

LEVEL ONE

Reference
No.: 2344-157

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out
By*



PREPARED FOR: -

451 BEATTYS DEVELOPMENT PTY LTD



Table of Contents

1)	Introduction & Scope.....	2
2)	Site Preparation.....	2
3)	Fill Material.....	2
4)	Fill Construction Procedure.....	3
5)	Compaction Control Testing.....	3
6)	Testing Frequency.....	3
7)	Statement of Compliance.....	4
8)	Limitations of this Report.....	4

Appendices

Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: 451 Beattys Development Pty Ltd

Project Name: Botania Estate Stage 5B

Date: 16th of March 2023

Author: Mr. Sam Loza

Reference No.: 2344-157

Revision: 0

Project Manager: Mr. Dom Modric

1. Introduction & Scope

At the request of 451 Beattys Development Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site from the 20th of December 2021 to the 9th of March 2022 where a residential development is being constructed. Inspection and testing of stripping, material quality and compaction control tests were carried out to comply with the requirements of AS 3798 Appendix B, Level 1.

The following documentation was submitted to Geotechnical Laboratories by 451 Beattys Development Pty Ltd and was used to determine compliance of earthworks in conjunction with the requirements of AS 3798 – 2007.

(1). Road & Drainage Layout Plan Drawing Number 3070E-05B-111 (Rev. A).

General site works involved the placement of fill, using mainly on-site derived materials, to bring the fill construction regions to the required finished levels as indicated on the civil construction drawings.

2. Site Preparation

Site inspections were undertaken on the 29th of November 2021 confirming that selected areas to be filled were completely stripped of topsoil prior to filling. The topsoils were stockpiled around the site for later removal off-site.

Initial proof roll inspections were performed and subsequently throughout the project duration to ensure no significant soft areas were present prior to filling.

3. Fill Material

The fill material used was sourced from service trench excavations, road boxing and site cut areas.



The material is best described as a silty CLAY, brown, dark brown, slightly moist to moist, high plasticity with gravels and cobbles of a basalt origin.

The fill material is consistent with the naturally occurring soils for this region.

Source material was deemed a **Suitable Material** in accordance with guidelines set out in AS 3798 - 2007 Section 4.4.

4. Fill Construction Procedure

The following plant (but not always limited to) were engaged in the fill placement process:

- Highway trucks / dump trucks
- A watercart
- A sheepsfoot compactor (815)

The sheepsfoot compactor placed material in horizontal loose layers of approximately 250mm-300mm. The compactor also performed compaction of the fill operating in a criss-cross pattern where possible.

The moisture condition of the fill was closely monitored and moisture conditioning procedures were applied to bring the material closer to its Standard Optimum Moisture Content (AS 1289 5.7.1).

5. Compaction Control Testing

Compaction control testing was performed on-site using a Nuclear Densometer in accordance with AS 1289 5.8.1. Laboratory reference densities were determined from material sampled at each test site location using the Hilf Rapid Compaction Method in accordance with AS 1289 5.7.1.

A total of thirteen compaction tests were performed on the fill construction. Results are presented in Appendix B of this report.

6. Testing Frequency

Testing frequencies were in accordance with **AS 3798 - 2007 Table 8.1 for Type 1 - Large Scale Operations.**

Acceptance of fill layers for compaction was based on the requirements of **AS 3798 - 2007 Table 5.1 Item 1. Residential.**



As a result, the compliance criteria adopted by Geotechnical Laboratories was a hilt density ratio not less than 95 percent of the maximum hilt density value as determined by the Standard Hilt Rapid Compaction Method in accordance with AS 1289 5.7.1.

Test results indicate that the above-mentioned requirements have been successfully achieved.

No moisture criteria was specified.

7. Statement of Compliance

So far as can be determined, 451 Beattys Development Pty Ltd has satisfactorily complied with the compaction and construction processes required for the structural filling of this site. As such, structural filling placed on this site by 451 Beattys Development Pty Ltd from the 20th of December 2021 to the 9th of March 2022 can be categorised as CONTROLLED FILL in accordance with AS 2870-2011.

8. Limitations and Liability of this Report

This report has been produced for and remains the property of 451 Beattys Development Pty Ltd.

The release of this report to a third party will only occur if Geotechnical Laboratories Pty Ltd has received, in writing, the authority to do so by our client.

