

Reference
No.: 9111-066

LEVEL ONE

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out
By*



PREPARED FOR: -

SYMON BROS. CONSTRUCTIONS PTY LTD



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Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: Symon Bros. Constructions Pty Ltd

Project Name: Mambourin Estate Stage 20

Date: 30th of August 2023

Author: Mr. Sam Loza

Reference No.: 9111-066

Revision: 0

Project Manager: Mr. George Dimopoulos

1. Introduction & Scope

At the request of Symon Bros. Constructions Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site from the 7th of July 2023 to the 17th of August 2023 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 Symon Bros. Constructions Pty Ltd and was used to determine compliance of earthworks in conjunction with the requirements of AS 3798 – 2007.

(1). Road and Drainage Face Plan Drawing No. 309507CR200 Rev. 0

General site works involved the placement of fill, using on-site derived clay and imported clay, to bring the fill region to the required finished levels as indicated on the faceplan drawings.

2. Site Preparation

Initial site inspections were undertaken on the 28th of June 2023 confirming that selected areas to be filled were completely stripped of topsoil prior to filling. The brown silty topsoils had been stockpiled around the site for later removal off-site.

Proof roll inspections were performed throughout the project duration to ensure no significant soft areas were present prior to filling.

3. Fill Material

It is understood that the on-site fill material used was sourced from excavations, mainly drainage trenches and road boxing. The imported fill was sourced from local sites in the Tarneit area. The material had been screened to remove any boulders.



The fill material is best described as a silty CLAY, brown, pale brown, slightly moist to moist, medium to high plasticity with basalt gravels and cobbles.

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 250-300mm. The sheepsfoot compactor also performed compaction of the clay fill operating in a criss-cross pattern.

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 sixty-five 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 **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 hilf density ratio not less than 95 percent of the maximum hilf density value as determined by the Standard Hilf 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, Symon Bros. Constructions 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 Symon Bros. Constructions Pty Ltd from the 7th of July 2023 to the 17th of August 2023 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 Symon Bros. Constructions 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 Symon Bros. Constructions 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.

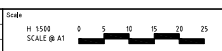


LEVEL ONE
SURVEILLANCE
AND INSPECTION REPORT

APPENDIX A



WARNING
 BEWARE OF UNDERGROUND/OVERHEAD SERVICES
 THE LOCATION OF SERVICES ARE APPROXIMATE ONLY AND THEIR EXACT POSITION SHOULD BE PROVEN ON SITE. NO GUARANTEE IS GIVEN THAT ALL EXISTING SERVICES ARE SHOWN. SPECIAL CONSIDERATION SHOULD BE GIVEN TO CONSTRUCTION PROCEDURES UNDER OVERHEAD ELECTRICITY TRANSMISSION LINES.



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Designed
K. FEARN-WANNAN
 Authorised
G. KOHLMAN

Checked
G. KOHLMAN
 Date
11/11/22

MAMBOURIN STAGE 20 ROAD AND DRAINAGE FACE PLAN
 WYNDHAM CITY COUNCIL FRASERS PROPERTY LTD

Drawn
G. KOHLMAN
 Date
11/11/22

CONSTRUCTION 309507CR200 0

File Name: 309507CR200_06_01.mxd
 User: gkoehlm
 Date: 11/11/2022 10:58:16 AM
 Plot Path: C:\Users\gkoehlm\AppData\Local\Temp\1\309507CR200_06_01.dwg
 Plot Date: 21/11/2023 8:09:45 AM
 Sheet: 2 of 65 Sheets

Rev	Amendments	Approved	Date
0	ISSUED FOR CONSTRUCTION	MLR	30/01/23
A	PRELIMINARY ISSUE	MLR	21/11/22



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.: # 9111/005

LOCATION: SYMON BROS - Mambourin, Stage 20

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)	
7/07/23	1	<i>Refer to #9111/006 for approx. test site locations.</i>	1.82	23.0	96.5	1.88	26.0	175	2.5 Drier	89.5	0	0	600	
7/07/23	2		2.00	23.0	103.5	✱ 1.93	24.5	175	1.5 Drier	93.0	7	0	600	
7/07/23	3		1.95	24.5	99.5	1.96	25.0	175	0.5 Drier	98.0	0	0	600	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9:30am Finish Time: 10:00am

