

Opalia Estate Stage 3

GITA Inspection Verification Report

Prepared For:	Lojac Civil		
Report Number	D20298A V1		
Version Release Date	2 Sep 2020		
Report Released By	Janaka Somaratne		
Title	Lab Manager		
Signature	- in the interview of t		

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1 Introduction

Terra Firma Laboratories was engaged by Lojac Civil as the Geotechnical Inspection and Testing Authority (GITA) to provide Level 1 supervision and testing works on the earthworks component for Opalia Estate Stage 3. This work was conducted over the period of 26/03/2020 to 01/09/2020.

This report presents that the allotment earthworks was carried out in accordance with AS3798-2007 *Guidelines for Earthworks for Commercial and Residential Development* and in compliance with the compaction control specifications established by the contractor.

2 Scope of Work

2.1 Area of Work

The areas of work included LOTS 322-326 and 353-362 bounded by Elpis Road and Exford Waters previously developed estate. The site will be a Residential development.

The area on which fill was placed is shown on site plan (Appendix 1: *Test Location Plan*) based on drawings prepared by Breese Pitt Dixon pty ltd (Drawing Reference: 6751 E/3) and provided by Lojac Civil.

The supervision work by the GITA involved both inspection of sub grade preparation work and full time inspection and testing of fill placement.

2.2 Specification

The technical specification for compaction control requirements was provided by Lojac Civil and established that:

Test Rolling is required for all layers of structural fill and materials within 150mm of permanent subgrade level so as to withstand test rolling without visible deformation or springing. Corrective action is required where unstable areas exceed 20% of the area being considered by test rolling.

Section 5.2 of AS3798-2007 (Section 5.2) establishes a specification requirement for a minimum density ratio of not less than 95% noting that soils containing more than 20% of particles coarser than 37.5mm cannot be tested for relative compaction using the procedures of AS 1289.5.7.1 ,AS1289 5.1.1 and AS1289 5.2.1.

In accordance with Table 8.1 (AS3798), for large scale operations, (greater than 1500m²), the minimum testing frequency is 1 test per layer per material type per 2500m² or 1 test per 500m³

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distributed reasonable evenly throughout full depth and area or 3 tests per lot. AS3798 defines a lot as "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work". All three of these test frequencies must be achieved and this is typically confirmed to have been achieved when 3 tests per visit (day) have been completed.

2.3 Limitations

Terra Firma Laboratories cannot verify any works completed by others outside of the time period specified in the introduction. Uncontrolled works may include, but are not limited to trenching for services, cut and fill works for slab preparation or subsequent removal of vegetation and back fill of holes unless specified in section 2.1 of this report.

Terra Firma Laboratories cannot verify that the material used as a filling medium is free from chemical or other contamination. The scope and the period of Terra Firma Laboratories as described in the introduction are subject to restrictions and limitations. Terra Firma Laboratories did not perform a complete assessment of all possible conditions and circumstances that may exist at the site. If a service is not expressly indicated, do not assume it has been provided. If a matter is not addressed, do not assume that any determination has been made by Terra Firma Laboratories.

Verification of finished surface level to design levels is outside of the scope of the GITA report.

Any drawings or marked locations presented in this report should be considered only as pictorial evidence of our work. Therefore, unless otherwise stated, any dimensions should not be used for accurate calculations or dimensioning.

Where data has been supplied by the client or a third party, it is assumed that the information is correct unless otherwise stated. No responsibility is accepted by Terra Firma Laboratories for incomplete or inaccurate data supplied by others.

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3 Construction Method

3.1 Subgrade Preparation

At the time of subgrade inspection the following was observed:

- Subgrade preparation involved stripping the site of topsoil, vegetation and organic matter to a depth of approximately 200mm below existing levels.
- The site was cleared of all trees and stumps to the extent necessary for the fill placement to proceed
- The roots of all trees and any debris was removed from site prior to any fill placement

The sub-grade area was then proof-rolled to confirm it was capable of withstanding test rolling without visible deformation or springing and any areas observed to be soft or otherwise unsuitable were rectified. The sub-grade was watered and scarified prior to fill placement to aid layer bonding.

