5818845	FSL -2630mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00030	S19RV-00091	20/02/2019	2	E 0310402	N 5818897	FSL 5240mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00030	S19RV-00092	20/02/2019	3	E 0310435	N 5818939	FSL -2290mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00031	S19RV-00093	21/02/2019	1	E 0310394	N 5818747	FSL -3020mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00031	S19RV-00094	21/02/2019	2	E 0310401	N 5818779	FSL -1250mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard

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1003809 Rivervalley Estate Stage 7A

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:W19RV00031	S19RV-00095	21/02/2019	3	E 0310392	N 5818808	FSL -3080mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00032	S19RV-00096	22/02/2019	1	E 0310410	N 5818682	FSL -2890mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00032	S19RV-00097	22/02/2019	2	E 0310412	N 5818633	FSL -2780mm	100.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00032	S19RV-00098	22/02/2019	3	E 0310415	N 5818606	FSL -3040mm	97.5	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00033	S19RV-00099	23/02/2019	1	E 0310432	N 5818971	FSL -5730mm	97	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00033	S19RV-00100	23/02/2019	2	E 0310427	N 5818864	FSL -2810mm	97.5	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00033	S19RV-00101	23/02/2019	3	E 0310399	N 5818876	FSL -4830mm	96.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00034	S19RV-00102	25/02/2019	1	E 0310397	N 5818776	FSL -2510mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00034	S19RV-00103	25/02/2019	2	E 0310417	N 5818729	FSL -1730mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00034	S19RV-00104	25/02/2019	3	E 0310416	N 5818640	FSL -2690mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00035	S19RV-00105	26/02/2019	1	E 0310414	N 5818651	FSL -1720mm	98.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00035	S19RV-00106	26/02/2019	2	E 0310429	N 5818609	FSL -2740mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00035	S19RV-00107	26/02/2019	3	E 0310409	N 5818765	FSL -1330mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00035	S19RV-00108	26/02/2019	4	E 0310392	N 5818808	FSL -2970mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00036	S19RV-00109	27/02/2019	1	E 0310396	N 5818853	FSL -4450mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00036	S19RV-00110	27/02/2019	2	E 0310406	N 5818853	FSL -5060mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard

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1003809 Rivervalley Estate Stage 7A

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:W19RV00036	S19RV-00111	27/02/2019	3	E 0310428	N 5818928	FSL -3010mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00037	S19RV-00112	28/02/2019	1	E 0310408	N 5818866	FSL -4530mm	100	2.5 dry	Fail	See retest S19RV-00115
HDR:W19RV00037	S19RV-00113	28/02/2019	2	E 0310424	N 5818898	FSL -3090mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00037	S19RV-00114	28/02/2019	3	E 0310424	N 5818942	FSL -4170mm	99	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00038	S19RV-00115	1/03/2019	1	E 0310408	N 5818866	FSL -4530mm	101.5	0.5 wet	Pass	Retest of S19RV-00112
HDR:W19RV00038	S19RV-00116	1/03/2019	2	E 0310408	N 5818682	FSL -2540mm	97.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00038	S19RV-00117	1/03/2019	3	E 0310428	N 5818597	FSL -3190mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00039	S19RV-00118	2/03/2019	1	E 0310384	N 5818740	FSL -3380mm	100	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00039	S19RV-00119	2/03/2019	2	E 0310400	N 5818667	FSL -2780mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00039	S19RV-00120	2/03/2019	3	E 0310423	N 5818591	FSL -5130mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00040	S19RV-00121	4/03/2019	1	E 0310432	N 5818604	FSL -2530mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00040	S19RV-00122	4/03/2019	2	E 0310407	N 5818642	FSL -2680mm	97.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00040	S19RV-00123	4/03/2019	3	E 0310401	N 5818697	FSL -3640mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00041	S19RV-00124	5/03/2019	1	E 0310426	N 5818592	FSL -2710mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00041	S19RV-00125	5/03/2019	2	E 0310411	N 5818619	FSL -3720mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00041	S19RV-00126	5/03/2019	3	E 0310391	N 5818733	FSL -2830mm	100.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00042	S19RV-00127	6/03/2019	1	E 0310427	N 5818593	FSL -2980mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00042	S19RV-00128	6/03/2019	2	E 0310408	N 5818634	FSL -2770mm	97.5	2.5 dry	Fail	See retest S19RV-00130
HDR:W19RV00042	S19RV-00129	6/03/2019	3	E 0310402	N 5818676	FSL -2520mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00043	S19RV-00130	7/03/2019	1	E 0310408	N 5818634	FSL -2770mm	99	omc	Pass	Retest of S19RV-00128
HDR:W19RV00043	S19RV-00131	7/03/2019	2	E 0310404	N 5818704	FSL -2310mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard

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1003809 Rivervalley Estate Stage 7A

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HDR:W19RV00043	S19RV-00132	7/03/2019	3	E 0310408	N 5818654	FSL -2790mm	97.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00043	S19RV-00133	7/03/2019	4	E 0310414	N 5818607	FSL -5420mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00044	S19RV-00134	8/03/2019	1	E 0310411	N 5818707	FSL -1730mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00044	S19RV-00135	8/03/2019	2	E 0310408	N 5818654	FSL -2490mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00044	S19RV-00136	8/03/2019	3	E 0310426	N 5818602	FSL -2920mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00045	S19RV-00137	9/03/2019	1	E 0310386	N 5818817	FSL -2500mm	98	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00045	S19RV-00138	9/03/2019	2	E 0310397	N 5818767	FSL -2520mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00045	S19RV-00139	9/03/2019	3	E 0310406	N 5818714	FSL -2640mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00046	S19RV-00140	13/03/2019	1	E 0310400	N 5818727	FSL -2980mm	97.5	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00046	S19RV-00141	13/03/2019	2	E 0310405	N 5818654	FSL -2890mm	97.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00046	S19RV-00142	13/03/2019	3	E 0310409	N 5818616	FSL -3750mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00047	S19RV-00143	14/03/2019	1	E 0310426	N 5818595	FSL -2350mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00047	S19RV-00144	14/03/2019	2	E 0310401	N 5818656	FSL -2820mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00047	S19RV-00145	14/03/2019	3	E 0310397	N 5818723	FSL -2550mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00048	S19RV-00146	15/03/2019	1	E 0310411	N 5818601	FSL -4380mm	98.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00048	S19RV-00147	15/03/2019	2	E 0310409	N 5818642	FSL -900mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00048	S19RV-00148	15/03/2019	3	E 0310392	N 5818693	FSL -2780mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00049	S19RV-00149	16/03/2019	1	E 0310396	N 5818684	FSL -3590mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

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1003809 Rivervalley Estate Stage 7A

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:W19RV00049	S19RV-00150	16/03/2019	2	E 0310406	N 5818646	FSL -2700mm	98.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00049	S19RV-00151	16/03/2019	3	E 0310410	N 5818601	FSL -5070mm	97	2.5 dry	Fail	See retest S19RV-00152
HDR:W19RV00050	S19RV-00152	18/03/2019	1	E 0310410	N 5818601	FSL -5070mm	98	0.5 dry	Pass	Retest of S19RV-00151
HDR:W19RV00050	S19RV-00153	18/03/2019	2	E 0310421	N 5818592	FSL -4610mm	97	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00050	S19RV-00154	18/03/2019	3	E 0310404	N 5818624	FSL -3540mm	99.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00050	S19RV-00155	18/03/2019	4	E 0310390	N 5818687	FSL -3220mm	99	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00051	S19RV-00156	19/03/2019	1	E 0310427	N 5818587	FSL -3410mm	99.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00051	S19RV-00157	19/03/2019	2	E 0310402	N 5818623	FSL -1730mm	99	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00051	S19RV-00158	19/03/2019	3	E 0310404	N 5818678	FSL -2270mm	98	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00052	S19RV-00159	20/03/2019	1	E 0310402	N 5818645	FSL -2540mm	100	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00052	S19RV-00160	20/03/2019	2	E 0310430	N 5818590	FSL -800mm	100.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00052	S19RV-00161	20/03/2019	3	E 0310407	N 5818626	FSL -2750mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00053	S19RV-00162	21/03/2019	1	E 0310405	N 5818609	FSL -3170mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00053	S19RV-00163	21/03/2019	2	E 0310412	N 5818611	FSL -2900mm	100	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00053	S19RV-00164	21/03/2019	3	E 0310413	N 5818597	FSL -2690mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00054	S19RV-00165	22/03/2019	1	E 0310408	N 5818604	FSL -2630mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00054	S19RV-00166	22/03/2019	2	E 0310410	N 5818594	FSL -2500mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00054	S19RV-00167	22/03/2019	3	E 0310385	N 5818818	FSL -2630mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00055	S19RV-00168	23/03/2019	1	E 0310400	N 5818846	FSL -4220mm	99.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00055	S19RV-00169	23/03/2019	2	E 0310407	N 5818875	FSL -4530mm	98	omc	Pass	Batter East of Rivervalley Boulevard

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HDR:W19RV00056	S19RV-00170	25/03/2019	1	E 0310394	N 5818923	FSL -5190mm	99.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00056	S19RV-00171	25/03/2019	2	E 0310416	N 5818905	FSL -4520mm	98	2.5 dry	Fail	See retest S19RV-00173
HDR:W19RV00056	S19RV-00172	25/03/2019	3	E 0310426	N 5818957	FSL -4980mm	98.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00057	S19RV-00173	26/03/2019	1	E 0310416	N 5818845	FSL -4520mm	99	0.5 dry	Pass	Retest of S19RV-00171
HDR:W19RV00057	S19RV-00174	26/03/2019	2	E 0310415	N 5818845	FSL -400mm	96	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00057	S19RV-00175	26/03/2019	3	E 0310453	N 5818846	FSL -2790mm	98	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00058	S19RV-00176	27/03/2019	1	E 0310391	N 5818827	FSL -2790mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00058	S19RV-00177	27/03/2019	2	E 0310434	N 5818877	FSL -1040mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00059	S19RV-00178	28/03/2019	1	E 0310384	N 5818845	FSL -3870mm	97.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00059	S19RV-00179	28/03/2019	2	E 0310377	N 5818882	FSL -4810mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00060	S19RV-00180	29/03/2019	1	E 0310423	N 5818912	FSL -1930mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00060	S19RV-00181	29/03/2019	2	E 0310381	N 5818910	FSL -4680mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00061	S19RV-00182	30/03/2019	1	E 0310396	N 5818937	FSL -4520mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00061	S19RV-00183	30/03/2019	2	E 0310438	N 5818960	FSL -2490mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00062	S19RV-00184	1/04/2019	1	E 0310457	N 5818848	FSL -2530mm	98.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00062	S19RV-00185	1/04/2019	2	E 0310461	N 5818847	FSL -2250mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00062	S19RV-00186	1/04/2019	3	E 0310445	N 5818852	FSL -1980mm	100	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00062	S19RV-00187	1/04/2019	4	E 0310450	N 5818850	FSL -1710mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00063	S19RV-00188	2/04/2019	1	E 0310390	N 5818808	FSL -2500mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00063	S19RV-00189	2/04/2019	2	E 0310405	N 5818828	FSL -2450mm	101	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00064	S19RV-00190	3/04/2019	1	E 0310373	N 5818852	FSL -4520mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

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1003809 Rivervalley Estate Stage 7A

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:W19RV00064	S19RV-00191	3/04/2019	2	E 0310412	N 5818848	FSL -2970mm	99.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00065	S19RV-00192	4/04/2019	1	E 0310412	N 5818877	FSL -4190mm	100	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00065	S19RV-00193	4/04/2019	2	E 0310383	N 5818893	FSL -4930mm	100	2.5 dry	Fail	See retest S19RV-00194
HDR:W19RV00066	S19RV-00194	5/04/2019	1	E 0310383	N 5818893	FSL -4930mm	98.5	0.5 dry	Pass	Retest of S19RV-00193
HDR:W19RV00066	S19RV-00195	5/04/2019	2	E 0310383	N 5818927	FSL -1280mm	101	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00066	S19RV-00196	5/04/2019	3	E 0310410	N 5818954	FSL -4700mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00067	S19RV-00197	6/04/2019	1	E 0310434	N 5818977	FSL -2870mm	99.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00067	S19RV-00198	6/04/2019	2	E 0310449	N 5818838	FSL -1590mm	100	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00067	S19RV-00199	6/04/2019	3	E 0310441	N 5818842	FSL -1270mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00068	S19RV-00200	8/04/2019	1	E 0310405	N 5818844	FSL -1890mm	101	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00068	S19RV-00201	8/04/2019	2	E 0310372	N 5818854	FSL -3910mm	100	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00069	S19RV-00202	9/04/2019	1	E 0310397	N 5818870	FSL -3520mm	97.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00069	S19RV-00203	9/04/2019	2	E 0310421	N 5818907	FSL -4010mm	97.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00069	S19RV-00204	9/04/2019	3	E 0310400	N 5818922	FSL -4270mm	98	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00070	S19RV-00205	10/04/2019	1	E 0310407	N 5818935	FSL -4590mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00070	S19RV-00206	10/04/2019	2	E 0310420	N 5818976	FSL -4480mm	99	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00072	S19RV-00210	11/04/2019	1	E 0310390	N 5818711	FSL -2340mm	101	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00072	S19RV-00211	11/04/2019	2	E 0310393	N 5818760	FSL -2350mm	100	0.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00071	S19RV-00207	11/04/2019	1	E 0310407	N 5818830	FSL -2020mm	100	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00071	S19RV-00208	11/04/2019	2	E 0310389	N 5818850	FSL -3630mm	101	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00071	S19RV-00209	11/04/2019	3	E 0310400	N 5818879	FSL -3630mm	97	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00074	S19RV-00214	12/04/2019	1	E 0310392	N 5818757	FSL -2130mm	100.5	2.0 dry	Pass	Rivervalley Boulevard Roadway

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1003809 Rivervalley Estate Stage 7A

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:W19RV00074	S19RV-00215	12/04/2019	2	E 0310387	N 5818785	FSL -2160mm	99.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00073	S19RV-00212	12/04/2019	1	E 0310409	N 5818917	FSL -3710mm	101	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00073	S19RV-00213	12/04/2019	2	E 0310398	N 5818941	FSL -4130mm	100	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00075	S19RV-00216	13/04/2019	1	E 0310433	N 5818972	FSL -1700mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00075	S19RV-00217	13/04/2019	2	E 0310452	N 5818841	FSL -1150mm	97.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00075	S19RV-00218	13/04/2019	3	E 0310451	N 5818849	FSL -910mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00075	S19RV-00219	13/04/2019	4	E 0310453	N 5818844	FSL -650mm	97.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00077	S19RV-00222	15/04/2019	1	E 0310394	N 5818711	FSL -1850mm	100.5	1.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00077	S19RV-00223	15/04/2019	2	E 0310392	N 5818797	FSL -1870mm	99	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00076	S19RV-00220	15/04/2019	1	E 0310390	N 5818836	FSL -2530mm	100	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00076	S19RV-00221	15/04/2019	2	E 0310417	N 5818860	FSL -1910mm	99.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00079	S19RV-00226	16/04/2019	1	E 0310396	N 5818728	FSL -1630mm	99	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00079	S19RV-00227	16/04/2019	2	E 0310381	N 5818768	FSL -1570mm	98	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00078	S19RV-00224	16/04/2019	1	E 0310399	N 5818873	FSL -3640mm	99.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00078	S19RV-00225	16/04/2019	2	E 0310385	N 5818902	FSL -4490mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00081	S19RV-00230	17/04/2019	1	E 0310389	N 5818728	FSL -1400mm	96	2.5 dry	Fail	See retest S19RV-00232
HDR:W19RV00081	S19RV-00231	17/04/2019	2	E 0310386	N 5818728	FSL -1340mm	100	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00080	S19RV-00228	17/04/2019	1	E 0310391	N 5818932	FSL -4360mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00080	S19RV-00229	17/04/2019	2	E 0310427	N 5818918	FSL -3020mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00083	S19RV-00233	18/04/2019	1	E 0310435	N 5818978	FSL -3260mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00083	S19RV-00234	18/04/2019	2	E 0310460	N 5818849	FSL -390mm	100	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00082	S19RV-00232	18/04/2019	1	E 0310389	N 5818728	FSL -1400mm	100	omc	Pass	Retest of S19RV-00230
HDR:W19RV00084	S19RV-00235	29/04/2019	1	E 0310385	N 5818853	FSL -2860mm	96.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard

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1003809 Rivervalley Estate Stage 7A

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HDR:W19RV00084	S19RV-00236	29/04/2019	2	E 0310367	N 5818864	FSL -3610mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00086	S19RV-00239	30/04/2019	1	E 0310382	N 5818714	FSL -1170mm	100.5	1.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00086	S19RV-00240	30/04/2019	2	E 0310379	N 5818765	FSL -1080mm	99	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00085	S19RV-00237	30/04/2019	1	E 0310384	N 5818886	FSL -4190mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00085	S19RV-00238	30/04/2019	2	E 0310420	E 5818896	FSL -3220mm	98	0.5dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00088	S19RV-00243	1/05/2019	1	E 0310409	N 5818665	FSL -2280mm	102	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00088	S19RV-00244	1/05/2019	2	E 0310408	N 5818602	FSL -2300mm	98.5	2.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00087	S19RV-00241	1/05/2019	1	E 0310416	N 5818917	FSL -3230mm	99.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00087	S19RV-00242	1/05/2019	2	E 0310388	N 5818931	FSL -4260mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00089	S19RV-00245	2/05/2019	1	E 0310412	N 5818953	FSL -3590mm	100.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00089	S19RV-00246	2/05/2019	2	E 0310403	N 5818849	FSL -2720mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00089	S19RV-00247	2/05/2019	3	E 0310375	N 5818842	FSL -3150mm	99	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00091	S19RV-00250	3/05/2019	1	E 0310414	N 5818644	FSL -2070mm	100	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00091	S19RV-00251	3/05/2019	2	E 0310388	N 5818707	FSL -900mm	99.5	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00091	S19RV-00252	3/05/2019	3	E 0310386	N 5818773	FSL -930mm	98.5	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00090	S19RV-00248	3/05/2019	1	E 0310388	N 5818875	FSL -2980mm	99	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00090	S19RV-00249	3/05/2019	2	E 0310417	N 5818876	FSL -2670mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00093	S19RV-00255	4/05/2019	1	E 0310386	N 5818827	FSL -2250mm	99.5	0.5 dry	Pass	Rivervalley Boulevard Raodway
HDR:W19RV00093	S19RV-00256	4/05/2019	2	E 0310418	N 5818599	FSL -1890mm	98.5	2.0 dry	Pass	Rivervalley Boulevard Raodway
HDR:W19RV00092	S19RV-00253	4/05/2019	1	E 0310455	N 5818851	FSL -420mm	99	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00092	S19RV-00254	4/05/2019	2	E 0310462	N 5818849	FSL -170mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00095	S19RV-00259	6/05/2019	1	E 0310406	N 5818604	FSL -1660mm	100	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00095	S19RV-00260	6/05/2019	2	E 0310403	N 5818667	FSL -1710mm	101	omc	Pass	Rivervalley Boulevard Roadway

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HDR:W19RV00095	S19RV-00261	6/05/2019	3	E 0310382	N 5818781	FSL -690mm	99	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00094	S19RV-00257	6/05/2019	1	E 0310400	N 5818943	FSL -3990mm	99	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00094	S19RV-00258	6/05/2019	2	E 0310418	N 5818950	FSL -3270mm	98.5	1.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00097	S19RV-00263	7/05/2019	1	E 0310386	N 5818705	FSL -480mm	99.5	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00097	S19RV-00264	7/05/2019	2	E 0310396	N 5818819	FSL -530mm	101.5	0.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00096	S19RV-00262	7/05/2019	1	E 0310395	N 5818881	FSL -2830mm	99.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00098	S19RV-00265	8/05/2019	1	E 0310379	N 5818912	FSL -3820mm	97	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00098	S19RV-00266	8/05/2019	2	E 0310422	N 5818892	FSL -1390mm	97.5	2.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00100	S19RV-00269	9/05/2019	1	E 0310394	N 5818698	FSL -1500mm	101	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00100	S19RV-00270	9/05/2019	2	E 0310385	N 5818698	FSL -1390mm	101	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00099	S19RV-00267	9/05/2019	1	E 0310409	N 5818918	FSL -2810mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00099	S19RV-00268	9/05/2019	2	E 0310382	N 5818938	FSL -4930mm	99	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00102	S19RV-00272	13/05/2019	1	E 0310427	N 5818964	FSL -2730mm	97.5	1.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00101	S19RV-00271	13/05/2019	1	E 0310406	N 5818630	FSL -1320mm	100.5	2.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00104	S19RV-00275	14/05/2019	1	E 0310385	N 5818694	FSL -260mm	100	2.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00104	S19RV-00276	14/05/2019	2	E 0310389	N 5818790	FSL -230mm	98.5	2.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00103	S19RV-00273	14/05/2019	1	E 0310393	N 5818885	FSL -2500mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00103	S19RV-00274	14/05/2019	2	E 0310424	N 5818875	FSL -1520mm	97	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00106	S19RV-00279	15/05/2019	1	E 0310406	N 5818638	FSL -1240mm	100.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00105	S19RV-00277	15/05/2019	1	E 0310316	N 5818826	FSL -2530mm	100	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00105	S19RV-00278	15/05/2019	2	E 0310376	N 5818900	FSL -3210mm	99.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00108	S19RV-00282	16/05/2019	1	E 0310393	N 5818668	FSL -990mm	100	2.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00108	S19RV-00283	16/05/2019	2	E 0310395	N 5818595	FSL -1010mm	100.5	omc	Pass	Rivervalley Boulevard Roadway

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1003809 Rivervalley Estate Stage 7A

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HDR:W19RV00107	S19RV-00280	16/05/2019	1	E 0310409	N 5818925	FSL -2790mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00107	S19RV-00281	16/05/2019	2	E 0310402	N 5818956	FSL -3540mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00110	S19RV-00286	17/05/2019	1	E 0310401	N 5818625	FSL -780mm	98	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00110	S19RV-00287	17/05/2019	2	E 0310397	N 5818668	FSL -760mm	95.5	omc	Fail	See retest S19RV-00288
HDR:W19RV00109	S19RV-00284	17/05/2019	1	E 0310367	N 5818895	FSL -3590mm	99	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00109	S19RV-00285	17/05/2019	2	E 0310384	N 5818937	FSL -3820mm	98	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00112	S19RV-00289	18/05/2019	1	E 0310383	N 5818882	FSL -2740mm	100.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00112	S19RV-00290	18/05/2019	2	E 0310395	N 5818947	FSL -3330mm	99.5	1.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00111	S19RV-00288	18/05/2019	1	E 0310397	N 5818668	FSL -760mm	100	0.5 dry	Pass	Retest of S19RV-00287
HDR:W19RV00114	S19RV-00292	20/05/2019	1	E 0310392	N 5818612	FSL -540mm	98.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00114	S19RV-00293	20/05/2019	2	E 0310401	N 5818651	FSL -570mm	98.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00113	S19RV-00291	20/05/2019	1	E 0310409	N 5818870	FSL -2820mm	100	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00116	S19RV-00296	21/05/2019	1	E 0310398	N 5818597	FSL -340mm	100	0.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00115	S19RV-00294	21/05/2019	1	E 0310431	N 5818959	FSL -3100mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00115	S19RV-00295	21/05/2019	2	E 0310440	N 5819000	FSL -4010mm	100	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00118	S19RV-00299	22/05/2019	1	E 0310379	N 5818711	FSL -320mm	100	0.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00118	S19RV-00300	22/05/2019	2	E 0310401	N 5818617	FSL -160mm	98.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00117	S19RV-00297	22/05/2019	1	E 0310451	N 5819010	FSL -740mm	98.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00117	S19RV-00298	22/05/2019	2	E 0310416	N 5818970	FSL -2530mm	100	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00120	S19RV-00302	23/05/2019	1	E 0310391	N 5818693	FSL -110mm	100.5	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00120	S19RV-00303	23/05/2019	2	E 0310407	N 5818590	FSL	100	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00119	S19RV-00301	23/05/2019	1	E 0310454	N 5818847	FSL	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00122	S19RV-00305	24/05/2019	1	E 0310393	N 5818675	FSL	100.5	0.5 dry	Pass	Rivervalley Boulevard roadway
HDR:W19RV00121	S19RV-00304	24/05/2019	1	E 0310416	N 5818970	FSL -2970mm	98	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00123	S19RV-00306	25/05/2019	1	E 0310413	N 5818957	FSL -2500mm	100.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard

CHADWICK GEOTECHNICS

Hilf Summary Table

Chadwick Geotechnics
25 Metcalf Street
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1003809 Rivervalley Estate Stage 7A

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:W19RV00124	S19RV-00307	27/05/2019	1	E 0310418	N 5818984	FSL -2500mm	98	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00126	S19RV-00310	28/05/2019	1	E 0310384	N 5818791	FSL	98.5	2.0 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00126	S19RV-00311	28/05/2019	2	E 0310379	N 5818745	FSL	99	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00125	S19RV-00308	28/05/2019	1	E 0310403	N 5818816	FSL -930mm	98	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00125	S19RV-00309	28/05/2019	2	E 0310411	N 5818738	FSL -1360mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00128	S19RV-00313	29/05/2019	1	E 0310356	N 5818847	FSL -4010mm	101.5	omc	Pass	Lot 7
HDR:W19RV00128	S19RV-00314	29/05/2019	2	E 0310358	N 5818844	FSL -3760mm	100	omc	Pass	Lot 7
HDR:W19RV00127	S19RV-00312	29/05/2019	1	E 0310380	N 5818816	FSL -1020mm	99.5	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00129	S19RV-00315	30/05/2019	1	E 0310371	N 5818848	FSL -2020mm	98	omc	Pass	Lot 6
HDR:W19RV00130	S19RV-00316	31/05/2019	1	E 0310363	N 5818873	FSL -5010mm	101	0.5 dry	Pass	Lot 9
HDR:W19RV00131	S19RV-00317	1/06/2019	1	E 0310380	N 5818886	FSL -2480mm	99.5	0.5 wet	Pass	Lot 9
HDR:W19RV00132	S19RV-00318	5/06/2019	1	E 0310366	N 5818846	FSL -1620mm	103	2.0 dry	Pass	Lot 7
HDR:W19RV00134	S19RV-00320	6/06/2019	1	E 0310391	N 5818843	FSL -780mm	98	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00133	S19RV-00319	6/06/2019	1	E 0310371	N 5818900	FSL -2660mm	97.5	0.5 dry	Pass	Lot 10
HDR:W19RV00136	S19RV-00323	7/06/2019	1	E 0310394	N 5818866	FSL -2230mm	96.5	0.5 dry	Fail	See retest S19RV-00327
HDR:W19RV00136	S19RV-00324	7/06/2019	2	E 0310400	N 5818922	FSL -2240mm	101	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00135	S19RV-00321	7/06/2019	1	E 0310364	N 5818844	FSL -1380mm	100.5	omc	Pass	Lot 7
HDR:W19RV00135	S19RV-00322	7/06/2019	2	E 0310367	N 5818903	FSL -5350mm	96	1.5 wet	Pass	Lot 10
HDR:W19RV00138	S19RV-00327	8/06/2019	1	E 0310394	N 5818866	FSL -2230mm	100	0.5 dry	Pass	Retest of S19RV-00323
HDR:W19RV00137	S19RV-00325	8/06/2019	1	E 0310369	N 5818813	FSL -700mm	99.5	0.5 wet	Pass	Lot 5
HDR:W19RV00137	S19RV-00326	8/06/2019	2	E 0310380	N 5818924	FSL -3130mm	99.5	0.5 dry	Pass	Lot 11

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1003809 Rivervalley Estate Stage 7A

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HDR:W19RV00139	S19RV-00328	12/06/2019	1	E 0310374	N 5818917	FSL -4950mm	95.5	2.0 wet	Pass	Lot 12
HDR:W19RV00139	S19RV-00329	12/06/2019	2	E 0310392	N 5818952	FSL -2890mm	100	omc	Pass	Lot 14
HDR:W19RV00140	S19RV-00330	13/06/2019	1	E 0310363	N 5818866	FSL -3690mm	100	omc	Pass	Lot 8
HDR:W19RV00140	S19RV-00331	13/06/2019	2	E 0310382	N 5818918	FSL -2120mm	100	0.5 dry	Pass	Lot 12
HDR:W19RV00141	S19RV-00332	14/06/2019	1	E 0310367	N 5818836	FSL -800mm	101.5	omc	Pass	Lot 7
HDR:W19RV00141	S19RV-00333	14/06/2019	2	E 0310395	N 5818960	FSL -2510mm	100	0.5 wet	Pass	Lot 14
HDR:W19RV00144	S19RV-00338	17/06/2019	1	E 0310394	N 5818872	FSL -1990mm	100	0.6 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00144	S19RV-00339	17/06/2019	2	E 0310422	N 5818967	FSL -2010mm	99.5	0.6 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00143	S19RV-00336	17/06/2019	1	E 0310369	N 5818800	FSL	101.5	omc	Pass	Lot 5
HDR:W19RV00143	S19RV-00337	17/06/2019	2	E 0310382	N 5818948	FSL -4610mm	98	0.5 dry	Pass	Lot 13
HDR:W19RV00146	S19RV-00341	18/06/2019	1	E 0310391	N 5818855	FSL -1780mm	99	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00145	S19RV-00340	18/06/2019	1	E 0310356	N 5818823	FSL -2690mm	100.5	omc	Pass	Lot 6
HDR:W19RV00148	S19RV-00344	19/06/2019	1	E 0310359	N 5818885	FSL -3730mm	100.5	omc	Pass	Lot 22
HDR:W19RV00148	S19RV-00345	19/06/2019	2	E 0310404	N 5818967	FSL -4370mm	99.5	0.5 dry	Pass	Lot 15
HDR:W19RV00149	S19RV-00346	20/06/2019	1	E 0310357	N 5818808	FSL -2340mm	101	omc	Pass	Lot 5
HDR:W19RV00149	S19RV-00347	20/06/2019	2	E 0310399	N 5818976	FSL -2931mm	101.5	0.5 dry	Pass	Lot 15
HDR:W19RV00150	S19RV-00348	21/06/2019	1	E 0310381	N 5818883	FSL -300mm	99	1.5 dry	Pass	Lot 9
HDR:W19RV00151	S19RV-00349	22/06/2019	1	E 0310382	N 5818848	FSl -1570mm	99	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00151	S19RV-00350	22/06/2019	2	E 0310412	N 5818939	FSL -1820mm	99	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00152	S19RV-00351	24/06/2019	1	E 0310367	N 5818864	FSL -2400mm	100	2.0 dry	Pass	Lot 8