Geotechnical Laboratories Pty Ltd will not engage in any third-party communication regarding this report.

Where information has been supplied by the client or third party, the assumption is made that this is correct. Geotechnical Laboratories Pty Ltd will not be held responsible for any inaccuracies supplied.

Test results and controlled fill compliance relates only to fill placed by 451 Beattys Development Pty Ltd and for earthworks completed at the time of inspection and testing. Any previous or subsequent earthworks will require a separate evaluation.

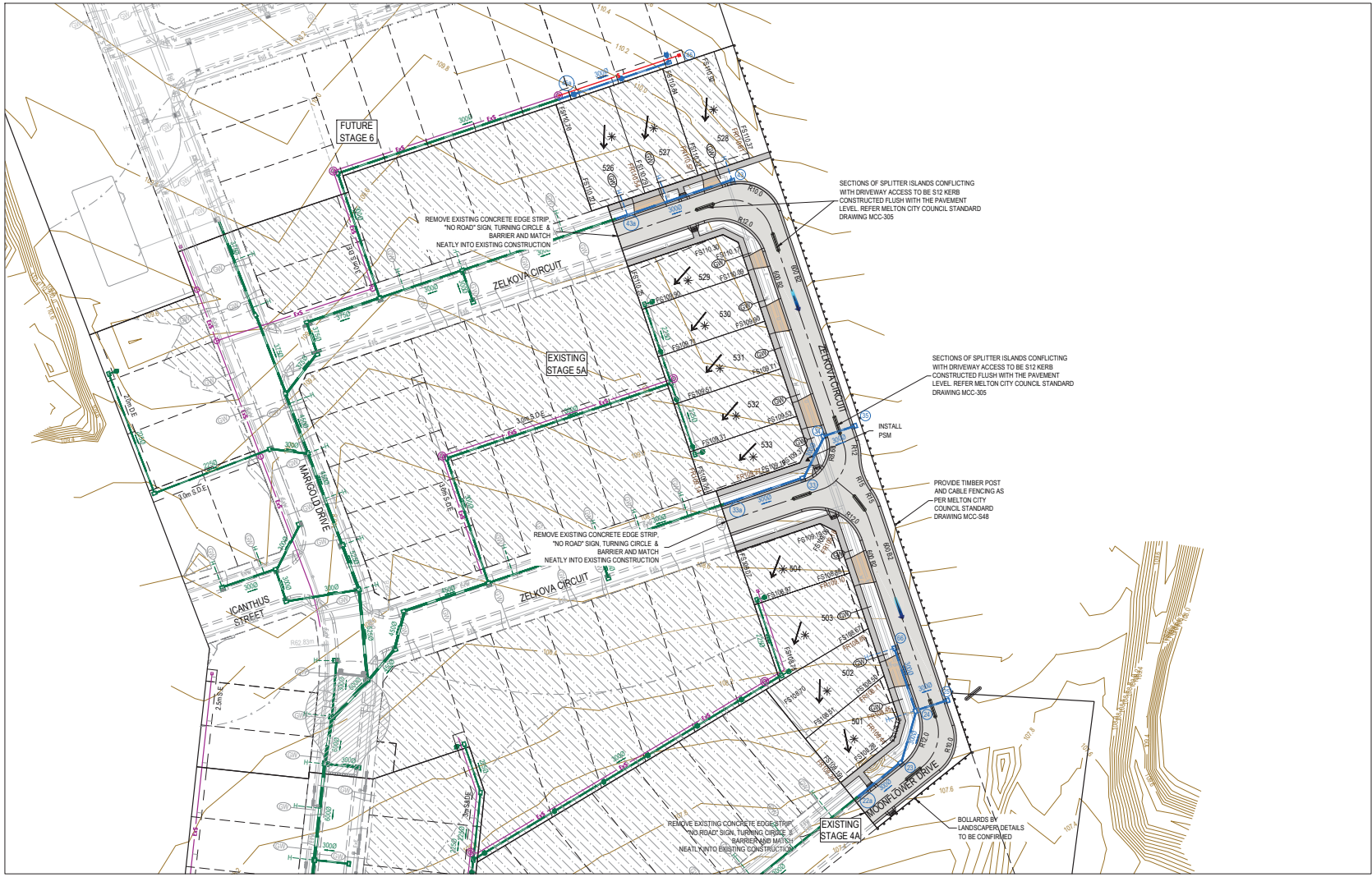
For & on behalf of
Geotechnical Laboratories Pty Ltd.