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

❖

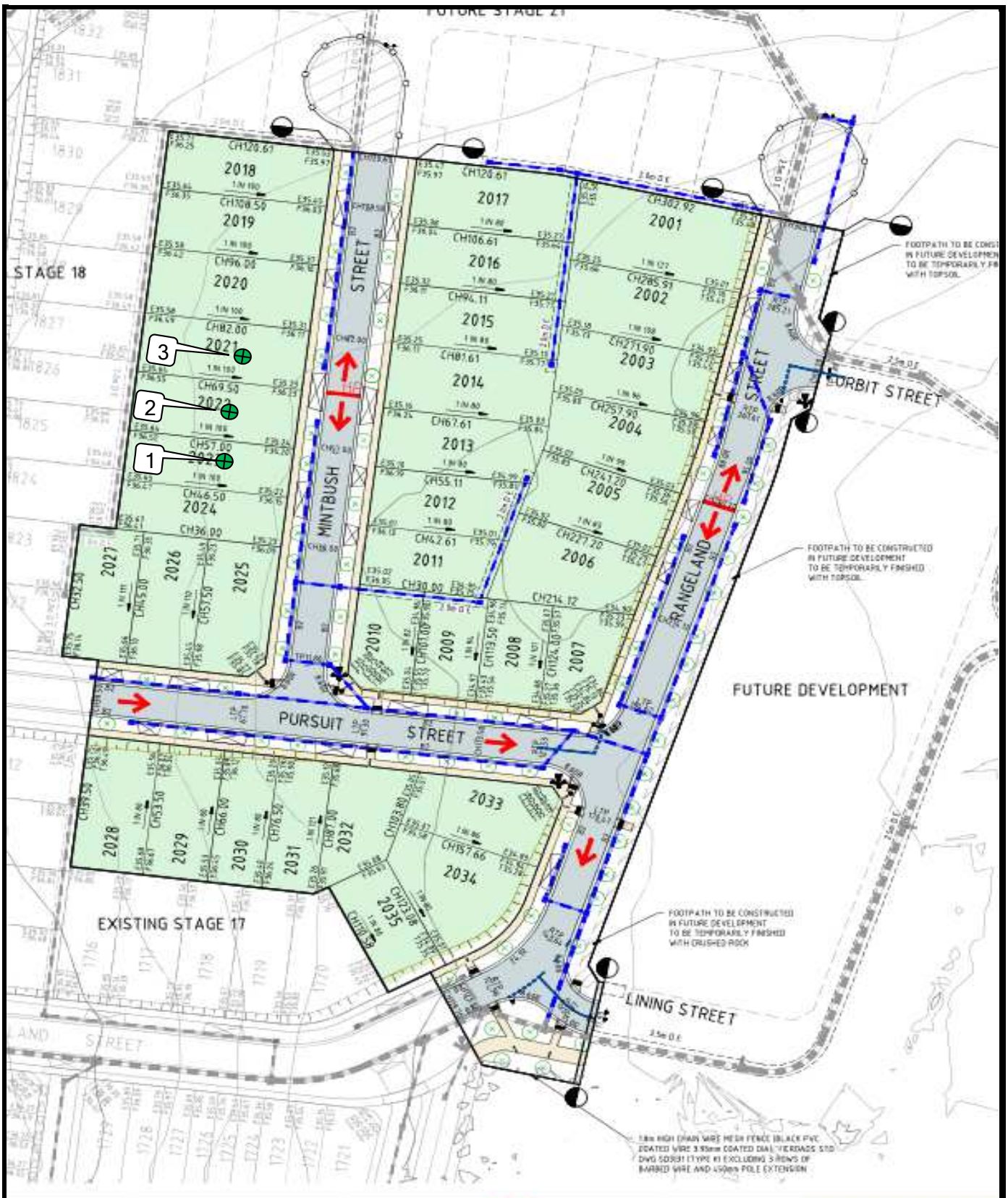


Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 12/7/2023



**GEOTECHNICAL
LABORATORIES**

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 7/07/2023

OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/006

CHECKED: KK

FIGURE No: -



GEOTECHNICAL LABORATORIES
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 9111/018

LOCATION: SYMON BROS - Mambourin, Stage 20

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)
19/07/23	4	<i>Refer to #9111/020 for approx. test site locations.</i>	1.92	23.0	98.5	1.96	23.5	175	0.5 Drier	98.0	0	0	1000
19/07/23	5		1.93	23.5	97.0	✱ 1.99	24.0	175	0.5 Drier	97.0	4	0	400
19/07/23	6		1.86	25.0	97.0	1.92	24.0	175	0.5 Wetter	103.0	0	0	600
19/07/23	7		1.89	23.5	97.0	1.94	24.0	175	0.5 Drier	98.0	0	0	600
19/07/23	8		1.95	25.5	101.5	1.92	25.0	175	0.5 Wetter	102.0	0	0	600
19/07/23	9		1.96	27.0	100.0	1.97	29.0	175	2.5 Drier	92.0	0	0	1000

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8:30am Finish Time: 9:45am

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: 26/7/2023



GEOTECHNICAL LABORATORIES

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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 9111/019

LOCATION: SYMON BROS - Mambourin, Stage 20

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)
19/07/23	10	<i>Refer to #9111/020 for approx. test site locations.</i>	1.93	26.5	97.5	1.98	29.5	175	3.0 Drier	90.5	0	0	1000
19/07/23	11		2.02	25.0	101.5	1.99	25.5	175	0.5 Drier	98.0	0	0	1000
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8:30am Finish Time: 9:45am

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)

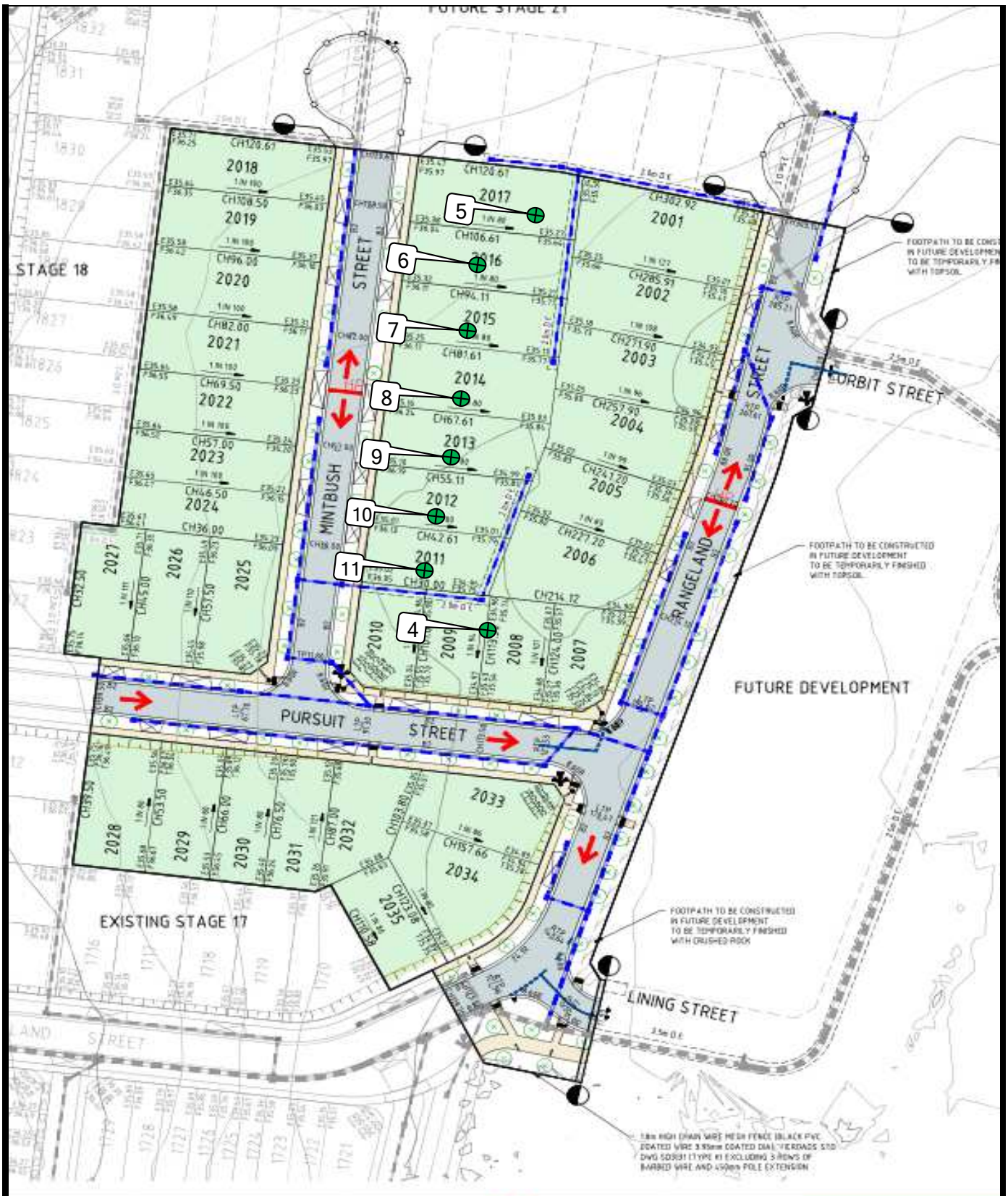


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NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 26/7/2023



**GEOTECHNICAL
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GEOTECHNICAL LABORATORIES

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

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 19/07/2023

OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/020

CHECKED: KK

FIGURE No: -



GEOTECHNICAL LABORATORIES

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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 9111/021