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1003809 Rivervalley Estate Stage 7A

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HDR:W19RV00152	S19RV-00352	24/06/2019	2	E 0310374	N 5818916	FSL -2960mm	96	0.5 wet	Pass	Lot 11
HDR:W19RV00153	S19RV-00353	25/06/2019	1	E 0310401	N 5818870	FSL -1390mm	98	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00155	S19RV-00355	26/06/2019	1	E 0310403	N 5818912	FSL -1130mm	100.5	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00155	S19RV-00356	26/06/2019	2	E 0310413	N 5818985	FSL -1650mm	100	0.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00154	S19RV-00354	26/06/2019	1	E 0310352	N 5818869	FSL -2890mm	101	omc	Pass	Lot 23
HDR:W19RV00156	S19RV-00357	27/06/2019	1	E 0310386	N 5818949	FSL -3180mm	100	0.5 wet	Pass	Lot 13
HDR:W19RV00158	S19RV-00360	28/06/2019	1	Boral Qarries			100	2.0 dry	Pass	Trial Pad
HDR:W19RV00158	S19RV-00361	28/06/2019	2	Leaks Road Quarry			98	0.5 dry	Pass	Trial Pad
HDR:W19RV00157	S19RV-00358	28/06/2019	1	E 0310365	N 5818853	FSL -1920mm	99	0.5 wet	Pass	Lot 7
HDR:W19RV00157	S19RV-00359	28/06/2019	2	E 0310375	N 5818760	FSL	99.5	omc	Pass	Lot 2
HDR:W19RV00159	S19RV-00362	29/06/2019	1	E 0310385	N 5818925	FSL -1690mm	99.5	0.5 dry	Pass	Lot 13
HDR:W19RV00160	S19RV-00363	1/07/2019	1	E 0310362	N 5818767	FSL -1830mm	100	0.5 dry	Pass	Lot 3
HDR:W19RV00160	S19RV-00364	1/07/2019	2	E 0310381	N 5818861	FSL	100.5	omc	Pass	Lot 9
HDR:W19RV00161	S19RV-00365	3/07/2019	1	E 0310397	N 5818971	FSL -680mm	100	0.5 dry	Pass	Lot 15
HDR:W19RV00161	S19RV-00366	3/07/2019	2	E 0310355	N 5818853	FSL -1340mm	98.5	1.5 dry	Pass	Lot 7
HDR:W19RV00162	S19RV-00367	4/07/2019	1	E 0310350	N 5818964	FSL -3020mm	98	0.5 wet	Pass	Lot 21
HDR:W19RV00162	S19RV-00368	4/07/2019	2	E 0310391	N 5818964	FSL -2050mm	100	2.0 wet	Pass	Lot 15
HDR:W19RV00164	S19RV-00371	5/07/2019	1	E 0310386	N 5818861	FSL -1340mm	101.5	2.5 dry	Fail	See retest S19RV-00373
HDR:W19RV00164	S19RV-00372	5/07/2019	2	E 0310407	N 5818955	FSL -1860mm	101.5	2.5 dry	Fail	See retest S19RV-00374
HDR:W19RV00163	S19RV-00369	5/07/2019	1	E 0310371	N 5818710	FSL -1090mm	102	0.5 wet	Pass	Lot 1

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HDR:W19RV00163	S19RV-00370	5/07/2019	2	E 0310350	N 5818855	FSL -1710mm	100	omc	Pass	Lot 24
HDR:W19RV00165	S19RV-00373	6/07/2019	1	E 0310386	N 5818861	FSL -1340mm	101	1.0 dry	Pass	Retest of S19RV-00371
HDR:W19RV00165	S19RV-00374	6/07/2019	2	E 0310407	N 5818955	FSL -1860mm	100.5	0.5 dry	Pass	Retest of S19RV-00372
HDR:W19RV00166	S19RV-00375	8/07/2019	1	E 0310363	N 5818925	FSL -3230mm	100	0.5 wet	Pass	Lot 20
HDR:W19RV00166	S19RV-00376	8/07/2019	2	E 0310374	N 5818959	FSL -3940mm	99	2.0 dry	Pass	Lot 17
HDR:W19RV00168	S19RV-00378	9/07/2019	1	E 0310403	N 5818874	FSL -1110mm	100.5	2.5 dry	Fail	See retest S19RV-00380
HDR:W19RV00167	S19RV-00377	9/07/2019	1	E 0310356	N 5818811	FSL -880mm	100	0.5 wet	Pass	Lot 5
HDR:W19RV00170	S19RV-00380	10/07/2019	1	E 0310403	N 5818874	FSL -1110mm	101.5	omc	Pass	Retest of S19RV-00378
HDR:W19RV00170	S19RV-00381	10/07/2019	2	E 0310387	N 5818864	FSL -880mm	101.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00169	S19RV-00379	10/07/2019	1	E 0310346	N 5818867	FSL -1560mm	100	0.5 dry	Pass	Lot 23
HDR:W19RV00171	S19RV-00382	11/07/2019	1	E 0310373	N 5818880	FSL -880mm	100.5	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00171	S19RV-00383	11/07/2019	2	E 0310409	N 5818931	FSL -1620mm	100.5	0.5 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00172	S19RV-00384	12/07/2019	1	E 0310397	N 5818878	FSL -690mm	99	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00172	S19RV-00385	12/07/2019	2	E 0310415	N 5818973	FSL -1410mm	99	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00173	S19RV-00386	13/07/2019	1	E 0310404	N 5818918	FSL -1180mm	100	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00174	S19RV-00387	15/07/2019	1	E 0310411	N 5818883	FSL -990mm	100.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00174	S19RV-00388	15/07/2019	2	E 0310399	N 5818939	FSL -480mm	98.5	2.0 wet	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00175	S19RV-00389	16/07/2019	1	E 0310339	N 5818961	FSL -760mm	99.5	omc	Pass	Lot 18
HDR:W19RV00175	S19RV-00390	16/07/2019	2	E 0310327	N 5818866	FSL -430mm	100	0.5 dry	Pass	Lot 23
HDR:W19RV00176	S19RV-00391	17/07/2019	1	E 0310407	N 5818888	FSL -300mm	99.5	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00176	S19RV-00392	17/07/2019	2	E 0310414	N 5818954	FSL -830mm	100	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00177	S19RV-00393	18/07/2019	1	E 0310391	N 5818849	FSL -310mm	100.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00178	S19RV-00394	22/07/2019	1	E 0310394	N 5818866	FSL -160mm	99.5	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00178	S19RV-00395	22/07/2019	2	E 0310410	N 5818955	FSL -680mm	101	2.0 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00179	S19RV-00396	23/07/2019	1	E 0310401	N 5818877	FSL	100.5	omc	Pass	Rivervalley Boulevard Roadway

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HDR:W19RV00179	S19RV-00397	23/07/2019	2	E 0310401	N 5818971	FSL -490mm	98.5	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00180	S19RV-00398	24/07/2019	1	E 0310398	N 5818900	FSL	100.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00181	S19RV-00399	26/07/2019	1	E 0310355	N 5818905	FSL -2230mm	99.5	2.0 dry	Pass	Lot 21
HDR:W19RV00181	S19RV-00400	26/07/2019	2	E 0310372	N 5818915	FSL -1190mm	99	2.0 dry	Pass	Lot 11
HDR:W19RV00182	S19RV-00401	29/07/2019	1	E 0310369	N 5818932	FSL -2910mm	98	2.0 dry	Pass	Lot 19
HDR:W19RV00182	S19RV-00402	29/07/2019	2	E 0310377	N 5818942	FSL -860mm	97.5	2.0 dry	Pass	Lot 12
HDR:W19RV00183	S19RV-00403	30/07/2019	1	E 0310364	N 5818927	FSL -1970mm	98	omc	Pass	Lot 20
HDR:W19RV00183	S19RV-00404	30/07/2019	2	E 0310346	N 5818861	FSL -1310mm	99.5	omc	Pass	Lot 23
HDR:W19RV00184	S19RV-00405	1/08/2019	1	E 0310361	N 5818801	FSL -630mm	98.5	0.5 dry	Pass	Lot 5
HDR:W19RV00184	S19RV-00406	1/08/2019	2	E 0310359	N 5818874	FSL -1550mm	97.5	0.5 dry	Pass	Lot 19
HDR:W19RV00185	S19RV-00407	2/08/2019	1	E 0310358	N 5818879	FSL -1310mm	99	1.0 dry	Pass	Lot 22
HDR:W19RV00186	S19RV-00408	3/08/2019	1	E 0310354	N 5818826	FSL -340mm	101	1.9 dry	Pass	Lot 26
HDR:W19RV00187	S19RV-00409	5/08/2019	1	E 0310355	N 5818895	FSL -1430mm	99	1.5 dry	Pass	Lot 9
HDR:W19RV00187	S19RV-00410	5/08/2019	2	E 0310358	N 5818832	FSL	101	2.0 dry	Pass	Lot 6
HDR:W19RV00190	S19RV-00416	8/08/2019	1	E 0310353	N 5818877	FSL -640mm	99	2.0 dry	Pass	Lot 23
HDR:W19RV00190	S19RV-00417	8/08/2019	2	E 0310351	N 5818908	FSL -1290mm	99	0.5 dry	Pass	Lot 21
HDR:W19RV00191	S19RV-00418	9/08/2019	1	E 0310358	N 5818738	FSL -1180mm	98	0.5 dry	Pass	Lot 1
HDR:W19RV00191	S19RV-00419	9/08/2019	2	E 0310355	N 5818767	FSL -1310mm	100	omc	Pass	Lot 2
HDR:W19RV00191	S19RV-00420	9/08/2019	3	E 0310359	N 5818775	FSL -860mm	99	0.5 wet	Pass	Lot 3
HDR:W19RV00192	S19RV-00421	13/08/2019	1	E 0310357	N 5818904	FSL -830mm	99	omc	Pass	Lot 21
HDR:W19RV00193	S19RV-00422	14/08/2019	1	E 0310419	N 5818939	FSL	100.5	omc	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00194	S19RV-00423	15/08/2019	1	E 0310371	N 5818732	FSL -720mm	99	1.5 wet	Pass	Lot 1
HDR:W19RV00195	S19RV-00424	16/08/2019	1	E 0310356	N 5818751	FSL -490mm	101	0.5 dry	Pass	Lot 1
HDR:W19RV00196	S19RV-00425	17/08/2019	1	E 0310365	N 5818752	FSL -310mm	99.5	2.0 dry	Pass	Lot 1

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HDR:W19RV00196	S19RV-00426	17/08/2019	2	E 0310356	N 5818773	FSL -580mm	98	0.5 dry	Pass	Lot 2
HDR:W19RV00197	S19RV-00427	19/08/2019	1	E 0310357	N 5818776	FSL	101.5	2.5 dry	Fail	See retest S19RV-00429
HDR:W19RV00197	S19RV-00428	19/08/2019	2	E 0310362	N 5818738	FSL	100.5	omc	Pass	Lot 1
HDR:W19RV00198	S19RV-00429	20/08/2019	1	E 0310357	N 5818776	FSL	99	omc	Pass	Retest of S19RV-00427
HDR:W19RV00198	S19RV-00430	20/08/2019	2	E 0310357	N 5818749	FSL -920mm	100	omc	Pass	Lot 29
HDR:W19RV00199	S19RV-00431	21/08/2019	1	E 0310382	N 5818948	FSL -1250mm	99.5	2.0 dry	Pass	Lot 12
HDR:W19RV00199	S19RV-00432	21/08/2019	2	E 0310351	N 5818935	FSL -3130mm	98	0.5 dry	Pass	Lot 19
HDR:W19RV00200	S19RV-00433	22/08/2019	1	E 0310364	N 5818947	FSL -2160mm	101	2.0 dry	Pass	Lot 13
HDR:W19RV00200	S19RV-00434	22/08/2019	2	E 0310368	N 5818957	FSL -2780mm	101	1.5 dry	Pass	Lot 18
HDR:W19RV00201	S19RV-00435	23/08/2019	1	E 0310368	N 5818913	FSL -250mm	99.5	0.5 wet	Pass	Lot 11
HDR:W19RV00201	S19RV-00436	23/08/2019	2	E 0310382	N 5818971	FSL - 1980mm	101	2.0 dry	Pass	Lot 14
HDR:W19RV00202	S19RV-00437	24/08/2019	1	E 0310352	N 5818910	FSL -2740mm	101.5	2.0 dry	Pass	Lot 20
HDR:W19RV00202	S19RV-00438	24/08/2019	2	E 0310355	N 5818948	FSL -2380mm	100.5	0.5 dry	Pass	Lot 18
HDR:W19RV00203	S19RV-00439	26/08/2019	1	E 0310351	N 5818909	FSL -2630mm	101	3.5 dry	Fail	See retest S19RV-00441
HDR:W19RV00203	S19RV-00440	26/08/2019	2	E 0310339	N 5818857	FSL -2110mm	100.5	0.5 dry	Pass	Lot 24
HDR:W19RV00203	S19RV-00441	26/08/2019	3	E 0310351	N 5818909	FSL -2630mm	100.5	2.0 dry	Pass	Retest of S19RV-00439
HDR:W19RV00204	S19RV-00442	27/08/2019	1	E 0310340	N 5818864	FSL -2040mm	98.5	0.5 dry	Pass	Lot 23
HDR:W19RV00204	S19RV-00443	27/08/2019	2	E 0310342	N 5818862	FSL -1830mm	100	omc	Pass	Lot 24
HDR:W19RV00204	S19RV-00444	27/08/2019	3	E 0310349	N 5818760	FSL -810mm	97.5	omc	Pass	Lot 29
HDR:W19RV00205	S19RV-00445	28/08/2019	1	E 0310339	N 5818828	FSL -2380mm	97	0.5 dry	Pass	Lot 26
HDR:W19RV00205	S19RV-00446	28/08/2019	2	E 0310332	N 5818852	FSL -1860mm	100	1.5 dry	Pass	Lot 24
HDR:W19RV00206	S19RV-00447	29/08/2019	1	E 0310358	N 5818950	FSL -2490mm	98	1.0 dry	Pass	Lot 18
HDR:W19RV00206	S19RV-00448	29/08/2019	2	E 0310332	N 5818790	FSL -1670mm	98	0.5 wet	Pass	Lot 27
HDR:W19RV00207	S19RV-00449	30/08/2019	1	E 0310347	N 5818938	FSL -2290mm	100.5	omc	Pass	Lot 19

CHADWICK GEOTECHNICS

Hilf Summary Table

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1003809 Rivervalley Estate Stage 7A

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:W19RV00207	S19RV-00450	30/08/2019	2	E 0310359	N 5818949	FSL -1280mm	99	0.5 dry	Pass	Lot 18
HDR:W19RV00208	S19RV-00451	31/08/2019	1	E 0310336	N 5818800	FSL -1580mm	101	1.5 dry	Pass	Lot 26
HDR:W19RV00208	S19RV-00452	31/08/2019	2	E 0310363	N 5818964	FSL -1320mm	98.5	0.5 dry	Pass	Lot 17
HDR:W19RV00209	S19RV-00453	2/09/2019	1	E 0310357	N 5818970	FSL -2190mm	98.5	2.0 dry	Pass	Lot 17
HDR:W19RV00209	S19RV-00454	2/09/2019	2	E 0310345	N 5818942	FSL -1530mm	99	omc	Pass	Lot 19
HDR:W19RV00210	S19RV-00455	3/09/2019	1	E 0310331	N 5818794	FSL -1190mm	98.5	0.5 dry	Pass	Lot 27
HDR:W19RV00210	S19RV-00456	3/09/2019	2	E 0310343	N 5818769	FSL -940mm	98.5	0.5 dry	Pass	Lot 28
HDR:W19RV00210	S19RV-00457	3/09/2019	3	E 0310345	N 5818851	FSL -1330mm	98.5	omc	Pass	Lot 24
HDR:W19RV00211	S19RV-00458	4/09/2019	1	E 0310345	N 5818852	FSL -810mm	98.5	omc	Pass	Lot 24
HDR:W19RV00211	S19RV-00459	4/09/2019	2	E 0310361	N 5818955	FSL -1790mm	99	1.5 dry	Pass	Lot 18
HDR:W19RV00211	S19RV-00460	4/09/2019	3	E 0310358	N 5818972	FSL -1520mm	100.5	2.0 dry	Pass	Lot 17
HDR:W19RV00212	S19RV-00461	5/09/2019	1	E 0310333	N 5818777	FSL -830mm	97	2.0 dry	Pass	Lot 28
HDR:W19RV00212	S19RV-00462	5/09/2019	2	E 0310343	N 5818945	FSL -1290mm	98.5	0.5 wet	Pass	Lot 19
HDR:W19RV00212	S19RV-00463	5/09/2019	3	E 0310340	N 5818890	FSL -1540mm	99	omc	Pass	Lot 22
HDR:W19RV00213	S19RV-00464	6/09/2019	1	E 0310339	N 5818868	FSL -920mm	98	2.0 dry	Pass	Lot 23
HDR:W19RV00213	S19RV-00465	6/09/2019	2	E 0310339	N 5818911	FSL -1430mm	101	0.5 wet	Pass	Lot 21
HDR:W19RV00213	S19RV-00466	6/09/2019	3	E 0310348	N 5818961	FSL -1050mm	97.5	1.5 dry	Pass	Lot 18
HDR:W19RV00214	S19RV-00467	7/09/2019	1	E 0310354	N 5818952	FSL -750mm	99.5	0.5 wet	Pass	Lot 18
HDR:W19RV00214	S19RV-00468	7/09/2019	2	E 0310345	N 5818890	FSL -1170mm	98.5	omc	Pass	Lot 22
HDR:W19RV00214	S19RV-00469	7/09/2019	3	E 0310346	N 5818935	FSL -940mm	98	1.5 wet	Pass	Lot 20
HDR:W19RV00215	S19RV-00470	9/09/2019	1	E 0310330	N 5818843	FSL -250mm	99	0.5 wet	Pass	Lot 25
HDR:W19RV00216	S19RV-00471	10/09/2019	1	E 0310378	N 5818971	FSL -1210mm	98.5	omc	Pass	Lot 18
HDR:W19RV00216	S19RV-00472	10/09/2019	2	E 0310380	N 5818969	FSL -630mm	98	1.0 dry	Pass	Lot 14

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1003809 Rivervalley Estate Stage 7A

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:W19RV00217	S19RV-00473	11/09/2019	1	E 0310333	N 5818812	FSL	99.5	omc	Pass	Lot 26
HDR:W19RV00217	S19RV-00474	11/09/2019	2	E 0310368	N 5818965	FSL -1040mm	99.5	0.5 dry	Pass	Lot 17
HDR:W19RV00217	S19RV-00475	11/09/2019	3	E 0310379	N 5818970	FSL -200mm	100	0.5 dry	Pass	Lot 14
HDR:W19RV00218	S19RV-00476	12/09/2019	1	E 0310360	N 5818901	FSL -830mm	100	0.5 dry	Pass	Lot 20
HDR:W19RV00218	S19RV-00477	12/09/2019	2	E 0310367	N 5818908	FSL -520mm	101.5	omc	Pass	Lot 19
HDR:W19RV00218	S19RV-00478	12/09/2019	3	E 0310368	N 5818963	FSL -760mm	99	omc	Pass	Lot 17
HDR:W19RV00219	S19RV-00479	13/09/2019	1	E 0310367	N 5818943	FSL -240mm	99	2.0 dry	Pass	Lot 19
HDR:W19RV00219	S19RV-00480	13/09/2019	2	E 0310367	N 5818886	FSL	101	omc	Pass	Lot 22
HDR:W19RV00220	S19RV-00481	14/09/2019	1	E 0310366	N 5818963	FSL	100.5	omc	Pass	Lot 18
HDR:W19RV00220	S19RV-00482	14/09/2019	2	E 0310374	N 5818986	FSL -780mm	99.5	0.5 dry	Pass	Lot 16
HDR:W19RV00221	S19RV-00483	16/09/2019	1	E 0310336	N 5818773	FSL -310mm	96	2.0 dry	Pass	Lot 28
HDR:W19RV00221	S19RV-00484	16/09/2019	2	E 0310362	N 5818968	FSL -290mm	99.5	omc	Pass	Lot 17
HDR:W19RV00221	S19RV-00485	16/09/2019	3	E 0310373	N 5818995	FSL	98.5	0.5 dry	Pass	Lot 15
HDR:W19RV00221	S19RV-00486	16/09/2019	4	E 0310342	N 5818744	FSL	99	0.5 wet	Pass	Lot 29
HDR:W19RV00222	S19RV-00487	17/09/2019	1	E 0310347	N 5818949	FSL -730mm	100.5	0.5 wet	Pass	Lot 18
HDR:W19RV00222	S19RV-00488	17/09/2019	2	E 0310346	N 5818928	FSL -490mm	99.5	0.5 dry	Pass	Lot 20
HDR:W19RV00222	S19RV-00489	17/09/2019	3	E 0310350	N 5818973	FSL -250mm	100	0.5 wet	Pass	Lot 17
HDR:W19RV00223	S19RV-00490	18/09/2019	1	E 0310341	N 5818896	FSL -530mm	100.5	0.5 dry	Pass	Lot 22
HDR:W19RV00223	S19RV-00491	18/09/2019	2	E 0310340	N 5818897	FSL -260mm	100	1.5 dry	Pass	Lot 21
HDR:W19RV00224	S19RV-00492	19/09/2019	1	E 0310371	N 5818898	FSL	100	omc	Pass	Lot 10
HDR:W19RV00224	S19RV-00493	19/09/2019	2	E 0310376	N 5818984	FSL -200mm	101	1.5 dry	Pass	Lot 16
HDR:W19RV00225	S19RV-00494	20/09/2019	1	E 0310339	N 5818902	FSL	100	omc	Pass	Lot 21

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1003809 Rivervalley Estate Stage 7A

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HDR:W19RV00226	S19RV-00495	21/09/2019	1	E 0310348	N 5818939	FSL	101.5	0.5 dry	Pass	Lot 19
HDR:W19RV00228	S19RV-00498	24/09/2019	1	E 0310375	N 5818755	FSL	99	omc	Pass	Lot 2
HDR:W19RV00228	S19RV-00499	24/09/2019	2	E 0310374	N 5818801	FSL	101	omc	Pass	Lot 5
HDR:W19RV00228	S19RV-00500	24/09/2019	3	E 0310377	N 5818872	FSL	102	1.5 dry	Pass	Lot 8
HDR:W19RV00229	S19RV-00501	25/09/2019	1	E 0310370	N 5818989	FSL	99.5	0.5 dry	Pass	Laneway
HDR:W19RV00229	S19RV-00502	25/09/2019	2	E 0310354	N 5818985	FSL	99	omc	Pass	Lot 16
HDR:W19RV00230	S19RV-00504	26/09/2019	1	E 0310360	N 5818998	FSL	100.5	0.5 dry	Pass	Laneway
HDR:W19RV00230	S19RV-00503	26/09/2019	2	E 0310390	N 5818993	FSL	99.5	0.5 dry	Pass	Laneway
HDR:W19RV00231	S19RV-00505	1/10/2019	1	E 0310383	N 5818982	FSL	100	omc	Pass	Lot 15
HDR:W19RV00231	S19RV-00506	1/10/2019	2	E 0310413	N 5818674	FSL -270mm	99.5	1.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00231	S19RV-00507	1/10/2019	3	E 0310402	N 5818704	FSL -640mm	98.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00232	S19RV-00508	2/10/2019	1	E 0310406	N 5818690	FSL -360mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00232	S19RV-00509	2/10/2019	2	E 0310400	N 5818721	FSL -1410mm	100.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00232	S19RV-00510	2/10/2019	3	E 0310421	N 5818647	FSL	99	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00235	S19RV-00517	5/10/2019	1	E 0310398	N 5818959	FSL -510mm	99	0.5 dry	Pass	Lot 14
HDR:W19RV00243	S19RV-00531	15/10/2019	1	E 0310429	N 5818986	FSL	102	0.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00243	S19RV-00532	15/10/2019	2	E 0310404	N 5818958	FSL	101.5	1.5 dry	Pass	Rivervalley Boulevard Roadway
HDR:W19RV00247	S19RV-00537	19/10/2019	1	E 0310420	N 5818596	FSL -990mm	100.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00247	S19RV-00538	19/10/2019	2	E 0310418	N 5818586	FSL -740mm	100	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00253	S19RV-00550	28/10/2019	1	E 0310417	N 5818584	FSL -480mm	98.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00253	S19RV-00551	28/10/2019	2	E 0310434	N 5818576	FSL -250mm	102	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00253	S19RV-00552	28/10/2019	3	E 0310415	N 5818589	FSL	100	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00255	S19RV-00556	30/10/2019	1	E 0310411	N 5818615	FSL -2210mm	102.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard

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1003809 Rivervalley Estate Stage 7A

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HDR:W19RV00255	S19RV-00557	30/10/2019	2	E 0310405	N 5818639	FSL -1980mm	100	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00255	S19RV-00558	30/10/2019	3	E 0310416	N 5818623	FSL -1740mm	99.5	1.0 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00256	S19RV-00559	31/10/2019	1	E 0310405	N 5818822	FSL -2260mm	99.5	0.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00256	S19RV-00560	31/10/2019	2	E 0310406	N 5818847	FSL -1970mm	98.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00256	S19RV-00561	31/10/2019	3	E 0310404	N 5818757	FSL -1720mm	98	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00257	S19RV-00562	1/11/2019	1	E 0310402	N 5818820	FSL -1480mm	99.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00257	S19RV-00563	1/11/2019	2	E 0310399	N 5818786	FSL -1260mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00257	S19RV-00564	1/11/2019	3	E 0310398	N 5818724	FSL -1010mm	100.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00258	S19RV-00565	6/11/2019	1	E 0310402	N 5818754	FSL -730mm	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00258	S19RV-00566	6/11/2019	2	E 0310407	N 5818841	FSL -490mm	101	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00258	S19RV-00567	6/11/2019	3	E 0310400	N 5818694	FSL -1480mm	100	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00259	S19RV-00568	7/11/2019	1	E 0310427	N 5818952	FSL -2230mm	101.5	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00259	S19RV-00569	7/11/2019	2	E 0310421	N 5818936	FSL -1990mm	100	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00259	S19RV-00570	7/11/2019	3	E 0310410	N 5818680	FSL -1220mm	101	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00260	S19RV-00571	8/11/2019	1	E 0310401	N 5818677	FSL -1000mm	99.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00260	S19RV-00572	8/11/2019	2	E 0310401	N 5818630	FSL -760mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00260	S19RV-00573	8/11/2019	3	E 0310402	N 5818700	FSL -520mm	99.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00261	S19RV-00574	9/11/2019	1	E 0310435	N 5818974	FSL -1740mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00261	S19RV-00575	9/11/2019	2	E 0310420	N 5818922	FSL -1490mm	100.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00262	S19RV-00576	11/11/2019	1	E 0310434	N 5818973	FSL -1230mm	99	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00262	S19RV-00577	11/11/2019	2	E 0310415	N 5818903	FSL -980mm	99	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00262	S19RV-00578	11/11/2019	3	E 0310425	N 5818951	FSL -750mm	98	2.0 dry	Pass	Batter East of Rivervalley Boulevard

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HDR:W19RV00271	S19RV-00599	4/12/2019	1	E 0310400	N 5818662	FSL -250mm	100	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00271	S19RV-00600	4/12/2019	2	E 0310399	N 5818764	FSL -240mm	100	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W19RV00284	S19RV-00634	19/12/2019	1	E 0310429	N 5818980	FSL -500mm	98.5	0.5 wet	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00009	S20RV-00024	23/01/2020	1	E 0310400	N 5818628	FSL	100.5	omc	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00009	S20RV-00025	23/01/2020	2	E 0310398	N 5818772	FSL	100	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00010	S20RV-00026	24/01/2020	1	E 0310415	N 5818912	FSL -250mm	100.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00010	S20RV-00027	24/01/2020	2	E 0310423	N 5818954	FSL	100	1.5 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00011	S20RV-00028	25/01/2020	1	E 0310455	N 5819009	FSL	99.5	2.0 dry	Pass	Batter East of Rivervalley Boulevard
HDR:W20RV00024	S20RV-00060	6/03/2020	1	E 0310410	N 5818955	FSL -180mm	101	omc	Pass	Lot 13
HDR:W20RV00024	S20RV-00061	6/03/2020	2	E 0310409	N 5818968	FSL	100.5	0.5 dry	Pass	Lot 15
HDR:W20RV00037	S20RV-00091	8/04/2020	1	E 0310370	N 5818599	FSL -3020mm	99	2.0 dry	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00037	S20RV-00092	8/04/2020	2	E 0310368	N 5818610	FSL -2800mm	98	1.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00037	S20RV-00093	8/04/2020	3	E 0310374	N 5818612	FSL -2590mm	99.5	0.5 dry	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00038	S20RV-00094	9/04/2020	1	E 0310375	N 5818606	FSL -2380mm	101	0.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00038	S20RV-00095	9/04/2020	2	E 0310371	N 5818588	FSL -2160mm	98	0.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00038	S20RV-00096	9/04/2020	3	E 0310368	N 5818597	FSL -2000mm	100.5	0.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00039	S20RV-00097	14/04/2020	1	E 0310374	N 5818600	FSL -1740mm	101.5	omc	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00039	S20RV-00098	14/04/2020	2	E 0310371	N 5818596	FSL -1510mm	99	1.5 dry	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00039	S20RV-00099	14/04/2020	3	E 0310374	N 5818606	FSL -1270mm	98.5	2.0 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00040	S20RV-00100	15/04/2020	1	E 0310370	N 5818599	FSL -1010mm	101.5	0.5 dry	Pass	Habitat Culvert West of Rivervalley Boulevard
HDR:W20RV00040	S20RV-00101	15/04/2020	2	E 0310369	N 5818593	FSL -790mm	101	0.5 dry	Pass	Habitat Culvert West of Rivervalley Boulevard
HDR:W20RV00040	S20RV-00102	15/04/2020	3	E 0310372	N 5818589	FSL -620mm	100.5	0.5 dry	Pass	Habitat Culvert West of Rivervalley Boulevard
HDR:W20RV00041	S20RV-00103	16/04/2020	1	E 0310379	N 5818602	FSL -410mm	100.5	0.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00041	S20RV-00104	16/04/2020	2	E 0310375	N 5818596	FSL -190mm	100	omc	Pass	Habitat Culvert Batter West of Rivervalley Boulevard