Sam Loza
Laboratory Manager.



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX A



LEGEND - LAYOUT PLAN
ALL PROPOSED, FUTURE & EXISTING SERVICE LOCATIONS ARE SHOWN INDICATIVELY

	STORMWATER DRAIN, PIT & PROPERTY INLET
	MAIN DRAIN
	SWALE DRAIN
	SEWER & MAINTENANCE STRUCTURES
	HOUSE DRAIN
	ELECTRICITY (U) GROUND
	ELECTRICITY (O) HEAD
	GAS
	TELSTRA
	OPTIC FIBRE
	WATER
	RECYCLE WATER
	AG DRAIN
	SERVICE CONDUITS
	TACTILE PAVERS
	EXISTING STORMWATER DRAIN
	EXISTING MAIN DRAIN
	EXISTING SWALE DRAIN
	EXISTING SEWER & MAINTENANCE STRUCTURES
	EXISTING HOUSE DRAIN
	EXISTING ELECTRICITY (UNDER GROUND)
	EXISTING ELECTRICITY OVERHEAD
	EXISTING GAS
	EXISTING TELSTRA
	EXISTING OPTIC FIBRE
	EXISTING WATER
	EXISTING RECYCLED WATER
	EXISTING AG DRAIN
	EXISTING SERVICE CONDUITS
	EXISTING TACTILE PAVERS
	FUTURE STORMWATER DRAIN
	FUTURE MAIN DRAIN
	FUTURE SWALE DRAIN
	FUTURE SEWER & MAINTENANCE STRUCTURES
	FUTURE HOUSE DRAIN
	FUTURE ELECTRICITY (UNDER GROUND)
	FUTURE ELECTRICITY OVERHEAD
	FUTURE GAS
	FUTURE TELSTRA
	FUTURE OPTIC FIBRE
	FUTURE WATER
	FUTURE RECYCLED WATER
	FUTURE AG DRAIN
	FUTURE SERVICE CONDUITS
	FUTURE TACTILE PAVERS
	ZERO LOT LINES
	EXISTING SURFACE LEVEL
	FINISHED BUILDING LINE LEVEL
	FINISHED RIDGE LINE LEVEL
	CHANAGE
	TOP OF RETAINING WALL LEVEL
	BOTTOM OF RETAINING WALL LEVEL
	EXISTING RETAINING WALL
	RETAINING WALL
	FUTURE RETAINING WALL
	STRUCTURAL FILL > 200mm DEEP
	EXISTING STRUCTURAL FILL > 200mm DEEP
	CUT > 200mm DEEP
	DIRECTION OF FALL
	OVERLAND FLOW
	GRADED IN DIRECTION OF FALL TO LEVEL INDICATED
	EDGE STRIP, SUBSOIL DRAIN, NO ROAD SIGN & BARRIER
	EXISTING TREE TO BE RETAINED
	EXISTING TREE TO BE REMOVED
	PERMANENT SURVEY MARK
	TEMPORARY BENCH MARK
	PROPOSED DRIVEWAY & FOOTPATH
	PROPOSED INDUSTRIAL DRIVEWAY
	PROPOSED SHARED FOOTPATH
	PROPOSED ROAD PAVING
	EXISTING ROAD PAVING

ROAD NAME	ROAD CLASSIFICATION	RESERVE WIDTH (m)	ROAD WIDTH (m)				KERB TYPE		VERGE WIDTH (m)	
			LIP TO LIP	INV TO INV	BACK TO BACK	NTHWEST	STHEAST	NTHWEST	STHEAST	
ZELKOVA CIRCUIT (LOTS 526-528)	AS	16.00	6.40	7.30	7.60	600 B2	600 B2	4.35	4.35	
ZELKOVA CIRCUIT (LOTS 529-533)	AS	14.50	6.40	7.30	7.60	600 B2	600 B2	6.00	2.00	
MOONFLOWER DRIVE	AS	14.50	6.40	7.30	7.60	600 B2	600 B2	5.00	2.00	
MOONFLOWER DRIVE (LOT 501)	AS	14.50	6.40	7.30	7.60	600 B2	600 B2	4.30	1.20	