3.2 Fill Placement

The contractor was observed to have suitable construction equipment and plant available on-site during the construction period for use in the fill placement.

All fill was placed in layers of thicknesses not exceeding 300mm. At the completion of a placed layer, compaction testing was performed to confirm appropriate compaction had been achieved and supported the observations made. It should be noted that the compaction tests are representative samples of the fill placed and support the visual assessment of the works completed. Each house lot does not necessarily require a compaction test to have been conducted within the house allotment but may have been verified by testing conducted within up to a 2500m² area of the house lot.

Final fill placement levels were verified against design level by others. For the purposes of this report, it was observed that finished levels were in accordance with levels marked on site by survey markers.

The final 300mm of fill placed across the site was placed as a topsoil layer or growing medium and should be considered as non-structural, as it was placed in an uncontrolled manner, as allowed by specifications and placement of the final 300mm of fill was not observed by the GITA.

4 Construction Verification

Compaction Verification testing is summarized in a detailed test register with test certificates attached provided in Appendix 2: *Compaction Test Register and Test Certificates*. A test location plan (D20298D1, Appendix 1) providing a schematic of test locations across the extent of scope of works for every placed layer of fill is also documented.

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A total of 25 density tests (Hilf method in accordance with 1289 5.7.1) were undertaken with 0 failed results. The contractor was notified of any failed tests and the failed areas were ripped, watered, compacted and then re-tested to confirm compliance with the specification. The results summarised in the compaction test register (Appendix 2) confirm that for every layer of fill placed in a specific work area, satisfactory testing was completed.

5 Statement of Compliance

The intention of this report is to provide a description of the earthworks construction for Stage 3 at Opalia Estate. For completed fill areas of greater than 300mm, and for works completed between 26/03/2020 and 01/09/2020, earthworks construction activities were conducted under the full time supervision of the Geotechnical Inspection and Testing Authority. Inspections and testing of the fill areas at this site indicate that both sub grade preparation and fill placement have been conducted in accordance with the specification. The earthworks construction for Stage 3 of Opalia Estate was observed to be constructed in compliance with the requirements of the Technical Specification.

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Appendix 1: Test Location Plan

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Appendix 2: Compaction Test Register and Test Certificates