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 7A

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:W20RV00041	S20RV-00105	16/04/2020	3	E 0310372	N 5818592	FSL	100	omc	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00042	S20RV-00106	17/04/2020	1	E 0310384	N 5818589	FSL -1980mm	100	omc	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00042	S20RV-00107	17/04/2020	2	E 0310378	N 5818582	FSL -1730mm	99	2.0 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00042	S20RV-00108	17/04/2020	3	E 0310376	N 5818586	FSL -1550mm	100	0.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00043	S20RV-00109	18/04/2020	1	E 0310386	N 5818597	FSL -2240mm	102	1.5 dry	Pass	Habitat Culvert Battert West of Rivervalley Boulevard
HDR:W20RV00043	S20RV-00110	18/04/2020	2	E 0310385	N 5818587	FSL -1990mm	102.5	2.0 dry	Pass	Habitat Culvert Battert West of Rivervalley Boulevard
HDR:W20RV00043	S20RV-00111	18/04/2020	3	E 0310387	N 5818611	FSL -1760mm	102	1.5 dry	Pass	Habitat Culvert Battert West of Rivervalley Boulevard
HDR:W20RV00043	S20RV-00112	18/04/2020	4	E 0310388	N 5818596	FSL -1500mm	100	1.5 wet	Pass	Habitat Culvert Battert West of Rivervalley Boulevard
HDR:W20RV00044	S20RV-00113	20/04/2020	1	E 0310388	N 5818602	FSL -1260mm	99.5	1.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00044	S20RV-00114	20/04/2020	2	E 0310390	N 5818598	FSL -1020mm	102	1.5 dry	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00044	S20RV-00115	20/04/2020	3	E 0310387	N 5818608	FSL -740mm	101	1.5 dry	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00044	S20RV-00116	20/04/2020	4	E 0310389	N 5818587	FSL -490mm	100.5	1.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00044	S20RV-00117	20/04/2020	5	E 0310391	N 5818595	FSL -250mm	100	2.0 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00044	S20RV-00118	20/04/2020	6	E 0310390	N 5818600	FSL	102	0.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00045	S20RV-00119	21/04/2020	1	E 0310387	N 5818577	FSL -1390mm	101	1.5 dry	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00045	S20RV-00120	21/04/2020	2	E 0310378	N 5818577	FSL -1210mm	101	omc	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00045	S20RV-00121	21/04/2020	3	E 0310388	N 5818580	FSL -1030mm	101	1.0 dry	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00046	S20RV-00122	22/04/2020	1	E 0310379	N 5818584	FSL -970mm	101.5	omc	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00046	S20RV-00123	22/04/2020	2	E 0310376	N 5818583	FSL -840mm	99	1.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00046	S20RV-00124	22/04/2020	3	E 0310379	N 5818586	FSL -750mm	100	0.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00047	S20RV-00125	23/04/2020	1	E 0310385	N 5818590	FSL -800mm	101.5	1.0 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00047	S20RV-00126	23/04/2020	2	E 0310373	N 5818582	FSL -630mm	101	1.5 dry	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00047	S20RV-00127	23/04/2020	3	E 0310383	N 5818586	FSL -510mm	101	omc	Pass	Habitat Culvert Batter West of Rivervalley Boulevard

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 7A

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:W20RV00048	S20RV-00128	24/04/2020	1	E 0310385	N 5818583	FSL -720mm	100.5	1.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00048	S20RV-00129	24/04/2020	2	E 0310388	N 5818583	FSL -500mm	102	2.0 dry	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00048	S20RV-00130	24/04/2020	3	E 0310378	N 5818579	FSL -260mm	100	omc	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00049	S20RV-00131	27/04/2020	1	E 0310377	N 5818580	FSL -630mm	100.5	omc	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00049	S20RV-00132	27/04/2020	2	E 0310385	N 5818580	FSL -440mm	100	0.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00049	S20RV-00133	27/04/2020	3	E 0310382	N 5818579	FSL -290mm	100	omc	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00050	S20RV-00134	28/04/2020	1	E 0310384	N 5818581	FSL -510mm	101	0.5 wet	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00050	S20RV-00135	28/04/2020	2	E 0310376	N 5818582	FSL -240mm	101.5	0.5 dry	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
HDR:W20RV00050	S20RV-00136	28/04/2020	3	E 0310383	N 5818580	FSL	102	2.0 dry	Pass	Habitat Culvert Batter West of Rivervalley Boulevard
										No further tests, 8-5-20

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:W18RV00001
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 7A
Project No.: 1003809
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: 8/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00001	S18RV-00002				
Field Sample ID	1	2				
Date Tested	30/10/2018	30/10/2018				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310429	E 0310432				
	N 5818654	N 5818648				
	FSL - 1758mm	FSL - 2760mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	1	5				
Field Wet Density (t/m³)	1.91	2.01				
Peak Converted Wet Density (t/m³)	1.98	2.05				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 dry	2.0 dry				
Hilf Density Ratio (%)	**96.5**	**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:W18RV00002
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 7A
Project No.: 1003809
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: 8/11/2018

Sample Details

Location:	Stage 7A
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	S18RV-00003					
Field Sample ID	1					
Date Tested	31/10/2018					
Location	Batter East of Rivervalley Boulevard					
	E 0310429					
	N 5818667					
	FSL - 1955mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	7					
Field Wet Density (t/m³)	2.04					
Peak Converted Wet Density (t/m³)	2.04					
Compactive Effort	Standard					
Moisture Variation (%)	1.5 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:W18RV00003
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 7A
Project No.: 1003809
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: 8/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00004	S18RV-00005	S18RV-00006			
Field Sample ID	1	2	3			
Date Tested	1/11/2018	1/11/2018	1/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310426	E 0310434	E 0310432			
	N 5818689	N 5818683	E 5818642			
	FSL -1508mm	FSL -1560mm	FSL -1198mm			
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	8	8			
Field Wet Density (t/m³)	2.05	2.03	2.01			
Peak Converted Wet Density (t/m³)	2.09	2.07	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 wet	0.5 dry			
Hilf Density Ratio (%)	**98.5**	**98.0**	**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:W18RV00004
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 7A
Project No.: 1003809
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: 8/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00007	S18RV-00008	S18RV-00009			
Field Sample ID	1	2	3			
Date Tested	2/11/2018	2/11/2018	2/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310436	E 0310437	E 0310419			
	N 5818639	N 5818622	N 5818678			
	FSL -1137mm	FSL -850mm	FSL -1062mm			
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	7	7			
Field Wet Density (t/m³)	2.01	2.02	2.02			
Peak Converted Wet Density (t/m³)	2.08	2.06	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 dry	2.0 wet			
Hilf Density Ratio (%)	**97.0**	**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:W18RV00005
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 7A
Project No.: 1003809
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: 13/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00010	S18RV-00011	S18RV-00012			
Field Sample ID	1	2	3			
Date Tested	8/11/2018	8/11/2018	8/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310440	E 0310431	E 0310425			
	N 5818616	N 5818638	N 5818673			
	FSL -673mm	FSL -516mm	FSL -1420mm			
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	8	9			
Field Wet Density (t/m³)	2.09	2.05	2.07			
Peak Converted Wet Density (t/m³)	2.07	2.08	2.07			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	1.5 dry	0.0			
Hilf Density Ratio (%)	**101.0**	**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:W18RV00006
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 7A
Project No.: 1003809
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: 10/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00013	S18RV-00014	S18RV-00015	S18RV-00016		
Field Sample ID	1	2	3	4		
Date Tested	9/11/2018	9/11/2018	9/11/2018	9/11/2018		
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard		
	E 0310421	E 0310420	E 0310418	E 0310415		
	N 5818741	N 5818817	N 5818757	E 5818796		
	FSL -2870mm	FSL -1710mm	FSL -1880mm	FSL -2610mm		
Depth of Test (mm)	225	225	225	225		
Depth of Layer (mm)	250	250	250	250		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	7	12	8	15		
Field Wet Density (t/m³)	2.03	2.11	2.05	2.11		
Peak Converted Wet Density (t/m³)	2.06	2.13	2.09	2.11		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	0.0	0.5 wet	0.5 dry	0.0		
Hilf Density Ratio (%)	**98.5**	**99.0**	**98.0**	**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:W18RV00007
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 7A
Project No.: 1003809
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: 13/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00017	S18RV-00018	S18RV-00019	S18RV-00020	S18RV-00021	
Field Sample ID	1	2	3	4	5	
Date Tested	10/11/2018	10/11/2018	10/11/2018	10/11/2018	10/11/2018	
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	
	E 0310402	E 0310401	E 0310401	E 0310440	E 0310429	
	N 5818890	N 5818888	N 5818886	N 5818629	N 5818667	
	FSL -7610mm	FSL -7280mm	FSL -7055mm	FSL -160mm	FSL -380mm	
Depth of Test (mm)	225	225	225	225	225	
Depth of Layer (mm)	250	250	250	250	250	
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	
Oversize Wet (%)	5	7	5	4	4	
Field Wet Density (t/m³)	2.03	2.04	2.01	1.91	1.96	
Peak Converted Wet Density (t/m³)	2.08	2.08	2.06	1.94	1.95	
Compactive Effort	Standard	Standard	Standard	Standard	Standard	
Moisture Variation (%)	0.5 wet	2.0 wet	2.0 wet	2.0 dry	2.0 dry	
Hilf Density Ratio (%)	**97.5**	**98.0**	**97.5**	**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:W18RV00008
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 7A
Project No.: 1003809
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: 13/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00022	S18RV-00023	S18RV-00024			
Field Sample ID	1	2	3			
Date Tested	12/11/2018	12/11/2018	12/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310419	E 0310425	E 0310423			
	N 5818749	N 5818729	N 5818675			
	FSL -1670mm	FSL -3100mm	FSL -1220mm			
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 (%)	3	9	3			
Field Wet Density (t/m³)	1.93	2.03	1.91			
Peak Converted Wet Density (t/m³)	1.99	2.07	1.98			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 wet	0.5 dry			
Hilf Density Ratio (%)	**96.5**	**98.0**	**96.5**			

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:W18RV00009
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 7A
Project No.: 1003809
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: 14/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00025	S18RV-00026	S18RV-00027			
Field Sample ID	1	2	3			
Date Tested	13/11/2018	13/11/2018	13/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310408	E 0310423	E 0310447			
	N 5818747	N 5818690	N 5818613			
	FSL -3980mm	FSL -2190mm	FSL -440mm			
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 (%)	5	7	7			
Field Wet Density (t/m³)	1.96	2.01	2.01			
Peak Converted Wet Density (t/m³)	2.01	2.05	2.05			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	2.0 wet	0.5 wet			
Hilf Density Ratio (%)	**97.5**	**97.5**	**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:W18RV00010
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 7A
Project No.: 1003809
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: 16/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00028	S18RV-00029	S18RV-00030			
Field Sample ID	1	2	3			
Date Tested	15/11/2018	15/11/2018	15/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310411	E 0310409	E 0310426			
	N 5818726	N 5818697	N 5818646			
	FSL -3900mm	FSL -3050mm	FSL -1130mm			
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 (%)	6	12	8			
Field Wet Density (t/m³)	2.01	2.07	2.03			
Peak Converted Wet Density (t/m³)	2.05	2.11	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.0 wet	1.5 wet	0.5 dry			
Hilf Density Ratio (%)	**98.0**	**98.0**	**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:W18RV00011
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 7A
Project No.: 1003809
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: 17/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00031	S18RV-00032	S18RV-00033			
Field Sample ID	1	2	3			
Date Tested	16/11/2018	16/11/2018	16/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310411	E 0310418	E 0310439			
	N 5818758	N 5818700	N 5818625			
	FSL -2790mm	FSL -2700mm	FSL -400mm			
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	8	10			
Field Wet Density (t/m³)	2.18	2.05	2.08			
Peak Converted Wet Density (t/m³)	2.15	2.06	2.09			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry	0.5 dry			
Hilf Density Ratio (%)	**101.5**	**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:W18RV00012
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 7A
Project No.: 1003809
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: 19/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00034	S18RV-00035				
Field Sample ID	1	2				
Date Tested	17/11/2018	17/11/2018				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310416	E 0310409				
	N 5818701	N 5818745				
	FSL -2500mm	FSL -3190mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	10	9				
Field Wet Density (t/m³)	2.08	2.07				
Peak Converted Wet Density (t/m³)	2.08	2.11				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 wet				
Hilf Density Ratio (%)	**100.0**	**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:W18RV00013
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 7A
Project No.: 1003809
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: 20/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00036	S18RV-00037	S18RV-00038			
Field Sample ID	1	2	3			
Date Tested	19/11/2018	19/11/2018	19/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310410	E 0310414	E 0310426			
	N 5818731	N 5818696	N 5818646			
	FSL -4460mm	FSL -2070mm	FSL -950mm			
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 (%)	6	4	14			
Field Wet Density (t/m³)	2.01	2.00	2.07			
Peak Converted Wet Density (t/m³)	2.05	2.06	2.09			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	2.0 wet	1.5 dry			
Hilf Density Ratio (%)	**98.0**	**97.5**	**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:W18RV00014
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 7A
Project No.: 1003809
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: 21/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00039	S18RV-00040	S18RV-00041			
Field Sample ID	1	2	3			
Date Tested	20/11/2018	20/11/2018	20/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310427	E 0310420	E 0310407			
	N 5818655	N 5818708	N 5818758			
	FSL -740mm	FSL -4460mm	FSL -3280mm			
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	17	9			
Field Wet Density (t/m³)	2.07	2.13	2.05			
Peak Converted Wet Density (t/m³)	2.08	2.14	2.08			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.0	0.0			
Hilf Density Ratio (%)	**100.0**	**99.5**	**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:W18RV00015
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 7A
Project No.: 1003809
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: 22/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00042	S18RV-00043	S18RV-00044			
Field Sample ID	1	2	3			
Date Tested	21/11/2018	21/11/2018	21/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310399	E 0310411	E 0310421			
	N 5818752	N 5818715	N 5818653			
	FSL -5550mm	FSL -4460mm	FSL-1730mm			
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	7	8			
Field Wet Density (t/m³)	2.02	2.01	2.04			
Peak Converted Wet Density (t/m³)	2.08	2.05	2.07			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 wet	0.5 dry	0.0			
Hilf Density Ratio (%)	**97.5**	**98.0**	**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:W18RV00016
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 7A
Project No.: 1003809
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: 8/04/2019

Sample Details

Location: Stage 7A
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	S18RV-00045	S18RV-00046	S18RV-00047			
Field Sample ID	1	2	3			
Date Tested	22/11/2018	22/11/2018	22/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310407	E 0310409	E 0310419			
	N 5818757	N 5818705	N 5818648			
	FSL -4780mm	FSL -4160mm	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 (%)	7	9	6			
Field Wet Density (t/m³)	2.01	2.04	2.03			
Peak Converted Wet Density (t/m³)	2.07	2.07	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 dry	0.5 dry			
Hilf Density Ratio (%)	**97.0**	**98.5**	**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:W18RV00017
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 7A
Project No.: 1003809
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: 27/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00048	S18RV-00049	S18RV-00050			
Field Sample ID	1	2	3			
Date Tested	26/11/2018	26/11/2018	26/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310407	E 0310417	E 0310430			
	N 5818739	N 5818691	N 5818641			
	FSL -3390mm	FSL -1530mm	FSL -1140mm			
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	14			
Field Wet Density (t/m³)	2.10	2.08	2.07			
Peak Converted Wet Density (t/m³)	2.12	2.11	2.07			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	1.5 wet	1.5 dry			
Hilf Density Ratio (%)	**99.0**	**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:W18RV00018
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 7A
Project No.: 1003809
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: 28/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00051	S18RV-00052	S18RV-00053			
Field Sample ID	1	2	3			
Date Tested	27/11/2018	27/11/2018	27/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310431	E 0310411	E 0310399			
	N 5818618	N 5818673	N 5818733			
	FSL -1710mm	FSL -1980mm	FSL -4270mm			
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	17	16			
Field Wet Density (t/m³)	2.09	2.10	2.11			
Peak Converted Wet Density (t/m³)	2.08	2.15	2.11			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 wet	0.5 dry			
Hilf Density Ratio (%)	**100.5**	**98.0**	**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:W18RV00019
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 7A
Project No.: 1003809
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: 29/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00054	S18RV-00055	S18RV-00056			
Field Sample ID	1	2	3			
Date Tested	28/11/2018	28/11/2018	28/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310405	E 0310415	E 0310433			
	N 5818762	N 5818693	N 5818618			
	FSL -3940mm	FSL -2320mm	FSL -1620mm			
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	13	14			
Field Wet Density (t/m³)	2.09	2.07	2.10			
Peak Converted Wet Density (t/m³)	2.07	2.09	2.09			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	0.0			
Hilf Density Ratio (%)	**100.5**	**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:W18RV00020
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 7A
Project No.: 1003809
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: 30/11/2018

Sample Details

Location: Stage 7A
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	S18RV-00057	S18RV-00058	S18RV-00059			
Field Sample ID	1	2	3			
Date Tested	29/11/2018	29/11/2018	29/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310406	E 0310412	E 0310417			
	N 5818732	N 5818692	N 5818640			
	FSL -3670mm	FSL -1980mm	FSL -1960mm			
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	15	15			
Field Wet Density (t/m³)	2.03	2.09	2.09			
Peak Converted Wet Density (t/m³)	2.08	2.09	2.07			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	0.5 dry			
Hilf Density Ratio (%)	**97.5**	**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:W18RV00021
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 7A
Project No.: 1003809
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: 1/12/2018

Sample Details

Location: Stage 7A
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	S18RV-00060	S18RV-00061	S18RV-00062			
Field Sample ID	1	2	3			
Date Tested	30/11/2018	30/11/2018	30/11/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310412	E 0310423	E 0310404			
	N 5818755	N 5818791	N 5818829			
	FSL -4210mm	FSL -1400mm	FSL -3250mm			
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	14			
Field Wet Density (t/m³)	2.03	2.03	2.05			
Peak Converted Wet Density (t/m³)	2.05	2.07	2.08			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	1.5 wet	0.0			
Hilf Density Ratio (%)	**99.0**	**98.5**	**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:W18RV00022
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 7A
Project No.: 1003809
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: 3/12/2018

Sample Details

Location: Stage 7A
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	S18RV-00063	S18RV-00064	S18RV-00065			
Field Sample ID	1	2	3			
Date Tested	1/12/2018	1/12/2018	1/12/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310421	E 0310404	E 0310434			
	N 5818804	N 5818831	N 5818868			
	FSL -2280mm	FSL -3770mm	FSL -2450mm			
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	7			
Field Wet Density (t/m³)	1.99	1.98	1.94			
Peak Converted Wet Density (t/m³)	2.06	2.05	1.99			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	1.0 dry	2.0 dry			
Hilf Density Ratio (%)	**96.5**	**97.0**	**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:W18RV00023
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 7A
Project No.: 1003809
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: 4/12/2018

Sample Details

Location: Stage 7A
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	S18RV-00066	S18RV-00067	S18RV-00068			
Field Sample ID	1	2	3			
Date Tested	3/12/2018	3/12/2018	3/12/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310392	E 0310425	E 0310405			
	N 5818783	N 5818815	N 5818826			
	FSL -5640mm	FSL -1370mm	FSL -2290mm			
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	14	6			
Field Wet Density (t/m³)	2.10	2.07	1.97			
Peak Converted Wet Density (t/m³)	2.13	2.11	2.02			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	1.5 wet	1.5 dry			
Hilf Density Ratio (%)	**98.5**	**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:W18RV00024
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 7A
Project No.: 1003809
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: 5/12/2018

Sample Details

Location: Stage 7A
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	S18RV-00069	S18RV-00070	S18RV-00071			
Field Sample ID	1	2	3			
Date Tested	4/12/2018	4/12/2018	4/12/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310397	E 0310403	E 0310424			
	N 5818798	N 5818697	N 5818609			
	FSL -3780mm	FSL -1910mm	FSL -1860mm			
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 (%)	7	5	14			
Field Wet Density (t/m³)	2.04	2.04	2.09			
Peak Converted Wet Density (t/m³)	2.02	2.03	2.10			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 wet	0.0			
Hilf Density Ratio (%)	**100.5**	**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:W18RV00025
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 7A
Project No.: 1003809
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: 6/12/2018

Sample Details

Location: Stage 7A
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	S18RV-00072	S18RV-00073	S18RV-00074			
Field Sample ID	1	2	3			
Date Tested	5/12/2018	5/12/2018	5/12/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310417	E 0310404	E 0310399			
	N 5818670	N 5818670	N 5818714			
	FSL -4510mm	FSL -3520mm	FSL -3190mm			
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	16	12			
Field Wet Density (t/m³)	1.99	2.06	2.01			
Peak Converted Wet Density (t/m³)	2.05	2.09	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.5 wet	0.5 dry			
Hilf Density Ratio (%)	**96.5**	**98.5**	**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:W18RV00026
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 7A
Project No.: 1003809
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: 7/12/2018

Sample Details

Location: Stage 7A
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	S18RV-00075	S18RV-00076				
Field Sample ID	1	2				
Date Tested	6/12/2018	6/12/2018				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310320	E 0310391				
	N 5818826	N 5818786				
	FSL -1630mm	FSL -5600mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	19	12				
Field Wet Density (t/m³)	2.16	2.08				
Peak Converted Wet Density (t/m³)	2.14	2.07				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.0				
Hilf Density Ratio (%)	**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:W18RV00027
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 7A
Project No.: 1003809
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: 8/12/2018

Sample Details

Location: Stage 7A
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	S18RV-00077	S18RV-00078	S18RV-00079			
Field Sample ID	1	2	3			
Date Tested	7/12/2018	7/12/2018	7/12/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310416	E 0310406	E 0310407			
	N 5818628	N 5818681	N 5818735			
	FSL -3178mm	FSL -2050mm	FSL -2010mm			
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	7			
Field Wet Density (t/m³)	2.00	2.07	1.99			
Peak Converted Wet Density (t/m³)	2.05	2.11	2.05			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 wet	2.0 wet			
Hilf Density Ratio (%)	**98.0**	**98.0**	**97.0**			

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:W18RV00028
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 7A
Project No.: 1003809
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: 10/12/2018

Sample Details

Location: Stage 7A
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	S18RV-00080	S18RV-00081	S18RV-00082			
Field Sample ID	1	2	3			
Date Tested	8/12/2018	8/12/2018	8/12/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310405	E 0310408	E 0310409			
	N 5818741	N 5818699	N 5818641			
	FSL -3550mm	FSL -2220mm	FSL - 3670mm			
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	15	8			
Field Wet Density (t/m³)	2.05	2.06	2.02			
Peak Converted Wet Density (t/m³)	2.07	2.09	2.08			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	1.5 wet			
Hilf Density Ratio (%)	**99.5**	**98.5**	**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:W18RV00029
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 7A
Project No.: 1003809
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: 11/12/2018

Sample Details

Location: Stage 7A
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	S18RV-00083	S18RV-00084	S18RV-00085			
Field Sample ID	1	2	3			
Date Tested	10/12/2018	10/12/2018	10/12/2018			
Location	Batter East of Rvervalley Boulevard	Batter East of Rvervalley Boulevard	Batter East of Rvervalley Boulevard			
	E 0310418	E 0310408	E 0310403			
	N 5818644	N 5818683	N 5818747			
	FSL -2990mm	FSL -1970mm	FSL -2710mm			
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	12	12			
Field Wet Density (t/m³)	2.08	2.06	2.05			
Peak Converted Wet Density (t/m³)	2.06	2.06	2.10			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 wet	1.0 wet			
Hilf Density Ratio (%)	**101.0**	**100.0**	**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:W18RV00030
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 7A
Project No.: 1003809
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: 12/12/2018

Sample Details

Location: Stage 7A
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	S18RV-00086	S18RV-00087	S18RV-00088	S18RV-00089		
Field Sample ID	1	2	3	4		
Date Tested	11/12/2018	11/12/2018	11/12/2018	11/12/2018		
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard		
	E 0310395	E 0310404	E 0310432	E 0310436		
	N 5818990	N 5818834	N 5818923	N 5818923		
	FSL -6070mm	FSL -5210mm	FSL -3020mm	FSL -3440mm		
Depth of Test (mm)	225	225	225	225		
Depth of Layer (mm)	250	250	250	250		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	13	11	7	16		
Field Wet Density (t/m³)	2.03	1.99	1.97	2.07		
Peak Converted Wet Density (t/m³)	2.07	2.05	2.00	2.11		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	1.0 wet	0.0	0.0	1.5 wet		
Hilf Density Ratio (%)	**98.0**	**97.5**	**98.0**	**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:W18RV00031
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 7A
Project No.: 1003809
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: 17/12/2018

Sample Details

Location: Stage 7A
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	S18RV-00090	S18RV-00091	S18RV-00092	S18RV-00093		
Field Sample ID	1	2	3	4		
Date Tested	12/12/2018	12/12/2018	12/12/2018	12/12/2018		
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard		
	E 0310404	E 0310405	E 0310431	E 0310439		
	N 5818785	N 5818818	N 5818868	N 5818913		
	FSL -2540mm	FSL -3830mm	FSL -3050mm	FSL -2750mm		
Depth of Test (mm)	225	225	225	225		
Depth of Layer (mm)	250	250	250	250		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	12	13	10	11		
Field Wet Density (t/m³)	2.05	2.05	2.01	2.03		
Peak Converted Wet Density (t/m³)	2.08	2.05	2.07	2.05		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	0.5 wet	0.5 dry	1.5 wet	1.0 dry		
Hilf Density Ratio (%)	**98.5**	**99.5**	**97.0**	**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:W18RV00032
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 7A
Project No.: 1003809
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: 8/04/2019

Sample Details

Location: Stage 7A
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	S18RV-00094	S18RV-00095				
Field Sample ID	1	2				
Date Tested	17/12/2018	17/12/2018				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310407	E 0310403				
	N 5818884	N 5818850				
	FSL -6830mm	FSL -6140mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	12	11				
Field Wet Density (t/m³)	2.03	2.04				
Peak Converted Wet Density (t/m³)	2.07	2.06				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 wet	0.5 dry				
Hilf Density Ratio (%)	**98.0**	**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:W18RV00033
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 7A
Project No.: 1003809
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: 8/04/2019

Sample Details

Location: Stage 7A
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	S18RV-00096	S18RV-00097	S18RV-00098			
Field Sample ID	1	2	3			
Date Tested	18/12/2018	18/12/2018	18/12/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310429	E 0310441	E 0310405			
	N 5818864	N 5818900	N 5818863			
	FSL -3090mm	FSL -2140mm	FSL -6380mm			
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	11	14			
Field Wet Density (t/m³)	2.05	2.02	2.02			
Peak Converted Wet Density (t/m³)	2.11	2.06	2.05			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 wet	0.5 dry	0.5 wet			
Hilf Density Ratio (%)	**97.0**	**98.0**	**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:W18RV00034
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 7A
Project No.: 1003809
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: 8/04/2019

Sample Details

Location: Stage 7A
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	S18RV-00099	S18RV-00100	S18RV-00101			
Field Sample ID	1	2	3			
Date Tested	19/12/2018	19/12/2018	19/12/2018			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310434	E 0310436	E 0310403			
	N 5818858	N 5818898	N 5818857			
	FSL -2240mm	FSL -1760mm	FSL -6390mm			
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)	2.00	2.02	2.02			
Peak Converted Wet Density (t/m³)	2.05	2.06	2.05			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 wet	1.5 wet	0.0			
Hilf Density Ratio (%)	**97.5**	**98.0**	**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:W19RV00001
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 7A
Project No.: 1003809
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: 14/01/2019

Sample Details

Location: Stage 7A
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-00001	S19RV-00002	S19RV-00003			
Field Sample ID	1	2	3			
Date Tested	11/01/2019	11/01/2019	11/01/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310408	E 0310427	E 0310418			
	N 5818875	N 5818868	N 5818896			
	FSL -1000mm	FSL -1000mm	FSL -1400mm			
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 (%)	5	10	7			
Field Wet Density (t/m³)	1.93	1.95	1.93			
Peak Converted Wet Density (t/m³)	1.88	1.89	1.87			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	2.0 dry	2.0 dry			
Hilf Density Ratio (%)	**102.5**	**103.0**	**102.5**			

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:W19RV00002
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 7A
Project No.: 1003809
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: 15/01/2019

Sample Details

Location: Stage 7A
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-00004	S19RV-00005	S19RV-00006			
Field Sample ID	1	2	3			
Date Tested	14/01/2019	14/01/2019	14/01/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310439	E 0310390	E 0310438			
	N 5818887	N 5818890	N 5818904			
	FSL -1720mm	FSL -6190mm	FSL -1960mm			
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	15			
Field Wet Density (t/m³)	2.04	2.01	2.03			
Peak Converted Wet Density (t/m³)	2.03	2.00	2.03			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.0	0.5 dry			
Hilf Density Ratio (%)	**100.5**	**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:W19RV00003
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 7A
Project No.: 1003809
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: 16/01/2019

Sample Details

Location: Stage 7A
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-00007	S19RV-00008	S19RV-00009			
Field Sample ID	1	2	3			
Date Tested	15/01/2019	15/01/2019	15/01/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310412	E 0310400	E 0310421			
	N 5818856	N 5818887	N 5818915			
	FSL -6420mm	FSL -6000mm	FSL -5270mm			
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	8	6			
Field Wet Density (t/m³)	2.05	1.96	1.90			
Peak Converted Wet Density (t/m³)	2.05	1.95	1.95			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry	1.5 dry			
Hilf Density Ratio (%)	**99.5**	**100.0**	**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:W19RV00004
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 7A
Project No.: 1003809
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: 17/01/2019

