# Banyan Place Estate Stage 2

# GITA Inspection Verification Report

| | |
|---|---|
| **Prepared For:** | Lojac Civil Pty Ltd |
| **Report Number** | P231288A V1 |
| **Version Release Date** | 22 Aug 2023 |
| **Report Released By** | C Caulfield |
| **Title** | Project Manager |
| **Signature** |  |

**Our Head Office**
47 National Ave
Pakenham, VIC 3810

**Our Laboratories**
Pakenham 03 9769 5799
Deer Park 03 8348 5596
Bibra Lake 08 9395 7220

## Table of Contents



## Appendices

# 1 Introduction

*Terra Firma Laboratories* was engaged by Lojac Civil Pty Ltd as the Geotechnical Inspection and Testing Authority (GITA) to provide Level 1 supervision and testing works on the earthworks component for Banyan Place Estate Stage 2. This work was conducted over the period of 11/01/2023 to 27/02/2023.

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 201 to 243, bounded by streets Blossom Street, Lempriere Road, Leaf Way and Flume Way. 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 Charlton Degg (Drawing Reference: 1470_2/R04) and provided by Lojac Civil Pty Ltd.

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 (Reference from Drawings) for compaction control requirements was provided by Lojac Civil Pty Ltd 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 AS1289 5.1.1 and AS1289 5.2.1.

In accordance with Table 8.1 (AS3798), for large scale operations, (greater than 1500m$^2$), the minimum testing frequency is 1 test per layer per material type per 2500m$^2$ or 1 test per 500m$^3$ 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.

# 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 to have been conducted within the house allotment but may have been verified by testing conducted within up to a 2500m$^2$ 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 material 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 material 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 (P231288D1, Appendix 1) providing a schematic of test locations across the extent of scope of works for every placed layer of fill is also documented.

A total of 75 density tests (Hilf method in accordance with 1289 5.7.1) were undertaken with 10 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.

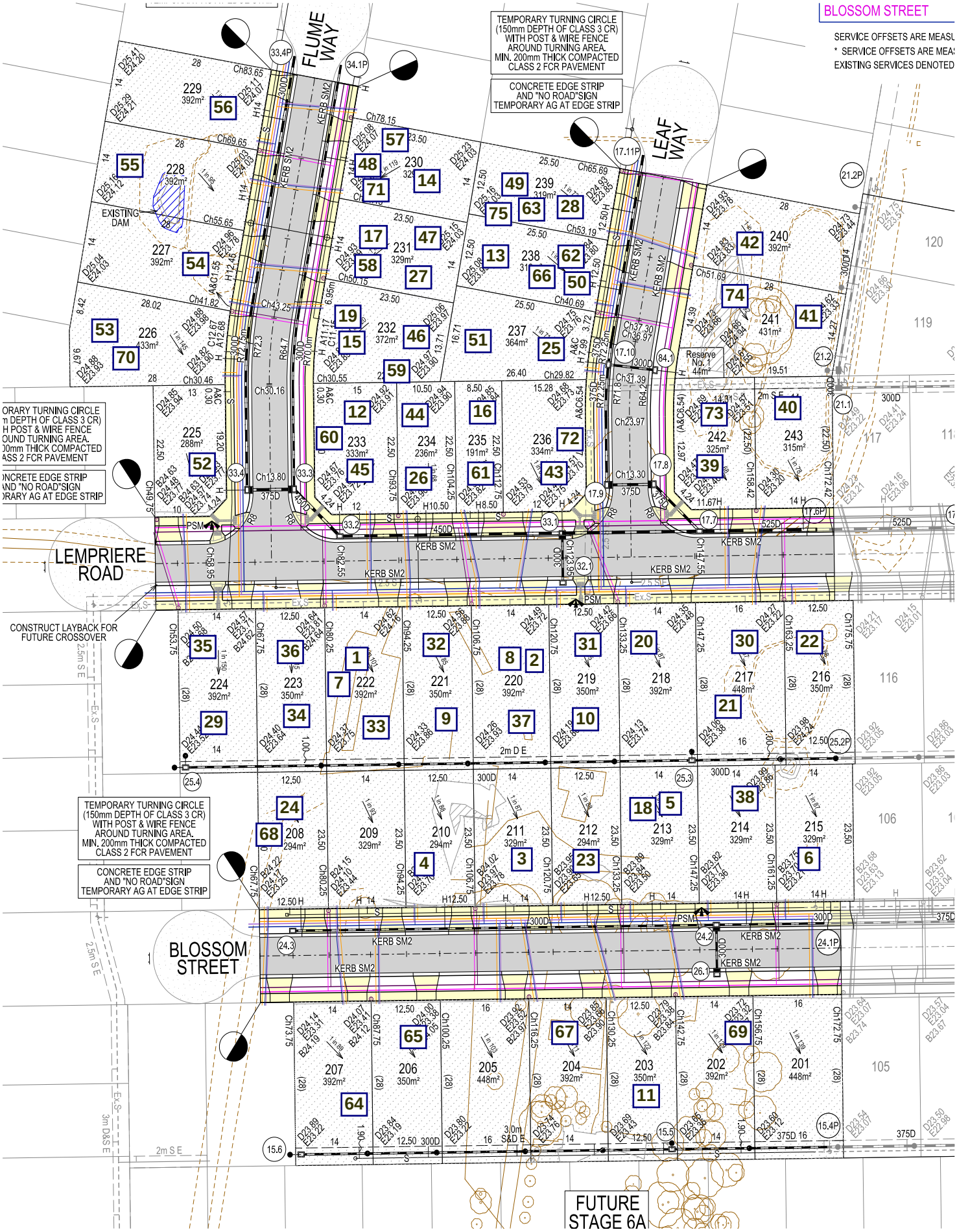
## 5 Statement of Compliance

The intention of this report is to provide a description of the earthworks construction for Stage 2 at Banyan Place Estate. For completed fill areas of greater than 300mm, and for works completed between 11/01/2023 and 27/02/2023, 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 2 of Banyan Place Estate was observed to be constructed in compliance with the requirements of the Technical Specification.

# Appendix 1: Test Location Plan

**Our Head Office**
47 National Ave
Pakenham, VIC 3810

**Our Laboratories**
Pakenham 03 9769 5799
Deer Park 03 8348 5596
Bibra Lake 08 9395 7220




terra firma laboratories


Our Head Office
47 National Ave
Pakenham, VIC 3810

Our Laboratories
Pakenham 03 9769 5799
Deer Park 03 8348 5596
Bibra Lake 08 9395 7220


# Test Location Plan

*not to scale*

| | |
|---|---|
| Client: | Lojac Civil Pty Ltd |
| Project: | Banyan Place Estate, Stage 2 |
| Reference: | P231288 D1 |