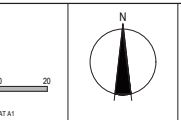
ROAD NAME	SERVICES OFFSET TABLE			
	GAS OFFSET (m)	WATER OFFSET (m)	ELECTRICITY OFFSET (m)	OPTIC FIBRE OFFSET (m)
ZELKOVA CIRCUIT (LOTS 526-528)	2.00 W	2.50 W	2.60 E	1.90 E
ZELKOVA CIRCUIT (LOTS 529-533)	2.00 E	2.50 E	4.00 E	3.50 E
MOONFLOWER DRIVE	2.00 E	2.50 E	4.00 E	3.50 E

REV	DATE	AMENDMENT / REVISION DESCRIPTION	DRAFTER	DESIGNER	CHECKER	APPROVER
A	12.08.21	ISSUED FOR INFORMATION ONLY	V.HOPE	S.MACLAREN	C.CATHCART	B.SANDERSON

INFORMATION ONLY

PLAN OF SUB. NO. PS847502B
PERMIT REF. NO. PA2019/0004/1

Scale 1:500
SCALE AS SHOWN AT A1



SMC
Member of the **Surbana Jurung Group**
ABN 47 065 475 149
Collins Square, Tower 4, Level 20, 727 Collins St
Melbourne, VIC 3008
Ph 03 9514 1500

WARNING
BEWARE OF UNDERGROUND SERVICES
The locations of underground services are approximate only and their exact position should be proven on site.
No guarantee is given that all existing services are shown.
Locate all underground services before commencement of works
DIAL 1100 BEFORE YOU DIG
www.1100.com.au

Botania - Stage 5B
Melton City Council
Road and Drainage
Layout Plan

MELBOURNE REF: 355 G5
PROJECT/DRAWING NO: 3070E-05B-111
SHEET NO: 02 of 23
REVISION: A



LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX B



GEOTECHNICAL LABORATORIES
 ACN 102 571 077
 14 Ravenhall Way, Ravenhall, Vic 3023
 Email: info@geolab.com.au PH: (03) 8361-9140

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 2343/095

LOCATION: 1152 TAYLORS DEVELOPMENT - Botania, Stage 5

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
20/12/21	1	<i>Refer to #2343/096 for approx. test site locations.</i>	1.87	22.5	102.0	1.83	26.0	175	3.5 Drier	86.0	0	0	200	
20/12/21	2		1.78	26.5	102.5	1.74	30.0	175	3.5 Drier	88.0	0	0	200	
20/12/21	3		1.85	25.5	101.5	1.82	29.0	175	3.5 Drier	88.0	0	0	200	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8:15am Finish Time: 8:35am