Sample Details

Location: Stage 7A
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-00010	S19RV-00011	S19RV-00012			
Field Sample ID	1	2	3			
Date Tested	16/01/2019	16/01/2019	16/01/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310443	E 0310444	E 0310449			
	N 5818948	N 5818951	N 5818946			
	FSL -2850mm	FSL -2690mm	FSL -2470mm			
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	16	13			
Field Wet Density (t/m³)	1.97	2.06	2.01			
Peak Converted Wet Density (t/m³)	2.01	2.07	2.01			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	1.5 dry	0.0			
Hilf Density Ratio (%)	**98.0**	**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:W19RV00005
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 7A
Project No.: 1003809
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: 18/01/2019

Sample Details

Location: Stage 7A
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-00013	S19RV-00014	S19RV-00015	S19RV-00016	S19RV-00017	S19RV-00018
Field Sample ID	1	2	3	4	5	6
Date Tested	17/01/2019	17/01/2019	17/01/2019	17/01/2019	17/01/2019	17/01/2019
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard
	E 0310441	E 0310435	E 0310441	E 0310444	E 0310440	E 0310448
	N 5818955	N 5818945	N 5818945	N 5818946	N 5818946	N 5818942
	FSL -2170mm	FSL -4030mm	FSL -4670mm	FSL -3750mm	FSL -3470mm	FSL -1710mm
Depth of Test (mm)	225	225	225	225	225	225
Depth of Layer (mm)	250	250	250	250	250	250
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	10	9	15	17	6	7
Field Wet Density (t/m³)	1.96	1.95	2.04	2.07	1.96	1.99
Peak Converted Wet Density (t/m³)	2.00	2.00	2.07	2.07	1.99	2.02
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	1.5 dry	2.0 dry	1.0 dry	0.0	0.5 dry	0.5 dry
Hilf Density Ratio (%)	**98.0**	**97.5**	**98.5**	**99.5**	**98.0**	**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:W19RV00006
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 7A
Project No.: 1003809
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: 19/01/2019

Sample Details

Location: Stage 7A
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-00019	S19RV-00020	S19RV-00021			
Field Sample ID	1	2	3			
Date Tested	18/01/2019	18/01/2019	18/01/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310446	E 0310436	E 0310431			
	N 5818957	N 5818949	N 5818955			
	FSL -1930mm	FSL -2330mm	FSL -3110mm			
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	6	7			
Field Wet Density (t/m³)	1.96	1.87	1.93			
Peak Converted Wet Density (t/m³)	2.01	1.93	1.96			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.5 dry	0.0			
Hilf Density Ratio (%)	**98.0**	**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:W19RV00007
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 7A
Project No.: 1003809
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: 21/01/2019

Sample Details

Location: Stage 7A
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-00022	S19RV-00023	S19RV-00024			
Field Sample ID	1	2	3			
Date Tested	19/01/2019	19/01/2019	19/01/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310434	E 0310451	E 0310426			
	N 5818943	N 5818933	N 5818941			
	FSL -3690mm	FSL -1070mm	FSL -7030mm			
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	7	5			
Field Wet Density (t/m³)	1.95	1.87	1.84			
Peak Converted Wet Density (t/m³)	1.95	1.92	1.91			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	1.5 dry	0.5 wet			
Hilf Density Ratio (%)	**100.0**	**97.5**	**96.5**			

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:W19RV00008
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 7A
Project No.: 1003809
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: 22/01/2019

Sample Details

Location: Stage 7A
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-00025	S19RV-00026	S19RV-00027			
Field Sample ID	1	2	3			
Date Tested	21/01/2019	21/01/2019	21/01/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310433	E 0310420	E 0310432			
	N 5818946	N 5818960	N 5818944			
	FSL -1710mm	FSL -6960mm	FSL -4530mm			
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 (%)	6	5	6			
Field Wet Density (t/m³)	1.85	1.87	1.84			
Peak Converted Wet Density (t/m³)	1.89	1.88	1.90			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.0	0.5 dry			
Hilf Density Ratio (%)	**98.0**	**99.5**	**97.0**			

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:W19RV00009

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 7A
Project No.: 1003809
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Date of Issue:

Sample Details

Location: Stage 7A
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-00028	S19RV-00029	S19RV-00030			
Field Sample ID	1	2	3			
Date Tested	22/01/2019	22/01/2019	22/01/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310413	E 0310410	E 0310401			
	N 5818776	N 5818800	N 5818834			
	FSL -1820mm	FSL -3370mm	FSL -5130mm			
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	9	8			
Field Wet Density (t/m³)	2.06	1.95	1.89			
Peak Converted Wet Density (t/m³)	2.05	1.98	1.94			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.5 wet	0.5 dry			
Hilf Density Ratio (%)	**100.5**	**98.5**	**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:W19RV00010
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 7A
Project No.: 1003809
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: 8/04/2019

Sample Details

Location: Stage 7A
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-00031	S19RV-00032	S19RV-00033			
Field Sample ID	1	2	3			
Date Tested	23/01/2019	23/01/2019	23/01/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310411	E 0310406	E 0310397			
	N 5818800	N 5818800	N 5818838			
	FSL -1410mm	FSL -5230mm	FSL -6380mm			
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 (%)	5	9	10			
Field Wet Density (t/m³)	1.89	1.95	1.96			
Peak Converted Wet Density (t/m³)	1.91	1.99	1.99			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.5 dry	0.5 dry	1.5 dry			
Hilf Density Ratio (%)	**98.5**	**98.0**	**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:W19RV00011
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 7A
Project No.: 1003809
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: 25/01/2019

Sample Details

Location: Stage 7A
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-00034	S19RV-00035	S19RV-00036	S19RV-00037		
Field Sample ID	1	2	3	4		
Date Tested	24/01/2019	24/01/2019	24/01/2019	24/01/2019		
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard		
	E 0310411	E 0310404	E 0310404	E 0310424		
	N 5818763	N 5818868	N 5818890	N 5818925		
	FSL -1410mm	FSL -5900mm	FSL -6230mm	FSL -5210mm		
	Retest of 23/01/2019 Sample Number S19RV-00031					
Depth of Test (mm)	225	225	225	225		
Depth of Layer (mm)	250	250	250	250		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	11	6	6	14		
Field Wet Density (t/m³)	1.92	1.89	1.88	1.98		
Peak Converted Wet Density (t/m³)	1.97	1.93	1.90	2.02		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	0.5 dry	0.5 wet	1.5 dry	0.5 wet		
Hilf Density Ratio (%)	**97.0**	**98.0**	**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:W19RV00012
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 7A
Project No.: 1003809
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: 30/01/2019

Sample Details

Location:	Stage 7A
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-00038					
Field Sample ID	1					
Date Tested	25/01/2019					
Location	Batter East of Rivervalley Boulevard					
	E 0310432					
	N 5818946					
	FSL -4420mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	8					
Field Wet Density (t/m³)	1.95					
Peak Converted Wet Density (t/m³)	1.96					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	**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:W19RV00013
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 7A
Project No.: 1003809
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: 31/01/2019

Sample Details

Location: Stage 7A
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-00039	S19RV-00040	S19RV-00041			
Field Sample ID	1	2	3			
Date Tested	30/01/2019	30/01/2019	30/01/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310400	E 0310420	E 0310395			
	N 5818771	N 5818813	N 5818831			
	FSL -4230mm	FSL -2900mm	FSL -5550mm			
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 (%)	7	11	8			
Field Wet Density (t/m³)	1.89	1.92	1.87			
Peak Converted Wet Density (t/m³)	1.93	1.96	1.91			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	0.0			
Hilf Density Ratio (%)	**98.0**	**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:W19RV00014
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 7A
Project No.: 1003809
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: 1/02/2019

Sample Details

Location: Stage 7A
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-00042	S19RV-00043	S19RV-00044			
Field Sample ID	1	2	3			
Date Tested	31/01/2019	31/01/2019	31/01/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310409	E 0310411	E 0310413			
	N 5818778	N 5818810	N 5818836			
	FSL -2070mm	FSL -940mm	FSL -1490mm			
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 (%)	5	6	8			
Field Wet Density (t/m³)	1.86	1.88	1.89			
Peak Converted Wet Density (t/m³)	1.89	1.93	1.93			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 wet	1.0 dry			
Hilf Density Ratio (%)	**98.5**	**97.5**	**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:W19RV00015
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 7A
Project No.: 1003809
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: 4/02/2019

Sample Details

Location: Stage 7A
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-00045	S19RV-00046	S19RV-00047			
Field Sample ID	1	2	3			
Date Tested	1/02/2019	1/02/2019	1/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310398	E 0310403	E 0310398			
	N 5818836	N 5818795	N 5818776			
	FSL -5180mm	FSL -4040mm	FSL -4020mm			
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 (%)	6	12	4			
Field Wet Density (t/m³)	1.86	1.90	1.84			
Peak Converted Wet Density (t/m³)	1.90	1.96	1.88			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 wet	0.5 wet			
Hilf Density Ratio (%)	**98.0**	**97.0**	**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:W19RV00016
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 7A
Project No.: 1003809
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: 5/02/2019

Sample Details

Location: Stage 7A
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-00048	S19RV-00049	S19RV-00050			
Field Sample ID	1	2	3			
Date Tested	4/02/2019	4/02/2019	4/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310395	E 0310400	E 0310406			
	N 5818774	N 5818816	N 5818849			
	FSL -4210mm	FSL -4320mm	FSL -4730mm			
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 (%)	6	7	7			
Field Wet Density (t/m³)	1.87	1.88	1.89			
Peak Converted Wet Density (t/m³)	1.92	1.92	1.92			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	1.5 dry			
Hilf Density Ratio (%)	**97.5**	**98.0**	**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:W19RV00017
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 7A
Project No.: 1003809
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: 6/02/2019

Sample Details

Location: Stage 7A
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-00051	S19RV-00052	S19RV-00053			
Field Sample ID	1	2	3			
Date Tested	5/02/2019	5/02/2019	5/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310410	E 0310415	E 0310413			
	N 0818767	N 5818800	N 5818839			
	FSL -1350mm	FSL -490mm	FSL -3460mm			
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 (%)	6	13	12			
Field Wet Density (t/m³)	1.90	1.99	1.94			
Peak Converted Wet Density (t/m³)	1.95	2.00	1.97			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 wet	0.0	0.0			
Hilf Density Ratio (%)	**97.5**	**99.5**	**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:W19RV00018
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 7A
Project No.: 1003809
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: 8/04/2019

Sample Details

Location: Stage 7A
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-00054	S19RV-00055	S19RV-00056			
Field Sample ID	1	2	3			
Date Tested	6/02/2019	6/02/2019	6/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310393	E 0310401	E 0310386			
	N 5818771	N 5818801	N 5818846			
	FSL -3510mm	FSL -4190mm	FSL -4830mm			
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 (%)	6	8	17			
Field Wet Density (t/m³)	1.86	1.92	2.01			
Peak Converted Wet Density (t/m³)	1.92	1.96	2.02			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 wet	0.5 dry	1.5 dry			
Hilf Density Ratio (%)	**97.0**	**97.5**	**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:W19RV00019
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 7A
Project No.: 1003809
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: 8/02/2019

Sample Details

Location: Stage 7A
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-00057	S19RV-00058	S19RV-00059			
Field Sample ID	1	2	3			
Date Tested	7/02/2019	7/02/2019	7/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310394	E 0310401	E 0310398			
	N 5818826	N 5818797	N 5818766			
	FSL -4370mm	FSL -4050mm	FSL -3640mm			
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	11	8			
Field Wet Density (t/m³)	1.96	1.96	1.89			
Peak Converted Wet Density (t/m³)	2.00	1.99	1.94			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	1.5 wet	0.0			
Hilf Density Ratio (%)	**97.5**	**98.5**	**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:W19RV00020
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 7A
Project No.: 1003809
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: 9/02/2019

Sample Details

Location: Stage 7A
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-00060	S19RV-00061	S19RV-00062			
Field Sample ID	1	2	3			
Date Tested	8/02/2019	8/02/2019	8/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310425	E 0310401	E 0310422			
	N 5818858	N 5818898	N 5818955			
	FSL -4580mm	FSL -5830mm	FSL -6870mm			
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	5			
Field Wet Density (t/m³)	1.91	1.97	1.83			
Peak Converted Wet Density (t/m³)	1.96	2.02	1.92			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	1.5 wet	1.5 wet			
Hilf Density Ratio (%)	**97.5**	**97.5**	**95.0**			

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:W19RV00021
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 7A
Project No.: 1003809
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: 11/02/2019

Sample Details

Location: Stage 7A
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-00063	S19RV-00064	S19RV-00065			
Field Sample ID	1	2	3			
Date Tested	9/02/2019	9/02/2019	9/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310390	E 0310389	E 0310387			
	N 5818761	N 5818788	N 5818815			
	FSL -3360mm	FSL -3440mm	FSL -3870mm			
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	7	15			
Field Wet Density (t/m³)	1.89	1.89	1.98			
Peak Converted Wet Density (t/m³)	1.94	1.94	1.99			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 wet	1.5 dry	0.5 dry			
Hilf Density Ratio (%)	**97.5**	**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:W19RV00022
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 7A
Project No.: 1003809
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: 12/02/2019

Sample Details

Location: Stage 7A
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-00066	S19RV-00067	S19RV-00068			
Field Sample ID	1	2	3			
Date Tested	11/02/2019	11/02/2019	11/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310406	E 0310396	E 0310406			
	N 5818743	N 5818787	N 5818839			
	FSL -2740mm	FSL -3370mm	FSL -3710mm			
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	9	10			
Field Wet Density (t/m³)	1.96	1.94	1.87			
Peak Converted Wet Density (t/m³)	1.97	1.96	1.91			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	2.0 dry	1.0 wet			
Hilf Density Ratio (%)	**99.5**	**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:W19RV00023
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 7A
Project No.: 1003809
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: 18/02/2019

Sample Details

Location: Satge 7A
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-00069	S19RV-00070	S19RV-00071			
Field Sample ID	1	2	3			
Date Tested	12/02/2019	12/02/2019	12/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310433	E 0310400	E 0310427			
	N 5818872	N 5818885	N 5818928			
	FSL -2430mm	FSL -5640mm	FSL -5170mm			
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	11	7			
Field Wet Density (t/m³)	1.88	1.93	1.89			
Peak Converted Wet Density (t/m³)	1.93	1.96	1.93			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	0.0			
Hilf Density Ratio (%)	**97.5**	**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:W19RV00024
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 7A
Project No.: 1003809
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: 14/02/2019

Sample Details

Location: Stage 7A
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-00072	S19RV-00073	S19RV-00074			
Field Sample ID	1	2	3			
Date Tested	13/02/2019	13/02/2019	13/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310402	E 0310387	E 0310402			
	N 5818747	N 5818779	N 5818835			
	FSL -2440mm	FSL -3260mm	FSL -3870mm			
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	12			
Field Wet Density (t/m³)	1.94	1.95	1.98			
Peak Converted Wet Density (t/m³)	1.97	1.99	1.99			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry	0.0			
Hilf Density Ratio (%)	**98.5**	**98.0**	**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:W19RV00025
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 7A
Project No.: 1003809
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: 15/02/2019

Sample Details

Location: Stage 7A
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-00075	S19RV-00076	S19RV-00077			
Field Sample ID	1	2	3			
Date Tested	14/02/2019	14/02/2019	14/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310407	E 0310421	E 0310430			
	N 5818704	N 5818640	N 5818593			
	FSL -2810mm	FSL -2230mm	FSL -2980mm			
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	9	17			
Field Wet Density (t/m³)	2.00	1.94	2.05			
Peak Converted Wet Density (t/m³)	2.01	1.96	2.03			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	2.0 dry			
Hilf Density Ratio (%)	**99.5**	**99.0**	**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:W19RV00026
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 7A
Project No.: 1003809
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: 16/02/2019

Sample Details

Location: Stage 7A
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-00078	S19RV-00079	S19RV-00080			
Field Sample ID	1	2	3			
Date Tested	15/02/2019	15/02/2019	15/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310396	E 0310393	E 0310416			
	N 5818862	N 5818894	N 5818924			
	FSL -5030mm	FSL -5910mm	FSL -6090mm			
Depth of Test (mm)	225	225	225			
AS Sieve Size (mm)	19.0	19.0	19.0			
Oversize Wet (%)	10	15	14			
Field Wet Density (t/m³)	1.95	2.02	1.98			
Peak Converted Wet Density (t/m³)	1.98	2.03	2.01			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.0 dry	0.5 wet	0.0			
Hilf Density Ratio (%)	**98.5**	**99.5**	**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:W19RV00027
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 7A
Project No.: 1003809
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: 18/02/2019

Sample Details

Location: Stage 7A
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-00081	S19RV-00082	S19RV-00083			
Field Sample ID	1	2	3			
Date Tested	16/02/2019	16/02/2019	16/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310385	E 0310401	E 0310391			
	N 5818733	N 5818776	N 5818822			
	FSL -3490mm	FSL -2430mm	FSL -3850mm			
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	11	12			
Field Wet Density (t/m³)	1.97	1.95	1.99			
Peak Converted Wet Density (t/m³)	2.00	1.99	2.00			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	0.5 wet			
Hilf Density Ratio (%)	**98.5**	**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:W19RV00028
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 7A
Project No.: 1003809
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: 19/02/2019

Sample Details

Location: Stage 7A
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-00084	S19RV-00085	S19RV-00086			
Field Sample ID	1	2	3			
Date Tested	18/02/2019	18/02/2019	18/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310403	E 0310390	E 0310405			
	N 5818756	N 5818787	N 5818807			
	FSL -3190mm	FSL -1160mm	FSL -2130mm			
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	13	13			
Field Wet Density (t/m³)	2.00	2.00	1.99			
Peak Converted Wet Density (t/m³)	2.02	2.01	2.00			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	1.5 dry	1.5 dry			
Hilf Density Ratio (%)	**99.5**	**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:W19RV00029
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 7A
Project No.: 1003809
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: 20/02/2019

Sample Details

Location: Stage 7A
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-00087	S19RV-00088	S19RV-00089			
Field Sample ID	1	2	3			
Date Tested	19/02/2019	19/02/2019	19/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310410	E 0310407	E 0310420			
	N 5818699	N 5818651	N 5818596			
	FSL -3220mm	FSL -3270mm	FSL -2540mm			
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	11	8			
Field Wet Density (t/m³)	1.88	1.91	1.87			
Peak Converted Wet Density (t/m³)	1.94	1.97	1.92			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	1.0 wet	0.5 dry			
Hilf Density Ratio (%)	**96.5**	**97.0**	**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:W19RV00030
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 7A
Project No.: 1003809
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: 21/02/2019

Sample Details

Location: Stage 7A
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-00090	S19RV-00091	S19RV-00092			
Field Sample ID	1	2	3			
Date Tested	20/02/2019	20/02/2019	20/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310414	E 0310402	E 0310435			
	N 5818845	N 5818897	N 5818939			
	FSL -2630mm	FSL 5240mm	FSL -2290mm			
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	8	12			
Field Wet Density (t/m³)	1.95	1.94	1.97			
Peak Converted Wet Density (t/m³)	1.96	1.98	2.01			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 dry	0.5 dry			
Hilf Density Ratio (%)	**99.0**	**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:W19RV00031
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 7A
Project No.: 1003809
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: 22/02/2019

Sample Details

Location: Stage 7A
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-00093	S19RV-00094	S19RV-00095			
Field Sample ID	1	2	3			
Date Tested	21/02/2019	21/02/2019	21/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310394	E 0310401	E 0310392			
	N 5818747	N 5818779	N 5818808			
	FSL -3020mm	FSL -1250mm	FSL -3080mm			
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 (%)	6	15	10			
Field Wet Density (t/m³)	1.88	2.01	1.94			
Peak Converted Wet Density (t/m³)	1.92	2.04	1.97			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry	0.0			
Hilf Density Ratio (%)	**98.0**	**98.5**	**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:W19RV00032
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 7A
Project No.: 1003809
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: 23/02/2019

Sample Details

Location: Stage 7A
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-00096	S19RV-00097	S19RV-00098			
Field Sample ID	1	2	3			
Date Tested	22/02/2019	22/02/2019	22/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310410	E 0310412	E 0310415			
	N 5818682	N 5818633	N 5818606			
	FSL -2890mm	FSL -2780mm	FSL -3040mm			
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	15	10			
Field Wet Density (t/m³)	1.95	2.02	1.90			
Peak Converted Wet Density (t/m³)	1.96	2.01	1.96			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry	2.0 wet			
Hilf Density Ratio (%)	**99.5**	**100.5**	**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:W19RV00033
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 7A
Project No.: 1003809
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: 25/02/2019

Sample Details

Location: Stage 7A
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-00099	S19RV-00100	S19RV-00101			
Field Sample ID	1	2	3			
Date Tested	23/02/2019	23/02/2019	23/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310432	E 0310427	E 0310399			
	N 5818971	N 5818864	N 5818876			
	FSL -5730mm	FSL -2810mm	FSL -4830mm			
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	8	11			
Field Wet Density (t/m³)	1.93	1.92	1.95			
Peak Converted Wet Density (t/m³)	1.99	1.97	2.01			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 wet	2.0 wet	1.5 wet			
Hilf Density Ratio (%)	**97.0**	**97.5**	**96.5**			

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:W19RV00034
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 7A
Project No.: 1003809
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: 26/02/2019

Sample Details

Location: Stage 7A
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-00102	S19RV-00103	S19RV-00104			
Field Sample ID	1	2	3			
Date Tested	25/02/2019	25/02/2019	25/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310397	E 0310417	E 0310416			
	N 5818776	N 5818729	N 5818640			
	FSL -2510mm	FSL -1730mm	FSL -2690mm			
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	16	7			
Field Wet Density (t/m³)	1.96	2.03	1.89			
Peak Converted Wet Density (t/m³)	1.97	2.02	1.93			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.0	0.5 wet			
Hilf Density Ratio (%)	**99.0**	**100.5**	**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:W19RV00035
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 7A
Project No.: 1003809
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: 27/02/2019

Sample Details

Location: Stage 7A
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-00105	S19RV-00106	S19RV-00107	S19RV-00108		
Field Sample ID	1	2	3	4		
Date Tested	26/02/2019	26/02/2019	26/02/2019	26/02/2019		
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard		
	E 0310414	E 0310429	E 0310409	E 0310392		
	N 5818651	N 5818609	N 5818765	N 5818808		
	FSL -1720mm	FSL -2740mm	FSL -1330mm	FSL -2970mm		
Depth of Test (mm)	225	225	225	225		
Depth of Layer (mm)	250	250	250	250		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	11	10	11	8		
Field Wet Density (t/m³)	1.94	1.95	2.00	1.92		
Peak Converted Wet Density (t/m³)	1.98	1.98	2.00	1.96		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	1.5 dry	0.0	0.0	0.5 dry		
Hilf Density Ratio (%)	**98.5**	**98.5**	**100.0**	**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:W19RV00036
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 7A
Project No.: 1003809
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: 28/02/2019

Sample Details

Location: Stage 7A
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-00109	S19RV-00110	S19RV-00111			
Field Sample ID	1	2	3			
Date Tested	27/02/2019	27/02/2019	27/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310396	E 0310406	E 0310428			
	N 5818853	N 5818853	N 5818928			
	FSL -4450mm	FSL -5060mm	FSL -3010mm			
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	9	10			
Field Wet Density (t/m³)	2.06	1.94	1.95			
Peak Converted Wet Density (t/m³)	2.05	1.97	1.99			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 wet	0.0			
Hilf Density Ratio (%)	**100.5**	**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:W19RV00037
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 7A
Project No.: 1003809
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: 1/03/2019

Sample Details

Location: Stage 7A
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-00112	S19RV-00113	S19RV-00114			
Field Sample ID	1	2	3			
Date Tested	28/02/2019	28/02/2019	28/02/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310408	E 0310424	E 0310424			
	N 5818866	N 5818898	N 5818942			
	FSL -4530mm	FSL -3090mm	FSL -4170mm			
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	16	8			
Field Wet Density (t/m³)	1.97	2.02	1.96			
Peak Converted Wet Density (t/m³)	1.98	2.04	1.98			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.5 dry	0.0	2.0 dry			
Hilf Density Ratio (%)	**100.0**	**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:W19RV00038
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 7A
Project No.: 1003809
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: 2/03/2019

Sample Details

Location: Stage 7A
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-00115	S19RV-00116	S19RV-00117			
Field Sample ID	1	2	3			
Date Tested	1/03/2019	1/03/2019	1/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310408	E 0310408	E 0310428			
	N 5818866	N 5818682	N 5818597			
	FSL -4530mm	FSL -2540mm	FSL -3190mm			
	Retest of 28/02/2019 Sample Number S19RV-00112					
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	10	13			
Field Wet Density (t/m³)	2.06	1.90	1.96			
Peak Converted Wet Density (t/m³)	2.03	1.95	1.97			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	1.5 dry	0.5 dry			
Hilf Density Ratio (%)	**101.5**	**97.5**	**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:W19RV00039
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 7A
Project No.: 1003809
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: 4/03/2019

Sample Details

Location: Stage 7A
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-00118	S19RV-00119	S19RV-00120			
Field Sample ID	1	2	3			
Date Tested	2/03/2019	2/03/2019	2/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310384	E 0310400	E 0310423			
	N 5818740	N 5818667	N 5818591			
	FSL -3380mm	FSL -2780mm	FSL -5130mm			
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	17	9			
Field Wet Density (t/m³)	1.97	2.02	1.95			
Peak Converted Wet Density (t/m³)	1.97	2.04	1.97			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.0	0.0			
Hilf Density Ratio (%)	**100.0**	**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:W19RV00040
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 7A
Project No.: 1003809
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: 5/03/2019

Sample Details

Location: Stage 7A
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-00121	S19RV-00122	S19RV-00123			
Field Sample ID	1	2	3			
Date Tested	4/03/2019	4/03/2019	4/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310432	E 0310407	E 0310401			
	N 5818604	N 5818642	N 5818697			
	FSL -2530mm	FSL -2680mm	FSL -3640mm			
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	9	10			
Field Wet Density (t/m³)	1.95	1.94	1.98			
Peak Converted Wet Density (t/m³)	1.97	1.99	1.98			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 wet	0.0			
Hilf Density Ratio (%)	**99.5**	**97.5**	**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:W19RV00041
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 7A
Project No.: 1003809
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: 6/03/2019

Sample Details

Location: Stage 7A
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-00124	S19RV-00125	S19RV-00126			
Field Sample ID	1	2	3			
Date Tested	5/03/2019	5/03/2019	5/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310426	E 0310411	E 0310391			
	N 5818592	N 5818619	N 5818733			
	FSL -2710mm	FSL -3720mm	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 (%)	11	7	18			
Field Wet Density (t/m³)	1.99	1.93	2.06			
Peak Converted Wet Density (t/m³)	2.01	1.96	2.05			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry	0.5 dry			
Hilf Density Ratio (%)	**99.0**	**98.0**	**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:W19RV00042
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 7A
Project No.: 1003809
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: 7/03/2019

Sample Details

Location: Stage 7A
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-00127	S19RV-00128	S19RV-00129			
Field Sample ID	1	2	3			
Date Tested	6/03/2019	6/03/2019	6/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310427	E 0310408	E 0310402			
	N 5818593	N 5818634	N 5818676			
	FSL -2980mm	FSL -2770mm	FSL -2520mm			
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	13			
Field Wet Density (t/m³)	1.96	1.94	1.99			
Peak Converted Wet Density (t/m³)	1.97	1.99	2.02			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	2.5 dry	0.5 dry			
Hilf Density Ratio (%)	**99.5**	**97.5**	**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:W19RV00043
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 7A
Project No.: 1003809
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: 8/03/2019

Sample Details

Location: Stage 7A
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-00130	S19RV-00131	S19RV-00132	S19RV-00133		
Field Sample ID	1	2	3	4		
Date Tested	7/03/2019	7/03/2019	7/03/2019	7/03/2019		
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard		
	E 0310408	E 0310404	E 0310408	E 0310414		
	N 5818634	N 5818704	N 5818654	N 5818607		
	FSL -2770mm	FSL -2310mm	FSL -2790mm	FSL -5420mm		
	Retest of 6/03/2019 Sample Number S19RV-00128					
Depth of Test (mm)	225	225	225	225		
Depth of Layer (mm)	250	250	250	250		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	13	14	10	13		
Field Wet Density (t/m³)	1.99	2.00	1.97	1.99		
Peak Converted Wet Density (t/m³)	2.01	2.00	2.01	2.01		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	0.0	0.5 dry	0.5 wet	0.0		
Hilf Density Ratio (%)	**99.0**	**99.5**	**97.5**	**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:W19RV00044
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 7A
Project No.: 1003809
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: 9/03/2019

Sample Details

Location: Stage 7A
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-00134	S19RV-00135	S19RV-00136			
Field Sample ID	1	2	3			
Date Tested	8/03/2019	8/03/2019	8/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310411	E 0310408	E 0310426			
	N 5818707	N 5818654	N 5818602			
	FSL -1730mm	FSL -2490mm	FSL -2920mm			
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)	1.97	1.97	1.97			
Peak Converted Wet Density (t/m³)	1.98	2.00	2.00			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry	0.0			
Hilf Density Ratio (%)	**99.5**	**98.5**	**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:W19RV00045
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 7A
Project No.: 1003809
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: 13/03/2019

Sample Details

Location: Stage 7A
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-00137	S19RV-00138	S19RV-00139			
Field Sample ID	1	2	3			
Date Tested	9/03/2019	9/03/2019	9/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310386	E 0310397	E 0310406			
	N 5818817	N 5818767	N 5818714			
	FSL -2500mm	FSL -2520mm	FSL -2640mm			
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	1.98	1.94			
Peak Converted Wet Density (t/m³)	1.96	2.01	1.99			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.5 dry	0.0			
Hilf Density Ratio (%)	**98.0**	**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:W19RV00046
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 7A
Project No.: 1003809
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: 14/03/2019