LOCATION: SYMON BROS - Mambourin, Stage 20

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)
24/07/23	12	<i>Refer to #9111/022 for approx. test site locations.</i>	1.88	27.0	99.0	1.90	26.5	175	0.5 Wetter	102.0	0	0	200
24/07/23	13		1.84	34.5	98.0	1.87	33.0	175	2.0 Wetter	105.5	0	0	600
24/07/23	14		1.89	24.5	95.5	✘ 1.98	25.0	175	0.5 Drier	98.0	8	0	600
24/07/23	15		1.92	26.5	100.5	1.90	25.5	175	1.0 Wetter	103.0	0	0	600
24/07/23	16		1.86	28.0	100.5	1.85	28.5	175	1.0 Drier	97.5	0	0	600
24/07/23	17		1.89	29.5	102.0	1.86	29.0	175	1.0 Wetter	102.5	0	0	600

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 1:00pm Finish Time: 2:00pm

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

❖



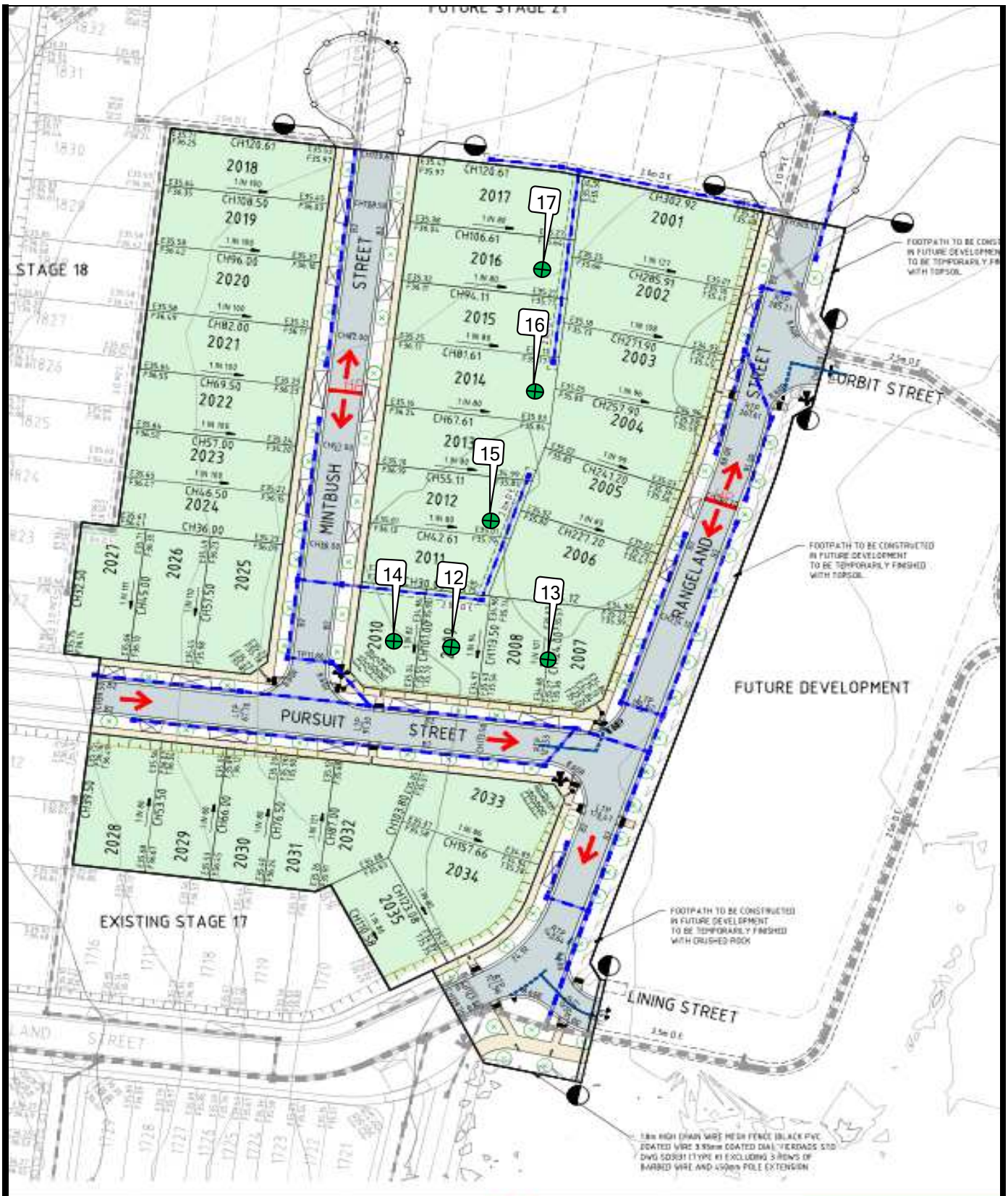
Accredited for compliance with ISO/IEC

17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 28/7/2023



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GEOTECHNICAL LABORATORIES

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14 Ravenhall Way, Ravenhall, Vic 3023

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

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 24/07/2023

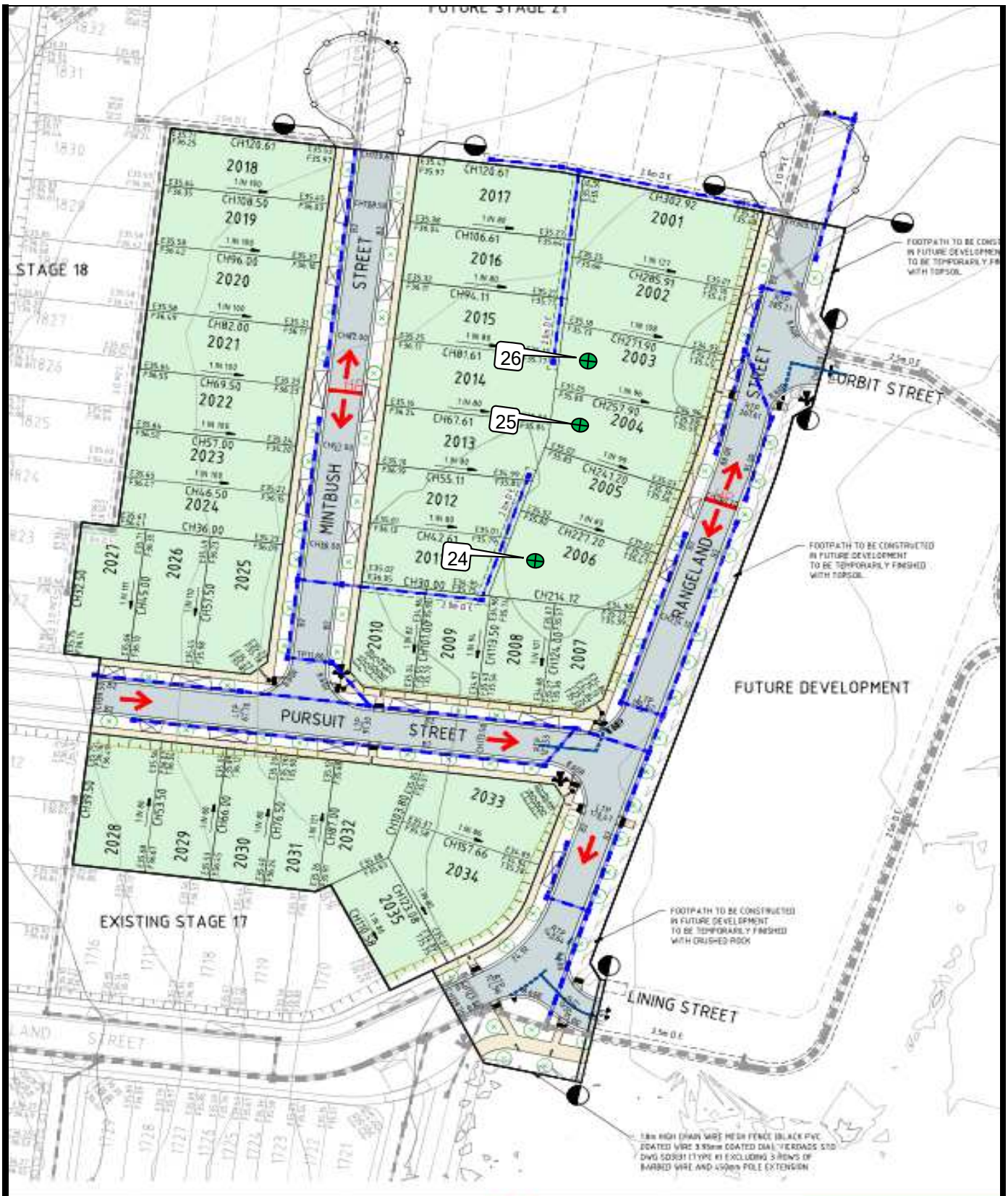
OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/022