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

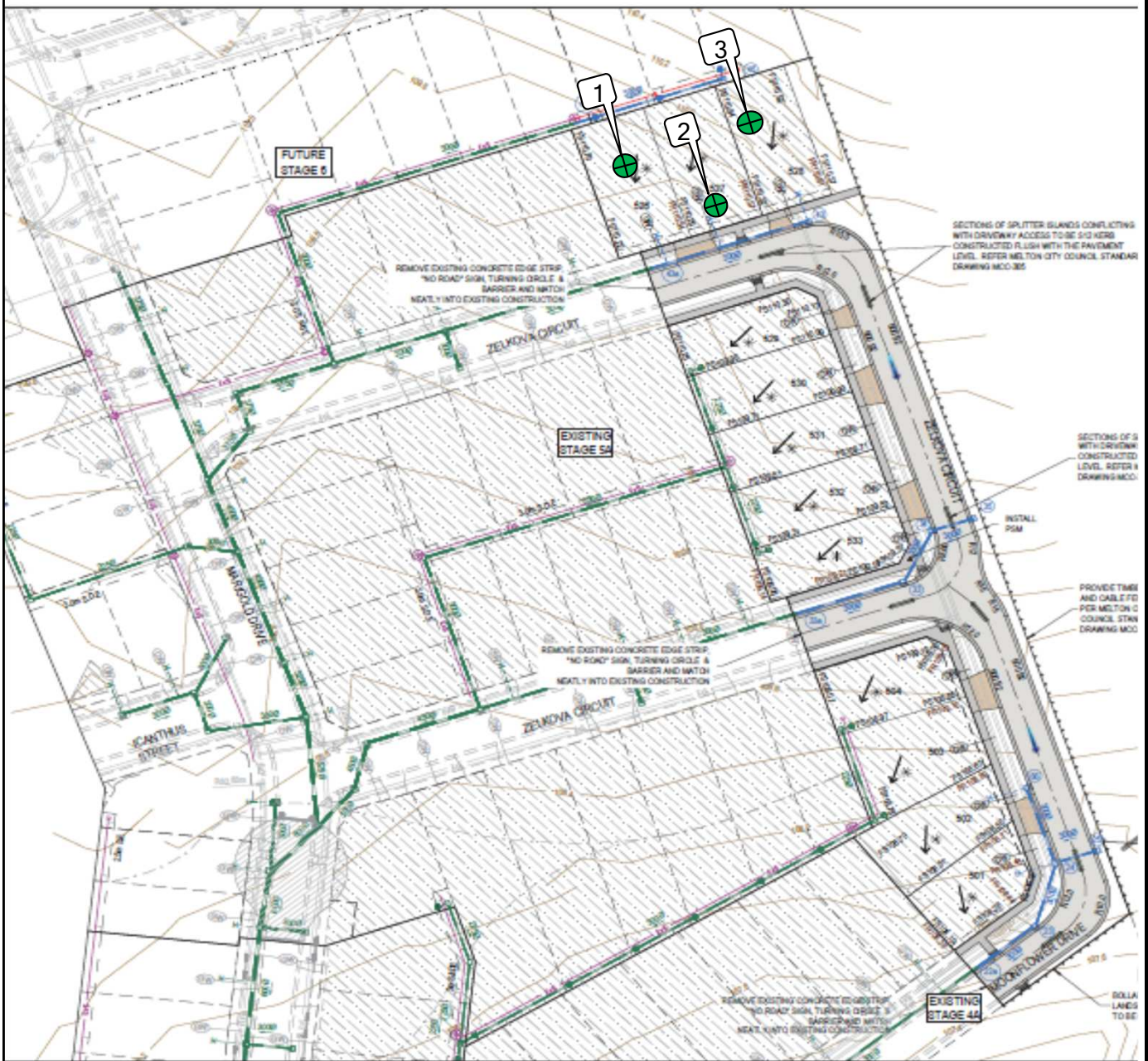


Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 10/1/2022



ROAD CLASSIFICATION	RESERVE WIDTH (m)	ROAD WIDTH (m)			KERB TYPE		VERGE WIDTH (m)	
		LIP TO LIP	INV TO INV	BACK TO BACK	NTHWEST	SITHEAST	NTHWEST	SITHEAST
AS	16.00	6.40	7.30	7.60	600 B2	600 B2	4.35	4.35
AS	14.50	6.40	7.30	7.60	600 B2	600 B2	6.00	2.00
AS	14.50	6.40	7.30	7.60	600 B2	600 B2	5.00	2.00
AS	14.50	6.40	7.30	7.60	600 B2	600 B2	4.30	1.20

ROAD NAME	SERVICES TO
	GAS OFFSET
ZELKOVA CIRCUIT (LOTS 528-529)	2.00
ZELKOVA CIRCUIT (LOTS 529-533)	2.00
MOONFLOWER DRIVE	2.00

DRAWN: [] DESIGNER: [] CHECKER: [] APPROVER: [] PLAN OF SUB. NO. [] N []



GEOTECHNICAL LABORATORIES

GEOTECHNICAL LABORATORIES
ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023
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CLIENT: 1152 TAYLORS DEVELOPMENT LOCATION: Botania, Plumpton Stage 5 Sketch indicating compaction test locations	DATE: 20/12/2021	JOB No.: 2343/096
	OPERATOR: PV	CHECKED: KK
	SCALE: NTS	FIGURE No: -



GEOTECHNICAL LABORATORIES
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 2343/097

LOCATION: 1152 TAYLORS DEVELOPMENT - Botania, Plumpton, Stage 5

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
21/12/21	1	<i>Refer to #2343/098 for approx. test site locations.</i>	1.90	23.0	103.5	1.83	25.5	175	2.5 Drier	90.5	0	0	400	
21/12/21	2		1.96	23.0	108.0	1.81	25.5	175	2.5 Drier	89.5	0	0	400	
21/12/21	3		1.89	23.5	106.5	1.77	28.5	175	5.5 Drier	81.0	0	0	0	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12:25pm Finish Time: 1:10pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