Sample Details

Location: Stage 7A
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-00140	S19RV-00141	S19RV-00142			
Field Sample ID	1	2	3			
Date Tested	13/03/2019	13/03/2019	13/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310400	E 0310405	E 0310409			
	N 5818727	N 5818654	N 5818616			
	FSL -2980mm	FSL -2890mm	FSL -3750mm			
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	10			
Field Wet Density (t/m³)	1.94	1.96	1.93			
Peak Converted Wet Density (t/m³)	2.00	2.01	1.97			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 wet	1.5 wet	0.0			
Hilf Density Ratio (%)	**97.5**	**97.5**	**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:W19RV00047
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 7A
Project No.: 1003809
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: 15/03/2019

Sample Details

Location: Stage 7A
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-00143	S19RV-00144	S19RV-00145			
Field Sample ID	1	2	3			
Date Tested	14/03/2019	14/03/2019	14/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310426	E 0310401	E 0310397			
	N 5818595	N 5818656	N 5818723			
	FSL -2350mm	FSL -2820mm	FSL -2550mm			
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	11	16			
Field Wet Density (t/m³)	1.93	1.94	2.03			
Peak Converted Wet Density (t/m³)	1.97	2.00	2.05			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 dry	0.0			
Hilf Density Ratio (%)	**97.5**	**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:W19RV00048
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 7A
Project No.: 1003809
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: 16/03/2019

Sample Details

Location: Stage 7A
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-00146	S19RV-00147	S19RV-00148			
Field Sample ID	1	2	3			
Date Tested	15/03/2019	15/03/2019	15/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310411	E 0310409	E 0310392			
	N 5818601	N 5818642	N 5818693			
	FSL -4380mm	FSL -900mm	FSL -2780mm			
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	13	10			
Field Wet Density (t/m³)	1.99	1.97	1.93			
Peak Converted Wet Density (t/m³)	2.02	2.00	1.98			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	0.5 dry	0.5 dry			
Hilf Density Ratio (%)	**98.5**	**98.5**	**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:W19RV00049
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 7A
Project No.: 1003809
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: 18/03/2019

Sample Details

Location: Stage 7
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-00149	S19RV-00150	S19RV-00151			
Field Sample ID	1	2	3			
Date Tested	16/03/2019	16/03/2019	16/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310396	E 0310406	E 0310410			
	N 5818684	N 5818646	N 5818601			
	FSL -3590mm	FSL -2700mm	FSL -5070mm			
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	10	9			
Field Wet Density (t/m³)	1.98	1.94	1.93			
Peak Converted Wet Density (t/m³)	2.01	1.97	1.99			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	1.5 dry	2.5 dry			
Hilf Density Ratio (%)	**98.5**	**98.5**	**97.0**			

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:W19RV00050
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 7A
Project No.: 1003809
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: 19/03/2019

Sample Details

Location: Stage 7A
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-00152	S19RV-00153	S19RV-00154	S19RV-00155		
Field Sample ID	1	2	3	4		
Date Tested	18/03/2019	18/03/2019	18/03/2019	18/03/2019		
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard		
	E 0310410	E 0310421	E 0310404	E 0310390		
	N 5818601	N 5818592	N 5818624	N 5818687		
	FSL -5070mm	FSL -4610mm	FSL -3540mm	FSL -3220mm		
	Retest of 16/03/2019 Sample Number S19RV-00151					
Depth of Test (mm)	225	225	225	225		
Depth of Layer (mm)	250	250	250	250		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	10	8	14	17		
Field Wet Density (t/m³)	1.94	1.92	2.01	2.00		
Peak Converted Wet Density (t/m³)	1.98	1.98	2.01	2.02		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	0.5 dry	0.0	2.0 dry	0.5 wet		
Hilf Density Ratio (%)	**98.0**	**97.0**	**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:W19RV00051
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 7A
Project No.: 1003809
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: 20/03/2019

Sample Details

Location: Stage 7A
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-00156	S19RV-00157	S19RV-00158			
Field Sample ID	1	2	3			
Date Tested	19/03/2019	19/03/2019	19/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310427	E 0310402	E 0310404			
	N 5818587	N 5818623	N 5818678			
	FSL -3410mm	FSL -1730mm	FSL -2270mm			
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	16	12			
Field Wet Density (t/m³)	2.01	2.00	1.97			
Peak Converted Wet Density (t/m³)	2.02	2.03	2.01			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.5 wet	1.5 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:W19RV00052
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 7A
Project No.: 1003809
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: 21/03/2019

Sample Details

Location: Stage 7A
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-00159	S19RV-00160	S19RV-00161			
Field Sample ID	1	2	3			
Date Tested	20/03/2019	20/03/2019	20/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310402	E 0310430	E 0310407			
	N 5818645	N 5818590	N 5818626			
	FSL -2540mm	FSL -800mm	FSL -2750mm			
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	14			
Field Wet Density (t/m³)	2.04	2.00	1.99			
Peak Converted Wet Density (t/m³)	2.04	2.00	2.01			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	1.5 dry	0.0			
Hilf Density Ratio (%)	**100.0**	**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:W19RV00053
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 7A
Project No.: 1003809
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: 22/03/2019

Sample Details

Location: Stage 7A
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-00162	S19RV-00163	S19RV-00164			
Field Sample ID	1	2	3			
Date Tested	21/03/2019	21/03/2019	21/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310405	E 0310412	E 0310413			
	N 5818609	N 5818611	N 5818597			
	FSL -3170mm	FSL -2900mm	FSL -2690mm			
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	15	12			
Field Wet Density (t/m³)	2.01	2.01	1.95			
Peak Converted Wet Density (t/m³)	2.01	2.01	2.00			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry	0.5 dry			
Hilf Density Ratio (%)	**100.5**	**100.0**	**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:W19RV00054
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 7A
Project No.: 1003809
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: 23/03/2019

Sample Details

Location: Stage 7A
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-00165	S19RV-00166	S19RV-00167			
Field Sample ID	1	2	3			
Date Tested	22/03/2019	22/03/2019	22/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310408	E 0310410	E 0310385			
	N 5818604	N 5818594	N 5818818			
	FSL -2630mm	FSL -2500mm	FSL -2630mm			
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	15	11			
Field Wet Density (t/m³)	1.99	2.00	1.95			
Peak Converted Wet Density (t/m³)	2.01	2.01	1.98			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.0	0.5 dry			
Hilf Density Ratio (%)	**99.0**	**99.5**	**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:W19RV00055
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 7A
Project No.: 1003809
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: 25/03/2019

Sample Details

Location: Stage 7A
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-00168	S19RV-00169				
Field Sample ID	1	2				
Date Tested	23/03/2019	23/03/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310400	E 0310407				
	N 5818846	N 5818875				
	FSL -4220mm	FSL -4530mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	15	16				
Field Wet Density (t/m³)	2.00	2.00				
Peak Converted Wet Density (t/m³)	2.02	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.0				
Hilf Density Ratio (%)	**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:W19RV00056
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 7A
Project No.: 1003809
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: 26/03/2019

Sample Details

Location: Stage 7A
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-00170	S19RV-00171	S19RV-00172			
Field Sample ID	1	2	3			
Date Tested	25/03/2019	25/03/2019	25/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310394	E 0310416	E 0310426			
	N 5818923	N 5818905	N 5818957			
	FSL -5190mm	FSL -4520mm	FSL -4980mm			
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)	2.01	1.96	1.97			
Peak Converted Wet Density (t/m³)	2.02	1.99	2.00			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	2.5 dry	1.5 dry			
Hilf Density Ratio (%)	**99.5**	**98.0**	**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:W19RV00057
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 7A
Project No.: 1003809
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: 27/03/2019

Sample Details

Location: Stage 7A
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-00173	S19RV-00174	S19RV-00175			
Field Sample ID	1	2	3			
Date Tested	26/03/2019	26/03/2019	26/03/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310416	E 0310415	E 0310453			
	N 5818845	N 5818845	N 5818846			
	FSL -4520mm	FSL -400mm	FSL -2790mm			
	Retest of 25/03/2019 Sample Number S19RV-00171					
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	9	10			
Field Wet Density (t/m³)	1.98	1.85	1.93			
Peak Converted Wet Density (t/m³)	2.00	1.92	1.97			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 wet	0.5 wet			
Hilf Density Ratio (%)	**99.0**	**96.0**	**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:W19RV00058
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 7A
Project No.: 1003809
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: 28/03/2019

Sample Details

Location: Stage 7A
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-00176	S19RV-00177				
Field Sample ID	1	2				
Date Tested	27/03/2019	27/03/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310391	E 0310434				
	N 5818827	N 5818877				
	FSL -2790mm	FSL -1040mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	12	14				
Field Wet Density (t/m³)	1.99	2.00				
Peak Converted Wet Density (t/m³)	2.00	2.02				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.0				
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:W19RV00059
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 7A
Project No.: 1003809
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: 29/03/2019

Sample Details

Location: Stage 7A
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-00178	S19RV-00179				
Field Sample ID	1	2				
Date Tested	28/03/2019	28/03/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310384	E 0310377				
	N 5818845	N 5818882				
	FSL -3870mm	FSL -4810mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	9	17				
Field Wet Density (t/m³)	1.93	2.01				
Peak Converted Wet Density (t/m³)	1.97	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.0				
Hilf Density Ratio (%)	**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:W19RV00060
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 7A
Project No.: 1003809
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: 30/03/2019

Sample Details

Location: Stage 7A
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-00180	S19RV-00181				
Field Sample ID	1	2				
Date Tested	29/03/2019	29/03/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310423	E 0310381				
	N 5818912	N 5818910				
	FSL -1930mm	FSL -4680mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	16	18				
Field Wet Density (t/m³)	2.00	2.04				
Peak Converted Wet Density (t/m³)	2.03	2.07				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.0				
Hilf Density Ratio (%)	**98.5**	**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:W19RV00061
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 7A
Project No.: 1003809
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: 1/04/2019

Sample Details

Location: Stage 7A
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-00182	S19RV-00183				
Field Sample ID	1	2				
Date Tested	30/03/2019	30/03/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310396	E 0310438				
	N 5818937	N 5818960				
	FSL -4520mm	FSL -2490mm				
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)	2.01	2.07				
Peak Converted Wet Density (t/m³)	2.03	2.06				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	**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:W19RV00062
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 7A
Project No.: 1003809
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: 2/04/2019

Sample Details

Location: Stage 7A
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-00184	S19RV-00185	S19RV-00186	S19RV-00187		
Field Sample ID	1	2	3	4		
Date Tested	1/04/2019	1/04/2019	1/04/2019	1/04/2019		
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard		
	E 0310457	E 0310461	E 0310445	E 0310450		
	N 5818848	N 5818847	N 5818852	N 5818850		
	FSL -2530mm	FSL -2250mm	FSL -1980mm	FSL -1710mm		
Depth of Test (mm)	225	225	225	225		
Depth of Layer (mm)	250	250	250	250		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	17	13	15	14		
Field Wet Density (t/m³)	2.04	1.99	2.03	2.00		
Peak Converted Wet Density (t/m³)	2.07	2.02	2.02	2.02		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	1.5 wet	0.5 dry	1.0 dry	0.0		
Hilf Density Ratio (%)	**98.5**	**98.5**	**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:W19RV00063
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 7A
Project No.: 1003809
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: 3/04/2019

Sample Details

Location: Stage 7A
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-00188	S19RV-00189				
Field Sample ID	1	2				
Date Tested	2/04/2019	2/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310390	E 0310405				
	N 5818808	N 5818828				
	FSL -2500mm	FSL -2450mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	15	16				
Field Wet Density (t/m³)	2.03	2.05				
Peak Converted Wet Density (t/m³)	2.03	2.02				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	**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:W19RV00064
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 7A
Project No.: 1003809
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: 4/04/2019

Sample Details

Location: Stage 7A
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-00190	S19RV-00191				
Field Sample ID	1	2				
Date Tested	3/04/2019	3/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310373	E 0310412				
	N 5818852	N 5818848				
	FSL -4520mm	FSL -2970mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	16	13				
Field Wet Density (t/m³)	2.03	1.98				
Peak Converted Wet Density (t/m³)	2.04	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	1.5 dry				
Hilf Density Ratio (%)	**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:W19RV00065
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 7A
Project No.: 1003809
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: 5/04/2019

Sample Details

Location: Satge 7A
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-00192	S19RV-00193				
Field Sample ID	1	2				
Date Tested	4/04/2019	4/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310412	E 0310383				
	N 5818877	N 5818893				
	FSL -4190mm	FSL -4930mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	15	16				
Field Wet Density (t/m³)	1.99	1.99				
Peak Converted Wet Density (t/m³)	1.99	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	2.5 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:W19RV00066
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 7A
Project No.: 1003809
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: 6/04/2019

Sample Details

Location: Stage 7A
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-00194	S19RV-00195	S19RV-00196			
Field Sample ID	1	2	3			
Date Tested	5/04/2019	5/04/2019	5/04/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310383	E 0310383	E 0310410			
	N 5818893	N 5818927	N 5818954			
	FSL -4930mm	FSL -1280mm	FSL -4700mm			
	Retest of 4/04/2019 Sample Number S19RV-00193					
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	18	12			
Field Wet Density (t/m³)	1.98	2.10	1.98			
Peak Converted Wet Density (t/m³)	2.01	2.09	2.00			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 wet	0.0			
Hilf Density Ratio (%)	**98.5**	**101.0**	**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:W19RV00067
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 7A
Project No.: 1003809
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 7A
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 Data

Sample ID	S19RV-00197	S19RV-00198	S19RV-00199			
Field Sample ID	1	2	3			
Date Tested	6/04/2019	6/04/2019	6/04/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310434	E 0310449	E 0310441			
	N 5818977	N 5818838	N 5818842			
	FSL -2870mm	FSL -1590mm	FSL -1270mm			
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 (%)	13	17	15			
Field Wet Density (t/m³)	2.00	2.05	2.03			
Peak Converted Wet Density (t/m³)	2.00	2.05	2.04			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	1.5 dry	0.5 dry			
Hilf Density Ratio (%)	**99.5**	**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:W19RV00068
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 7A
Project No.: 1003809
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: 9/04/2019

Sample Details

Location: Stage 7A
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-00200	S19RV-00201				
Field Sample ID	1	2				
Date Tested	8/04/2019	8/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310405	E 0310372				
	N 5818844	N 5818854				
	FSL -1890mm	FSL -3910mm				
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)	2.08	1.99				
Peak Converted Wet Density (t/m³)	2.06	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	1.5 dry				
Hilf Density Ratio (%)	**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:W19RV00069
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 7A
Project No.: 1003809
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: 10/04/2019

Sample Details

Location: Stage 7A
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-00202	S19RV-00203	S19RV-00204			
Field Sample ID	1	2	3			
Date Tested	9/04/2019	9/04/2019	9/04/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310397	E 0310421	E 0310400			
	N 5818870	N 5818907	N 5818922			
	FSL -3520mm	FSL -4010mm	FSL -4270mm			
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	14	16			
Field Wet Density (t/m³)	1.94	1.97	1.99			
Peak Converted Wet Density (t/m³)	1.99	2.03	2.03			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 dry	2.0 dry			
Hilf Density Ratio (%)	**97.5**	**97.5**	**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:W19RV00070
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 7A
Project No.: 1003809
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: 11/04/2019

Sample Details

Location: Stage 7A
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-00205	S19RV-00206				
Field Sample ID	1	2				
Date Tested	10/04/2019	10/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310407	E 0310420				
	N 5818935	N 5818976				
	FSL -4590mm	FSL -4480mm				
Depth of Test (mm)	250	250				
Depth of Layer (mm)	225	225				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	16	14				
Field Wet Density (t/m³)	2.01	1.98				
Peak Converted Wet Density (t/m³)	2.03	2.00				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	1.5 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:W19RV00071
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 7A
Project No.: 1003809
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: 12/04/2019

Sample Details

Location: Stage 7A
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-00207	S19RV-00208	S19RV-00209			
Field Sample ID	1	2	3			
Date Tested	11/04/2019	11/04/2019	11/04/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310407	E 0310389	E 0310400			
	N 5818830	N 5818850	N 5818879			
	FSL -2020mm	FSL -3630mm	FSL -3630mm			
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	16	10			
Field Wet Density (t/m³)	2.03	2.04	1.92			
Peak Converted Wet Density (t/m³)	2.03	2.02	1.97			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	2.0 dry	0.5 wet			
Hilf Density Ratio (%)	**100.0**	**101.0**	**97.0**			

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:W19RV00072
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 7A
Project No.: 1003809
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: 12/04/2019

Sample Details

Location: Stage 7A
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-00210	S19RV-00211				
Field Sample ID	1	2				
Date Tested	11/04/2019	11/04/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310390	E 0310393				
	N 5818711	N 5818760				
	FSL -2340mm	FSL -2350mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	8	7				
Field Wet Density (t/m³)	2.12	2.14				
Peak Converted Wet Density (t/m³)	2.10	2.14				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 dry	0.5 wet				
Hilf Density Ratio (%)	**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:W19RV00073
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 7A
Project No.: 1003809
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: 13/04/2019

Sample Details

Location: Stage 7A
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-00212	S19RV-00213				
Field Sample ID	1	2				
Date Tested	12/04/2019	12/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310409	E 0310398				
	N 5818917	N 5818941				
	FSL -3710mm	FSL -4130mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	14	16				
Field Wet Density (t/m³)	2.05	2.04				
Peak Converted Wet Density (t/m³)	2.03	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 dry	1.5 dry				
Hilf Density Ratio (%)	**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:W19RV00074
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 7A
Project No.: 1003809
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: 13/04/2019

Sample Details

Location: Stage 7A
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-00214	S19RV-00215				
Field Sample ID	1	2				
Date Tested	12/04/2019	12/04/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310392	E 0310387				
	N 5818757	N 5818785				
	FSL -2130mm	FSL -2160mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	8	16				
Field Wet Density (t/m³)	2.12	2.18				
Peak Converted Wet Density (t/m³)	2.11	2.19				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.0				
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:W19RV00075
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 7A
Project No.: 1003809
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: 15/04/2019

Sample Details

Location: Stage 7A
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-00216	S19RV-00217	S19RV-00218	S19RV-00219		
Field Sample ID	1	2	3	4		
Date Tested	13/04/2019	13/04/2019	13/04/2019	13/04/2019		
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard		
	E 0310433	E 0310452	E 0310451	E 0310453		
	N 5818972	N 5818841	N 5818849	N 5818844		
	FSL -1700mm	FSL -1150mm	FSL -910mm	FSL -650mm		
Depth of Test (mm)	225	225	225	225		
Depth of Layer (mm)	250	250	250	250		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	15	10	11	11		
Field Wet Density (t/m³)	2.01	1.92	1.97	1.99		
Peak Converted Wet Density (t/m³)	2.02	1.97	2.00	2.03		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	0.0	0.5 wet	0.5 dry	0.0		
Hilf Density Ratio (%)	**99.5**	**97.5**	**98.5**	**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:W19RV00076
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 7A
Project No.: 1003809
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: 16/04/2019

Sample Details

Location: Stage 7A
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-00220	S19RV-00221				
Field Sample ID	1	2				
Date Tested	15/04/2019	15/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310390	E 0310417				
	N 5818836	N 5818860				
	FSL -2530mm	FSL -1910mm				
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)	2.04	2.02				
Peak Converted Wet Density (t/m³)	2.04	2.03				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	1.5 dry				
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:W19RV00077
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 7A
Project No.: 1003809
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: 16/04/2019

Sample Details

Location: Stage 7A
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-00222	S19RV-00223				
Field Sample ID	1	2				
Date Tested	15/04/2019	15/04/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310394	E 0310392				
	N 5818711	N 5818797				
	FSL -1850mm	FSL -1870mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	17	18				
Field Wet Density (t/m³)	2.22	2.19				
Peak Converted Wet Density (t/m³)	2.21	2.21				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 dry	0.5 dry				
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:W19RV00078
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 7A
Project No.: 1003809
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: 17/04/2019

Sample Details

Location: Stage 7A
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-00224	S19RV-00225				
Field Sample ID	1	2				
Date Tested	16/04/2019	16/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310399	E 0310385				
	N 5818873	N 5818902				
	FSL -3640mm	FSL -4490mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	14	10				
Field Wet Density (t/m³)	2.02	1.96				
Peak Converted Wet Density (t/m³)	2.03	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.5 dry				
Hilf Density Ratio (%)	**99.5**	**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:W19RV00079
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 7A
Project No.: 1003809
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: 17/04/2019

Sample Details

Location: Stage 7A
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-00226	S19RV-00227				
Field Sample ID	1	2				
Date Tested	16/04/2019	16/04/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310396	E 0310381				
	N 5818728	N 5818768				
	FSL -1630mm	FSL -1570mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	10	8				
Field Wet Density (t/m³)	2.12	2.10				
Peak Converted Wet Density (t/m³)	2.15	2.14				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.5 dry				
Hilf Density Ratio (%)	**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:W19RV00080
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 7A
Project No.: 1003809
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: 18/04/2019

Sample Details

Location: Stage 7A
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-00228	S19RV-00229				
Field Sample ID	1	2				
Date Tested	17/04/2019	17/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310391	E 0310427				
	N 5818932	N 5818918				
	FSL -4360mm	FSL -3020mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	11	14				
Field Wet Density (t/m³)	1.98	2.00				
Peak Converted Wet Density (t/m³)	2.00	2.02				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	**98.5**	**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:W19RV00081
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 7A
Project No.: 1003809
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: 18/04/2019

Sample Details

Location: Stage 7A
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: Mudtone

Sample ID	S19RV-00230	S19RV-00231				
Field Sample ID	1	2				
Date Tested	17/04/2019	17/04/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310389	E 0310386				
	N 5818728	N 5818728				
	FSL -1400mm	FSL -1340mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	9	9				
Field Wet Density (t/m³)	2.05	2.15				
Peak Converted Wet Density (t/m³)	2.14	2.15				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 dry	0.0				
Hilf Density Ratio (%)	**96.0**	**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:W19RV00082
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 7A
Project No.: 1003809
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: 18/04/2019

Sample Details

Location: Satge 7A
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-00232					
Field Sample ID	1					
Date Tested	18/04/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310389					
	N 5818728					
	FSL -1400mm					
	Retest of 17/04/2019 Sample Number S19RV-00230					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	9					
Field Wet Density (t/m³)	2.15					
Peak Converted Wet Density (t/m³)	2.15					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
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:W19RV00083
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 7A
Project No.: 1003809
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: 18/04/2019

Sample Details

Location: Stage 7A
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-00233	S19RV-00234				
Field Sample ID	1	2				
Date Tested	18/04/2019	18/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310435	E 0310460				
	N 5818978	N 5818849				
	FSL -3260mm	FSL -390mm				
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)	1.95	1.99				
Peak Converted Wet Density (t/m³)	1.99	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	2.0 dry				
Hilf Density Ratio (%)	**98.0**	**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:W19RV00084
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 7A
Project No.: 1003809
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: 30/04/2019

Sample Details

Location: Stage 7A
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-00235	S19RV-00236				
Field Sample ID	1	2				
Date Tested	29/04/2019	29/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310385	E 0310367				
	N 5818853	N 5818864				
	FSL -2860mm	FSL -3610mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	13	17				
Field Wet Density (t/m³)	1.95	2.03				
Peak Converted Wet Density (t/m³)	2.02	2.06				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.0				
Hilf Density Ratio (%)	**96.5**	**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:W19RV00085
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 7A
Project No.: 1003809
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: 1/05/2019

Sample Details

Location: Stage 7A
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-00237	S19RV-00238				
Field Sample ID	1	2				
Date Tested	30/04/2019	30/04/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310384	E 0310420				
	N 5818886	E 5818896				
	FSL -4190mm	FSL -3220mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	10	9				
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 (%)	0.5 wet	0.5 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:W19RV00086
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 7A
Project No.: 1003809
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: 1/05/2019

Sample Details

Location: Stage 7A
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-00239	S19RV-00240				
Field Sample ID	1	2				
Date Tested	30/04/2019	30/04/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310382	E 0310379				
	N 5818714	N 5818765				
	FSL -1170mm	FSL -1080mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	10	12				
Field Wet Density (t/m³)	2.22	2.17				
Peak Converted Wet Density (t/m³)	2.20	2.20				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 dry	0.5 dry				
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:W19RV00087
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 7A
Project No.: 1003809
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: 2/05/2019

Sample Details

Location: Stage 7A
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-00241	S19RV-00242				
Field Sample ID	1	2				
Date Tested	1/05/2019	1/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310416	E 0310388				
	N 5818917	N 5818931				
	FSL -3230mm	FSL -4260mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	18	11				
Field Wet Density (t/m³)	2.05	1.95				
Peak Converted Wet Density (t/m³)	2.06	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.0				
Hilf Density Ratio (%)	**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:W19RV00088
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 7A
Project No.: 1003809
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: 2/05/2019

Sample Details

Location: Stage 7A
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-00243	S19RV-00244				
Field Sample ID	1	2				
Date Tested	1/05/2019	1/05/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310409	E 0310408				
	N 5818665	N 5818602				
	FSL -2280mm	FSL -2300mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	20	12				
Field Wet Density (t/m³)	2.22	2.13				
Peak Converted Wet Density (t/m³)	2.18	2.16				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 dry	2.0 dry				
Hilf Density Ratio (%)	**102.0**	**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:W19RV00089
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 7A
Project No.: 1003809
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: 3/05/2019

Sample Details

Location: Stage 7A
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-00245	S19RV-00246	S19RV-00247			
Field Sample ID	1	2	3			
Date Tested	2/05/2019	2/05/2019	2/05/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310412	E 0310403	E 0310375			
	N 5818953	N 5818849	N 5818842			
	FSL -3590mm	FSL -2720mm	FSL -3150mm			
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	15			
Field Wet Density (t/m³)	2.05	2.04	2.02			
Peak Converted Wet Density (t/m³)	2.04	2.05	2.04			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	0.5 wet			
Hilf Density Ratio (%)	**100.5**	**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:W19RV00090
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 7A
Project No.: 1003809
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: 4/05/2019

Sample Details

Location: Stage 7A
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-00248	S19RV-00249				
Field Sample ID	1	2				
Date Tested	3/05/2019	3/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310388	E 0310417				
	N 5818875	N 5818876				
	FSL -2980mm	FSL -2670mm				
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)	1.98	1.98				
Peak Converted Wet Density (t/m³)	1.99	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.5 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:W19RV00091
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 7A
Project No.: 1003809
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: 4/05/2019

Sample Details

Location: Stage 7A
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-00250	S19RV-00251	S19RV-00252			
Field Sample ID	1	2	3			
Date Tested	3/05/2019	3/05/2019	3/05/2019			
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway			
	E 0310414	E 0310388	E 0310386			
	N 5818644	N 5818707	N 5818773			
	FSL -2070mm	FSL -900mm	FSL -930mm			
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	14	16			
Field Wet Density (t/m³)	2.18	2.19	2.20			
Peak Converted Wet Density (t/m³)	2.17	2.20	2.23			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	1.5 dry	0.5 dry			
Hilf Density Ratio (%)	**100.0**	**99.5**	**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:W19RV00092
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 7A
Project No.: 1003809
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: 6/05/2019

Sample Details

Location: Stage 7A
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-00253	S19RV-00254				
Field Sample ID	1	2				
Date Tested	4/05/2019	4/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310455	E 0310462				
	N 5818851	N 5818849				
	FSL -420mm	FSL -170mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	17	17				
Field Wet Density (t/m³)	2.02	2.04				
Peak Converted Wet Density (t/m³)	2.04	2.06				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.0				
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:W19RV00093
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 7A
Project No.: 1003809
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: 6/05/2019

Sample Details

Location: Stage 7A
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-00255	S19RV-00256				
Field Sample ID	1	2				
Date Tested	4/05/2019	4/05/2019				
Location	Rivervalley Boulevard Raodway	Rivervalley Boulevard Raodway				
	E 0310386	E 0310418				
	N 5818827	N 5818599				
	FSL -2250mm	FSL -1890mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	12	10				
Field Wet Density (t/m³)	2.13	2.11				
Peak Converted Wet Density (t/m³)	2.14	2.14				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	2.0 dry				
Hilf Density Ratio (%)	**99.5**	**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:W19RV00094
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 7A
Project No.: 1003809
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: 7/05/2019

Sample Details

Location: Stage 7A
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-00257	S19RV-00258				
Field Sample ID	1	2				
Date Tested	6/05/2019	6/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310400	E 0310418				
	N 5818943	N 5818950				
	FSL -3990mm	FSL -3270mm				
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)	1.97	2.01				
Peak Converted Wet Density (t/m³)	1.99	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	1.5 wet				
Hilf Density Ratio (%)	**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:W19RV00095
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 7A
Project No.: 1003809
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: 7/05/2019

Sample Details

Location: Stage 7A
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-00259	S19RV-00260	S19RV-00261			
Field Sample ID	1	2	3			
Date Tested	6/05/2019	6/05/2019	6/05/2019			
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway			
	E 0310406	E 0310403	E 0310382			
	N 5818604	N 5818667	N 5818781			
	FSL -1660mm	FSL -1710mm	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 (%)	11	17	10			
Field Wet Density (t/m³)	2.16	2.22	2.12			
Peak Converted Wet Density (t/m³)	2.15	2.20	2.15			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.0	0.0			
Hilf Density Ratio (%)	**100.0**	**101.0**	**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:W19RV00096
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 7A
Project No.: 1003809
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: 8/05/2019

Sample Details

Location:	Stage 7A
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-00262					
Field Sample ID	1					
Date Tested	7/05/2019					
Location	Batter East of Rivervalley Boulevard					
	E 0310395					
	N 5818881					
	FSL -2830mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	12					
Field Wet Density (t/m³)	2.00					
Peak Converted Wet Density (t/m³)	2.00					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	**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:W19RV00097
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 7A
Project No.: 1003809
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: 9/05/2019

Sample Details

Location: Stage 7A
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: Mudstone

Sample ID	S19RV-00263	S19RV-00264				
Field Sample ID	1	2				
Date Tested	7/05/2019	7/05/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310386	E 0310396				
	N 5818705	N 5818819				
	FSL -480mm	FSL -530mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	13	17				
Field Wet Density (t/m³)	2.17	2.21				
Peak Converted Wet Density (t/m³)	2.18	2.18				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.5 wet				
Hilf Density Ratio (%)	**99.5**	**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:W19RV00098
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 7A
Project No.: 1003809
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: 9/05/2019