# Appendix 2: Compaction Test Register and Test Certificates

# Compaction Test Register

**Client:** Lojac Civil Pty Ltd
**Project No:** P231288
**Project:** Banyan Place Estate Stage 2
**Specification:** 95%

| Date: | Test No: | Layer: | Retest of: | Density: | Pass/Fail: | Lot No: | Report No: |
|---|---|---|---|---|---|---|---|
| 11/01/2023 | 1 | Layer 1 | | 94.0% | Fail | Lot 222 | P231288-2 |
| 11/01/2023 | 2 | Layer 1 | | 88.5% | Fail | Lot 220 | P231288-2 |
| 11/01/2023 | 3 | Layer 1 | | 95.0% | Pass | Lot 211 | P231288-2 |
| 12/01/2023 | 4 | Layer 3 | | 102.5% | Pass | Lot 210 | P231288-3 |
| 12/01/2023 | 5 | Layer 3 | | 93.5% | Fail | Lot 213 | P231288-3 |
| 12/01/2023 | 6 | Layer 3 | | 98.0% | Pass | Lot 215 | P231288-3 |
| 13/01/2023 | 7 | Layer 1 | Test #1 | 96.0% | Pass | Lot 222 | P231288-4 |
| 13/01/2023 | 8 | Layer 1 | Test #2 | 95.0% | Pass | Lot 220 | P231288-4 |
| 13/01/2023 | 9 | Layer 5 | | 96.0% | Pass | Lot 221 | P231288-4 |
| 13/01/2023 | 10 | Layer 5 | | 98.5% | Pass | Lot 219 | P231288-4 |
| 13/01/2023 | 11 | Layer 2 | | 95.0% | Pass | Lot 203 | P231288-4 |
| 17/01/2023 | 12 | Layer 1 | | 98.0% | Pass | Lot 233 | P231288-5 |
| 17/01/2023 | 13 | Layer 1 | | 99.0% | Pass | Lot 238 | P231288-5 |
| 17/01/2023 | 14 | Layer 2 | | 96.0% | Pass | Lot 230 | P231288-5 |
| 18/01/2023 | 15 | Layer 2 | | 92.5% | Fail | Lot 232 | P231288-6 |
| 18/01/2023 | 16 | Layer 2 | | 95.0% | Pass | Lot 235 | P231288-6 |
| 18/01/2023 | 17 | Layer 2 | | 96.0% | Pass | Lot 231 | P231288-6 |
| 19/01/2023 | 18 | Layer 3 | Test #5 | 96.0% | Pass | Lot 213 | P231288-7 |
| 19/01/2023 | 19 | Layer 2 | Test #15 | 100.5% | Pass | Lot 232 | P231288-7 |
| 19/01/2023 | 20 | Layer 3 | | 97.5% | Pass | Lot 218 | P231288-7 |
| 19/01/2023 | 21 | Layer 3 | | 97.0% | Pass | Lot 217 | P231288-7 |
| 19/01/2023 | 22 | Layer 3 | | 98.5% | Pass | Lot 216 | P231288-7 |
| 21/01/2023 | 23 | Layer 1 | | 97.5% | Pass | Lot 212 | P231288-8 |
| 21/01/2023 | 24 | Layer 1 | | 91.5% | Fail | Lot 208 | P231288-8 |
| 21/01/2023 | 25 | Layer 5 | | 97.5% | Pass | Lot 237 | P231288-8 |
| 21/01/2023 | 26 | Layer 5 | | 96.0% | Pass | Lot 234 | P231288-8 |
| 21/01/2023 | 27 | Layer 6 | | 98.0% | Pass | Lot 231 | P231288-8 |
| 21/01/2023 | 28 | Layer 6 | | 104.0% | Pass | Lot 239 | P231288-8 |
| 21/01/2023 | 29 | Layer 1 | | 100.5% | Pass | Lot 224 | P231288-8 |
| 23/01/2023 | 30 | Layer 4 | | 96.5% | Pass | Lot 217 | P231288-9 |
| 23/01/2023 | 31 | Layer 4 | | 98.0% | Pass | Lot 219 | P231288-9 |
| 23/01/2023 | 32 | Layer 4 | | 97.5% | Pass | Lot 221 | P231288-9 |
| 24/01/2023 | 33 | Layer 1 | | 95.0% | Pass | Lot 222 | P231288-10 |
| 24/01/2023 | 34 | Layer 1 | | 97.0% | Pass | Lot 223 | P231288-10 |
| 24/01/2023 | 35 | Layer 1 | | 100.0% | Pass | Lot 224 | P231288-10 |
| 30/01/2023 | 36 | FSL | | 99.0% | Pass | Lot 223 | P231288-11 |
| 30/01/2023 | 37 | FSL | | 99.0% | Pass | Lot 220 | P231288-11 |
| 30/01/2023 | 38 | FSL | | 97.5% | Pass | Lot 214 | P231288-11 |
| 9/02/2023 | 39 | FSL | | 100.5% | Pass | Lot 242 | P231288-12 |
| 9/02/2023 | 40 | FSL | | 100.5% | Pass | Lot 243 | P231288-12 |
| 9/02/2023 | 41 | FSL | | 100.0% | Pass | Lot 241 | P231288-12 |

# Compaction Test Register

**Client:** Lojac Civil Pty Ltd
**Project No:** P231288
**Project:** Banyan Place Estate Stage 2
**Specification:** 95%

| Date: | Test No: | Layer: | Retest of: | Density: | Pass/Fail: | Lot No: | Report No: |
|---|---|---|---|---|---|---|---|
| 9/02/2023 | 42 | FSL | | 99.5% | Pass | Lot 240 | P231288-12 |
| 9/02/2023 | 43 | FSL | | 92.0% | Fail | Lot 236 | P231288-12 |
| 9/02/2023 | 44 | FSL | | 107.0% | Pass | Lot 234 | P231288-12 |
| 9/02/2023 | 45 | FSL | | 96.5% | Pass | Lot 233 | P231288-12 |
| 9/02/2023 | 46 | FSL | | 96.0% | Pass | Lot 232 | P231288-12 |
| 9/02/2023 | 47 | FSL | | 97.0% | Pass | Lot 231 | P231288-12 |
| 9/02/2023 | 48 | FSL | | 92.5% | Fail | Lot 230 | P231288-12 |
| 9/02/2023 | 49 | FSL | | 97.5% | Pass | Lot 239 | P231288-12 |
| 9/02/2023 | 50 | FSL | | 100.5% | Pass | Lot 238 | P231288-12 |
| 9/02/2023 | 51 | FSL | | 108.5% | Pass | Lot 237 | P231288-12 |
| 9/02/2023 | 52 | Layer 1 | | 107.0% | Pass | Lot 225 | P231288-12 |
| 9/02/2023 | 53 | Layer 1 | | 85.5% | Fail | Lot 226 | P231288-12 |
| 9/02/2023 | 54 | Layer 2 | | 98.0% | Pass | Lot 227 | P231288-12 |
| 9/02/2023 | 55 | Layer 2 | | 95.0% | Pass | Lot 228 | P231288-12 |
| 9/02/2023 | 56 | Layer 3 | | 97.5% | Pass | Lot 229 | P231288-12 |
| 15/02/2023 | 57 | FSL | | 101.0% | Pass | Lot 230 | P231288-13 |
| 15/02/2023 | 58 | FSL | | 100.5% | Pass | Lot 231 | P231288-13 |
| 15/02/2023 | 59 | FSL | | 100.0% | Pass | Lot 232 | P231288-13 |
| 15/02/2023 | 60 | FSL | | 95.5% | Pass | Lot 233 | P231288-13 |
| 17/02/2023 | 61 | Layer 1 | | 98.0% | Pass | Lot 235 | P231288-14 |
| 17/02/2023 | 62 | Layer 1 | | 90.0% | Fail | Lot 238 | P231288-14 |
| 17/02/2023 | 63 | Layer 1 | | 85.5% | Fail | Lot 239 | P231288-14 |
| 27/02/2023 | 64 | FSL | | 106.5% | Pass | Lot 207 | P231288-15 |
| 27/02/2023 | 65 | FSL | | 105.5% | Pass | Lot 206 | P231288-15 |
| 27/02/2023 | 66 | Layer 1 | Test #62 | 105.5% | Pass | Lot 238 | P231288-15 |
| 27/02/2023 | 67 | FSL | | 101.5% | Pass | Lot 204 | P231288-15 |
| 27/02/2023 | 68 | FSL | Test #24 | 101.0% | Pass | Lot 208 | P231288-15 |
| 27/02/2023 | 69 | FSL | | 101.5% | Pass | Lot 202 | P231288-15 |
| 27/02/2023 | 70 | FSL | Test #53 | 111.5% | Pass | Lot 226 | P231288-15 |
| 27/02/2023 | 71 | FSL | Test #48 | 113.5% | Pass | Lot 230 | P231288-15 |
| 27/02/2023 | 72 | FSL | Test #43 | 111.5% | Pass | Lot 236 | P231288-15 |
| 27/02/2023 | 73 | FSL | | 111.5% | Pass | Lot 242 | P231288-15 |
| 27/02/2023 | 74 | FSL | | 103.0% | Pass | Lot 243 | P231288-15 |
| 27/02/2023 | 75 | Layer 2 | Test #63 | 110.0% | Pass | Lot 239 | P231288-15 |