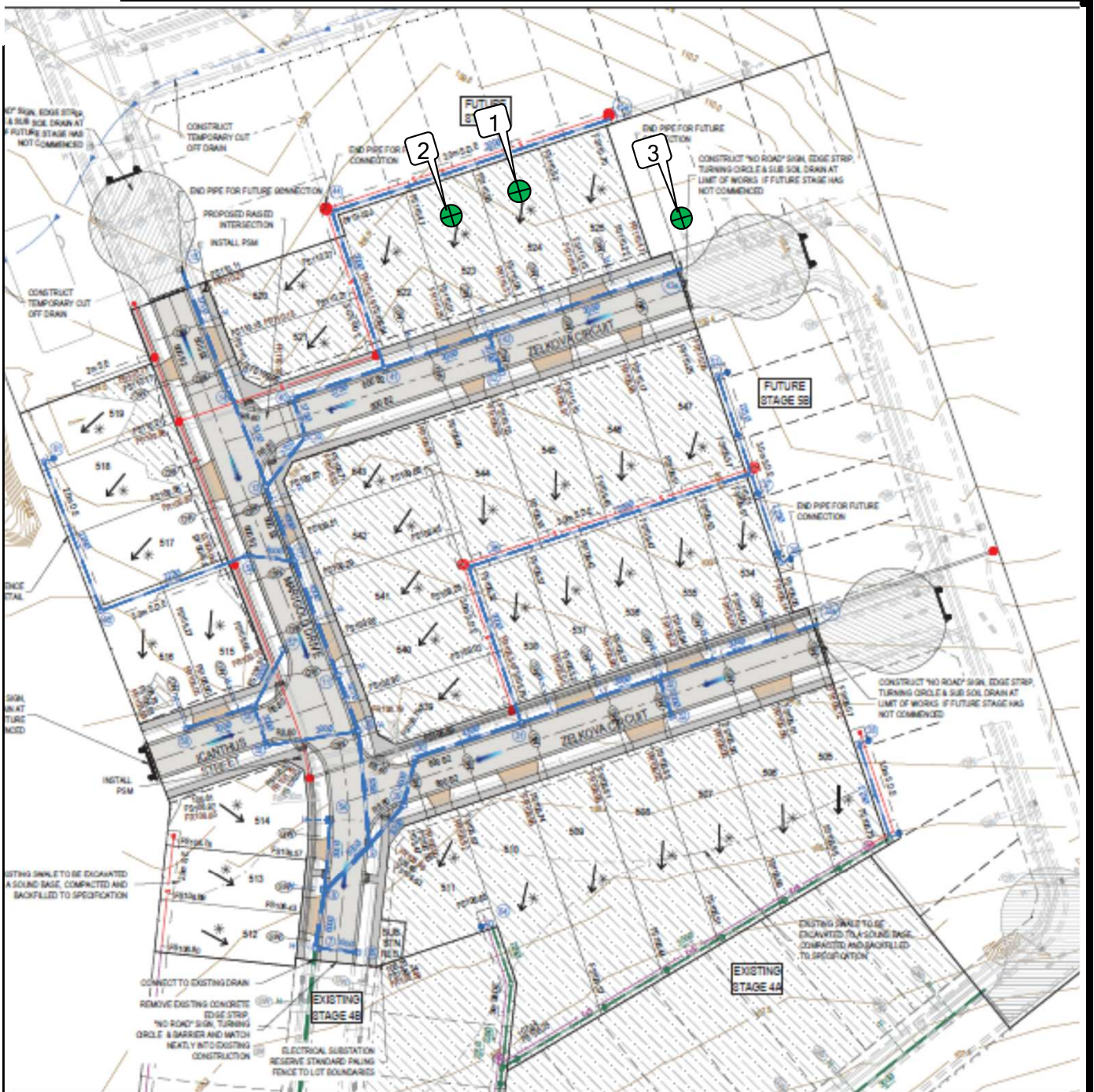


Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 12/1/2022



ROAD CLASSIFICATION	RESERVE WIDTH (m)	ROAD WIDTH (m)			KERB TYPE		VERGE WIDTH (m)	
		LIP TO LIP	INV TO INV	BACK TO BACK	NTHWEST	STHEAST	NTHWEST	STHEAST
AS	16.00	6.40	7.30	7.80	600 E2	600 E2	4.35	4.35
AS	16.00	6.40	7.30	7.80	600 E2	600 E2	4.35	4.35
AS	16.00	6.40	7.30	7.80	600 E2	600 E2	4.35	4.35