Sample Details

Location: Stage 7A
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-00265	S19RV-00266				
Field Sample ID	1	2				
Date Tested	8/05/2019	8/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310379	E 0310422				
	N 5818912	N 5818892				
	FSL -3820mm	FSL -1390mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	10	10				
Field Wet Density (t/m³)	1.94	1.96				
Peak Converted Wet Density (t/m³)	2.00	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 wet	2.0 wet				
Hilf Density Ratio (%)	**97.0**	**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:W19RV00099
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 7A
Project No.: 1003809
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: 13/05/2019

Sample Details

Location: Stage 7A
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-00267	S19RV-00268				
Field Sample ID	1	2				
Date Tested	9/05/2019	9/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310409	E 0310382				
	N 5818918	N 5818938				
	FSL -2810mm	FSL -4930mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	12	13				
Field Wet Density (t/m³)	2.00	2.00				
Peak Converted Wet Density (t/m³)	2.01	2.02				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
Hilf Density Ratio (%)	**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:W19RV00100
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 7A
Project No.: 1003809
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: 13/05/2019

Sample Details

Location: Stage 7A
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-00269	S19RV-00270				
Field Sample ID	1	2				
Date Tested	9/05/2019	9/05/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310394	E 0310385				
	N 5818698	N 5818698				
	FSL -1500mm	FSL -1390mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	15	15				
Field Wet Density (t/m³)	2.19	2.17				
Peak Converted Wet Density (t/m³)	2.17	2.15				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.5 dry				
Hilf Density Ratio (%)	**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:W19RV00101
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 7A
Project No.: 1003809
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: 14/05/2019

Sample Details

Location: Stage 7A
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-00271					
Field Sample ID	1					
Date Tested	13/05/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310406					
	N 5818630					
	FSL -1320mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	14					
Field Wet Density (t/m³)	2.18					
Peak Converted Wet Density (t/m³)	2.17					
Compactive Effort	Standard					
Moisture Variation (%)	2.0 dry					
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:W19RV00102
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 7A
Project No.: 1003809
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: 14/05/2019

Sample Details

Location: Stage 7A
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-00272					
Field Sample ID	1					
Date Tested	13/05/2019					
Location	Batter East of Rivervalley Boulevard					
	E 0310427					
	N 5818964					
	FSL -2730mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	9					
Field Wet Density (t/m³)	1.93					
Peak Converted Wet Density (t/m³)	1.98					
Compactive Effort	Standard					
Moisture Variation (%)	1.0 wet					
Hilf Density Ratio (%)	**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:W19RV00103
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 7A
Project No.: 1003809
Order No.: **CG Request No.:**
TRN: **Lot No.:**

Accredited for compliance with ISO/IEC 17025 – Testing

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Approved Signatory: B. Taseski
(Senior Technician)
24750 Date of Issue: 15/05/2019

Sample Details

Location: Stage 7A
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-00273	S19RV-00274				
Field Sample ID	1	2				
Date Tested	14/05/2019	14/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310393	E 0310424				
	N 5818885	N 5818875				
	FSL -2500mm	FSL -1520mm				
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)	1.98	1.97				
Peak Converted Wet Density (t/m³)	2.01	2.03				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.5 dry				
Hilf Density Ratio (%)	**98.0**	**97.0**				

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:W19RV00104
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 7A
Project No.: 1003809
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: 15/05/2019

Sample Details

Location: Stage 7A
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-00275	S19RV-00276				
Field Sample ID	1	2				
Date Tested	14/05/2019	14/05/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310385	E 0310389				
	N 5818694	N 5818790				
	FSL -260mm	FSL -230mm				
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)	2.20	2.15				
Peak Converted Wet Density (t/m³)	2.19	2.19				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	2.0 dry				
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:W19RV00105
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 7A
Project No.: 1003809
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 7A
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 Data

Sample ID	S19RV-00277	S19RV-00278				
Field Sample ID	1	2				
Date Tested	15/05/2019	15/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310316	E 0310376				
	N 5818826	N 5818900				
	FSL -2530mm	FSL -3210mm				

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 (%)	10	14				
Field Wet Density (t/m³)	1.97	2.04				
Peak Converted Wet Density (t/m³)	1.97	2.05				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	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:W19RV00106
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 7A
Project No.: 1003809
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: 16/05/2019

Sample Details

Location:	Stage 7A
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-00279					
Field Sample ID	1					
Date Tested	15/05/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310406					
	N 5818638					
	FSL -1240mm					
Depth of Test (mm)	25					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	10					
Field Wet Density (t/m³)	2.18					
Peak Converted Wet Density (t/m³)	2.18					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
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:W19RV00107
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 7A
Project No.: 1003809
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: 17/05/2019

Sample Details

Location: Stage 7A
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-00280	S19RV-00281				
Field Sample ID	1	2				
Date Tested	16/05/2019	16/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310409	E 0310402				
	N 5818925	N 5818956				
	FSL -2790mm	FSL -3540mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	13	13				
Field Wet Density (t/m³)	1.98	2.00				
Peak Converted Wet Density (t/m³)	2.01	2.00				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
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:W19RV00108
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 7A
Project No.: 1003809
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 7A
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 Data

Sample ID	S19RV-00282	S19RV-00283				
Field Sample ID	1	2				
Date Tested	16/05/2019	16/05/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310393	E 0310395				
	N 5818668	N 5818595				
	FSL -990mm	FSL -1010mm				

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	15				
Field Wet Density (t/m³)	2.18	2.18				
Peak Converted Wet Density (t/m³)	2.17	2.17				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.0				
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:W19RV00109
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 7A
Project No.: 1003809
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: 18/05/2019

Sample Details

Location: Stage 7A
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-00284	S19RV-00285				
Field Sample ID	1	2				
Date Tested	17/05/2019	17/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310367	E 0310384				
	N 5818895	N 5818937				
	FSL -3590mm	FSL -3820mm				
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)	1.98	1.98				
Peak Converted Wet Density (t/m³)	2.00	2.02				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 dry	1.5 dry				
Hilf Density Ratio (%)	**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:W19RV00110
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 7A
Project No.: 1003809
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: 18/05/2019

Sample Details

Location: Stage 7A
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-00286	S19RV-00287				
Field Sample ID	1	2				
Date Tested	17/05/2019	17/05/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310401	E 0310397				
	N 5818625	N 5818668				
	FSL -780mm	FSL -760mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	7	13				
Field Wet Density (t/m³)	2.12	2.07				
Peak Converted Wet Density (t/m³)	2.16	2.17				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.0				
Hilf Density Ratio (%)	**98.0**	**95.5**				

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:W19RV00111
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 7A
Project No.: 1003809
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: 20/05/2019

Sample Details

Location: Stage 7A
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-00288					
Field Sample ID	1					
Date Tested	18/05/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310397					
	N 5818668					
	FSL -760mm					
	Retest of 17/05/2019 Sample Number S19RV-00287					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	8					
Field Wet Density (t/m³)	2.15					
Peak Converted Wet Density (t/m³)	2.15					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 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:W19RV00112
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 7A
Project No.: 1003809
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: 20/05/2019

Sample Details

Location: Stage 7A
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-00289	S19RV-00290				
Field Sample ID	1	2				
Date Tested	18/05/2019	18/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310383	E 0310395				
	N 5818882	N 5818947				
	FSL -2740mm	FSL -3330mm				
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)	2.02	2.04				
Peak Converted Wet Density (t/m³)	2.01	2.05				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	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:W19RV00113
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 7A
Project No.: 1003809
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: 21/05/2019

Sample Details

Location:	Stage 7A
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-00291					
Field Sample ID	1					
Date Tested	20/05/2019					
Location	Batter East of Rivervalley Boulevard					
	E 0310409					
	N 5818870					
	FSL -2820mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	9					
Field Wet Density (t/m³)	1.99					
Peak Converted Wet Density (t/m³)	1.99					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
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:W19RV00114
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 7A
Project No.: 1003809
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: 21/05/2019

Sample Details

Location: Stage 7A
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-00292	S19RV-00293				
Field Sample ID	1	2				
Date Tested	20/05/2019	20/05/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310392	E 0310401				
	N 5818612	N 5818651				
	FSL -540mm	FSL -570mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	13	19				
Field Wet Density (t/m³)	2.15	2.19				
Peak Converted Wet Density (t/m³)	2.18	2.22				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	**98.5**	**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:W19RV00115
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 7A
Project No.: 1003809
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: 22/05/2019

Sample Details

Location: Stage 7A
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-00294	S19RV-00295				
Field Sample ID	1	2				
Date Tested	21/05/2019	21/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310431	E 0310440				
	N 5818959	N 5819000				
	FSL -3100mm	FSL -4010mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	16	11				
Field Wet Density (t/m³)	1.99	1.98				
Peak Converted Wet Density (t/m³)	2.02	1.98				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.0				
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:W19RV00116
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 7A
Project No.: 1003809
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: 22/05/2019

Sample Details

Location:	Stage 7A
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-00296					
Field Sample ID	1					
Date Tested	21/05/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310398					
	N 5818597					
	FSL -340mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	11					
Field Wet Density (t/m³)	2.17					
Peak Converted Wet Density (t/m³)	2.17					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
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:W19RV00117
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 7A
Project No.: 1003809
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: 23/05/2019

Sample Details

Location: Stage 7A
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-00297	S19RV-00298				
Field Sample ID	1	2				
Date Tested	22/05/2019	22/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310451	E 0310416				
	N 5819010	N 5818970				
	FSL -740mm	FSL -2530mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	15	15				
Field Wet Density (t/m³)	2.00	2.03				
Peak Converted Wet Density (t/m³)	2.03	2.03				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	1.5 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:W19RV00118
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 7A
Project No.: 1003809
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: 23/05/2019

Sample Details

Location: Stage 7A
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-00299	S19RV-00300				
Field Sample ID	1	2				
Date Tested	22/05/2019	22/05/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310379	E 0310401				
	N 5818711	N 5818617				
	FSL -320mm	FSL -160mm				
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)	2.16	2.17				
Peak Converted Wet Density (t/m³)	2.16	2.20				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.0				
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:W19RV00119
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 7A
Project No.: 1003809
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: 24/05/2019

Sample Details

Location: Stage 7A
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-00301					
Field Sample ID	1					
Date Tested	23/05/2019					
Location	Batter East of Rivervalley Boulevard					
	E 0310454					
	N 5818847					
	FSL					
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)	1.99					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
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:W19RV00120
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 7A
Project No.: 1003809
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: 24/05/2019

Sample Details

Location: Stage 7A
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-00302	S19RV-00303				
Field Sample ID	1	2				
Date Tested	23/05/2019	23/05/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310391	E 0310407				
	N 5818693	N 5818590				
	FSL -110mm	FSL				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	10	10				
Field Wet Density (t/m³)	2.17	2.16				
Peak Converted Wet Density (t/m³)	2.15	2.16				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.0				
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:W19RV00121
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 7A
Project No.: 1003809
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: 25/05/2019

Sample Details

Location:	Stage 7A
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-00304					
Field Sample ID	1					
Date Tested	24/05/2019					
Location	Batter East of Rivervalley Boulevard					
	E 0310416					
	N 5818970					
	FSL -2970mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	7					
Field Wet Density (t/m³)	1.91					
Peak Converted Wet Density (t/m³)	1.95					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
Hilf Density Ratio (%)	**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:W19RV00122
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 7A
Project No.: 1003809
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: 25/05/2019

Sample Details

Location: Stage 7A
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-00305					
Field Sample ID	1					
Date Tested	24/05/2019					
Location	Rivervalley Boulevard roadway					
	E 0310393					
	N 5818675					
	FSL					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	10					
Field Wet Density (t/m³)	2.18					
Peak Converted Wet Density (t/m³)	2.16					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
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:W19RV00123
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 7A
Project No.: 1003809
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: 28/05/2019

Sample Details

Location:	Stage 7A
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-00306					
Field Sample ID	1					
Date Tested	25/05/2019					
Location	Batter East of Rivervalley Boulevard					
	E 0310413					
	N 5818957					
	FSL -2500mm					
Depth of Test (mm)	25					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	11					
Field Wet Density (t/m³)	2.00					
Peak Converted Wet Density (t/m³)	1.99					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
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:W19RV00124
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 7A
Project No.: 1003809
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: 28/05/2019

Sample Details

Location:	Stage 7A
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-00307					
Field Sample ID	1					
Date Tested	27/05/2019					
Location	Batter East of Rivervalley Boulevard					
	E 0310418					
	N 5818984					
	FSL -2500mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	5					
Field Wet Density (t/m³)	1.90					
Peak Converted Wet Density (t/m³)	1.95					
Compactive Effort	Standard					
Moisture Variation (%)	1.0 dry					
Hilf Density Ratio (%)	**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:W19RV00125
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 7A
Project No.: 1003809
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: 29/05/2019

Sample Details

Location: Stage 7A
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-00308	S19RV-00309				
Field Sample ID	1	2				
Date Tested	28/05/2019	28/05/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310403	E 0310411				
	N 5818816	N 5818738				
	FSL -930mm	FSL -1360mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	8	10				
Field Wet Density (t/m³)	1.91	1.95				
Peak Converted Wet Density (t/m³)	1.95	1.98				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	**98.0**	**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:W19RV00126
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 7A
Project No.: 1003809
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: 29/05/2019

Sample Details

Location: Stage 7A
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-00310	S19RV-00311				
Field Sample ID	1	2				
Date Tested	28/05/2019	28/05/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310384	E 0310379				
	N 5818791	N 5818745				
	FSL	FSL				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	9	9				
Field Wet Density (t/m³)	2.15	2.14				
Peak Converted Wet Density (t/m³)	2.18	2.16				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 wet	0.5 dry				
Hilf Density Ratio (%)	**98.5**	**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:W19RV00127
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 7A
Project No.: 1003809
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: 29/05/2019

Sample Details

Location:	Stage 7A
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-00312					
Field Sample ID	1					
Date Tested	29/05/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310380					
	N 5818816					
	FSL -1020mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	9					
Field Wet Density (t/m³)	2.07					
Peak Converted Wet Density (t/m³)	2.08					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
Hilf Density Ratio (%)	**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:W19RV00128
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 7A
Project No.: 1003809
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:	Satge 7A
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 Data

Sample ID	S19RV-00313	S19RV-00314				
Field Sample ID	1	2				
Date Tested	29/05/2019	29/05/2019				
Location	Lot 7	Lot 7				
	E 0310356	E 0310358				
	N 5818847	N 5818844				
	FSL -4010mm	FSL -3760mm				
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 (%)	19	11				
Field Wet Density (t/m³)	2.08	1.98				
Peak Converted Wet Density (t/m³)	2.05	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	**101.5**	**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:W19RV00129
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 7A
Project No.: 1003809
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: 31/05/2019

Sample Details

Location: Stage 7A
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-00315					
Field Sample ID	1					
Date Tested	30/05/2019					
Location	Lot 6					
	E 0310371					
	N 5818848					
	FSL -2020mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	11					
Field Wet Density (t/m³)	1.94					
Peak Converted Wet Density (t/m³)	1.98					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
Hilf Density Ratio (%)	**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:W19RV00130
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 7A
Project No.: 1003809
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: 1/06/2019

Sample Details

Location: Stage 7A
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-00316					
Field Sample ID	1					
Date Tested	31/05/2019					
Location	Lot 9					
	E 0310363					
	N 5818873					
	FSL -5010mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	16					
Field Wet Density (t/m³)	2.05					
Peak Converted Wet Density (t/m³)	2.02					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
Hilf Density Ratio (%)	**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:W19RV00131
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 7A
Project No.: 1003809
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: 5/06/2019

Sample Details

Location: Stage 7A
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-00317					
Field Sample ID	1					
Date Tested	1/06/2019					
Location	Lot 9					
	E 0310380					
	N 5818886					
	FSL -2480mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	11					
Field Wet Density (t/m³)	2.01					
Peak Converted Wet Density (t/m³)	2.02					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	**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:W19RV00132
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 7A
Project No.: 1003809
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: 6/06/2019

Sample Details

Location: Stage 7A
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-00318					
Field Sample ID	1					
Date Tested	5/06/2019					
Location	Lot 7					
	E 0310366					
	N 5818846					
	FSL -1620mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	20					
Field Wet Density (t/m³)	2.14					
Peak Converted Wet Density (t/m³)	2.08					
Compactive Effort	Standard					
Moisture Variation (%)	2.0 dry					
Hilf Density Ratio (%)	**103.0**					

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:W19RV00133
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 7A
Project No.: 1003809
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: 7/06/2019

Sample Details

Location:	Stage 7A
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-00319					
Field Sample ID	1					
Date Tested	6/06/2019					
Location	Lot 10					
	E 0310371					
	N 5818900					
	FSL -2660mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	12					
Field Wet Density (t/m³)	1.94					
Peak Converted Wet Density (t/m³)	1.99					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
Hilf Density Ratio (%)	**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:W19RV00134
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 7A
Project No.: 1003809
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: 7/06/2019

Sample Details

Location:	Stage 7A
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-00320					
Field Sample ID	1					
Date Tested	6/06/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310391					
	N 5818843					
	FSL -780mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	14					
Field Wet Density (t/m³)	2.17					
Peak Converted Wet Density (t/m³)	2.20					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
Hilf Density Ratio (%)	**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:W19RV00135
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 7A
Project No.: 1003809
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: 8/06/2019

Sample Details

Location: Stage 7A
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-00321	S19RV-00322				
Field Sample ID	1	2				
Date Tested	7/06/2019	7/06/2019				
Location	Lot 7	Lot 10				
	E 0310364	E 0310367				
	N 5818844	N 5818903				
	FSL -1380mm	FSL -5350mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	15	11				
Field Wet Density (t/m³)	2.01	1.93				
Peak Converted Wet Density (t/m³)	2.00	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	1.5 wet				
Hilf Density Ratio (%)	**100.5**	**96.0**				

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:W19RV00136
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 7A
Project No.: 1003809
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: 8/06/2019

Sample Details

Location: Stage 7A
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-00323	S19RV-00324				
Field Sample ID	1	2				
Date Tested	7/06/2019	7/06/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310394	E 0310400				
	N 5818866	N 5818922				
	FSL -2230mm	FSL -2240mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	20	18				
Field Wet Density (t/m³)	2.16	2.24				
Peak Converted Wet Density (t/m³)	2.23	2.22				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.5 dry				
Hilf Density Ratio (%)	**96.5**	**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:W19RV00137
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 7A
Project No.: 1003809
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: 12/06/2019

Sample Details

Location: Stage 7A
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-00325	S19RV-00326				
Field Sample ID	1	2				
Date Tested	8/06/2019	8/06/2019				
Location	Lot 5	Lot 11				
	E 0310369	E 0310380				
	N 5818813	N 5818924				
	FSL -700mm	FSL -3130mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	9	8				
Field Wet Density (t/m³)	1.96	1.97				
Peak Converted Wet Density (t/m³)	1.98	1.98				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.5 dry				
Hilf Density Ratio (%)	**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:W19RV00138
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 7A
Project No.: 1003809
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: 12/06/2019

Sample Details

Location:	Stage 7A
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-00327					
Field Sample ID	1					
Date Tested	8/06/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310394					
	N 5818866					
	FSL -2230mm					
	Retest of 7/06/2019 Sample Number S19RV-00323					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	18					
Field Wet Density (t/m³)	2.24					
Peak Converted Wet Density (t/m³)	2.24					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 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:W19RV00139
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 7A
Project No.: 1003809
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: 13/06/2019

Sample Details

Location: Stage 7A
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-00328	S19RV-00329				
Field Sample ID	1	2				
Date Tested	12/06/2019	12/06/2019				
Location	Lot 12	Lot 14				
	E 0310374	E 0310392				
	N 5818917	N 5818952				
	FSL -4950mm	FSL -2890mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	8	15				
Field Wet Density (t/m³)	1.91	2.01				
Peak Converted Wet Density (t/m³)	2.00	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 wet	0.0				
Hilf Density Ratio (%)	**95.5**	**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:W19RV00140
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 7A
Project No.: 1003809
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: 14/06/2019

Sample Details

Location: Stage 7A
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-00330	S19RV-00331				
Field Sample ID	1	2				
Date Tested	13/06/2019	13/06/2019				
Location	Lot 8	Lot 12				
	E 0310363	E 0310382				
	N 5818866	N 5818918				
	FSL -3690mm	FSL -2120mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	8	15				
Field Wet Density (t/m³)	1.97	2.02				
Peak Converted Wet Density (t/m³)	1.97	2.02				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 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:W19RV00141
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 7A
Project No.: 1003809
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: 15/06/2019

Sample Details

Location: Stage 7A
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-00332	S19RV-00333				
Field Sample ID	1	2				
Date Tested	14/06/2019	14/06/2019				
Location	Lot 7	Lot 14				
	E 0310367	E 0310395				
	N 5818836	N 5818960				
	FSL -800mm	FSL -2510mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	19	15				
Field Wet Density (t/m³)	2.10	2.03				
Peak Converted Wet Density (t/m³)	2.07	2.03				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 wet				
Hilf Density Ratio (%)	**101.5**	**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:W19RV00143
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 7A
Project No.: 1003809
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: 18/06/2019

Sample Details

Location: Stage 7A
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-00336	S19RV-00337				
Field Sample ID	1	2				
Date Tested	17/06/2019	17/06/2019				
Location	Lot 5	Lot 13				
	E 0310369	E 0310382				
	N 5818800	N 5818948				
	FSL	FSL -4610mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	20	9				
Field Wet Density (t/m³)	2.13	1.94				
Peak Converted Wet Density (t/m³)	2.09	1.98				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
Hilf Density Ratio (%)	**101.5**	**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:W19RV00144
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 7A
Project No.: 1003809
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: 18/06/2019

Sample Details

Location: Stage 7A
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-00338	S19RV-00339				
Field Sample ID	1	2				
Date Tested	17/06/2019	17/06/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310394	E 0310422				
	N 5818872	N 5818967				
	FSL -1990mm	FSL -2010mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	14	9				
Field Wet Density (t/m³)	2.19	2.15				
Peak Converted Wet Density (t/m³)	2.19	2.17				
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:W19RV00145
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 7A
Project No.: 1003809
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 7A
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-00340					
Field Sample ID	1					
Date Tested	18/06/2019					
Location	Lot 6					
	E 0310356					
	N 5818823					
	FSL -2690mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	16					
Field Wet Density (t/m³)	2.05					
Peak Converted Wet Density (t/m³)	2.04					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
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:W19RV00146
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 7A
Project No.: 1003809
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 7A
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-00341					
Field Sample ID	1					
Date Tested	18/06/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310391					
	N 5818855					
	FSL -1780mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	13					
Field Wet Density (t/m³)	2.18					
Peak Converted Wet Density (t/m³)	2.20					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
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:W19RV00148
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 7A
Project No.: 1003809
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: 20/06/2019

Sample Details

Location: Stage 7A
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-00344	S19RV-00345				
Field Sample ID	1	2				
Date Tested	19/06/2019	19/06/2019				
Location	Lot 22	Lot 15				
	E 0310359	E 0310404				
	N 5818885	N 5818967				
	FSL -3730mm	FSL -4370mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	15	10				
Field Wet Density (t/m³)	2.04	1.99				
Peak Converted Wet Density (t/m³)	2.03	2.00				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
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:W19RV00149
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 7A
Project No.: 1003809
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: 21/06/2019

Sample Details

Location: Stage 7A
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-00346	S19RV-00347				
Field Sample ID	1	2				
Date Tested	20/06/2019	20/06/2019				
Location	Lot 5	Lot 15				
	E 0310357	E 0310399				
	N 5818808	N 5818976				
	FSL -2340mm	FSL -2931mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	13	18				
Field Wet Density (t/m³)	2.06	2.11				
Peak Converted Wet Density (t/m³)	2.04	2.07				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
Hilf Density Ratio (%)	**101.0**	**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:W19RV00150
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 7A
Project No.: 1003809
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: 22/06/2019

Sample Details

Location: Stage 7A
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-00348					
Field Sample ID	1					
Date Tested	21/06/2019					
Location	Lot 9					
	E 0310381					
	N 5818883					
	FSL -300mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	11					
Field Wet Density (t/m³)	2.00					
Peak Converted Wet Density (t/m³)	2.02					
Compactive Effort	Standard					
Moisture Variation (%)	1.5 dry					
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:W19RV00151
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 7A
Project No.: 1003809
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: 24/06/2019

Sample Details

Location: Stage 7A
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-00349	S19RV-00350				
Field Sample ID	1	2				
Date Tested	22/06/2019	22/06/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310382	E 0310412				
	N 5818848	N 5818939				
	FSl -1570mm	FSL -1820mm				
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)	2.20	2.19				
Peak Converted Wet Density (t/m³)	2.23	2.21				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.5 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:W19RV00152
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 7A
Project No.: 1003809
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: 26/06/2019

Sample Details

Location: Stage 7A
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-00351	S19RV-00352				
Field Sample ID	1	2				
Date Tested	24/06/2019	24/06/2019				
Location	Lot 8	Lot 11				
	E 0310367	E 0310374				
	N 5818864	N 5818916				
	FSL -2400mm	FSL -2960mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	11	7				
Field Wet Density (t/m³)	1.99	1.85				
Peak Converted Wet Density (t/m³)	1.99	1.93				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.5 wet				
Hilf Density Ratio (%)	**100.0**	**96.0**				

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:W19RV00153
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 7A
Project No.: 1003809
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: 26/06/2019

Sample Details

Location:	Stage 7A
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-00353					
Field Sample ID	1					
Date Tested	25/06/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310401					
	N 5818870					
	FSL -1390mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	19					
Field Wet Density (t/m³)	2.21					
Peak Converted Wet Density (t/m³)	2.25					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
Hilf Density Ratio (%)	**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:W19RV00154
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 7A
Project No.: 1003809
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: 28/06/2019

Sample Details

Location:	Stage 7A
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-00354					
Field Sample ID	1					
Date Tested	26/06/2019					
Location	Lot 23					
	E 0310352					
	N 5818869					
	FSL -2890mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	14					
Field Wet Density (t/m³)	2.03					
Peak Converted Wet Density (t/m³)	2.01					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
Hilf Density Ratio (%)	**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:W19RV00155
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 7A
Project No.: 1003809
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: 28/06/2019

Sample Details

Location: Stage 7A
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-00355	S19RV-00356				
Field Sample ID	1	2				
Date Tested	26/06/2019	26/06/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310403	E 0310413				
	N 5818912	N 5818985				
	FSL -1130mm	FSL -1650mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	19	20				
Field Wet Density (t/m³)	2.22	2.23				
Peak Converted Wet Density (t/m³)	2.21	2.23				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 dry	0.5 wet				
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:W19RV00156
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 7A
Project No.: 1003809
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: 29/06/2019

Sample Details

Location:	Stage 7A
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-00357					
Field Sample ID	1					
Date Tested	27/06/2019					
Location	Lot 13					
	E 0310386					
	N 5818949					
	FSL -3180mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	8					
Field Wet Density (t/m³)	1.96					
Peak Converted Wet Density (t/m³)	1.97					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
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:W19RV00157
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 7A
Project No.: 1003809
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: 29/06/2019

Sample Details

Location: Stage 7A
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-00358	S19RV-00359				
Field Sample ID	1	2				
Date Tested	28/06/2019	28/06/2019				
Location	Lot 7	Lot 2				
	E 0310365	E 0310375				
	N 5818853	N 5818760				
	FSL -1920mm	FSL				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	12	11				
Field Wet Density (t/m³)	2.13	2.12				
Peak Converted Wet Density (t/m³)	2.15	2.13				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.0				
Hilf Density Ratio (%)	**99.0**	**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:W19RV00158
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 7A
Project No.: 1003809
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: 29/06/2019

Sample Details

Location: Stage 7A
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: 40mm Capping NDCR

Sample ID	S19RV-00360	S19RV-00361				
Field Sample ID	1	2				
Date Tested	28/06/2019	28/06/2019				
Location	Trial Pad	Trial Pad				
	Boral Qarries	Leaks Road Quarry				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	18	8				
Field Wet Density (t/m³)	2.21	2.08				
Peak Converted Wet Density (t/m³)	2.21	2.12				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.5 dry				
Hilf Density Ratio (%)	**100.0**	**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:W19RV00159
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 7A
Project No.: 1003809
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 7A
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 Data

Sample ID	S19RV-00362					
Field Sample ID	1					
Date Tested	29/06/2019					
Location	Lot 13					
	E 0310385					
	N 5818925					
	FSL -1690mm					

Field and Laboratory Data

Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	11					
Field Wet Density (t/m³)	1.98					
Peak Converted Wet Density (t/m³)	1.99					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
Hilf Density Ratio (%)	**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:W19RV00160
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 7A
Project No.: 1003809
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: 2/07/2019

Sample Details

Location: Stage 7A
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-00363	S19RV-00364				
Field Sample ID	1	2				
Date Tested	1/07/2019	1/07/2019				
Location	Lot 3	Lot 9				
	E 0310362	E 0310381				
	N 5818767	N 5818861				
	FSL -1830mm	FSL				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	10	13				
Field Wet Density (t/m³)	1.97	2.02				
Peak Converted Wet Density (t/m³)	1.97	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.0				
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:W19RV00161
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 7A
Project No.: 1003809
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: 4/07/2019

Sample Details

Location: Stage 7A
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-00365	S19RV-00366				
Field Sample ID	1	2				
Date Tested	3/07/2019	3/07/2019				
Location	Lot 15	Lot 7				
	E 0310397	E 0310355				
	N 5818971	N 5818853				
	FSL -680mm	FSL -1340mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	12	13				
Field Wet Density (t/m³)	1.99	1.96				
Peak Converted Wet Density (t/m³)	1.99	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	1.5 dry				
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:W19RV00162
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 7A
Project No.: 1003809
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: 5/07/2019

Sample Details

Location: Stage 7A
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-00367	S19RV-00368				
Field Sample ID	1	2				
Date Tested	4/07/2019	4/07/2019				
Location	Lot 21	Lot 15				
	E 0310350	E 0310391				
	N 5818964	N 5818964				
	FSL -3020mm	FSL -2050mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	7	15				
Field Wet Density (t/m³)	1.93	2.05				
Peak Converted Wet Density (t/m³)	1.96	2.05				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	2.0 wet				
Hilf Density Ratio (%)	**98.0**	**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:W19RV00163
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 7A
Project No.: 1003809
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: 6/07/2019