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Compaction Test Register

Client:Lojac CivilProject:Opalia Estate Stage 3		Project No: Specification:		D20298 95%			
		Detector	Densitur Dess/Faile				
Date:	Test No:	Layer:	Retest of:	Density:	Pass/Fail:	Lot No:	Report No:
26/03/2020	1	Layer 1		100.0%	Pass	Lot 336	D20298-1
26/03/2020	2	Layer 1		100.0%	Pass	Lot 335	D20298-1
26/03/2020	3	Layer 1		98.5%	Pass	Lot 334	D20298-1
26/03/2020	4	Layer 1		100.0%	Pass	Lot 333	D20298-1
26/03/2020	5	Layer 1		99.5%	Pass	Lot 330	D20298-1
30/03/2020	6	Layer 2		100.5%	Pass	Lot 338	D20298-2
30/03/2020	7	Layer 2		98.5%	Pass	Lot 337	D20298-2
30/03/2020	8	Layer 2		97.5%	Pass	Lot 332	D20298-2
30/03/2020	9	Layer 2		98.5%	Pass	Lot 331	D20298-2
30/03/2020	10	Layer 2		101.5%	Pass	Lot 329	D20298-2
20/08/2020	11	FSL		99.0%	Pass	Lot 362	D20298-3
20/08/2020	12	FSL		98.5%	Pass	Lot 360	D20298-3
20/08/2020	13	FSL		99.0%	Pass	Lot 361	D20298-3
20/08/2020	14	FSL		97.5%	Pass	Lot 359	D20298-3
20/08/2020	15	FSL		98.5%	Pass	Lot 358	D20298-3
20/08/2020	16	FSL		98.5%	Pass	Lot 356	D20298-3
20/08/2020	17	FSL		99.0%	Pass	Lot 357	D20298-3
20/08/2020	18	FSL		98.0%	Pass	Lot 355	D20298-3
20/08/2020	19	FSL		99.0%	Pass	Lot 354	D20298-3
20/08/2020	20	FSL		100.5%	Pass	Lot 353	D20298-3
1/09/2020	21	FSL		101.5%	Pass	Lot 323	D20298-4
1/09/2020	22	FSL		101.5%	Pass	Lot 324	D20298-4
1/09/2020	23	FSL		102.5%	Pass	Lot 325	D20298-4
1/09/2020	24	FSL		98.5%	Pass	Lot 326	D20298-4
1/09/2020	25	FSL		99.0%	Pass	Lot 322	D20298-4
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Report Number:	D20298-1
Report Number.	D20290-1
Issue Number:	1
Date Issued:	30/03/2020
Client:	Lojac Civil Pty Ltd
	35/148 Chesterville Road, Moorabbin Vic 3189
Project Number:	D20298
Project Name:	Opalia Estate Stage 3 - Level One
Project Location:	Melton South
Work Request:	3470
Date Sampled:	26/03/2020 12:30
Dates Tested:	26/03/2020 - 27/03/2020
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95%
Material:	silty CLAY
Material Source:	Onsite



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Accredited for compliance with ISO/IEC 17025 - Testing



Approved Signatory: Scott Benbow Laboratory Manager NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1	& 2.1.1				1
Sample Number	P20-3470A	P20-3470B	P20-3470C	P20-3470D	P20-3470E
Test Number	1	2	3	4	5
Date Tested	26/03/2020	26/03/2020	26/03/2020	26/03/2020	26/03/2020
Time Tested	12:00	12:00	12:00	12:00	12:30
Test Request #/Location	Lot 336	Lot 335	Lot 334	Lot 333	Lot 330
Chainage (m)	**	**	**	**	**
Location Offset (m)	**	**	**	**	**
Layer / Reduced Level	Layer 1				
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	silty CLAY				
Test Depth (mm)	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	**	**	**	**	**
Field Wet Density (FWD) t/m ³	1.86	1.92	1.86	1.92	1.88
Field Moisture Content %	23.4	24.7	22.8	16.1	24.8
Field Dry Density (FDD) t/m ³	1.51	1.54	1.51	1.65	1.51
Peak Converted Wet Density t/m ³	1.86	1.91	1.89	1.92	1.89
Adjusted Peak Converted Wet Density	**	**	**	**	**
Moisture Ratio % (AS 1289.5.4.1)	85.0	92.0	91.0	78.0	93.5
Adjusted Moisture Ratio % (AS 1289.5.4.1)	**	**	**	**	**
Moisture Variation (Wv) %	4.0	2.0	2.5	4.5	1.5
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	100.0	100.0	98.5	100.0	99.5
Compaction Method	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

Report Number:	D20298-2
Issue Number:	1
Date Issued:	01/04/2020
Client:	Lojac Civil Pty Ltd
	35/148 Chesterville Road, Moorabbin Vic 3189
Project Number:	D20298
Project Name:	Opalia Estate Stage 3 - Level One
Project Location:	Melton South
Work Request:	3497
Date Sampled:	30/03/2020 15:00
Dates Tested:	30/03/2020 - 31/03/2020
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95%
Material:	silty CLAY
Material Source:	Onsite



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Approved Signatory: Scott Benbow