# Material Test Report

**Report Number:** **P231288-2**
**Issue Number:** 1
**Date Issued:** 27/01/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Contact:** Rob Nassar
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11214
**Date Sampled:** 11/01/2023
**Dates Tested:** 11/01/2023 - 13/01/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place
**Material:** CLAY
**Material Source:** Onsite

terra firma laboratories

Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: jsomaratne@terrafirmalabs.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Janaka Somaratne
Lab Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11214A | P23-11214B | |
| Date Tested | 11/01/2023 | 11/01/2023 | |
| Time Tested | ** | ** | |
| Test Request #/Location | 1<br>Lot 222 | 2<br>Lot 220 | |
| Easting | 361874 | 361888 | |
| Northing | 5783886 | 5783892 | |
| Layer / Reduced Level | Layer 1 | Layer 1 | |
| Thickness of Layer (mm) | 300 | 300 | |
| Soil Description | CLAY | CLAY | |
| Test Depth (mm) | 275 | 275 | |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | |
| Percentage of Wet Oversize (%) | 0 | 0 | |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | 0 | 0 | |
| Field Wet Density (FWD) t/m$^3$ | 1.94 | 1.86 | |
| Field Moisture Content % | 19.7 | 20.3 | |
| Field Dry Density (FDD) t/m$^3$ | 1.62 | 1.54 | |
| Peak Converted Wet Density t/m$^3$ | 2.07 | 2.09 | |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 17.8 | 18.2 | |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 19.7 | 20.3 | |
| Moisture Ratio % (AS1289.5.4.1) | 110.5 | 111.5 | |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | |
| Moisture Variation (Wv) % | -2.0 | -2.0 | |
| Adjusted Moisture Variation % | ** | ** | |
| Hilf Density Ratio (%) | **94.0** | **88.5** | |
| Compaction Method | **Standard** | **Standard** | |
| Report Remarks | ** | ** | |

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

# Material Test Report

**Report Number:** **P231288-2**
**Issue Number:** 1
**Date Issued:** 27/01/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Contact:** Rob Nassar
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11214
**Date Sampled:** 11/01/2023
**Dates Tested:** 11/01/2023 - 12/01/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place
**Material:** CLAY
**Material Source:** Onsite

terra firma laboratories

Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: jsomaratne@terrafirmalabs.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

NATA WORLD RECOGNISED ACCREDITATION

Approved Signatory: Janaka Somaratne
Lab Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11214C | | |
| Date Tested | 11/01/2023 | | |
| Time Tested | ** | | |
| Test Request #/Location | 3<br>Lot 211 | | |
| Easting | 361897 | | |
| Northing | 5783869 | | |
| Layer / Reduced Level | Layer 1 | | |
| Thickness of Layer (mm) | 300 | | |
| Soil Description | CLAY | | |
| Test Depth (mm) | 275 | | |
| Fraction Tested (mm) | 19.0 | | |
| Oversize (wet basis) % | 0 | | |
| Oversize (dry basis) % | 0 | | |
| Curing Hours | ** | | |
| Method used to Determine Plasticity | Visual Assessment | | |
| Field Wet Density t/m$^3$ | 1.98 | | |
| Field Moisture Content % | 21.3 | | |
| Field Dry Density t/m$^3$ | 1.63 | | |
| Maximum Dry Density t/m$^3$ | 1.71 | | |
| Adjusted Maximum Dry Density t/m$^3$ | ** | | |
| Optimum Moisture Content (OMC) % | 17.5 | | |
| Adjusted Optimum Moisture Content (OMC) % | ** | | |
| Moisture Variation % | -4.0 | | |
| Moisture Ratio % | 123.0 | | |
| Density Ratio % | **95.0** | | |
| Compaction Method | **Standard** | | |

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

# Material Test Report

**Report Number:** **P231288-3**
**Issue Number:** 1
**Date Issued:** 27/01/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11218
**Date Sampled:** 12/01/2023
**Dates Tested:** 12/01/2023 - 18/01/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: jsomaratne@terrafirmalabs.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Janaka Somaratne
Lab Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11218A | P23-11218B | P23-11218C |
| Date Tested | 12/01/2023 | 12/01/2023 | 12/01/2023 |
| Time Tested | ** | ** | ** |
| Test Request #/Location | 4<br>210 | 5<br>213 | 6<br>215 |
| Easting | 361935 | 361950 | 361967 |
| Northing | 5783879 | 5783876 | 5783867 |
| Layer / Reduced Level | 3rd Layer | 3rd Layer | 3rd Layer |
| Thickness of Layer (mm) | 300mm | 300mm | 300mm |
| Soil Description | CLAY | CLAY | CLAY |
| Test Depth (mm) | 275mm | 275mm | 275mm |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 6 | 0 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | 0 | ** | ** |
| Field Wet Density (FWD) t/m$^3$ | 1.97 | 1.90 | 1.98 |
| Field Moisture Content % | 31.7 | 9.2 | 19.9 |
| Field Dry Density (FDD) t/m$^3$ | 1.50 | 1.75 | 1.65 |
| Peak Converted Wet Density t/m$^3$ | 1.93 | ** | 2.02 |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | 2.04 | ** |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 29.1 | 10.9 | 19.4 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 31.7 | 8.7 | 19.9 |
| Moisture Ratio % (AS1289.5.4.1) | 109.0 | ** | 102.5 |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | 79.5 | ** |
| Moisture Variation (Wv) % | -2.5 | ** | -0.5 |
| Adjusted Moisture Variation % | ** | 2.5 | ** |
| Hilf Density Ratio (%) | **102.5** | **93.5** | **98.0** |
| Compaction Method | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** |

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

# Material Test Report

**Report Number:** **P231288-4**
**Issue Number:** 1
**Date Issued:** 27/01/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11228
**Date Sampled:** 13/01/2023
**Dates Tested:** 13/01/2023 - 18/01/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Remarks:** Retests for test 1 and 2
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** Clay
**Material Source:** Onsite

terra firma laboratories

Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: jsomaratne@terrafirmalabs.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Janaka Somaratne
Lab Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | | | |
|---|---|---|---|---|---|
| Sample Number | P23-11228A | P23-11228B | P23-11228C | P23-11228D | P23-11228E |
| Date Tested | 13/01/2023 | 13/01/2023 | 13/01/2023 | 13/01/2023 | 13/01/2023 |
| Time Tested | ** | ** | ** | ** | ** |
| Test Request #/Location | 7R<br>222 (Retest No.1) | 8R<br>220 (Retest No.2) | 9<br>221 | 10<br>219 | 11<br>203 |
| Easting | 36198 | 361922 | 361945 | 361970 | 361930 |
| Northing | 5783886 | 5783900 | 5783890 | 5783881 | 5783831 |
| Layer / Reduced Level | 5th Layer | 5th Layer | 5th Layer | 5th Layer | 2nd Layer |
| 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 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | 0 | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m$^3$ | 2.00 | 1.91 | 1.98 | 2.04 | 1.98 |
| Field Moisture Content % | 21.7 | 22.6 | 19.7 | 24.3 | 22.0 |
| Field Dry Density (FDD) t/m$^3$ | 1.64 | 1.56 | 1.66 | 1.64 | 1.62 |
| Peak Converted Wet Density t/m$^3$ | 2.08 | 2.02 | 2.07 | 2.07 | 2.08 |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | ** | ** | ** |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 18.5 | 21.5 | 17.6 | 23.8 | 18.6 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 21.7 | 22.6 | 19.7 | 24.3 | 22.0 |
| Moisture Ratio % (AS1289.5.4.1) | 117.0 | 105.0 | 112.0 | 102.0 | 118.0 |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** | ** | ** |
| Moisture Variation (Wv) % | -3.0 | -1.0 | -2.0 | -0.5 | -3.5 |
| Adjusted Moisture Variation % | ** | ** | ** | ** | ** |
| Hilf Density Ratio (%) | **96.0** | **95.0** | **96.0** | **98.5** | **95.0** |
| Compaction Method | **Standard** | **Standard** | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** | ** | ** |

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

# Material Test Report

**Report Number:** P231288-5
**Issue Number:** 1
**Date Issued:** 27/01/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11258
**Date Sampled:** 17/01/2023
**Dates Tested:** 17/01/2023 - 17/01/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** CLAY
**Material Source:** Imported