Sample Details

Location: Stage 7A
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-00369	S19RV-00370				
Field Sample ID	1	2				
Date Tested	5/07/2019	5/07/2019				
Location	Lot 1	Lot 24				
	E 0310371	E 0310350				
	N 5818710	N 5818855				
	FSL -1090mm	FSL -1710mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	8	13				
Field Wet Density (t/m³)	1.99	2.01				
Peak Converted Wet Density (t/m³)	1.96	2.00				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.0				
Hilf Density Ratio (%)	**102.0**	**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:W19RV00164
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 7A
Project No.: 1003809
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: 6/07/2019

Sample Details

Location: Stage 7A
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-00371	S19RV-00372				
Field Sample ID	1	2				
Date Tested	5/07/2019	5/07/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310386	E 0310407				
	N 5818861	N 5818955				
	FSL -1340mm	FSL -1860mm				
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)	2.18	2.20				
Peak Converted Wet Density (t/m³)	2.14	2.17				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 dry	2.5 dry				
Hilf Density Ratio (%)	**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:W19RV00165
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 7A
Project No.: 1003809
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: 8/07/2019

Sample Details

Location: Stage 7A
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 (a)
Source: Imported
Material: Mudstone

Sample ID	S19RV-00373	S19RV-00374				
Field Sample ID	1	2				
Date Tested	6/07/2019	6/07/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310386	E 0310407				
	N 5818861	N 5818955				
	FSL -1340mm	FSL -1860mm				
	Retest of 5/07/2019 Sample Number S19RV-00371	Retest of 5/07/2019 Sample Number S19RV-00372				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	10	9				
Field Wet Density (t/m³)	2.21	2.18				
Peak Converted Wet Density (t/m³)	2.19	2.17				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 dry	0.5 dry				
Hilf Density Ratio (%)	**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:W19RV00166
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 7A
Project No.: 1003809
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: 9/07/2019

Sample Details

Location: Stage 7A
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-00375	S19RV-00376				
Field Sample ID	1	2				
Date Tested	8/07/2019	8/07/2019				
Location	Lot 20	Lot 17				
	E 0310363	E 0310374				
	N 5818925	N 5818959				
	FSL -3230mm	FSL -3940mm				
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)	1.97	1.93				
Peak Converted Wet Density (t/m³)	1.96	1.95				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	2.0 dry				
Hilf Density Ratio (%)	**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:W19RV00167
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 7A
Project No.: 1003809
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: 10/07/2019

Sample Details

Location: Stage 7A
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-00377					
Field Sample ID	1					
Date Tested	9/07/2019					
Location	Lot 5					
	E 0310356					
	N 5818811					
	FSL -880mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	11					
Field Wet Density (t/m³)	1.97					
Peak Converted Wet Density (t/m³)	1.97					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
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:W19RV00168
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 7A
Project No.: 1003809
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: 10/07/2019

Sample Details

Location:	Stage 7A
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-00378					
Field Sample ID	1					
Date Tested	9/07/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310403					
	N 5818874					
	FSL -1110mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	8					
Field Wet Density (t/m³)	2.15					
Peak Converted Wet Density (t/m³)	2.14					
Compactive Effort	Standard					
Moisture Variation (%)	2.5 dry					
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:W19RV00169
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 7A
Project No.: 1003809
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: 11/07/2019

Sample Details

Location:	Stage 7A
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-00379					
Field Sample ID	1					
Date Tested	10/07/2019					
Location	Lot 23					
	E 0310346					
	N 5818867					
	FSL -1560mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	16					
Field Wet Density (t/m³)	2.04					
Peak Converted Wet Density (t/m³)	2.04					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 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:W19RV00170
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 7A
Project No.: 1003809
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: 11/07/2019

Sample Details

Location: Stage 7A
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-00380	S19RV-00381				
Field Sample ID	1	2				
Date Tested	10/07/2019	10/07/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310403	E 0310387				
	N 5818874	N 5818864				
	FSL -1110mm	FSL -880mm				
	Retest of 9/07/2019 Sample Number S19RV-00378					
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	10	12				
Field Wet Density (t/m³)	2.18	2.22				
Peak Converted Wet Density (t/m³)	2.15	2.19				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	**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:W19RV00171
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 7A
Project No.: 1003809
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: 12/07/2019

Sample Details

Location: Stage 7A
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-00382	S19RV-00383				
Field Sample ID	1	2				
Date Tested	11/07/2019	11/07/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310373	E 0310409				
	N 5818880	N 5818931				
	FSL -880mm	FSL -1620mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	13	14				
Field Wet Density (t/m³)	2.19	2.21				
Peak Converted Wet Density (t/m³)	2.18	2.20				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 dry	0.5 wet				
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:W19RV00172
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 7A
Project No.: 1003809
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: 13/07/2019

Sample Details

Location: Stage 7A
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-00384	S19RV-00385				
Field Sample ID	1	2				
Date Tested	12/07/2019	12/07/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310397	E 0310415				
	N 5818878	N 5818973				
	FSL -690mm	FSL -1410mm				
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)	2.18	2.17				
Peak Converted Wet Density (t/m³)	2.20	2.19				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.5 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:W19RV00173
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 7A
Project No.: 1003809
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: 15/07/2019

Sample Details

Location:	Stage 7A
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-00386					
Field Sample ID	1					
Date Tested	13/07/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310404					
	N 5818918					
	FSL -1180mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	13					
Field Wet Density (t/m³)	2.18					
Peak Converted Wet Density (t/m³)	2.18					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
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:W19RV00174
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 7A
Project No.: 1003809
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: 16/07/2019

Sample Details

Location: Stage 7A
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-00387	S19RV-00388				
Field Sample ID	1	2				
Date Tested	15/07/2019	15/07/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310411	E 0310399				
	N 5818883	N 5818939				
	FSL -990mm	FSL -480mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	10	13				
Field Wet Density (t/m³)	2.16	2.19				
Peak Converted Wet Density (t/m³)	2.15	2.22				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	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:W19RV00175
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 7A
Project No.: 1003809
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: 17/07/2019

Sample Details

Location: Stage 7A
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 (a)
Source: Site Derived
Material: Gravelly Clay

Sample ID	S19RV-00389	S19RV-00390				
Field Sample ID	1	2				
Date Tested	16/07/2019	16/07/2019				
Location	Lot 18	Lot 23				
	E 0310339	E 0310327				
	N 5818961	N 5818866				
	FSL -760mm	FSL -430mm				
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)	1.99	2.04				
Peak Converted Wet Density (t/m³)	2.00	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
Hilf Density Ratio (%)	**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:W19RV00176
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 7A
Project No.: 1003809
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: 18/07/2019

Sample Details

Location: Stage 7A
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-00391	S19RV-00392				
Field Sample ID	1	2				
Date Tested	17/07/2019	17/07/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310407	E 0310414				
	N 5818888	N 5818954				
	FSL -300mm	FSL -830mm				
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)	2.16	2.18				
Peak Converted Wet Density (t/m³)	2.17	2.18				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.0				
Hilf Density Ratio (%)	**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:W19RV00177
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 7A
Project No.: 1003809
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: 19/07/2019

Sample Details

Location: Stage 7A
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-00393					
Field Sample ID	1					
Date Tested	18/07/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310391					
	N 5818849					
	FSL -310mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	11					
Field Wet Density (t/m³)	2.18					
Peak Converted Wet Density (t/m³)	2.17					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
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:W19RV00178
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 7A
Project No.: 1003809
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: 23/07/2019

Sample Details

Location: Stage 7A
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: Gravelly Clay

Sample ID	S19RV-00394	S19RV-00395				
Field Sample ID	1	2				
Date Tested	22/07/2019	22/07/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310394	E 0310410				
	N 5818866	N 5818955				
	FSL -160mm	FSL -680mm				
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)	2.20	2.21				
Peak Converted Wet Density (t/m³)	2.21	2.19				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	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:W19RV00179
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 7A
Project No.: 1003809
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: 24/07/2019

Sample Details

Location: Stage 7A
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-00396	S19RV-00397				
Field Sample ID	1	2				
Date Tested	23/07/2019	23/07/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310401	E 0310401				
	N 5818877	N 5818971				
	FSL	FSL -490mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	16	11				
Field Wet Density (t/m³)	2.23	2.16				
Peak Converted Wet Density (t/m³)	2.22	2.20				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
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:W19RV00180
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 7A
Project No.: 1003809
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: 26/07/2019

Sample Details

Location: Stage 7A
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-00398					
Field Sample ID	1					
Date Tested	24/07/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310398					
	N 5818900					
	FSL					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	14					
Field Wet Density (t/m³)	2.19					
Peak Converted Wet Density (t/m³)	2.18					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
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:W19RV00181
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 7A
Project No.: 1003809
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: 27/07/2019

Sample Details

Location: Stage 7A
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-00399	S19RV-00400				
Field Sample ID	1	2				
Date Tested	26/07/2019	26/07/2019				
Location	Lot 21	Lot 11				
	E 0310355	E 0310372				
	N 5818905	N 5818915				
	FSL -2230mm	FSL -1190mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	7	10				
Field Wet Density (t/m³)	1.93	1.95				
Peak Converted Wet Density (t/m³)	1.94	1.97				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	2.0 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:W19RV00182
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 7A
Project No.: 1003809
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 7A
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-00401	S19RV-00402				
Field Sample ID	1	2				
Date Tested	29/07/2019	29/07/2019				
Location	Lot 19	Lot 12				
	E 0310369	E 0310377				
	N 5818932	N 5818942				
	FSL -2910mm	FSL -860mm				
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 (%)	11	13				
Field Wet Density (t/m³)	1.83	1.86				
Peak Converted Wet Density (t/m³)	1.87	1.91				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	2.0 dry				
Hilf Density Ratio (%)	**98.0**	**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:W19RV00183
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 7A
Project No.: 1003809
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: 2/08/2019

Sample Details

Location: Stage 7A
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-00403	S19RV-00404				
Field Sample ID	1	2				
Date Tested	30/07/2019	30/07/2019				
Location	Lot 20	Lot 23				
	E 0310364	E 0310346				
	N 5818927	N 5818861				
	FSL -1970mm	FSL -1310mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	7	11				
Field Wet Density (t/m³)	1.88	1.99				
Peak Converted Wet Density (t/m³)	1.92	2.00				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	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:W19RV00184
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 7A
Project No.: 1003809
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: 2/08/2019

Sample Details

Location: Stage 7A
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-00405	S19RV-00406				
Field Sample ID	1	2				
Date Tested	1/08/2019	1/08/2019				
Location	Lot 5	Lot 19				
	E 0310361	E 0310359				
	N 5818801	N 5818874				
	FSL -630mm	FSL -1550mm				
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)	1.95	1.95				
Peak Converted Wet Density (t/m³)	1.99	2.00				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.5 dry				
Hilf Density Ratio (%)	**98.5**	**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:W19RV00185
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 7A
Project No.: 1003809
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: 3/08/2019

Sample Details

Location:	Stage 7A
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-00407					
Field Sample ID	1					
Date Tested	2/08/2019					
Location	Lot 22					
	E 0310358					
	N 5818879					
	FSL -1310mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	9					
Field Wet Density (t/m³)	1.98					
Peak Converted Wet Density (t/m³)	1.99					
Compactive Effort	Standard					
Moisture Variation (%)	1.0 dry					
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:W19RV00186
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 7A
Project No.: 1003809
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: 5/08/2019

Sample Details

Location:	Stage 7A
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-00408					
Field Sample ID	1					
Date Tested	3/08/2019					
Location	Lot 26					
	E 0310354					
	N 5818826					
	FSL -340mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	7					
Field Wet Density (t/m³)	2.05					
Peak Converted Wet Density (t/m³)	2.03					
Compactive Effort	Standard					
Moisture Variation (%)	2.0 dry					
Hilf Density Ratio (%)	**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:W19RV00187
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 7A
Project No.: 1003809
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: 6/08/2019

Sample Details

Location: Stage 7A
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-00409	S19RV-00410				
Field Sample ID	1	2				
Date Tested	5/08/2019	5/08/2019				
Location	Lot 9	Lot 6				
	E 0310355	E 0310358				
	N 5818895	N 5818832				
	FSL -1430mm	FSL				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	7	13				
Field Wet Density (t/m³)	1.94	2.05				
Peak Converted Wet Density (t/m³)	1.96	2.02				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 dry	2.0 dry				
Hilf Density Ratio (%)	**99.0**	**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:W19RV00190
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 7A
Project No.: 1003809
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 7A
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-00416	S19RV-00417				
Field Sample ID	1	2				
Date Tested	8/08/2019	8/08/2019				
Location	Lot 23	Lot 21				
	E 0310353	E 0310351				
	N 5818877	N 5818908				
	FSL -640mm	FSL -1290mm				
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 (%)	7	12				
Field Wet Density (t/m³)	1.84	1.97				
Peak Converted Wet Density (t/m³)	1.86	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.5 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:W19RV00191
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 7A
Project No.: 1003809
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: 12/08/2019

Sample Details

Location: Stage 7A
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-00418	S19RV-00419	S19RV-00420			
Field Sample ID	1	2	3			
Date Tested	9/08/2019	9/08/2019	9/08/2019			
Location	Lot 1	Lot 2	Lot 3			
	E 0310358	E 0310355	E 0310359			
	N 5818738	N 5818767	N 5818775			
	FSL -1180mm	FSL -1310mm	FSL -860mm			
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	2.08	2.08			
Peak Converted Wet Density (t/m³)	1.93	2.08	2.10			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	0.5 wet			
Hilf Density Ratio (%)	**98.0**	**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:W19RV00192
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 7A
Project No.: 1003809
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: 14/08/2019

Sample Details

Location: Stage 7A
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-00421					
Field Sample ID	1					
Date Tested	13/08/2019					
Location	Lot 21					
	E 0310357					
	N 5818904					
	FSL -830mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	13					
Field Wet Density (t/m³)	1.97					
Peak Converted Wet Density (t/m³)	1.99					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
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:W19RV00193
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 7A
Project No.: 1003809
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: 15/08/2019

Sample Details

Location:	Stage 7A
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-00422					
Field Sample ID	1					
Date Tested	14/08/2019					
Location	Rivervalley Boulevard Roadway					
	E 0310419					
	N 5818939					
	FSL					
Depth of Test (mm)	25					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	7					
Field Wet Density (t/m³)	2.15					
Peak Converted Wet Density (t/m³)	2.14					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
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:W19RV00194
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 7A
Project No.: 1003809
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: 16/08/2019

Sample Details

Location: Stage 7A
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-00423					
Field Sample ID	1					
Date Tested	15/08/2019					
Location	Lot 1					
	E 0310371					
	N 5818732					
	FSL -720mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	6					
Field Wet Density (t/m³)	2.06					
Peak Converted Wet Density (t/m³)	2.08					
Compactive Effort	Standard					
Moisture Variation (%)	1.5 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:W19RV00195
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 7A
Project No.: 1003809
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: 19/08/2019

Sample Details

Location: Stage 7A
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-00424					
Field Sample ID	1					
Date Tested	16/08/2019					
Location	Lot 1					
	E 0310356					
	N 5818751					
	FSL -490mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	17					
Field Wet Density (t/m³)	2.08					
Peak Converted Wet Density (t/m³)	2.06					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
Hilf Density Ratio (%)	**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:W19RV00196
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 7A
Project No.: 1003809
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: 19/08/2019

Sample Details

Location: Stage 7A
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-00425	S19RV-00426				
Field Sample ID	1	2				
Date Tested	17/08/2019	17/08/2019				
Location	Lot 1	Lot 2				
	E 0310365	E 0310356				
	N 5818752	N 5818773				
	FSL -310mm	FSL -580mm				
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)	2.01	2.01				
Peak Converted Wet Density (t/m³)	2.02	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.5 dry				
Hilf Density Ratio (%)	**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:W19RV00197
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 7A
Project No.: 1003809
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: 20/08/2019

Sample Details

Location: Stage 7A
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-00427	S19RV-00428				
Field Sample ID	1	2				
Date Tested	19/08/2019	19/08/2019				
Location	Lot 3	Lot 1				
	E 0310357	E 0310362				
	N 5818776	N 5818738				
	FSL	FSL				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	18	13				
Field Wet Density (t/m³)	2.07	2.01				
Peak Converted Wet Density (t/m³)	2.04	2.00				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.5 dry	0.0				
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:W19RV00198
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 7A
Project No.: 1003809
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: 21/08/2019

Sample Details

Location: Stage 7A
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-00429	S19RV-00430				
Field Sample ID	1	2				
Date Tested	20/08/2019	20/08/2019				
Location	Lot 3	Lot 29				
	E 0310357	E 0310357				
	N 5818776	N 5818749				
	FSL	FSL -920mm				
	Retest of 19/08/2019 Sample Number S19RV-00427					
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)	2.04	2.06				
Peak Converted Wet Density (t/m³)	2.05	2.07				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.0				
Hilf Density Ratio (%)	**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:W19RV00199
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 7A
Project No.: 1003809
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: 22/08/2019

Sample Details

Location: Stage 7A
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-00431	S19RV-00432				
Field Sample ID	1	2				
Date Tested	21/08/2019	21/08/2019				
Location	Lot 12	Lot 19				
	E 0310382	E 0310351				
	N 5818948	N 5818935				
	FSL -1250mm	FSL -3130mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	12	8				
Field Wet Density (t/m³)	1.98	1.90				
Peak Converted Wet Density (t/m³)	1.98	1.94				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.5 dry				
Hilf Density Ratio (%)	**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:W19RV00200
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 7A
Project No.: 1003809
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: 23/08/2019

Sample Details

Location: Stage 7A
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-00433	S19RV-00434				
Field Sample ID	1	2				
Date Tested	22/08/2019	22/08/2019				
Location	Lot 13	Lot 18				
	E 0310364	E 0310368				
	N 5818947	N 5818957				
	FSL -2160mm	FSL -2780mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	17	10				
Field Wet Density (t/m³)	2.07	2.00				
Peak Converted Wet Density (t/m³)	2.05	1.98				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	1.5 dry				
Hilf Density Ratio (%)	**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:W19RV00201
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 7A
Project No.: 1003809
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: 24/08/2019

Sample Details

Location: Stage 7A
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-00435	S19RV-00436				
Field Sample ID	1	2				
Date Tested	23/08/2019	23/08/2019				
Location	Lot 11	Lot 14				
	E 0310368	E 0310382				
	N 5818913	N 5818971				
	FSL -250mm	FSL - 1980mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	5	6				
Field Wet Density (t/m³)	1.93	1.96				
Peak Converted Wet Density (t/m³)	1.95	1.94				
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:W19RV00202
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 7A
Project No.: 1003809
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: 26/08/2019

Sample Details

Location: Stage 7A
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-00437	S19RV-00438				
Field Sample ID	1	2				
Date Tested	24/08/2019	24/08/2019				
Location	Lot 20	Lot 18				
	E 0310352	E 0310355				
	N 5818910	N 5818948				
	FSL -2740mm	FSL -2380mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	19	13				
Field Wet Density (t/m³)	2.16	2.09				
Peak Converted Wet Density (t/m³)	2.13	2.08				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.5 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:W19RV00203
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 7A
Project No.: 1003809
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: 27/08/2019

Sample Details

Location: Stage 7A
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-00439	S19RV-00440	S19RV-00441			
Field Sample ID	1	2	3			
Date Tested	26/08/2019	26/08/2019	26/08/2019			
Location	Lot 20	Lot 24	Lot 20			
	E 0310351	E 0310339	E 0310351			
	N 5818909	N 5818857	N 5818909			
	FSL -2630mm	FSL -2110mm	FSL -2630mm			
			Retest of 26/08/2019 Sample Number S19RV-00439			
Depth of Test (mm)	225	225	225			
Depth of Layer (mm)	250	250	250			
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	3	14	8			
Field Wet Density (t/m³)	1.81	2.03	1.97			
Peak Converted Wet Density (t/m³)	1.79	2.02	1.97			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	3.5 dry	0.5 dry	2.0 dry			
Hilf Density Ratio (%)	**101.0**	**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:W19RV00204
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 7A
Project No.: 1003809
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: 28/08/2019

Sample Details

Location: Stage 7A
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-00442	S19RV-00443	S19RV-00444			
Field Sample ID	1	2	3			
Date Tested	27/08/2019	27/08/2019	27/08/2019			
Location	Lot 23	Lot 24	Lot 29			
	E 0310340	E 0310342	E 0310349			
	N 5818864	N 5818862	N 5818760			
	FSL -2040mm	FSL -1830mm	FSL -810mm			
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	15	16			
Field Wet Density (t/m³)	1.93	2.01	1.99			
Peak Converted Wet Density (t/m³)	1.96	2.01	2.04			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	0.0			
Hilf Density Ratio (%)	**98.5**	**100.0**	**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:W19RV00205
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 7A
Project No.: 1003809
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: 29/08/2019

Sample Details

Location: Stage 7A
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-00445	S19RV-00446				
Field Sample ID	1	2				
Date Tested	28/08/2019	28/08/2019				
Location	Lot 26	Lot 24				
	E 0310339	E 0310332				
	N 5818828	N 5818852				
	FSL -2380mm	FSL -1860mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	6	14				
Field Wet Density (t/m³)	1.86	1.96				
Peak Converted Wet Density (t/m³)	1.92	1.96				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	1.5 dry				
Hilf Density Ratio (%)	**97.0**	**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:W19RV00206
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 7A
Project No.: 1003809
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: 30/08/2019

Sample Details

Location: Stage 7A
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-00447	S19RV-00448				
Field Sample ID	1	2				
Date Tested	29/08/2019	29/08/2019				
Location	Lot 18	Lot 27				
	E 0310358	E 0310332				
	N 5818950	N 5818790				
	FSL -2490mm	FSL -1670mm				
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)	1.95	1.93				
Peak Converted Wet Density (t/m³)	1.99	1.97				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.0 dry	0.5 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:W19RV00207
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 7A
Project No.: 1003809
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: 31/08/2019

Sample Details

Location: Stage 7A
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-00449	S19RV-00450				
Field Sample ID	1	2				
Date Tested	30/08/2019	30/08/2019				
Location	Lot 19	Lot 18				
	E 0310347	E 0310359				
	N 5818938	N 5818949				
	FSL -2290mm	FSL -1280mm				
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)	2.00	1.97				
Peak Converted Wet Density (t/m³)	1.99	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
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:W19RV00208
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 7A
Project No.: 1003809
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: 2/09/2019

Sample Details

Location: Stage 7A
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-00451	S19RV-00452				
Field Sample ID	1	2				
Date Tested	31/08/2019	31/08/2019				
Location	Lot 26	Lot 17				
	E 0310336	E 0310363				
	N 5818800	N 5818964				
	FSL -1580mm	FSL -1320mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	15	9				
Field Wet Density (t/m³)	2.02	1.92				
Peak Converted Wet Density (t/m³)	2.00	1.94				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	1.5 dry	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:W19RV00209
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 7A
Project No.: 1003809
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: 3/09/2019

Sample Details

Location: Stage 7A
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-00453	S19RV-00454				
Field Sample ID	1	2				
Date Tested	2/09/2019	2/09/2019				
Location	Lot 17	Lot 19				
	E 0310357	E 0310345				
	N 5818970	N 5818942				
	FSL -2190mm	FSL -1530mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	13	14				
Field Wet Density (t/m³)	1.93	1.96				
Peak Converted Wet Density (t/m³)	1.96	1.98				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.0				
Hilf Density Ratio (%)	**98.5**	**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:W19RV00210
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 7A
Project No.: 1003809
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: 4/09/2019

Sample Details

Location: Stage 7A
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-00455	S19RV-00456	S19RV-00457			
Field Sample ID	1	2	3			
Date Tested	3/09/2019	3/09/2019	3/09/2019			
Location	Lot 27	Lot 28	Lot 24			
	E 0310331	E 0310343	E 0310345			
	N 5818794	N 5818769	N 5818851			
	FSL -1190mm	FSL -940mm	FSL -1330mm			
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	8	14			
Field Wet Density (t/m³)	1.84	1.85	1.90			
Peak Converted Wet Density (t/m³)	1.86	1.88	1.93			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 dry	0.0			
Hilf Density Ratio (%)	**98.5**	**98.5**	**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:W19RV00211
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 7A
Project No.: 1003809
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: 5/09/2019

Sample Details

Location: Stage 7A
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-00458	S19RV-00459	S19RV-00460			
Field Sample ID	1	2	3			
Date Tested	4/09/2019	4/09/2019	4/09/2019			
Location	Lot 24	Lot 18	Lot 17			
	E 0310345	E 0310361	E 0310358			
	N 5818852	N 5818955	N 5818972			
	FSL -810mm	FSL -1790mm	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 (%)	15	11	17			
Field Wet Density (t/m³)	1.95	1.91	1.97			
Peak Converted Wet Density (t/m³)	1.97	1.93	1.96			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	1.5 dry	2.0 dry			
Hilf Density Ratio (%)	**98.5**	**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:W19RV00212
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 7A
Project No.: 1003809
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: 6/09/2019

Sample Details

Location: Stage 7A
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-00461	S19RV-00462	S19RV-00463			
Field Sample ID	1	2	3			
Date Tested	5/09/2019	5/09/2019	5/09/2019			
Location	Lot 28	Lot 19	Lot 22			
	E 0310333	E 0310343	E 0310340			
	N 5818777	N 5818945	N 5818890			
	FSL -830mm	FSL -1290mm	FSL -1540mm			
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	12	11			
Field Wet Density (t/m³)	1.88	1.90	1.88			
Peak Converted Wet Density (t/m³)	1.94	1.93	1.90			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	0.5 wet	0.0			
Hilf Density Ratio (%)	**97.0**	**98.5**	**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:W19RV00213
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 7A
Project No.: 1003809
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: 7/09/2019

Sample Details

Location: Stage 7A
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-00464	S19RV-00465	S19RV-00466			
Field Sample ID	1	2	3			
Date Tested	6/09/2019	6/09/2019	6/09/2019			
Location	Lot 23	Lot 21	Lot 18			
	E 0310339	E 0310339	E 0310348			
	N 5818868	N 5818911	N 5818961			
	FSL -920mm	FSL -1430mm	FSL -1050mm			
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	18	7			
Field Wet Density (t/m³)	1.86	2.08	1.82			
Peak Converted Wet Density (t/m³)	1.90	2.06	1.86			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	0.5 wet	1.5 dry			
Hilf Density Ratio (%)	**98.0**	**101.0**	**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:W19RV00214
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 7A
Project No.: 1003809
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: 9/09/2019

Sample Details

Location: Stage 7A
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-00467	S19RV-00468	S19RV-00469			
Field Sample ID	1	2	3			
Date Tested	7/09/2019	7/09/2019	7/09/2019			
Location	Lot 18	Lot 22	Lot 20			
	E 0310354	E 0310345	E 0310346			
	N 5818952	N 5818890	N 5818935			
	FSL -750mm	FSL -1170mm	FSL -940mm			
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	17	9			
Field Wet Density (t/m³)	1.97	2.00	1.91			
Peak Converted Wet Density (t/m³)	1.98	2.03	1.94			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	1.5 wet			
Hilf Density Ratio (%)	**99.5**	**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:W19RV00215
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 7A
Project No.: 1003809
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: 10/09/2019

Sample Details

Location: Stage 7A
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-00470					
Field Sample ID	1					
Date Tested	9/09/2019					
Location	Lot 25					
	E 0310330					
	N 5818843					
	FSL -250mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	10					
Field Wet Density (t/m³)	1.98					
Peak Converted Wet Density (t/m³)	1.99					
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:W19RV00216
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 7A
Project No.: 1003809
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: 11/09/2019

Sample Details

Location: Stage 7A
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-00471	S19RV-00472				
Field Sample ID	1	2				
Date Tested	10/09/2019	10/09/2019				
Location	Lot 18	Lot 14				
	E 0310378	E 0310380				
	N 5818971	N 5818969				
	FSL -1210mm	FSL -630mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	10	12				
Field Wet Density (t/m³)	1.96	1.93				
Peak Converted Wet Density (t/m³)	1.99	1.97				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	1.0 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:W19RV00217
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 7A
Project No.: 1003809
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: 12/09/2019

Sample Details

Location: Stage 7A
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-00473	S19RV-00474	S19RV-00475			
Field Sample ID	1	2	3			
Date Tested	11/09/2019	11/09/2019	11/09/2019			
Location	Lot 26	Lot 17	Lot 14			
	E 0310333	E 0310368	E 0310379			
	N 5818812	N 5818965	N 5818970			
	FSL	FSL -1040mm	FSL -200mm			
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	13	5			
Field Wet Density (t/m³)	2.01	1.98	1.80			
Peak Converted Wet Density (t/m³)	2.02	2.00	1.80			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 dry	0.5 dry			
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:W19RV00218
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 7A
Project No.: 1003809
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: 13/09/2019

Sample Details

Location: Stage 7A
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-00476	S19RV-00477	S19RV-00478			
Field Sample ID	1	2	3			
Date Tested	12/09/2019	12/09/2019	12/09/2019			
Location	Lot 20	Lot 19	Lot 17			
	E 0310360	E 0310367	E 0310368			
	N 5818901	N 5818908	N 5818963			
	FSL -830mm	FSL -520mm	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 (%)	17	16	11			
Field Wet Density (t/m³)	2.04	2.05	1.97			
Peak Converted Wet Density (t/m³)	2.04	2.02	1.99			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	0.0			
Hilf Density Ratio (%)	**100.0**	**101.5**	**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:W19RV00219
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 7A
Project No.: 1003809
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: 14/09/2019

Sample Details

Location: Stage 7A
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-00479	S19RV-00480				
Field Sample ID	1	2				
Date Tested	13/09/2019	13/09/2019				
Location	Lot 19	Lot 22				
	E 0310367	E 0310367				
	N 5818943	N 5818886				
	FSL -240mm	FSL				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	8	12				
Field Wet Density (t/m³)	1.90	2.00				
Peak Converted Wet Density (t/m³)	1.92	1.98				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.0				
Hilf Density Ratio (%)	**99.0**	**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:W19RV00220
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 7A
Project No.: 1003809
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: 16/09/2019