Laboratory Manager

NATA Accredited Laboratory Number: 15357

Compaction Control AS 1289 5.7.1 & 5.8.1	8 2.1.1				
Sample Number	P20-3497A	P20-3497B	P20-3497C	P20-3497D	P20-3497E
Test Number	6	7	8	9	10
Date Tested	30/03/2020	30/03/2020	30/03/2020	30/03/2020	30/03/2020
Time Tested	14:30	14:30	14:30	14:30	14:30
Test Request #/Location	Lot 338	Lot 337	Lot 332	Lot 331	Lot 329
Chainage (m)	**	**	**	**	**
Location Offset (m)	**	**	**	**	**
Layer / Reduced Level	Layer 2				
Thickness of Layer (mm)	200	200	200	200	200
Soil Description	silty CLAY				
Test Depth (mm)	175	175	175	175	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	**	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	1.89	1.79	1.78	1.80	1.84
Field Moisture Content %	23.4	27.7	27.0	23.1	25.7
Field Dry Density (FDD) t/m ³	1.53	1.40	1.40	1.47	1.46
Peak Converted Wet Density t/m ³	1.88	1.83	1.83	1.83	1.82
Adjusted Peak Converted Wet Density	**	**	**	**	**
Moisture Ratio % (AS 1289.5.4.1)	91.5	93.5	91.5	90.5	90.0
Adjusted Moisture Ratio % (AS 1289.5.4.1)	**	**	**	**	**
Moisture Variation (Wv) %	2.0	2.0	2.5	2.5	3.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	100.5	98.5	97.5	98.5	101.5
Compaction Method	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

Report Number:	D20298-3
Issue Number:	1
Date Issued:	28/08/2020
Client:	Lojac Civil Pty Ltd
	35/148 Chesterville Road, Moorabbin Vic 3189
Project Number:	D20298
Project Name:	Opalia Estate Stage 3 - Level One
Project Location:	Melton South
Work Request:	2122
Date Sampled:	20/08/2020
Dates Tested:	20/08/2020 - 27/08/2020
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95% STD
Material:	Clay
Material Source:	On site



Terra Firma Laboratories Pty Ltd Deer Park Laboratory Factory 1 80-82 Rebecca Drive Ravenhall VIC 3023 Phone: 0435 751 756 Email: ehippola@terrafirmalabs.com.au

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WORLD RECOGNISED ACCREDITATION

Approved Signatory: Eranda Hippola Snr lab Tech NATA Accredited Laboratory Number: 15357

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Compaction Control AS 1289 5.7.1 & 5.8.1	& 2.1.1				
Sample Number	D20-2122A	D20-2122B	D20-2122C	D20-2122D	D20-2122E
Test Number	11	12	13	14	15
Date Tested	20/08/2020	20/08/2020	20/08/2020	20/08/2020	20/08/2020
Time Tested	**	**	**	**	**
Test Request #/Location	Lot 362	Lot 360	Lot 361	Lot 359	Lot 358
_ayer / Reduced Level	FSL	FSL	FSL	FSL	FSL
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Clay	Clay	Clay	Clay	Clay
Fest Depth (mm)	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	1.98	1.93	1.96	1.95	1.96
Field Moisture Content %	9.5	10.0	10.4	21.6	9.9
Field Dry Density (FDD) t/m ³	1.81	1.76	1.77	1.60	1.78
Peak Converted Wet Density t/m ³	2.00	1.96	1.98	2.00	1.99
Adjusted Peak Converted Wet Density /m ³	**	**	**	**	**
Moisture Variation (Wv) %	2.0	1.5	2.0	0.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	99.0	98.5	99.0	97.5	98.5
Compaction Method	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

Report Number:	D20298-3
Issue Number:	1
Date Issued:	28/08/2020
Client:	Lojac Civil Pty Ltd
	35/148 Chesterville Road, Moorabbin Vic 3189
Project Number:	D20298
Project Name:	Opalia Estate Stage 3 - Level One
Project Location:	Melton South
Work Request:	2122
Date Sampled:	20/08/2020
Dates Tested:	20/08/2020 - 27/08/2020
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95% STD
Material:	Clay
Material Source:	On site