ROAD NAME	SERVICES OFFSET TO	
	GAS	WATI
MARGOLD DRIVE	2.00 W	2.50
ZELKOVA CIRCUIT	2.00 N	2.50
CANTHUS STREET	2.00 N	2.50

DN	DRAWN V. HOPE	DESIGNER S. MARSHALL	CHECKER C. COYNE	APPROVER S. SANDERSON	PLAN OF SUB. NO. 6042/2020	N
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GEOTECHNICAL LABORATORIES

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: 1152 TAYLORS DEVELOPMENT

LOCATION: Botania, Plumpton Stage 5

Sketch indicating compaction test locations

DATE: 21/12/2021

OPERATOR: WS

SCALE: NTS

JOB No.: 2343/098

CHECKED: KK

FIGURE No: 1 of 1



GEOTECHNICAL LABORATORIES
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 2343/127

LOCATION: 451 BEATY'S DEVELOPEMENT - Botania, Plumpton, Stage 5A,5B

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m ³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m ³)	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
11/02/22	1	<i>Refer to #2343/128 for approx. test site locations.</i>	1.91	22.5	100.0	✘ 1.91	25.0	175	3.0 Drier	88.5	3	0	0
11/02/22	2		1.93	26.0	101.0	✘ 1.91	25.5	175	0.5 Wetter	102.0	4	0	0
11/02/22	3		1.95	24.5	101.5	✘ 1.92	25.0	175	0.5 Drier	98.0	4	0	0
11/02/22	4		1.89	24.5	98.5	1.92	24.5	175	0.0 Drier	100.0	0	0	0
11/02/22	5		1.90	25.5	98.5	1.93	24.5	175	1.0 Wetter	103.0	0	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12:15pm Finish Time: 1:35pm

A Hilf Rapid Compaction test was carried out on a sample taken from each Field Density location to obtain the Compaction Parameters tabulated on this Report.

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

Soil Layer thickness: 200mm

Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1

Field Density, Nuclear Gauge: AS 1289 5.8.1

Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)