CHECKED: KK

FIGURE No: -



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CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 25/07/2023

OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/026

CHECKED: NF

FIGURE No: -



**GEOTECHNICAL
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 9111/027

LOCATION: SYMON BROS - Mambourin, Stage 20

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)
27/07/23	27	<i>Refer to #9111/028 for approx. test site locations.</i>	1.86	27.0	104.0	1.78	32.0	175	5.0 Drier	85.0	0	0	200
27/07/23	28		1.84	30.0	103.5	1.78	33.5	175	3.5 Drier	89.0	0	0	200
27/07/23	29		1.91	29.5	105.5	1.81	32.5	175	3.0 Drier	90.5	0	0	200
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10.30AM Finish Time: 11.00AM

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)



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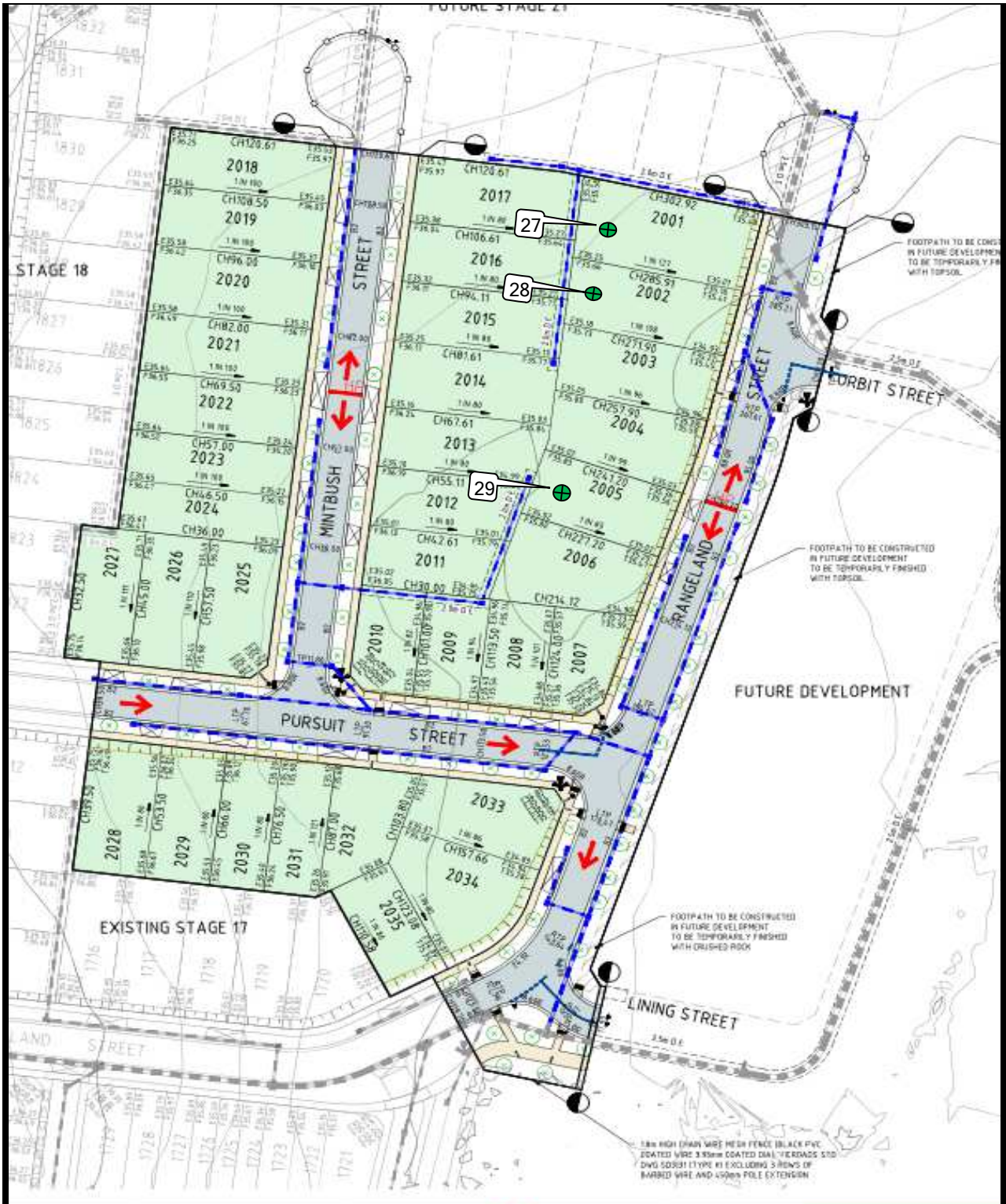
17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE

(Approved Signatory)

Issue Date: 3/8/2023



**GEOTECHNICAL
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**GEOTECHNICAL LABORATORIES
ACN 102 571 077**

14 Ravenhall Way, Ravenhall, Vic 3023
Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 27/07/2023

OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/028

CHECKED: NF

FIGURE No: -



GEOTECHNICAL LABORATORIES
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14 Ravenhall Way, Ravenhall, Vic 3023
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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 9111/029

LOCATION: SYMON BROS - Mambourin, Stage 20

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)
25/07/23	18	<i>Refer to #9111/030 for approx. test site locations.</i>	1.82	28.0	99.0	1.84	30.0	175	2.0 Drier	94.0	0	0	0
25/07/23	19		1.83	31.0	99.5	✱ 1.84	31.5	175	0.5 Drier	99.0	4	0	0
25/07/23	20		1.94	26.0	108.0	1.79	30.5	175	4.5 Drier	85.0	0	0	200
25/07/23	21		1.83	31.0	98.0	1.87	31.0	175	0.0 Drier	100.0	0	0	0
25/07/23	22		1.83	24.5	96.0	1.91	26.5	175	2.0 Drier	92.5	0	0	200
25/07/23	23		1.92	26.5	102.5	1.88	29.5	175	2.5 Drier	91.5	0	0	200