Sample Details

Location: Stage 7A
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-00481	S19RV-00482				
Field Sample ID	1	2				
Date Tested	14/09/2019	14/09/2019				
Location	Lot 18	Lot 16				
	E 0310366	E 0310374				
	N 5818963	N 5818986				
	FSL	FSL -780mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	15	10				
Field Wet Density (t/m³)	2.04	1.98				
Peak Converted Wet Density (t/m³)	2.03	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
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:W19RV00221
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 7A
Project No.: 1003809
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: 17/09/2019

Sample Details

Location: Stage 7A
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-00483	S19RV-00484	S19RV-00485	S19RV-00486		
Field Sample ID	1	2	3	4		
Date Tested	16/09/2019	16/09/2019	16/09/2019	16/09/2019		
Location	Lot 28	Lot 17	Lot 15	Lot 29		
	E 0310336	E 0310362	E 0310373	E 0310342		
	N 5818773	N 5818968	N 5818995	N 5818744		
	FSL -310mm	FSL -290mm	FSL	FSL		
Depth of Test (mm)	225	225	225	225		
Depth of Layer (mm)	250	250	250	250		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	11	16	13	12		
Field Wet Density (t/m³)	1.89	1.98	1.93	1.97		
Peak Converted Wet Density (t/m³)	1.96	1.98	1.96	1.99		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	2.0 dry	0.0	0.5 dry	0.5 wet		
Hilf Density Ratio (%)	**96.0**	**99.5**	**98.5**	**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:W19RV00222
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 7A
Project No.: 1003809
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: 18/09/2019

Sample Details

Location: Stage 7A
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-00487	S19RV-00488	S19RV-00489			
Field Sample ID	1	2	3			
Date Tested	17/09/2019	17/09/2019	17/09/2019			
Location	Lot 18	Lot 20	Lot 17			
	E 0310347	E 0310346	E 0310350			
	N 5818949	N 5818928	N 5818973			
	FSL -730mm	FSL -490mm	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 (%)	17	14	16			
Field Wet Density (t/m³)	2.05	2.03	2.04			
Peak Converted Wet Density (t/m³)	2.04	2.04	2.04			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 dry	0.5 wet			
Hilf Density Ratio (%)	**100.5**	**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:W19RV00223
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 7A
Project No.: 1003809
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: 19/09/2019

Sample Details

Location: Stage 7A
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-00490	S19RV-00491				
Field Sample ID	1	2				
Date Tested	18/09/2019	18/09/2019				
Location	Lot 22	Lot 21				
	E 0310341	E 0310340				
	N 5818896	N 5818897				
	FSL -530mm	FSL -260mm				
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)	2.00	1.99				
Peak Converted Wet Density (t/m³)	2.00	1.99				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	1.5 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:W19RV00224
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 7A
Project No.: 1003809
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: 20/09/2019

Sample Details

Location: Stage 7A
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-00492	S19RV-00493				
Field Sample ID	1	2				
Date Tested	19/09/2019	19/09/2019				
Location	Lot 10	Lot 16				
	E 0310371	E 0310376				
	N 5818898	N 5818984				
	FSL	FSL -200mm				
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)	1.99	2.05				
Peak Converted Wet Density (t/m³)	1.99	2.03				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	1.5 dry				
Hilf Density Ratio (%)	**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:W19RV00225
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 7A
Project No.: 1003809
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: 21/09/2019

Sample Details

Location: Stage 7A
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-00494					
Field Sample ID	1					
Date Tested	20/09/2019					
Location	Lot 21					
	E 0310339					
	N 5818902					
	FSL					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	12					
Field Wet Density (t/m³)	1.99					
Peak Converted Wet Density (t/m³)	1.99					
Compactive Effort	Standard					
Moisture Variation (%)	0.0					
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:W19RV00226
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 7A
Project No.: 1003809
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: 23/09/2019

Sample Details

Location: Sage 7A
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-00495					
Field Sample ID	1					
Date Tested	21/09/2019					
Location	Lot 19					
	E 0310348					
	N 5818939					
	FSL					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	17					
Field Wet Density (t/m³)	2.07					
Peak Converted Wet Density (t/m³)	2.04					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
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:W19RV00228
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 7A
Project No.: 1003809
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: 25/09/2019

Sample Details

Location: Stage 7A
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-00498	S19RV-00499	S19RV-00500			
Field Sample ID	1	2	3			
Date Tested	24/09/2019	24/09/2019	24/09/2019			
Location	Lot 2	Lot 5	Lot 8			
	E 0310375	E 0310374	E 0310377			
	N 5818755	N 5818801	N 5818872			
	FSL	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 (%)	8	12	12			
Field Wet Density (t/m³)	2.14	2.19	2.17			
Peak Converted Wet Density (t/m³)	2.16	2.16	2.13			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.0	1.5 dry			
Hilf Density Ratio (%)	**99.0**	**101.0**	**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:W19RV00229
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 7A
Project No.: 1003809
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: 26/09/2019

Sample Details

Location: Stage 7A
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-00501	S19RV-00502				
Field Sample ID	1	2				
Date Tested	25/09/2019	25/09/2019				
Location	Laneway	Lot 16				
	E 0310370	E 0310354				
	N 5818989	N 5818985				
	FSL	FSL				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	14	9				
Field Wet Density (t/m³)	2.00	2.04				
Peak Converted Wet Density (t/m³)	2.01	2.06				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.0				
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:W19RV00230
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 7A
Project No.: 1003809
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: 1/10/2019

Sample Details

Location: Stage 7A
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-00503	S19RV-00504				
Field Sample ID	1	2				
Date Tested	26/09/2019	26/09/2019				
Location	Laneway	Laneway				
	E 0310390	E 0310360				
	N 5818993	N 5818998				
	FSL	FSL				
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	2.04				
Peak Converted Wet Density (t/m³)	2.01	2.03				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	0.5 dry				
Hilf Density Ratio (%)	**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:W19RV00231
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 7A
Project No.: 1003809
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: 2/10/2019

Sample Details

Location: Stage 7A
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-00505	S19RV-00506	S19RV-00507			
Field Sample ID	1	2	3			
Date Tested	1/10/2019	1/10/2019	1/10/2019			
Location	Lot 15	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310383	E 0310413	E 0310402			
	N 5818982	N 5818674	N 5818704			
	FSL	FSL -270mm	FSL -640mm			
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	11	16			
Field Wet Density (t/m³)	2.06	2.01	2.05			
Peak Converted Wet Density (t/m³)	2.06	2.02	2.09			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	1.0 dry	2.0 dry			
Hilf Density Ratio (%)	**100.0**	**99.5**	**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:W19RV00232
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 7A
Project No.: 1003809
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: 3/10/2019

Sample Details

Location: Stage 7A
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-00508	S19RV-00509	S19RV-00510			
Field Sample ID	1	2	3			
Date Tested	2/10/2019	2/10/2019	2/10/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310406	E 0310400	E 0310421			
	N 5818690	N 5818721	N 5818647			
	FSL -360mm	FSL -1410mm	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 (%)	15	12	11			
Field Wet Density (t/m³)	2.11	2.02	1.95			
Peak Converted Wet Density (t/m³)	2.12	2.00	1.97			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 dry	2.0 dry			
Hilf Density Ratio (%)	**99.5**	**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:W19RV00235
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 7A
Project No.: 1003809
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: 7/10/2019

Sample Details

Location: Stage 7A
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-00517					
Field Sample ID	1					
Date Tested	5/10/2019					
Location	Lot 14					
	E 0310398					
	N 5818959					
	FSL -510mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	10					
Field Wet Density (t/m³)	1.93					
Peak Converted Wet Density (t/m³)	1.95					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 dry					
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:W19RV00243
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 7A
Project No.: 1003809
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: 16/10/2019

Sample Details

Location: Stage 7A
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-00531	S19RV-00532				
Field Sample ID	1	2				
Date Tested	15/10/2019	15/10/2019				
Location	Rivervalley Boulevard Roadway	Rivervalley Boulevard Roadway				
	E 0310429	E 0310404				
	N 5818986	N 5818958				
	FSL	FSL				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	17	18				
Field Wet Density (t/m³)	2.19	2.22				
Peak Converted Wet Density (t/m³)	2.15	2.19				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 dry	1.5 dry				
Hilf Density Ratio (%)	**102.0**	**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:W19RV00247
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 7A
Project No.: 1003809
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: 21/10/2019

Sample Details

Location: Stage 7A
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-00537	S19RV-00538				
Field Sample ID	1	2				
Date Tested	19/10/2019	19/10/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310420	E 0310418				
	N 5818596	N 5818586				
	FSL -990mm	FSL -740mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	17	16				
Field Wet Density (t/m³)	2.15	2.16				
Peak Converted Wet Density (t/m³)	2.15	2.16				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.5 wet	0.5 wet				
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:W19RV00253
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 7A
Project No.: 1003809
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: 29/10/2019

Sample Details

Location: Stage 7A
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-00550	S19RV-00551	S19RV-00552			
Field Sample ID	1	2	3			
Date Tested	28/10/2019	28/10/2019	28/10/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310417	E 0310434	E 0310415			
	N 5818584	N 5818576	N 5818589			
	FSL -480mm	FSL -250mm	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	13	9			
Field Wet Density (t/m³)	1.97	2.04	1.93			
Peak Converted Wet Density (t/m³)	1.99	2.00	1.93			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.5 dry	2.0 dry			
Hilf Density Ratio (%)	**98.5**	**102.0**	**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:W19RV00255
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 7A
Project No.: 1003809
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: 31/10/2019

Sample Details

Location: Stage 7A
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-00556	S19RV-00557	S19RV-00558			
Field Sample ID	1	2	3			
Date Tested	30/10/2019	30/10/2019	30/10/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310411	E 0310405	E 0310416			
	N 5818615	N 5818639	N 5818623			
	FSL -2210mm	FSL -1980mm	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 (%)	15	12	13			
Field Wet Density (t/m³)	2.18	2.08	2.11			
Peak Converted Wet Density (t/m³)	2.13	2.08	2.12			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.5 wet	1.0 wet			
Hilf Density Ratio (%)	**102.5**	**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:W19RV00256
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 7A
Project No.: 1003809
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: 1/11/2019

Sample Details

Location: Stage 7A
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-00559	S19RV-00560	S19RV-00561			
Field Sample ID	1	2	3			
Date Tested	31/10/2019	31/10/2019	31/10/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310405	E 0310406	E 0310404			
	N 5818822	N 5818847	N 5818757			
	FSL -2260mm	FSL -1970mm	FSL -1720mm			
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	11			
Field Wet Density (t/m³)	1.97	1.92	1.94			
Peak Converted Wet Density (t/m³)	1.98	1.95	1.98			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.0	1.5 dry			
Hilf Density Ratio (%)	**99.5**	**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:W19RV00257
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 7A
Project No.: 1003809
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: 6/11/2019

Sample Details

Location: Stage 7A
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-00562	S19RV-00563	S19RV-00564			
Field Sample ID	1	2	3			
Date Tested	1/11/2019	1/11/2019	1/11/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310402	E 0310399	E 0310398			
	N 5818820	N 5818786	N 5818724			
	FSL -1480mm	FSL -1260mm	FSL -1010mm			
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	11	12			
Field Wet Density (t/m³)	1.94	1.95	2.07			
Peak Converted Wet Density (t/m³)	1.95	1.97	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.0	2.0 dry			
Hilf Density Ratio (%)	**99.5**	**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:W19RV00258
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 7A
Project No.: 1003809
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: 7/11/2019

Sample Details

Location: Stage 7A
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-00565	S19RV-00566	S19RV-00567			
Field Sample ID	1	2	3			
Date Tested	6/11/2019	6/11/2019	6/11/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310402	E 0310407	E 0310400			
	N 5818754	N 5818841	N 5818694			
	FSL -730mm	FSL -490mm	FSL -1480mm			
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	13	14			
Field Wet Density (t/m³)	2.05	2.04	2.02			
Peak Converted Wet Density (t/m³)	2.05	2.03	2.02			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.0	0.5 wet			
Hilf Density Ratio (%)	**100.5**	**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:W19RV00259
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 7A
Project No.: 1003809
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: 8/11/2019

Sample Details

Location: Stage 7A
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-00568	S19RV-00569	S19RV-00570			
Field Sample ID	1	2	3			
Date Tested	7/11/2019	7/11/2019	7/11/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310427	E 0310421	E 0310410			
	N 5818952	N 5818936	N 5818680			
	FSL -2230mm	FSL -1990mm	FSL -1220mm			
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	15	10			
Field Wet Density (t/m³)	2.14	2.08	2.03			
Peak Converted Wet Density (t/m³)	2.11	2.08	2.01			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	1.5 dry	0.5 wet			
Hilf Density Ratio (%)	**101.5**	**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:W19RV00260
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 7A
Project No.: 1003809
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: 9/11/2019

Sample Details

Location: Stage 7A
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-00571	S19RV-00572	S19RV-00573			
Field Sample ID	1	2	3			
Date Tested	8/11/2019	8/11/2019	8/11/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310401	E 0310401	E 0310402			
	N 5818677	N 5818630	N 5818700			
	FSL -1000mm	FSL -760mm	FSL -520mm			
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	9	10			
Field Wet Density (t/m³)	2.00	1.98	1.97			
Peak Converted Wet Density (t/m³)	2.01	2.00	1.98			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	0.0			
Hilf Density Ratio (%)	**99.5**	**99.0**	**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:W19RV00261
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 7A
Project No.: 1003809
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: 11/11/2019

Sample Details

Location: Stage 7A
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-00574	S19RV-00575				
Field Sample ID	1	2				
Date Tested	9/11/2019	9/11/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310435	E 0310420				
	N 5818974	N 5818922				
	FSL -1740mm	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	12				
Field Wet Density (t/m³)	1.97	2.02				
Peak Converted Wet Density (t/m³)	1.99	2.01				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 wet				
Hilf Density Ratio (%)	**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:W19RV00262
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 7A
Project No.: 1003809
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: 11/11/2019

Sample Details

Location: Stage 7A
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-00576	S19RV-00577	S19RV-00578			
Field Sample ID	1	2	3			
Date Tested	11/11/2019	11/11/2019	11/11/2019			
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard			
	E 0310434	E 0310415	E 0310425			
	N 5818973	N 5818903	N 5818951			
	FSL -1230mm	FSL -980mm	FSL -750mm			
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	10	10			
Field Wet Density (t/m³)	2.00	1.97	1.94			
Peak Converted Wet Density (t/m³)	2.02	1.99	1.98			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	0.0	2.0 dry			
Hilf Density Ratio (%)	**99.0**	**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:W19RV00271
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 7A
Project No.: 1003809
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: 5/12/2019

Sample Details

Location: Stage 7A
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-00599	S19RV-00600				
Field Sample ID	1	2				
Date Tested	4/12/2019	4/12/2019				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310400	E 0310399				
	N 5818662	N 5818764				
	FSL -250mm	FSL -240mm				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	12	11				
Field Wet Density (t/m³)	2.01	2.02				
Peak Converted Wet Density (t/m³)	2.01	2.02				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	0.5 wet				
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:W19RV00284
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 7A
Project No.: 1003809
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 7A
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-00634					
Field Sample ID	1					
Date Tested	19/12/2019					
Location	Batter East of Rivervalley Boulevard					
	E 0310429					
	N 5818980					
	FSL -500mm					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	10					
Field Wet Density (t/m³)	2.04					
Peak Converted Wet Density (t/m³)	2.07					
Compactive Effort	Standard					
Moisture Variation (%)	0.5 wet					
Hilf Density Ratio (%)	**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:W20RV00009
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 7A
Project No.: 1003809
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: 24/01/2020

Sample Details

Location: Stage 7A
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-00024	S20RV-00025				
Field Sample ID	1	2				
Date Tested	23/01/2020	23/01/2020				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310400	E 0310398				
	N 5818628	N 5818772				
	FSL	FSL				
Depth of Test (mm)	225	225				
Depth of Layer (mm)	250	250				
AS Sieve Size (mm)	19.0	19.0				
Oversize Wet (%)	12	15				
Field Wet Density (t/m³)	2.03	2.06				
Peak Converted Wet Density (t/m³)	2.01	2.06				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	1.5 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:W20RV00010
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 7A
Project No.: 1003809
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: 25/01/2020

Sample Details

Location: Stage 7A
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-00026	S20RV-00027				
Field Sample ID	1	2				
Date Tested	24/01/2020	24/01/2020				
Location	Batter East of Rivervalley Boulevard	Batter East of Rivervalley Boulevard				
	E 0310415	E 0310423				
	N 5818912	N 5818954				
	FSL -250mm	FSL				
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)	2.05	2.04				
Peak Converted Wet Density (t/m³)	2.04	2.04				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	2.0 dry	1.5 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:W20RV00011
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 7A
Project No.: 1003809
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 7A
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-00028					
Field Sample ID	1					
Date Tested	25/01/2020					
Location	Batter East of Rivervalley Boulevard					
	E 0310455					
	N 5819009					
	FSL					
Depth of Test (mm)	225					
Depth of Layer (mm)	250					
AS Sieve Size (mm)	19.0					
Oversize Wet (%)	16					
Field Wet Density (t/m³)	2.07					
Peak Converted Wet Density (t/m³)	2.07					
Compactive Effort	Standard					
Moisture Variation (%)	2.0 dry					
Hilf Density Ratio (%)	**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:W20RV00024
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 7A
Project No.: 1003809
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: 6/03/2020

Sample Details

Location:	Stage 7A
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-00060	S20RV-00061				
Field Sample ID	1	2				
Date Tested	6/03/2020	6/03/2020				
Location	Lot 13	Lot 15				
	E 0310410	E 0310409				
	N 5818955	N 5818968				
	FSL -180mm	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 (%)	15	17				
Field Wet Density (t/m³)	2.08	2.08				
Peak Converted Wet Density (t/m³)	2.05	2.07				
Compactive Effort	Standard	Standard				
Moisture Variation (%)	0.0	0.5 dry				
Hilf Density Ratio (%)	**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:W20RV00037
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 7A
Project No.: 1003809
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: 9/04/2020

Sample Details

Location:	Stage 7A
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 Data

Sample ID	S20RV-00091	S20RV-00092	S20RV-00093			
Field Sample ID	1	2	3			
Date Tested	8/04/2020	8/04/2020	8/04/2020			
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard			
	E 0310370	E 0310368	E 0310374			
	N 5818599	N 5818610	N 5818612			
	FSL -3020mm	FSL -2800mm	FSL -2590mm			
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	18	18			
Field Wet Density (t/m³)	2.10	2.08	2.06			
Peak Converted Wet Density (t/m³)	2.11	2.11	2.08			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	2.0 dry	1.5 wet	0.5 dry			
Hilf Density Ratio (%)	**99.0**	**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:W20RV00038
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 7A
Project No.: 1003809
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: 14/04/2020

Sample Details

Location: Stage 7A
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 Data

Sample ID	S20RV-00094	S20RV-00095	S20RV-00096			
Field Sample ID	1	2	3			
Date Tested	9/04/2020	9/04/2020	9/04/2020			
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard			
	E 0310375	E 0310371	E 0310368			
	N 5818606	N 5818588	N 5818597			
	FSL -2380mm	FSL -2160mm	FSL -2000mm			

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 (%)	20	17	18			
Field Wet Density (t/m³)	2.21	2.01	2.09			
Peak Converted Wet Density (t/m³)	2.18	2.05	2.07			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 wet	0.5 wet			
Hilf Density Ratio (%)	**101.0**	**98.0**	**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:W20RV00039
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 7A
Project No.: 1003809
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: 15/04/2020

Sample Details

Location:	Stage 7A
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 Data

Sample ID	S20RV-00097	S20RV-00098	S20RV-00099			
Field Sample ID	1	2	3			
Date Tested	14/04/2020	14/04/2020	14/04/2020			
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard			
	E 0310374	E 0310371	E 0310374			
	N 5818600	N 5818596	N 5818606			
	FSL -1740mm	FSL -1510mm	FSL -1270mm			

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 (%)	20	17	18			
Field Wet Density (t/m³)	2.12	2.04	2.08			
Peak Converted Wet Density (t/m³)	2.09	2.07	2.11			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	1.5 dry	2.0 wet			
Hilf Density Ratio (%)	**101.5**	**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:W20RV00040
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 7A
Project No.: 1003809
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: 16/04/2020

Sample Details

Location: Stage 7A
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 Data

Sample ID	S20RV-00100	S20RV-00101	S20RV-00102			
Field Sample ID	1	2	3			
Date Tested	15/04/2020	15/04/2020	15/04/2020			
Location	Habitat Culvert West of Rivervalley Boulevard	Habitat Culvert West of Rivervalley Boulevard	Habitat Culvert West of Rivervalley Boulevard			
	E 0310370	E 0310369	E 0310372			
	N 5818599	N 5818593	N 5818589			
	FSL -1010mm	FSL -790mm	FSL -620mm			

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	18			
Field Wet Density (t/m³)	2.08	2.06	2.07			
Peak Converted Wet Density (t/m³)	2.05	2.04	2.06			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 dry	0.5 dry	0.5 dry			
Hilf Density Ratio (%)	**101.5**	**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:W20RV00041
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 7A
Project No.: 1003809
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: 17/04/2020

Sample Details

Location:	Stage 7A
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 Data

Sample ID	S20RV-00103	S20RV-00104	S20RV-00105			
Field Sample ID	1	2	3			
Date Tested	16/04/2020	16/04/2020	16/04/2020			
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard			
	E 0310379	E 0310375	E 0310372			
	N 5818602	N 5818596	N 5818592			
	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 (%)	20	13	16			
Field Wet Density (t/m³)	2.15	2.02	2.05			
Peak Converted Wet Density (t/m³)	2.14	2.01	2.05			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.0	0.0			
Hilf Density Ratio (%)	**100.5**	**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:W20RV00042
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 7A
Project No.: 1003809
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: 18/04/2020

Sample Details

Location: Stage 7A
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 Data

Sample ID	S20RV-00106	S20RV-00107	S20RV-00108			
Field Sample ID	1	2	3			
Date Tested	17/04/2020	17/04/2020	17/04/2020			
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard			
	E 0310384	E 0310378	E 0310376			
	N 5818589	N 5818582	N 5818586			
	FSL -1980mm	FSL -1730mm	FSL -1550mm			

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	12	13			
Field Wet Density (t/m³)	2.02	1.99	2.00			
Peak Converted Wet Density (t/m³)	2.02	2.01	1.99			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	2.0 wet	0.5 wet			
Hilf Density Ratio (%)	**100.0**	**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:W20RV00043
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 7A
Project No.: 1003809
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: 20/04/2020

Sample Details

Location: Stage 7A
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 Data

Sample ID	S20RV-00109	S20RV-00110	S20RV-00111	S20RV-00112		
Field Sample ID	1	2	3	4		
Date Tested	18/04/2020	18/04/2020	18/04/2020	18/04/2020		
Location	Habitat Culvert Battert West of Rivervalley Boulevard	Habitat Culvert Battert West of Rivervalley Boulevard	Habitat Culvert Battert West of Rivervalley Boulevard	Habitat Culvert Battert West of Rivervalley Boulevard		
	E 0310386	E 0310385	E 0310387	E 0310388		
	N 5818597	N 5818587	N 5818611	N 5818596		
	FSL -2240mm	FSL -1990mm	FSL -1760mm	FSL -1500mm		
Field and Laboratory Data						
Depth of Test (mm)	225	225	225	225		
Depth of Layer (mm)	250	250	250	250		
AS Sieve Size (mm)	19.0	19.0	19.0	19.0		
Oversize Wet (%)	11	12	11	12		
Field Wet Density (t/m³)	2.15	2.14	2.15	2.15		
Peak Converted Wet Density (t/m³)	2.11	2.10	2.11	2.16		
Compactive Effort	Standard	Standard	Standard	Standard		
Moisture Variation (%)	1.5 dry	2.0 dry	1.5 dry	1.5 wet		
Hilf Density Ratio (%)	**102.0**	**102.5**	**102.0**	**100.0**		

Comments

CHADWICK GEOTECHNICS

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:W20RV00044
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 7A
Project No.: 1003809
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: 21/04/2020

Sample Details

Location:	Stage 7A
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 Data

Sample ID	S20RV-00113	S20RV-00114	S20RV-00115	S20RV-00116	S20RV-00117	S20RV-00118
Field Sample ID	1	2	3	4	5	6
Date Tested	20/04/2020	20/04/2020	20/04/2020	20/04/2020	20/04/2020	20/04/2020
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard
	E 0310388	E 0310390	E 0310387	E 0310389	E 0310391	E 0310390
	N 5818602	N 5818598	N 5818608	N 5818587	N 5818595	N 5818600
	FSL -1260mm	FSL -1020mm	FSL -740mm	FSL -490mm	FSL -250mm	FSL
Field and Laboratory Data						
Depth of Test (mm)	225	225	225	225	225	225
Depth of Layer (mm)	250	250	250	250	250	250
AS Sieve Size (mm)	19.0	19.0	19.0	19.0	19.0	19.0
Oversize Wet (%)	13	16	12	18	12	19
Field Wet Density (t/m³)	2.15	2.17	2.13	2.19	2.13	2.23
Peak Converted Wet Density (t/m³)	2.16	2.13	2.10	2.18	2.13	2.18
Compactive Effort	Standard	Standard	Standard	Standard	Standard	Standard
Moisture Variation (%)	1.5 wet	1.5 dry	1.5 dry	1.5 wet	2.0 wet	0.5 wet
Hilf Density Ratio (%)	**99.5**	**102.0**	**101.0**	**100.5**	**100.0**	**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:W20RV00045
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 7A
Project No.: 1003809
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: 22/04/2020
THIS DOCUMENT SHALL NOT BE REPRODUCED EXCEPT IN FULL

Sample Details

Location: Stage 7A
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 Data

Sample ID	S20RV-00119	S20RV-00120	S20RV-00121			
Field Sample ID	1	2	3			
Date Tested	21/04/2020	21/04/2020	21/04/2020			
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard			
	E 0310387	E 0310378	E 0310388			
	N 5818577	N 5818577	N 5818580			
	FSL -1390mm	FSL -1210mm	FSL -1030mm			
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	18			
Field Wet Density (t/m³)	2.10	2.10	2.12			
Peak Converted Wet Density (t/m³)	2.08	2.08	2.11			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 dry	0.0	1.0 dry			
Hilf Density Ratio (%)	**101.0**	**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:W20RV00046
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 7A
Project No.: 1003809
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: 23/04/2020

Sample Details

Location: Stage 7A
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 Data

Sample ID	S20RV-00122	S20RV-00123	S20RV-00124			
Field Sample ID	1	2	3			
Date Tested	22/04/2020	22/04/2020	22/04/2020			
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard			
	E 0310379	E 0310376	E 0310379			
	N 5818584	N 5818583	N 5818586			
	FSL -970mm	FSL -840mm	FSL -750mm			
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	9	11			
Field Wet Density (t/m³)	2.06	2.00	2.02			
Peak Converted Wet Density (t/m³)	2.03	2.02	2.02			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	1.5 wet	0.5 wet			
Hilf Density Ratio (%)	**101.5**	**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:W20RV00047
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 7A
Project No.: 1003809
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: 24/04/2020

Sample Details

Location: Stage 7A
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 Data

Sample ID	S20RV-00125	S20RV-00126	S20RV-00127			
Field Sample ID	1	2	3			
Date Tested	23/04/2020	23/04/2020	23/04/2020			
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard			
	E 0310385	E 0310373	E 0310383			
	N 5818590	N 5818582	N 5818586			
	FSL -800mm	FSL -630mm	FSL -510mm			
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 (%)	11	12	13			
Field Wet Density (t/m³)	2.07	2.04	2.06			
Peak Converted Wet Density (t/m³)	2.04	2.02	2.04			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.0 wet	1.5 dry	0.0			
Hilf Density Ratio (%)	**101.5**	**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:W20RV00048
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 7A
Project No.: 1003809
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: 27/04/2020

Sample Details

Location:	Stage 7A
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 Data

Sample ID	S20RV-00128	S20RV-00129	S20RV-00130			
Field Sample ID	1	2	3			
Date Tested	24/04/2020	24/04/2020	24/04/2020			
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard			
	E 0310385	E 0310388	E 0310378			
	N 5818583	N 5818583	N 5818579			
	FSL -720mm	FSL -500mm	FSL -260mm			
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	13	11			
Field Wet Density (t/m³)	2.10	2.07	1.99			
Peak Converted Wet Density (t/m³)	2.10	2.03	1.99			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	1.5 wet	2.0 dry	0.0			
Hilf Density Ratio (%)	**100.5**	**102.0**	**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:W20RV00049
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 7A
Project No.: 1003809
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: 28/04/2020

Sample Details

Location: Stage 7A
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 Data

Sample ID	S20RV-00131	S20RV-00132	S20RV-00133			
Field Sample ID	1	2	3			
Date Tested	27/04/2020	27/04/2020	27/04/2020			
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard			
	E 0310377	E 0310385	E 0310382			
	N 5818580	N 5818580	N 5818579			
	FSL -630mm	FSL -440mm	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 (%)	11	16	15			
Field Wet Density (t/m³)	2.04	2.06	2.03			
Peak Converted Wet Density (t/m³)	2.02	2.06	2.03			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.0	0.5 wet	0.0			
Hilf Density Ratio (%)	**100.5**	**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:W20RV00050
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 7A
Project No.: 1003809
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: 29/04/2020

Sample Details

Location: Stage 7A
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 Data

Sample ID	S20RV-00134	S20RV-00135	S20RV-00136			
Field Sample ID	1	2	3			
Date Tested	28/04/2020	28/04/2020	28/04/2020			
Location	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard	Habitat Culvert Batter West of Rivervalley Boulevard			
	E 0310384	E 0310376	E 0310383			
	N 5818581	N 5818582	N 5818580			
	FSL -510mm	FSL -240mm	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 (%)	18	13	11			
Field Wet Density (t/m³)	2.11	2.08	2.08			
Peak Converted Wet Density (t/m³)	2.08	2.05	2.04			
Compactive Effort	Standard	Standard	Standard			
Moisture Variation (%)	0.5 wet	0.5 dry	2.0 dry			
Hilf Density Ratio (%)	**101.0**	**101.5**	**102.0**			

Comments

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