✘ Indicates APCWD



Accredited for compliance with ISO/IEC 17025 - Testing

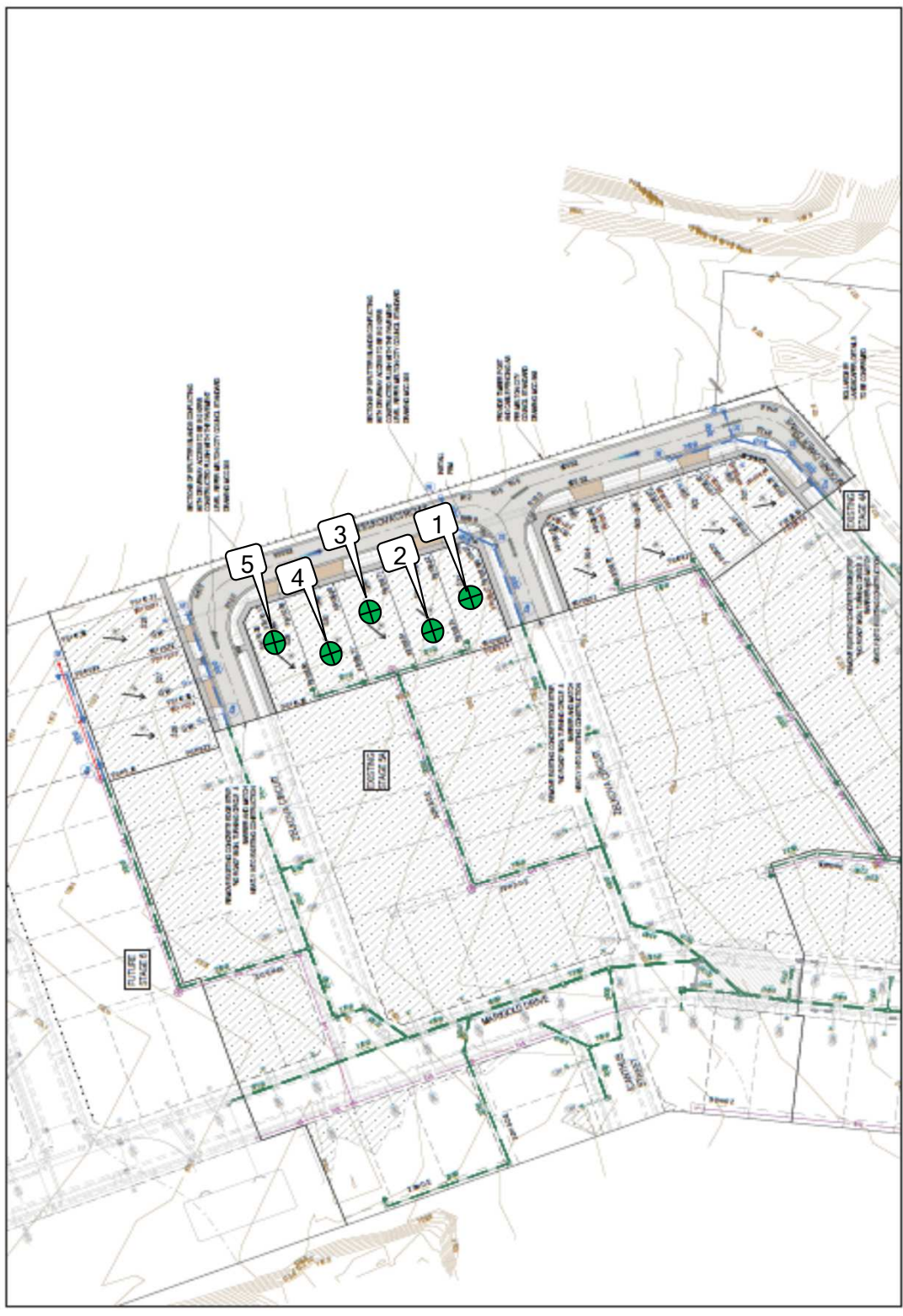
NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 18/2/2022



WARNING
 This drawing is a preliminary design.
 No liability is accepted for errors or omissions.
 The client is responsible for the accuracy of the data provided.



ROAD NAME	GAS		WATER		ELECTRICITY		OPTIC FIBRE	
	OFFSET (M)	DEPTH (M)	OFFSET (M)	DEPTH (M)	OFFSET (M)	DEPTH (M)	OFFSET (M)	DEPTH (M)
SEALOWN CIRCUIT (OTS 050408)	200 W	2.50 W	200 W	2.50 W	200 E	3.00 E	200 E	3.00 E
SEALOWN CIRCUIT (OTS 050403)	200 E	2.50 E	200 E	2.50 E	200 E	4.00 E	200 E	3.00 E
MARRICK LANE DRIVE	200 E	2.00 E	200 E	2.00 E	200 E	4.00 E	200 E	3.00 E

ROAD NAME	ROADWAY WIDTH (M)		KERB TYPE		KERB WIDTH (M)		STAKE		STAKE	
	WIDTH (M)	DEPTH (M)	WIDTH (M)	DEPTH (M)	WIDTH (M)	DEPTH (M)	WIDTH (M)	DEPTH (M)	WIDTH (M)	DEPTH (M)
SEALOWN CIRCUIT (OTS 050408)	15.00	6.60	7.50	7.50	0.00	0.00	4.30	4.30	4.30	4.30
SEALOWN CIRCUIT (OTS 050403)	14.50	6.40	7.30	7.30	0.00	0.00	6.30	6.30	6.30	6.30
MARRICK LANE DRIVE	14.50	6.40	7.30	7.30	0.00	0.00	6.30	6.30	6.30	6.30
MARRICK LANE DRIVE (LOT 501)	14.50	6.40	7.30	7.30	0.00	0.00	4.30	4.30	4.30	4.30



GEOTECHNICAL LABORATORIES

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14 Ravenhall Way, Ravenhall, Vic 3023
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CLIENT: 1152 TAYLORS DEVELOPMENT

LOCATION: Botania, Plumpton Stage 5B

Sketch indicating compaction test locations

DATE: 9/03/2022

JOB No.: 2343/132

OPERATOR: NE/AF CHECKED: KK

SCALE: NTS

FIGURE No: -