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: jsomaratne@terrafirmalabs.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Janaka Somaratne
Lab Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11258A | P23-11258B | P23-11258C |
| Date Tested | 17/01/2023 | 17/01/2023 | 17/01/2023 |
| Time Tested | ** | ** | ** |
| Test Request #/Location | 12<br>233 | 13<br>238 | 14<br>230 |
| Easting | 361915 | 361901 | 261900 |
| Northing | 5783987 | 5783988 | 5783369 |
| Layer / Reduced Level | 1st layer | 1st layer | 2nd layer |
| Thickness of Layer (mm) | 300mm | 300mm | 300mm |
| Soil Description | CLAY | CLAY | CLAY |
| Test Depth (mm) | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 2 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m$^3$ | 1.93 | 1.95 | 1.92 |
| Field Moisture Content % | 17.5 | 27.7 | 18.7 |
| Field Dry Density (FDD) t/m$^3$ | 1.64 | 1.53 | 1.62 |
| Peak Converted Wet Density t/m$^3$ | 1.97 | 1.97 | ** |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | 2.00 |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 22.2 | 27.9 | 21.4 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 17.5 | 27.7 | 18.3 |
| Moisture Ratio % (AS1289.5.4.1) | 79.0 | 99.0 | ** |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | 85.5 |
| Moisture Variation (Wv) % | 4.5 | 0.0 | ** |
| Adjusted Moisture Variation % | ** | ** | 2.5 |
| Hilf Density Ratio (%) | **98.0** | **99.0** | **96.0** |
| Compaction Method | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** |

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

# Material Test Report

**Report Number:** **P231288-6**
**Issue Number:** 1
**Date Issued:** 27/01/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11266
**Date Sampled:** 18/01/2023
**Dates Tested:** 18/01/2023 - 18/01/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Remarks:** 3 tests from yesterday(17/01/23) work
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** CLAY
**Material Source:** Imported

terra firma laboratories

Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: jsomaratne@terrafirmalabs.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Janaka Somaratne
Lab Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11266A | P23-11266B | P23-11266C |
| Date Tested | 18/01/2023 | 18/01/2023 | 18/01/2023 |
| Time Tested | ** | ** | ** |
| Test Request #/Location | 15<br>Lot 232 | 16<br>Lot 235 | 17<br>Lot 231 |
| Easting | 361899 | 361905 | 361910 |
| Northing | 5783940 | 5783954 | 5783980 |
| Layer / Reduced Level | 2nd layer | 2nd layer | 2nd layer |
| Thickness of Layer (mm) | 300mm | 300mm | 300mm |
| Soil Description | CLAY | CLAY | CLAY |
| Test Depth (mm) | 275mm | 275mm | 275mm |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 0 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m$^3$ | 1.89 | 1.92 | 1.96 |
| Field Moisture Content % | 22.7 | 24.2 | 23.0 |
| Field Dry Density (FDD) t/m$^3$ | 1.54 | 1.55 | 1.60 |
| Peak Converted Wet Density t/m$^3$ | 2.04 | 2.03 | 2.05 |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | ** |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 21.5 | 22.9 | 20.7 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 22.7 | 24.2 | 23.0 |
| Moisture Ratio % (AS1289.5.4.1) | 105.5 | 105.5 | 111.0 |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** |
| Moisture Variation (Wv) % | -1.0 | -1.0 | -2.0 |
| Adjusted Moisture Variation % | ** | ** | ** |
| Hilf Density Ratio (%) | **92.5** | **95.0** | **96.0** |
| Compaction Method | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** |

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

# Material Test Report

**Report Number:** P231288-7
**Issue Number:** 1
**Date Issued:** 07/02/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11286
**Date Sampled:** 19/01/2023
**Dates Tested:** 19/01/2023 - 20/01/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** CLAY
**Material Source:** Onsite

terra firma laboratories

Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: jsomaratne@terrafirmalabs.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Janaka Somaratne
Lab Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | | | |
|---|---|---|---|---|---|
| Sample Number | P23-11286A | P23-11286B | P23-11286C | P23-11286D | P23-11286E |
| Date Tested | 19/01/2023 | 19/01/2023 | 19/01/2023 | 19/01/2023 | 19/01/2023 |
| Time Tested | ** | ** | ** | ** | ** |
| Test Request #/Location | 18R<br>213 (Retest No.5) | 19R<br>232 (Retest No.15) | 20<br>218 | 21<br>217 | 22<br>216 |
| Easting | 361956 | ** | 361967 | 361970 | 361967 |
| Northing | 5783883 | ** | 5783894 | 5783884 | 5783894 |
| Layer / Reduced Level | 3rd layer | 2nd layer | 3rd layer | 3rd layer | 3rd layer |
| Thickness of Layer (mm) | 300mm | 300mm | 300mm | 300mm | 300mm |
| Soil Description | CLAY | CLAY | CLAY | CLAY | CLAY |
| Test Depth (mm) | 275mm | 275mm | 275mm | 275mm | 275mm |
| 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 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | 0 | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m$^3$ | 2.01 | 2.03 | 2.04 | 2.05 | 2.02 |
| Field Moisture Content % | 19.5 | 30.8 | 19.2 | 15.5 | 19.6 |
| Field Dry Density (FDD) t/m$^3$ | 1.68 | 1.56 | 1.71 | 1.77 | 1.69 |
| Peak Converted Wet Density t/m$^3$ | 2.10 | 2.02 | 2.09 | 2.11 | 2.05 |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | ** | ** | ** |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 17.2 | 30.2 | 17.2 | 15.9 | 18.9 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 19.5 | 30.8 | 19.2 | 15.5 | 19.6 |
| Moisture Ratio % (AS1289.5.4.1) | 113.5 | 101.5 | 112.0 | 98.0 | 103.5 |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** | ** | ** |
| Moisture Variation (Wv) % | -2.5 | -0.5 | -2.0 | 0.5 | -0.5 |
| Adjusted Moisture Variation % | ** | ** | ** | ** | ** |
| Hilf Density Ratio (%) | **96.0** | **100.5** | **97.5** | **97.0** | **98.5** |
| Compaction Method | **Standard** | **Standard** | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** | ** | ** |

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

# Material Test Report

**Report Number:** P231288-8
**Issue Number:** 1
**Date Issued:** 07/02/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11310
**Date Sampled:** 21/01/2023
**Dates Tested:** 21/01/2023 - 25/01/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Remarks:** Test no. 23-26 for 20/01/23 work (yesterday)
Test no. 27-29 for 21/01/23 work(today)
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** CLAY
**Material Source:** Onsite

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: jsomaratne@terrafirmalabs.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Janaka Somaratne
Lab Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | | | |
|---|---|---|---|---|---|
| Sample Number | P23-11310A | P23-11310C | P23-11310D | P23-11310E | P23-11310F |
| Date Tested | 21/01/2023 | 21/01/2023 | 21/01/2023 | 21/01/2023 | 21/01/2023 |
| Time Tested | ** | ** | ** | ** | ** |
| Test Request #/Location | 23<br>212 | 25<br>237 | 26<br>234 | 27<br>231 | 28<br>239 |
| Easting | 361942 | 361391 | 361902 | 361387 | 361898 |
| Northing | 5783867 | 5784586 | 5783933 | 5784591 | 5783982 |
| Layer / Reduced Level | Layer 1 | Layer 5 | Layer 5 | Layer 6 | Layer 6 |
| Thickness of Layer (mm) | 300mm | 300mm | 300mm | 300mm | 300mm |
| 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 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | 0 | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m$^3$ | 1.89 | 1.94 | 1.96 | 2.05 | 1.96 |
| Field Moisture Content % | 21.5 | 24.0 | 18.3 | 27.9 | 14.5 |
| Field Dry Density (FDD) t/m$^3$ | 1.55 | 1.56 | 1.66 | 1.60 | 1.72 |
| Peak Converted Wet Density t/m$^3$ | 1.93 | 1.99 | 2.04 | 2.09 | 1.89 |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | ** | ** | ** |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 26.0 | 21.6 | 18.8 | 24.2 | 13.0 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 21.5 | 24.0 | 18.3 | 27.9 | 14.5 |
| Moisture Ratio % (AS1289.5.4.1) | 82.5 | 111.0 | 97.5 | 115.5 | 111.5 |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** | ** | ** |
| Moisture Variation (Wv) % | 4.0 | -2.5 | 0.5 | -3.5 | -1.5 |
| Adjusted Moisture Variation % | ** | ** | ** | ** | ** |
| Hilf Density Ratio (%) | **97.5** | **97.5** | **96.0** | **98.0** | **104.0** |
| Compaction Method | **Standard** | **Standard** | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** | ** | ** |