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Approved Signatory: Eranda Hippola Snr lab Tech NATA Accredited Laboratory Number: 15357

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Compaction Control AS 1289 5.7.1 & 5.8.1	& 2.1.1				
Sample Number	D20-2122F	D20-2122G	D20-2122H	D20-2122I	D20-2122J
Test Number	16	17	18	19	20
Date Tested	20/08/2020	20/08/2020	20/08/2020	20/08/2020	20/08/2020
Time Tested	**	**	**	**	**
Test Request #/Location	Lot 356	Lot 357	Lot 355	Lot 354	Lot 353
Layer / Reduced Level	FSL	FSL	FSL	FSL	FSL
Thickness of Layer (mm)	300	300	300	300	300
Soil Description	Clay	Clay	Clay	Clay	Clay
Test Depth (mm)	275	275	275	275	275
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	0.0	0.0	0.0	0.0	0.0
Field Wet Density (FWD) t/m ³	1.96	1.97	1.97	1.95	1.97
Field Moisture Content %	21.8	20.7	20.7	21.2	21.4
Field Dry Density (FDD) t/m ³	1.60	1.64	1.63	1.61	1.62
Peak Converted Wet Density t/m ³	1.99	1.99	2.00	1.97	1.96
Adjusted Peak Converted Wet Density	**	**	**	**	**
Moisture Variation (Wv) %	0.0	-0.5	-0.5	0.0	2.0
Adjusted Moisture Variation %	**	**	**	**	**
Hilf Density Ratio (%)	98.5	99.0	98.0	99.0	100.5
Compaction Method	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:

Report Number:	D20298-4
Issue Number:	1
Date Issued:	04/09/2020
Client:	Lojac Civil Pty Ltd
	35/148 Chesterville Road, Moorabbin Vic 3189
Project Number:	D20298
Project Name:	Opalia Estate Stage 3 - Level One
Project Location:	Melton South
Work Request:	2171
Date Sampled:	01/09/2020
Dates Tested:	01/09/2020 - 03/09/2020
Sampling Method:	AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification:	95% STD
Material:	Graverly Clay
Material Source:	On site



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Approved Signatory: Nalaka Bandara Lab Tech

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NATA Accredited Laboratory Number: 15357

Sample Number	D20-2171A	D20-2171B	D20-2171C	D20-2171D	D20-2171E
Test Number	21	22	23	24	25
Date Tested	01/09/2020	01/09/2020	01/09/2020	01/09/2020	01/09/2020
Time Tested	**	**	**	**	**
Test Request #/Location	323	324	325	326	322
Layer / Reduced Level	FSL	FSL	FSL	FSL	FSL
Thickness of Layer (mm)	300	300	300	300	200
Soil Description	Gravely Clay				
Test Depth (mm)	275	275	275	275	175
Sieve used to determine oversize (mm)	19.0	19.0	19.0	19.0	19.0
Percentage of Wet Oversize (%)	5.8	5.4	6.2	3.6	6.6
Field Wet Density (FWD) t/m ³	2.08	2.06	2.08	1.99	2.06
Field Moisture Content %	16.3	15.1	15.7	18.9	17.1
Field Dry Density (FDD) t/m ³	1.79	1.79	1.80	1.67	1.76
Peak Converted Wet Density t/m ³	**	**	**	**	**
Adjusted Peak Converted Wet Density	2.05	2.04	2.04	2.01	2.07
Moisture Ratio % (AS 1289.5.4.1)	**	**	**	**	**
Adjusted Moisture Ratio % (AS 1289.5.4.1)	82.5	81.0	83.5	93.0	95.5
Moisture Variation (Wv) %	**	**	**	**	**
Adjusted Moisture Variation %	4.0	4.0	4.0	2.0	2.0
Hilf Density Ratio (%)	101.5	101.5	102.5	98.5	99.0
Compaction Method	Standard	Standard	Standard	Standard	Standard

Moisture Variation Note:



TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 322

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 322 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

A GITA Inspection Verification report (Reference: D20298A) has been published on 2 Sep 2020 and documents that the allotment earthworks were carried out in accordance with AS3798 and in compliance with the project specification provided by the contractor.