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10:30am Finish Time: 11:15am

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

❖

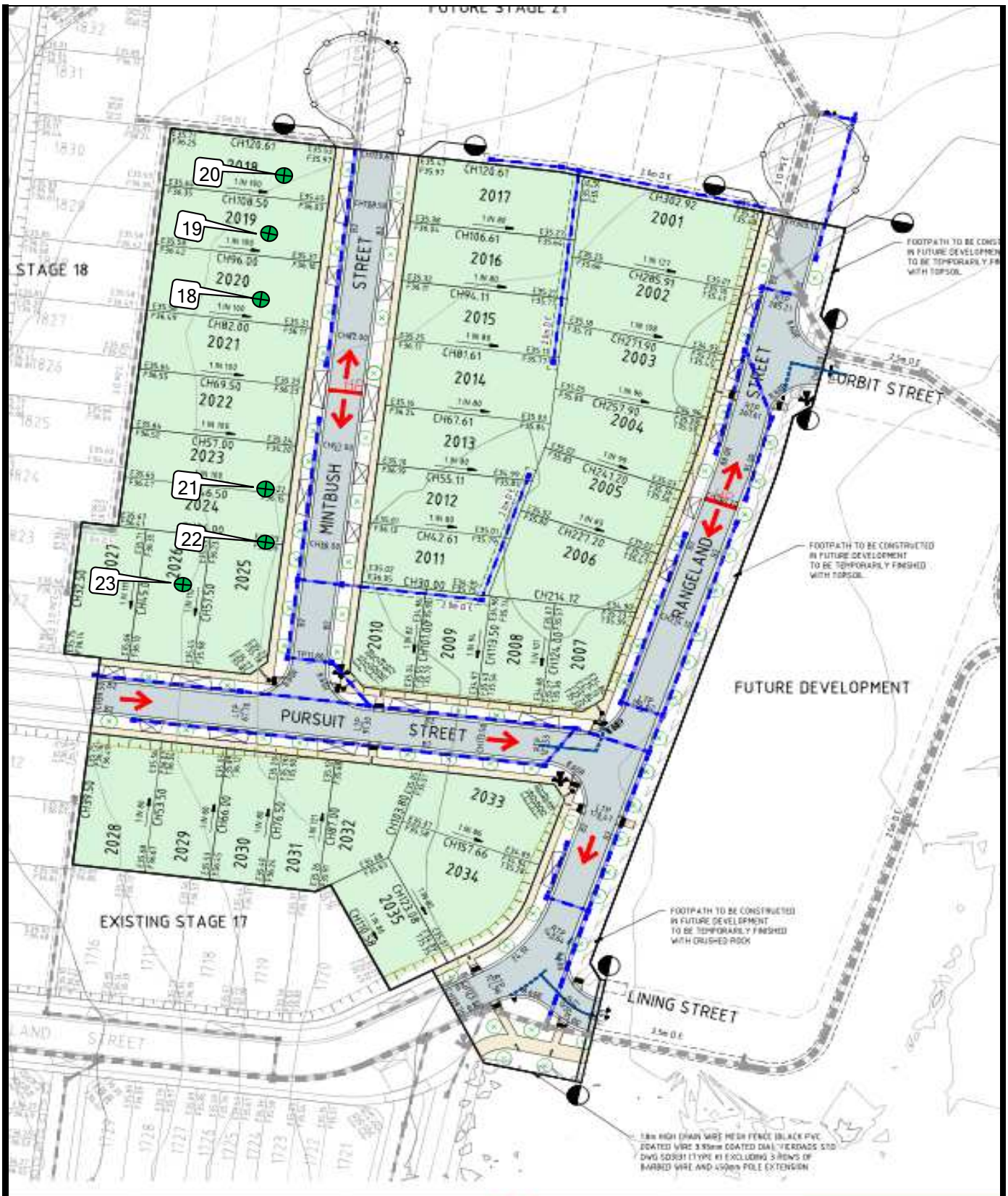


*Accredited for compliance with ISO/IEC
17025 - Testing*

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 1/8/2023



**GEOTECHNICAL
LABORATORIES**

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 25/07/2023

JOB No.: 9111/030

OPERATOR: KOB

CHECKED: KK

SCALE: NTS

FIGURE No: -



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.: # 9111/035

LOCATION: SYMON BROS - Mambourin, Stage 20

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)
31/07/23	30	<i>Refer to #9111/036 for approx. test site locations.</i>	1.84	30.0	97.5	✘ 1.89	30.5	175	0.5 Drier	98.5	12	0	200
31/07/23	31		1.84	31.0	101.5	✘ 1.81	33.0	175	2.5 Drier	93.0	5	0	200
31/07/23	32		1.85	29.5	103.0	1.80	32.5	175	3.0 Drier	90.5	0	0	200
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10.00AM Finish Time: 10.30AM