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

# Material Test Report

**Report Number:** **P231288-8**
**Issue Number:** 1
**Date Issued:** 07/02/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11310
**Date Sampled:** 21/01/2023
**Dates Tested:** 21/01/2023 - 24/01/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Remarks:** Test no. 23-26 for 20/01/23 work (yesterday)
Test no. 27-29 for 21/01/23 work(today)
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** CLAY
**Material Source:** Onsite

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: jsomaratne@terrafirmalabs.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Janaka Somaratne
Lab Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11310B | P23-11310G | |
| Date Tested | 21/01/2023 | 21/01/2023 | |
| Time Tested | ** | ** | |
| Test Request #/Location | 24<br>208 | 29<br>224 | |
| Easting | 361884 | 361880 | |
| Northing | 5783858 | 5783896 | |
| Layer / Reduced Level | Layer 1 | Layer 1 | |
| Thickness of Layer (mm) | 300mm | 300mm | |
| Soil Description | CLAY | CLAY | |
| Test Depth (mm) | 275 | 275 | |
| Fraction Tested (mm) | 19.0 | 19.0 | |
| Oversize (wet basis) % | 0 | 0 | |
| Oversize (dry basis) % | 0 | 0 | |
| Curing Hours | ** | ** | |
| Method used to Determine Plasticity | Visual Assessment | Visual Assessment | |
| Field Wet Density t/m$^3$ | 1.95 | 1.99 | |
| Field Moisture Content % | 21.1 | 10.6 | |
| Field Dry Density t/m$^3$ | 1.61 | 1.80 | |
| Maximum Dry Density t/m$^3$ | 1.76 | 1.79 | |
| Adjusted Maximum Dry Density t/m$^3$ | ** | ** | |
| Optimum Moisture Content (OMC) % | 16.0 | 12.0 | |
| Adjusted Optimum Moisture Content (OMC) % | ** | ** | |
| Moisture Variation % | -5.0 | 1.5 | |
| Moisture Ratio % | 130.5 | 88.0 | |
| Density Ratio % | **91.5** | **100.5** | |
| Compaction Method | **Standard** | **Standard** | |

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

# Material Test Report

**Report Number:** **P231288-9**
**Issue Number:** 2 - *This version supersedes all previous issues*
**Reissue Reason:**
**Date Issued:** 22/08/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11321
**Dates Tested:** 23/01/2023 - 24/01/2023
**Location:** 100 Lecky Road, Officer, Stage 2

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: ccaulfield@terrafirmalabs.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Chris Caulfield
Project Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11321A | P23-11321B | P23-11321C |
| Test Number | 30 | 31 | 32 |
| Date Tested | 23/01/2023 | 23/01/2023 | 23/01/2023 |
| Time Tested | 15:45 | 15:45 | 16:00 |
| Test Request #/Location | 30<br>Lot 217 | 31<br>Lot 219 | 32<br>Lot 221 |
| Layer / Reduced Level | Layer 4 | Layer 4 | Layer 4 |
| Thickness of Layer (mm) | 300 | 300 | 300 |
| Soil Description | Silty Clay | Silty Clay | Silty Clay |
| Test Depth (mm) | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 0 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | 0 | 0 | 0 |
| Field Wet Density (FWD) $t/m^3$ | 2.00 | 2.03 | 2.01 |
| Field Moisture Content % | 22.0 | 21.6 | 19.8 |
| Field Dry Density (FDD) $t/m^3$ | 1.64 | 1.67 | 1.68 |
| Peak Converted Wet Density $t/m^3$ | 2.07 | 2.06 | 2.06 |
| Adjusted Peak Converted Wet Density $t/m^3$ | ** | ** | ** |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 19.0 | 18.4 | 19.4 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 22.0 | 21.6 | 19.8 |
| Moisture Ratio % (AS1289.5.4.1) | 115.5 | 117.5 | 102.0 |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** |
| Moisture Variation (Wv) % | -3.0 | -3.0 | -0.5 |
| Adjusted Moisture Variation % | ** | ** | ** |
| Hilf Density Ratio (%) | **96.5** | **98.0** | **97.5** |
| Compaction Method | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** |

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

# Material Test Report

**Report Number:** **P231288-10**
**Issue Number:** 1
**Date Issued:** 07/02/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11329
**Dates Tested:** 24/01/2023 - 25/01/2023
**Location:** 100 Lecky Road Officer - Level One Supervision

terra firma laboratories

Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: jsomaratne@terrafirmalabs.com.au

Accredited for compliance with ISO/IEC 17025 - Testing

NATA WORLD RECOGNISED ACCREDITATION

Approved Signatory: Janaka Somaratne
Lab Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11329A | P23-11329B | P23-11329C |
| Date Tested | 24/01/2023 | 24/01/2023 | 24/01/2023 |
| Time Tested | 16:29 | 16:40 | 16:50 |
| Test Request #/Location | Test 33<br>Lot 222 | Test 34<br>Lot 223 | Test 35<br>Lot 224 |
| Layer / Reduced Level | L1 | L1 | L1 |
| Thickness of Layer (mm) | 300 | 300 | 300 |
| Soil Description | CLAY | CLAY | CLAY |
| Test Depth (mm) | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 0 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m$^3$ | 1.98 | 2.01 | 2.08 |
| Field Moisture Content % | 19.6 | 19.3 | 19.3 |
| Field Dry Density (FDD) t/m$^3$ | 1.66 | 1.69 | 1.74 |
| Peak Converted Wet Density t/m$^3$ | 2.08 | 2.07 | 2.08 |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | ** |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 18.2 | 18.1 | 18.2 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 19.6 | 19.3 | 19.3 |
| Moisture Ratio % (AS1289.5.4.1) | 107.5 | 107.0 | 106.0 |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** |
| Moisture Variation (Wv) % | -1.5 | -1.0 | -1.0 |
| Adjusted Moisture Variation % | ** | ** | ** |
| Hilf Density Ratio (%) | **95.0** | **97.0** | **100.0** |
| Compaction Method | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** |

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

# Material Test Report

**Report Number:** **P231288-11**
**Issue Number:** 2 - *This version supersedes all previous issues*
**Reissue Reason:**
**Date Issued:** 22/08/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11382
**Date Sampled:** 30/01/2023
**Dates Tested:** 30/01/2023 - 06/02/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Estate Stage 2 - Level One
**Material:** Silty Clay
**Material Source:** Imported

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: ccaulfield@terrafirmalabs.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing
Approved Signatory: Chris Caulfield
Project Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11382A | P23-11382B | P23-11382C |
| Test Number | 36 | 37 | 38 |
| Date Tested | 30/01/2023 | 30/01/2023 | 30/01/2023 |
| Time Tested | 14:14 | 14:20 | 14:35 |
| Test Request #/Location | Lot 223 | Lot 220 | Lot 214 |
| Layer / Reduced Level | FSL | FSL | FSL |
| Thickness of Layer (mm) | 300 | 300 | 300 |
| Soil Description | CLAY | CLAY | CLAY |
| Test Depth (mm) | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | ** | ** | 0 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | ** | ** | ** |
| Field Wet Density (FWD) t/m$^3$ | 1.99 | 1.96 | 1.97 |
| Field Moisture Content % | 12.4 | 11.4 | 12.3 |
| Field Dry Density (FDD) t/m$^3$ | 1.77 | 1.76 | 1.76 |
| Peak Converted Wet Density t/m$^3$ | 2.01 | 1.98 | 2.02 |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | ** |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | ** | ** | 15.9 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | ** | ** | 12.3 |
| Moisture Ratio % (AS1289.5.4.1) | 78.5 | 76.5 | 77.5 |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** |
| Moisture Variation (Wv) % | 3.5 | 3.5 | 3.5 |
| Adjusted Moisture Variation % | ** | ** | ** |
| Hilf Density Ratio (%) | **99.0** | **99.0** | **97.5** |
| Compaction Method | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** |

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

# Material Test Report

**Report Number:** P231288-12
**Issue Number:** 2 - *This version supersedes all previous issues*
**Reissue Reason:**
**Date Issued:** 22/08/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11475
**Date Sampled:** 09/03/2023
**Dates Tested:** 10/02/2023 - 22/02/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** Silty Clay
**Material Source:** Onsite