For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 323

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

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- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

A GITA Inspection Verification report (Reference: D20298A) has been published on 2 Sep 2020 and documents that the allotment earthworks were carried out in accordance with AS3798 and in compliance with the project specification provided by the contractor.

For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 324

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 324 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

A GITA Inspection Verification report (Reference: D20298A) has been published on 2 Sep 2020 and documents that the allotment earthworks were carried out in accordance with AS3798 and in compliance with the project specification provided by the contractor.

For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 235

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 235 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

A GITA Inspection Verification report (Reference: D20298A) has been published on 2 Sep 2020 and documents that the allotment earthworks were carried out in accordance with AS3798 and in compliance with the project specification provided by the contractor.

For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 326

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 326 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

A GITA Inspection Verification report (Reference: D20298A) has been published on 2 Sep 2020 and documents that the allotment earthworks were carried out in accordance with AS3798 and in compliance with the project specification provided by the contractor.

For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 329

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 329 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 330

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 330 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 331

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 331 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 332

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 332 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 333

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 333 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 334

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 334 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 335

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 335 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 338

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 338 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

A GITA Inspection Verification report (Reference: D20298A) has been published on 2 Sep 2020 and documents that the allotment earthworks were carried out in accordance with AS3798 and in compliance with the project specification provided by the contractor.

For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 353

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 353 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

A GITA Inspection Verification report (Reference: D20298A) has been published on 2 Sep 2020 and documents that the allotment earthworks were carried out in accordance with AS3798 and in compliance with the project specification provided by the contractor.

For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 354

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 354 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

A GITA Inspection Verification report (Reference: D20298A) has been published on 2 Sep 2020 and documents that the allotment earthworks were carried out in accordance with AS3798 and in compliance with the project specification provided by the contractor.

For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 355

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 355 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd,* provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 356

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 356 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 336

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 336 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 337

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 337 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
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For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

Our Head Office 47 National Ave Pakenham, VIC 3810 Our Laboratories Pakenham 03 9769 5799 Deer Park 03 8348 5596 Bibra Lake 0481 227 980



TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 357

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 357 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

A GITA Inspection Verification report (Reference: D20298A) has been published on 2 Sep 2020 and documents that the allotment earthworks were carried out in accordance with AS3798 and in compliance with the project specification provided by the contractor.

For and on behalf of **Terra Firma Laboratories**

Janaka Somaratne Lab Manager

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 358

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 358 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 359

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 359 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 360

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 360 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
- Verification of finished surface level to design levels is outside of the scope of the GITA Inspection and Verification report.
- Compaction tests results documented in a level 1 GITA report verify the construction methods observed on site are satisfactory. Testing is conducted with random sampling across an area of work that is defined in the Australian Standard as a "lot" which is "an area of work that is essentially homogenous in relation to material type and moisture condition, rolling response and compaction technique, and which has been used for the assessment of the relative compaction of an area of work" (AS 3798-2007). As such, any test completed is representative of an area that may be up to 2500m² in area and across several house lots.

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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 361

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 361 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
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TO WHOM IT MAY CONCERN

Re: Opalia Estate Stage 3 Weir Views Lot 362

Terra Firma Laboratories was engaged by *Lojac Civil* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Opalia Estate, Stage 3, Weir Views in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 362 as defined in drawing Ref 6751 E/3 from *Breese Pitt Dixon pty ltd*, provided by the contractor, was included in the scope of works.

With regard to any fill placement please consider the following:

- Controlled fill was placed up to 300mm below finished surface level. The final 300mm fill is considered top soil and organic matter and not controlled fill.
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For and on behalf of **Terra Firma Laboratories**

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