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

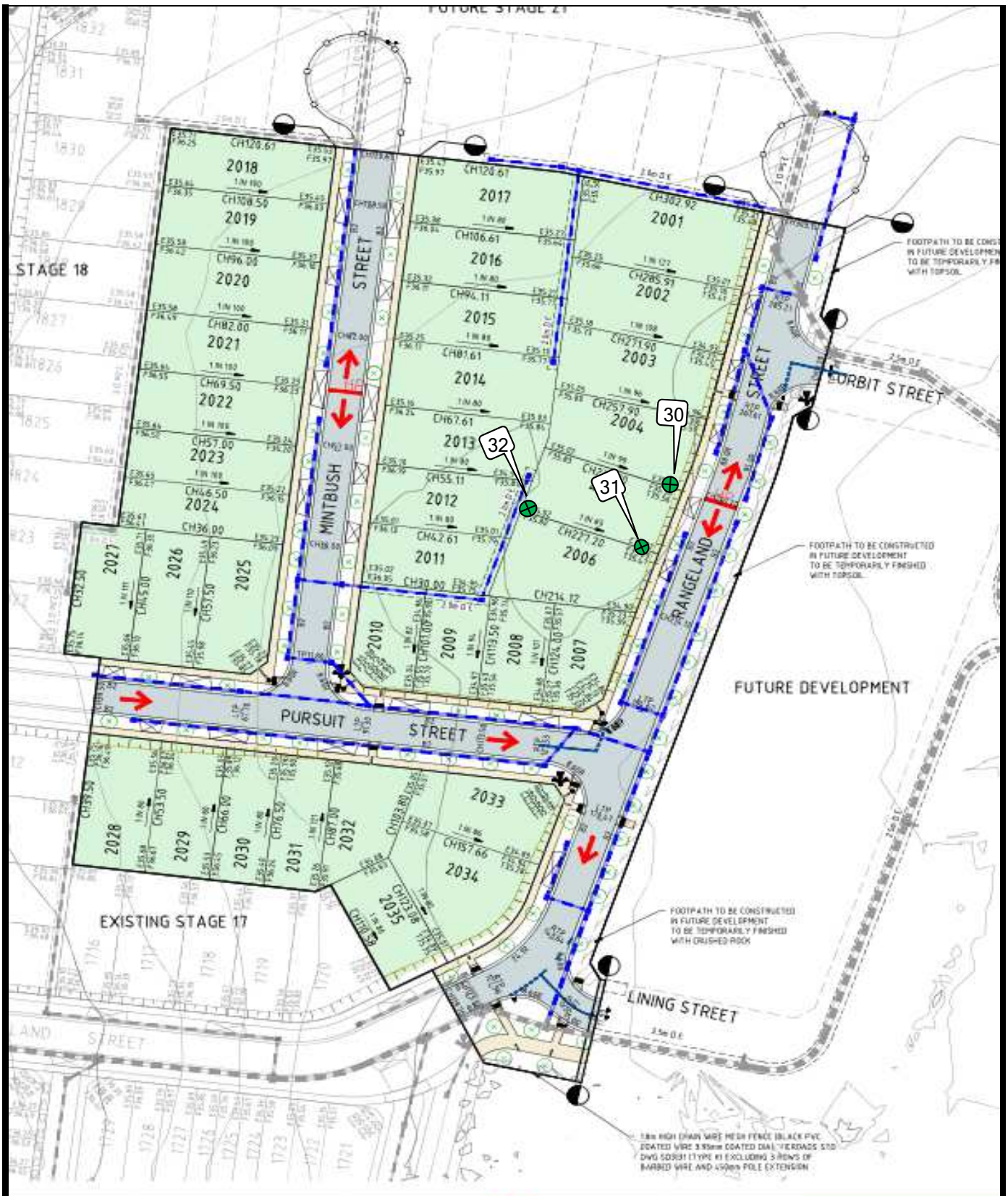


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NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 8/8/2023



**GEOTECHNICAL
LABORATORIES**

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 31/07/2023

OPERATOR: KOB/I

SCALE: NTS

JOB No.: 9111/036

CHECKED: NF

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 9111/037

LOCATION: SYMON BROS - Mambourin, Stage 20

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)
2/08/23	33	<i>Refer to #9111/038 for approx. test site locations.</i>	1.81	33.0	95.5	1.89	33.5	175	0.5 Drier	98.5	0	0	300
2/08/23	34		1.82	33.0	99.0	1.84	33.5	175	0.5 Drier	99.0	0	0	300
2/08/23	35		1.91	20.5	95.5	✘ 2.00	21.5	175	1.0 Drier	95.5	4	0	200
2/08/23	36		1.91	30.5	97.0	1.97	30.0	175	0.5 Wetter	101.0	0	0	200
2/08/23	37		1.89	31.0	101.5	✘ 1.87	28.5	175	2.0 Wetter	107.5	6	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9:00am Finish Time: 10:00am

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

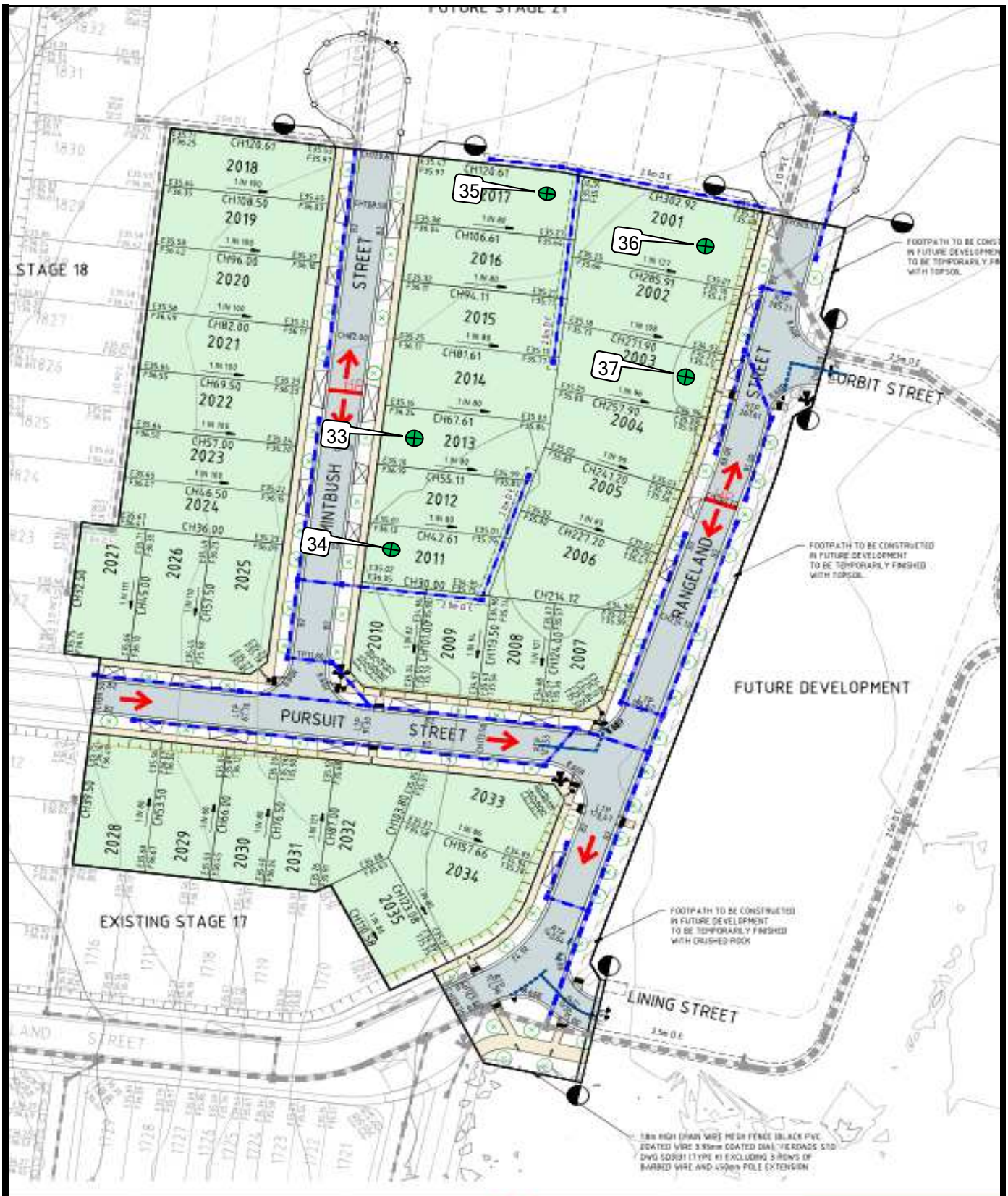


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NATA Accredited Laboratory Number 14561

MICK CROWE
 (Approved Signatory)

Issue Date: 10/8/2023



**GEOTECHNICAL
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GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 2/08/2023

OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/038

CHECKED: KK

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 9111/040

LOCATION: SYMON BROS - Mambourin, Stage 20

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)	
3/08/23	38	<i>Refer to #9111/041 for approx. test site locations.</i>	1.95	20.0	97.5	✘ 2.00	21.5	175	1.5 Drier	92.0	5	0	0	
3/08/23	39		1.94	19.5	99.0	1.96	21.5	175	2.0 Drier	91.0	0	0	0	
3/08/23	40		2.06	21.0	104.0	1.99	22.5	175	2.0 Drier	91.5	0	0	0	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8.00AM Finish Time: 8.30AM

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

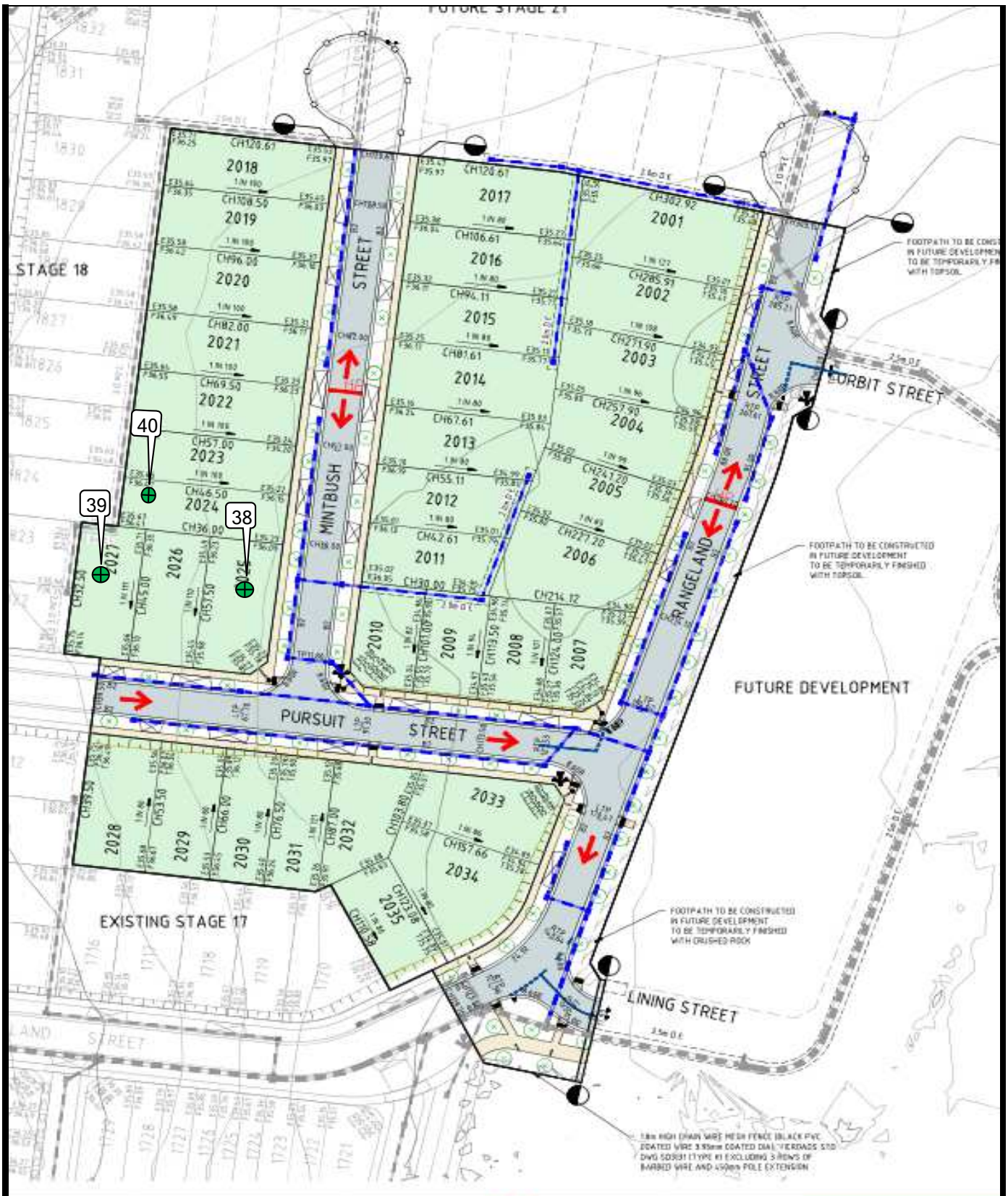


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NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 11/8/2023



**GEOTECHNICAL
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GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 3/08/2023

OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/041

CHECKED: NF

FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 9111/042

LOCATION: SYMON BROS - Mambourin Estate, Stage 20

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)	
4/08/23	41	<i>Refer to #9111/043 for approx. test site locations.</i>	2.00	22.0	103.0	✘ 1.94	24.5	175	2.0 Drier	91.0	5	0	0	
4/08/23	42		1.96	21.5	100.0	✘ 1.95	23.5	175	2.0 Drier	91.5	4	0	200	
4/08/23	43		1.93	26.5	103.0	1.88	26.0	175	0.5 Wetter	102.0	0	0	400	
4/08/23	44		1.93	19.5	100.5	1.92	22.5	175	3.0 Drier	86.0	0	0	500	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10:30am Finish Time: 11:30am