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: ccaulfield@terrafirmalabs.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Chris Caulfield
Project Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | | | | |
|---|---|---|---|---|---|---|
| Sample Number | P23-11475A | P23-11475B | P23-11475C | P23-11475D | P23-11475E | P23-11475F |
| Test Number | 39 | 40 | 41 | 42 | 43 | 44 |
| Date Tested | 09/02/2023 | 09/02/2023 | 09/02/2023 | 09/02/2023 | 09/02/2023 | 09/02/2023 |
| Time Tested | ** | ** | ** | ** | ** | ** |
| Test Request #/Location | 39<br>Lot 242 | 40<br>Lot 243 | 41<br>Lot 241 | 42<br>Lot 240 | 43<br>Lot 236 | 44<br>Lot 234 |
| Layer / Reduced Level | FSL | FSL | FSL | FSL | FSL | FSL |
| Thickness of Layer (mm) | 300 | 300 | 300 | 300 | 300 | 300 |
| Soil Description | Silty Clay | Silty Clay | Silty Clay | Silty Clay | Silty Clay | Silty Clay |
| Test Depth (mm) | 275 | 275 | 275 | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 0 | 0 | 0 | 2 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | ** | ** | 0 | ** | ** | ** |
| Field Wet Density (FWD) t/m$^3$ | 2.12 | 2.12 | 2.10 | 2.05 | 1.91 | 2.13 |
| Field Moisture Content % | 17.7 | 19.1 | 17.3 | 12.3 | 21.0 | 19.8 |
| Field Dry Density (FDD) t/m$^3$ | 1.80 | 1.78 | 1.79 | 1.83 | 1.58 | 1.79 |
| Peak Converted Wet Density t/m$^3$ | 2.11 | 2.10 | 2.09 | 2.07 | 2.08 | ** |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | ** | ** | ** | 1.99 |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 16.1 | 17.1 | 17.0 | ** | ** | 20.3 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 17.7 | 19.1 | 17.3 | 12.3 | 21.0 | 19.4 |
| Moisture Ratio % (AS1289.5.4.1) | 110.0 | 112.0 | 102.0 | 89.0 | 111.5 | ** |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** | ** | ** | 95.5 |
| Moisture Variation (Wv) % | -1.5 | -2.0 | -0.5 | 1.5 | -2.0 | ** |
| Adjusted Moisture Variation % | ** | ** | ** | ** | ** | 1.0 |
| Hilf Density Ratio (%) | **100.5** | **100.5** | **100.0** | **99.5** | **92.0** | **107.0** |
| Compaction Method | **Standard** | **Standard** | **Standard** | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** | ** | ** | ** |

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

# Material Test Report

**Report Number:** P231288-12
**Issue Number:** 2 - *This version supersedes all previous issues*
**Reissue Reason:**
**Date Issued:** 22/08/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11475
**Date Sampled:** 09/03/2023
**Dates Tested:** 10/02/2023 - 22/02/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** Silty Clay
**Material Source:** Onsite

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: ccaulfield@terrafirmalabs.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing
Approved Signatory: Chris Caulfield
Project Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | | | | |
|---|---|---|---|---|---|---|
| Sample Number | P23-11475G | P23-11475J | P23-11475K | P23-11475L | P23-11475M | P23-11475N |
| Test Number | 45 | 48 | 49 | 50 | 51 | 52 |
| Date Tested | 09/02/2023 | 09/02/2023 | 09/02/2023 | 09/02/2023 | 09/02/2023 | 09/02/2023 |
| Time Tested | ** | ** | ** | ** | ** | ** |
| Test Request #/Location | 45 Lot 233 | 48 Lot 230 | 49 Lot 239 | 50 Lot 238 | 51 Lot 237 | 52 Lot 225 |
| Layer / Reduced Level | FSL | FSL | FSL | FSL | FSL | Layer 1 |
| Thickness of Layer (mm) | 300 | 300 | 300 | 300 | 300 | 300 |
| Soil Description | Silty Clay | Silty Clay | Silty Clay | Silty Clay | Silty Clay | Silty Clay |
| Test Depth (mm) | 275 | 275 | 275 | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 0 | 0 | 0 | 13 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | ** | 0 | 0 | 0 | 0 | 0 |
| Field Wet Density (FWD) t/m$^3$ | 2.00 | 1.94 | 2.07 | 1.97 | 2.05 | 2.16 |
| Field Moisture Content % | 21.7 | 20.0 | 17.7 | 31.6 | 23.9 | 18.5 |
| Field Dry Density (FDD) t/m$^3$ | 1.65 | 1.61 | 1.76 | 1.50 | 1.65 | 1.86 |
| Peak Converted Wet Density t/m$^3$ | 2.07 | 2.10 | 2.12 | 1.96 | 1.88 | ** |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | ** | ** | ** | 2.02 |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 19.1 | 16.9 | 15.9 | 28.3 | 26.7 | 19.8 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 21.7 | 20.0 | 17.7 | 31.6 | 23.9 | 16.0 |
| Moisture Ratio % (AS1289.5.4.1) | 113.0 | 118.5 | 111.5 | 111.5 | 89.5 | ** |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** | ** | ** | 81.0 |
| Moisture Variation (Wv) % | -2.5 | -3.0 | -2.0 | -3.0 | 2.5 | ** |
| Adjusted Moisture Variation % | ** | ** | ** | ** | ** | 1.0 |
| Hilf Density Ratio (%) | **96.5** | **92.5** | **97.5** | **100.5** | **108.5** | **107.0** |
| Compaction Method | **Standard** | **Standard** | **Standard** | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** | ** | ** | ** |

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

# Material Test Report

**Report Number:** P231288-12
**Issue Number:** 2 - *This version supersedes all previous issues*
**Reissue Reason:**
**Date Issued:** 22/08/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11475
**Date Sampled:** 09/03/2023
**Dates Tested:** 10/02/2023 - 22/02/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** Silty Clay
**Material Source:** Onsite

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: ccaulfield@terrafirmalabs.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Chris Caulfield
Project Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | | | | |
|---|---|---|---|---|---|---|
| Sample Number | P23-11475P | P23-11475Q | P23-11475R | | | |
| Test Number | 54 | 55 | 56 | | | |
| Date Tested | 09/02/2023 | 09/02/2023 | 09/02/2023 | | | |
| Time Tested | ** | ** | ** | | | |
| Test Request #/Location | 54<br>Lot 227 | 55<br>Lot 228 | 56<br>Lot 229 | | | |
| Layer / Reduced Level | Layer 2 | Layer 2 | Layer 3 | | | |
| Thickness of Layer (mm) | 300 | 300 | 300 | | | |
| Soil Description | Silty Clay | Silty Clay | Silty Clay | | | |
| Test Depth (mm) | 275 | 275 | 275 | | | |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 | | | |
| Percentage of Wet Oversize (%) | 0 | 0 | 0 | | | |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | 0 | 0 | 0 | | | |
| Field Wet Density (FWD) t/m$^3$ | 2.08 | 2.04 | 2.09 | | | |
| Field Moisture Content % | 6.5 | 14.8 | 7.1 | | | |
| Field Dry Density (FDD) t/m$^3$ | 1.95 | 1.77 | 1.95 | | | |
| Peak Converted Wet Density t/m$^3$ | 2.12 | 2.14 | 2.15 | | | |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | ** | | | |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 9.8 | 13.3 | 10.5 | | | |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 6.5 | 14.8 | 7.1 | | | |
| Moisture Ratio % (AS1289.5.4.1) | 66.5 | 111.0 | 67.5 | | | |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** | | | |
| Moisture Variation (Wv) % | 3.5 | -1.5 | 3.5 | | | |
| Adjusted Moisture Variation % | ** | ** | ** | | | |
| Hilf Density Ratio (%) | **98.0** | **95.0** | **97.5** | | | |
| Compaction Method | **Standard** | **Standard** | **Standard** | | | |
| Report Remarks | ** | ** | ** | | | |

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

# Material Test Report

**Report Number:** P231288-12
**Issue Number:** 2 - *This version supersedes all previous issues*
**Reissue Reason:**
**Date Issued:** 22/08/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11475
**Date Sampled:** 09/03/2023
**Dates Tested:** 20/02/2023 - 20/02/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** Silty Clay
**Material Source:** Onsite

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: ccaulfield@terrafirmalabs.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Chris Caulfield
Project Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11475H | P23-11475I | P23-11475O |
| Test Number | 46 | 47 | 53 |
| Date Tested | 09/02/2023 | 09/02/2023 | 09/02/2023 |
| Time Tested | ** | ** | ** |
| Test Request #/Location | 46<br>Lot 232 | 47<br>Lot 231 | 53<br>Lot 226 |
| Layer / Reduced Level | FSL | FSL | Layer 1 |
| Thickness of Layer (mm) | 300 | 300 | 300 |
| Soil Description | Silty Clay | Silty Clay | Silty Clay |
| Test Depth (mm) | 275 | 275 | 275 |
| Fraction Tested (mm) | 19.0 | 19.0 | 19.0 |
| Oversize (wet basis) % | 0 | 0 | 0 |
| Oversize (dry basis) % | 0 | 0 | 0 |
| Curing Hours | ** | ** | ** |
| Method used to Determine Plasticity | Visual Assessment | Visual Assessment | Visual Assessment |
| Field Wet Density t/m$^3$ | 2.08 | 2.09 | 1.99 |
| Field Moisture Content % | 21.2 | 21.7 | 20.5 |
| Field Dry Density t/m$^3$ | 1.72 | 1.72 | 1.65 |
| Maximum Dry Density t/m$^3$ | 1.79 | 1.77 | 1.94 |
| Adjusted Maximum Dry Density t/m$^3$ | ** | ** | ** |
| Optimum Moisture Content (OMC) % | 15.5 | 16.0 | 13.5 |
| Adjusted Optimum Moisture Content (OMC) % | ** | ** | ** |
| Moisture Variation % | -6.0 | -5.5 | -7.0 |
| Moisture Ratio % | 137.5 | 136.0 | 152.0 |
| Density Ratio % | **96.0** | **97.0** | **85.5** |
| Compaction Method | **Standard** | **Standard** | **Standard** |

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

# Material Test Report

**Report Number:** P231288-13
**Issue Number:** 2 - *This version supersedes all previous issues*
**Reissue Reason:**
**Date Issued:** 22/08/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11565
**Date Sampled:** 15/02/2023
**Dates Tested:** 15/02/2023 - 21/02/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** Silty Clay
**Material Source:** Onsite

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: ccaulfield@terrafirmalabs.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing
Approved Signatory: Chris Caulfield
Project Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | | |
|---|---|---|---|---|
| Sample Number | P23-11565A | P23-11565B | P23-11565C | P23-11565D |
| Test Number | 57 | 58 | 59 | 60 |
| Date Tested | 15/02/2023 | 15/02/2023 | 15/02/2023 | 15/02/2023 |
| Time Tested | ** | ** | ** | ** |
| Test Request #/Location | Lot 230 | Lot 231 | Lot 232 | Lot 233 |
| Layer / Reduced Level | FSL | FSL | FSL | FSL |
| Thickness of Layer (mm) | 300 | 300 | 300 | 300 |
| Soil Description | Silty Clay | Silty Clay | Silty Clay | Silty Clay |
| Test Depth (mm) | 275 | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 9 | 2 | 6 | 0 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | ** | ** | ** | ** |
| Field Wet Density (FWD) t/m$^3$ | 2.13 | 2.10 | 2.08 | 2.00 |
| Field Moisture Content % | 17.3 | 17.6 | 19.0 | 14.3 |
| Field Dry Density (FDD) t/m$^3$ | 1.84 | 1.79 | 1.76 | 1.75 |
| Peak Converted Wet Density t/m$^3$ | ** | ** | ** | 2.10 |
| Adjusted Peak Converted Wet Density t/m$^3$ | 2.11 | 2.09 | 2.08 | ** |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 16.1 | 17.5 | 19.4 | ** |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 15.7 | 17.3 | 17.8 | 14.3 |
| Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** | 84.5 |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | 98.0 | 99.0 | 91.5 | ** |
| Moisture Variation (Wv) % | ** | ** | ** | 2.5 |
| Adjusted Moisture Variation % | 0.5 | 0.0 | 1.5 | ** |
| Hilf Density Ratio (%) | **101.0** | **100.5** | **100.0** | **95.5** |
| Compaction Method | **Standard** | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** | ** |

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

# Material Test Report

**Report Number:** P231288-14
**Issue Number:** 2 - *This version supersedes all previous issues*
**Reissue Reason:**
**Date Issued:** 22/08/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11599
**Date Sampled:** 17/02/2023
**Dates Tested:** 17/02/2023 - 23/02/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** Silty Clay
**Material Source:** Imported

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: ccaulfield@terrafirmalabs.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing
Approved Signatory: Chris Caulfield
Project Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11599A | P23-11599B | P23-11599C |
| Test Number | 61 | 62 | 63 |
| Date Tested | 17/02/2023 | 17/02/2023 | 17/02/2023 |
| Time Tested | 08:51 | 08:55 | 08:57 |
| Test Request #/Location | Lot 235 | Lot 238 | Lot 239 |
| Layer / Reduced Level | L 1 | L 1 | L 1 |
| Thickness of Layer (mm) | 300 | 300 | 300 |
| Soil Description | CLAY | CLAY | CLAY |
| Test Depth (mm) | 275 | 275 | 275 |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 |
| Percentage of Wet Oversize (%) | 0 | 0 | 7 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | ** | ** | ** |
| Field Wet Density (FWD) t/m$^3$ | 2.12 | 1.75 | 1.80 |
| Field Moisture Content % | 10.4 | 20.5 | 18.5 |
| Field Dry Density (FDD) t/m$^3$ | 1.92 | 1.45 | 1.54 |
| Peak Converted Wet Density t/m$^3$ | 2.17 | 1.95 | ** |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | 2.11 |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | 10.4 | 21.9 | 19.1 |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 10.4 | 20.5 | 17.2 |
| Moisture Ratio % (AS1289.5.4.1) | 99.5 | 94.0 | ** |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | 90.5 |
| Moisture Variation (Wv) % | 0.0 | 1.5 | ** |
| Adjusted Moisture Variation % | ** | ** | 2.0 |
| Hilf Density Ratio (%) | **98.0** | **90.0** | **85.5** |
| Compaction Method | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** |

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

# Material Test Report

**Report Number:** P231288-15
**Issue Number:** 2 - *This version supersedes all previous issues*
**Reissue Reason:**
**Date Issued:** 22/08/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11721
**Date Sampled:** 27/02/2023
**Dates Tested:** 27/02/2023 - 08/03/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** Gravelly CLAY
**Material Source:** Imported

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: ccaulfield@terrafirmalabs.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Chris Caulfield
Project Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | | | |
|---|---|---|---|---|---|
| Sample Number | P23-11721A | P23-11721B | P23-11721C | P23-11721D | P23-11721E |
| Test Number | 64 | 65 | 66 | 67 | 68 |
| Date Tested | 27/02/2023 | 27/02/2023 | 27/02/2023 | 27/02/2023 | 27/02/2023 |
| Time Tested | ** | ** | ** | ** | ** |
| Test Request #/Location | Lot 207 | Lot 206 | Lot 205 | Lot 204 | Lot 208 Retest #24 |
| Layer / Reduced Level | FSL | FSL | FSL | FSL | FSL |
| Thickness of Layer (mm) | 300 | 300 | 300 | 300 | 300 |
| Soil Description | Gravelly CLAY | Gravelly CLAY | Gravelly CLAY | Gravelly CLAY | Gravelly 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 | 3 | 0 |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | ** | ** | ** | 0 | ** |
| Field Wet Density (FWD) t/m$^3$ | 2.09 | 2.12 | 2.10 | 2.07 | 2.08 |
| Field Moisture Content % | 23.3 | 15.6 | 16.3 | 15.0 | 15.1 |
| Field Dry Density (FDD) t/m$^3$ | 1.69 | 1.84 | 1.81 | 1.80 | 1.81 |
| Peak Converted Wet Density t/m$^3$ | 1.96 | 2.01 | 1.99 | ** | 2.05 |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | ** | 2.03 | ** |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | ** | ** | ** | 17.1 | ** |
| Adj. Field Moisture Content % (AS1289.5.4.1) | 23.3 | ** | 16.3 | 14.6 | 15.1 |
| Moisture Ratio % (AS1289.5.4.1) | 92.0 | 76.5 | 89.0 | ** | 89.0 |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** | 85.0 | ** |
| Moisture Variation (Wv) % | 2.0 | 4.5 | 2.0 | ** | 2.0 |
| Adjusted Moisture Variation % | ** | ** | ** | 2.0 | ** |
| Hilf Density Ratio (%) | **106.5** | **105.5** | **105.5** | **101.5** | **101.0** |
| Compaction Method | **Standard** | **Standard** | **Standard** | **Standard** | **Standard** |
| Report Remarks | ** | ** | ** | ** | ** |

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

# Material Test Report

**Report Number:** P231288-15
**Issue Number:** 2 - *This version supersedes all previous issues*
**Reissue Reason:**
**Date Issued:** 22/08/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11721
**Date Sampled:** 27/02/2023
**Dates Tested:** 27/02/2023 - 08/03/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** Gravelly CLAY
**Material Source:** Imported

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: ccaulfield@terrafirmalabs.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing
Approved Signatory: Chris Caulfield
Project Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1 | | | | | |
|---|---|---|---|---|---|
| Sample Number | P23-11721F | P23-11721I | P23-11721K | P23-11721L | |
| Test Number | 69 | 72 | 74 | 75 | |
| Date Tested | 27/02/2023 | 27/02/2023 | 27/02/2023 | 27/02/2023 | |
| Time Tested | ** | ** | ** | ** | |
| Test Request #/Location | Lot 202 | Lot 236 Retest #43 | Lot 243 | Lot 240 | |
| Layer / Reduced Level | FSL | FSL | FSL | Layer 2 | |
| Thickness of Layer (mm) | 300 | 300 | 300 | 300 | |
| Soil Description | Gravelly CLAY | Gravelly CLAY | Gravelly CLAY | Gravelly CLAY | |
| Test Depth (mm) | 275 | 275 | 275 | 275 | |
| Sieve used to determine oversize (mm) | 19.0 | 19.0 | 19.0 | 19.0 | |
| Percentage of Wet Oversize (%) | ** | 0 | 0 | ** | |
| Percentage of Dry Oversize (%) (AS1289.5.4.1) | ** | 0 | ** | ** | |
| Field Wet Density (FWD) t/m$^3$ | 2.05 | 2.04 | 2.07 | 2.02 | |
| Field Moisture Content % | 13.6 | 25.0 | 15.6 | 12.2 | |
| Field Dry Density (FDD) t/m$^3$ | 1.81 | 1.63 | 1.79 | 1.80 | |
| Peak Converted Wet Density t/m$^3$ | 2.03 | 1.83 | 2.01 | 1.83 | |
| Adjusted Peak Converted Wet Density t/m$^3$ | ** | ** | ** | ** | |
| Adj. Optimum Moisture Content % (AS1289.5.4.1) | ** | 29.5 | ** | ** | |
| Adj. Field Moisture Content % (AS1289.5.4.1) | ** | 25.0 | 15.6 | ** | |
| Moisture Ratio % (AS1289.5.4.1) | 74.5 | 85.0 | 78.5 | 70.0 | |
| Adjusted Moisture Ratio % (AS1289.5.4.1) | ** | ** | ** | ** | |
| Moisture Variation (Wv) % | 4.5 | 4.0 | 4.0 | 5.5 | |
| Adjusted Moisture Variation % | ** | ** | ** | ** | |
| Hilf Density Ratio (%) | **101.5** | **111.5** | **103.0** | **110.0** | |
| Compaction Method | **Standard** | **Standard** | **Standard** | **Standard** | |
| Report Remarks | ** | ** | ** | ** | |

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

# Material Test Report

**Report Number:** P231288-15
**Issue Number:** 2 - *This version supersedes all previous issues*
**Reissue Reason:**
**Date Issued:** 22/08/2023
**Client:** Lojac Civil Pty Ltd
35/148 Chesterville Road, Moorabbin Vic 3189
**Project Number:** P231288
**Project Name:** Banyan Place Estate Stage 2 - Level One
**Project Location:** Officer
**Work Request:** 11721
**Date Sampled:** 27/02/2023
**Dates Tested:** 27/02/2023 - 06/03/2023
**Sampling Method:** AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
**Specification:** 95%
**Site Selection:** Selected by Client
**Location:** Banyan Place Estate Stage 2 - Level One
**Material:** Gravelly CLAY
**Material Source:** Imported

terra firma laboratories
Pakenham Laboratory
47 National Avenue Pakenham VIC 3810
Phone: (03) 9769 5799
Email: ccaulfield@terrafirmalabs.com.au

NATA WORLD RECOGNISED ACCREDITATION
Accredited for compliance with ISO/IEC 17025 - Testing
Approved Signatory: Chris Caulfield
Project Manager
NATA Accredited Laboratory Number: 15357

| Compaction Control AS 1289 5.1.1 & 5.4.1 & 5.8.1 & 2.1.1 | | | |
|---|---|---|---|
| Sample Number | P23-11721G | P23-11721H | P23-11721J |
| Test Number | 70 | 71 | 73 |
| Date Tested | 27/02/2023 | 27/02/2023 | 27/02/2023 |
| Time Tested | ** | ** | ** |
| Test Request #/Location | Lot 226 Retest #53 | Lot 230 Retest #48 | Lot 242 |
| Layer / Reduced Level | FSL | FSL | FSL |
| Thickness of Layer (mm) | 300 | 300 | 300 |
| Soil Description | Gravelly CLAY | Gravelly CLAY | Gravelly CLAY |
| Test Depth (mm) | 275 | 275 | 275 |
| Fraction Tested (mm) | 19.0 | 19.0 | 19.0 |
| Oversize (wet basis) % | 3 | 5 | 0 |
| Oversize (dry basis) % | 3 | 5 | 0 |
| Curing Hours | ** | ** | 2.0 |
| Method used to Determine Plasticity | Visual Assessment | Visual Assessment | Visual Assessment |
| Field Wet Density t/m$^3$ | 2.08 | 2.16 | 2.05 |
| Field Moisture Content % | 15.7 | 19.8 | 13.4 |
| Field Dry Density t/m$^3$ | 1.79 | 1.80 | 1.81 |
| Maximum Dry Density t/m$^3$ | ** | ** | 1.62 |
| Adjusted Maximum Dry Density t/m$^3$ | 1.61 | 1.59 | ** |
| Optimum Moisture Content (OMC) % | ** | ** | 19.0 |
| Adjusted Optimum Moisture Content (OMC) % | 19.5 | 23.0 | ** |
| Moisture Variation % | 3.5 | 3.5 | 5.5 |
| Moisture Ratio % | 81.0 | 85.5 | 71.5 |
| Density Ratio % | **111.5** | **113.5** | **111.5** |
| Compaction Method | **Standard** | **Standard** | **Standard** |

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

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 201

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 201 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 202

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 202 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 203

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 203 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 204

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 204 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 205

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 205 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 206

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 206 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 207

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 207 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 208

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 208 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 209

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 209 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 210

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 210 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 211

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 211 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 212

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 212 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 213

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 213 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 214

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 214 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 215

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 215 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 216

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 216 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 217

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 217 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 218

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 218 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 219

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 219 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 220

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 220 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 221

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 221 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 222

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 222 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 223

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 223 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 224

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 224 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 225

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 225 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 226

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 226 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 227

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 227 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 228

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 228 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 229

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 229 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 230

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 230 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 231

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 231 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 232

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 232 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 233

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 233 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 234

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 234 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 235

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 235 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 236

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 236 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 237

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 237 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 238

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 238 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 239

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 239 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 240

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 240 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 241

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 241 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 242

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 242 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager

terra firma laboratories

Your Worksite is Our Laboratory.

22 Aug 2023

TO WHOM IT MAY CONCERN

Re: Banyan Place Estate Stage 2
Officer
Lot 243

*Terra Firma Laboratories* was engaged by *Lojac Civil Pty Ltd* as the Geotechnical and Inspection Testing Authority (GITA) to provide Level 1 supervision and testing on the earthworks component for Banyan Place Estate, Stage 2, Officer in accordance with Australian Standard AS3798 *Guidelines for Earthworks for Commercial and Residential Development.*

Lot 243 as defined in drawing Ref 1470_2/R04 from *Charlton Degg,* 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 material 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 2500m$^2$ in area and across several house lots.

A GITA Inspection Verification report (Reference: P231288A) has been published on 22 Aug 2023 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**

C Caulfield
Project Manager