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

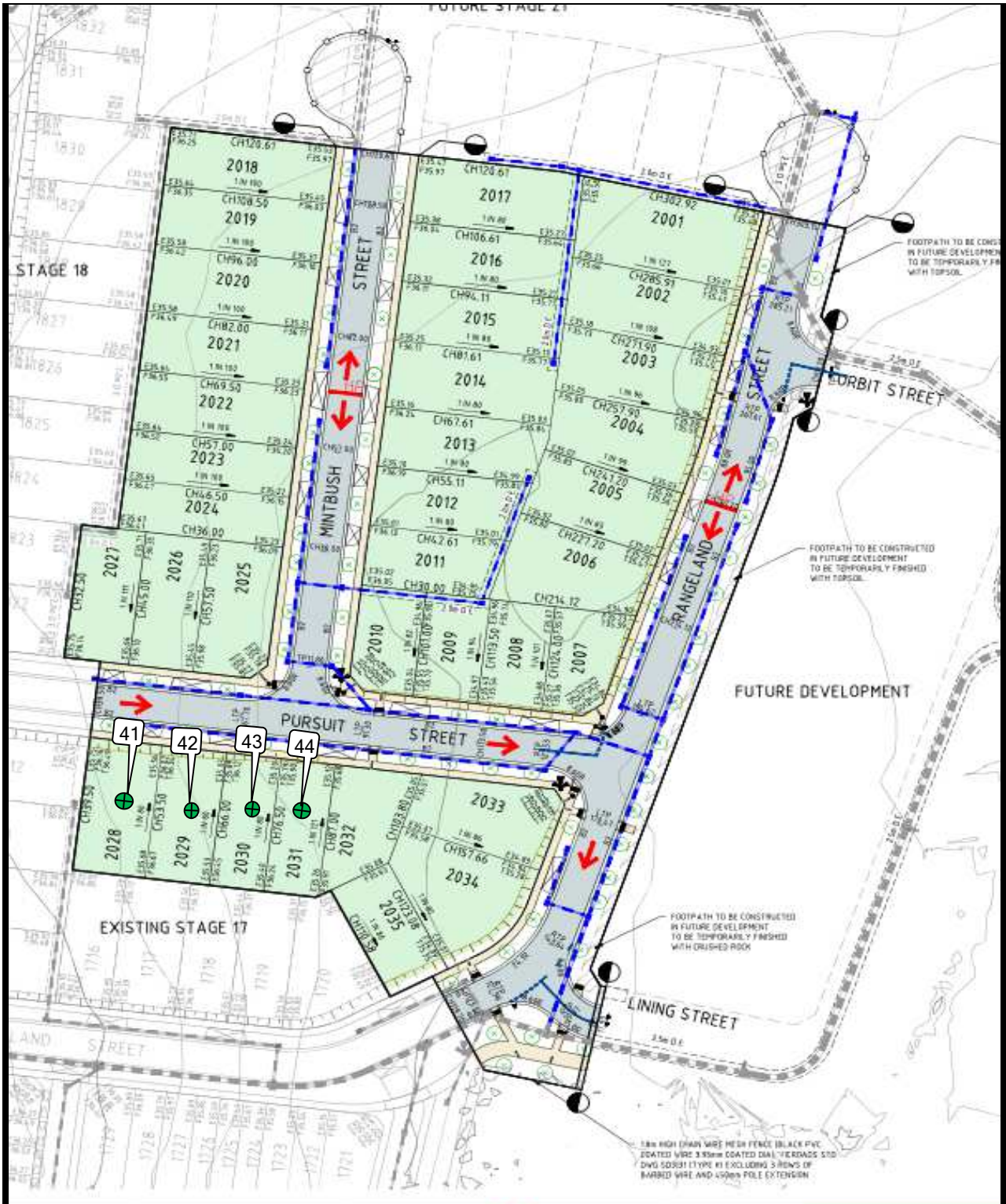


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NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 14/8/2023



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 14 Ravenhall Way, Ravenhall, Vic 3023
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CLIENT: SYMON BROS LOCATION: Mambourin Stage 20 Sketch indicating compaction test locations	DATE: 4/08/2023	JOB No.: 9111/043
	OPERATOR: KOB	CHECKED: NF
	SCALE: NTS	FIGURE No: -



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DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 9111/045

LOCATION: SYMON BROS - Mambourin, Stage 20

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)	
8/08/23	45	<i>Refer to #9111/046 for approx. test site locations.</i>	1.92	20.5	101.0	✘ 1.90	22.5	175	2.5 Drier	89.5	5	0	0	
8/08/23	46		1.87	20.0	96.5	✘ 1.93	21.5	175	1.5 Drier	92.0	4	0	0	
8/08/23	47		1.84	22.5	99.5	1.85	24.5	175	2.0 Drier	92.0	0	0	0	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11:30am Finish Time: 12:00pm

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



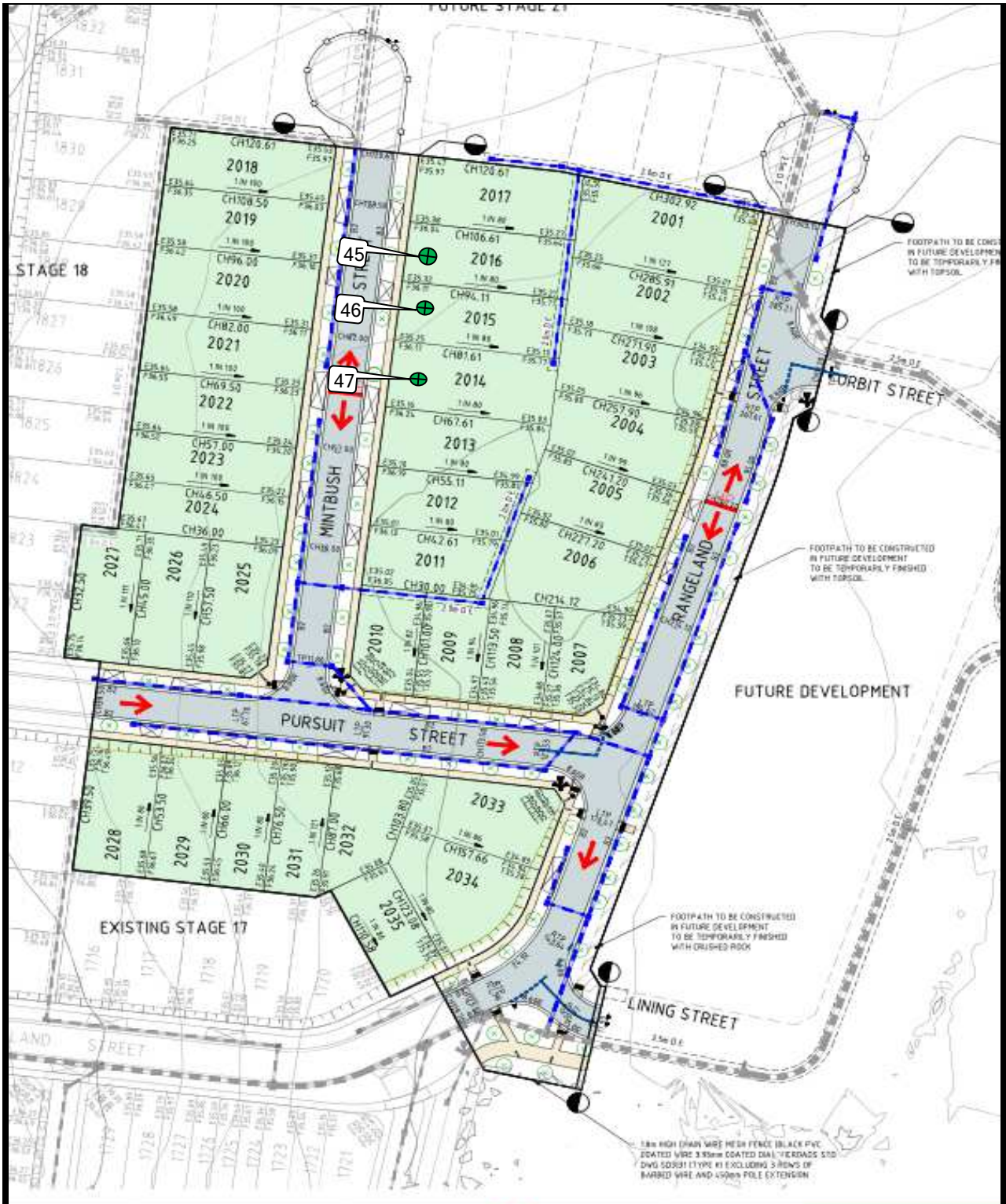
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17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 14/8/2023



**GEOTECHNICAL
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**GEOTECHNICAL LABORATORIES
ACN 102 571 077**

14 Ravenhall Way, Ravenhall, Vic 3023
Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 8/08/2023

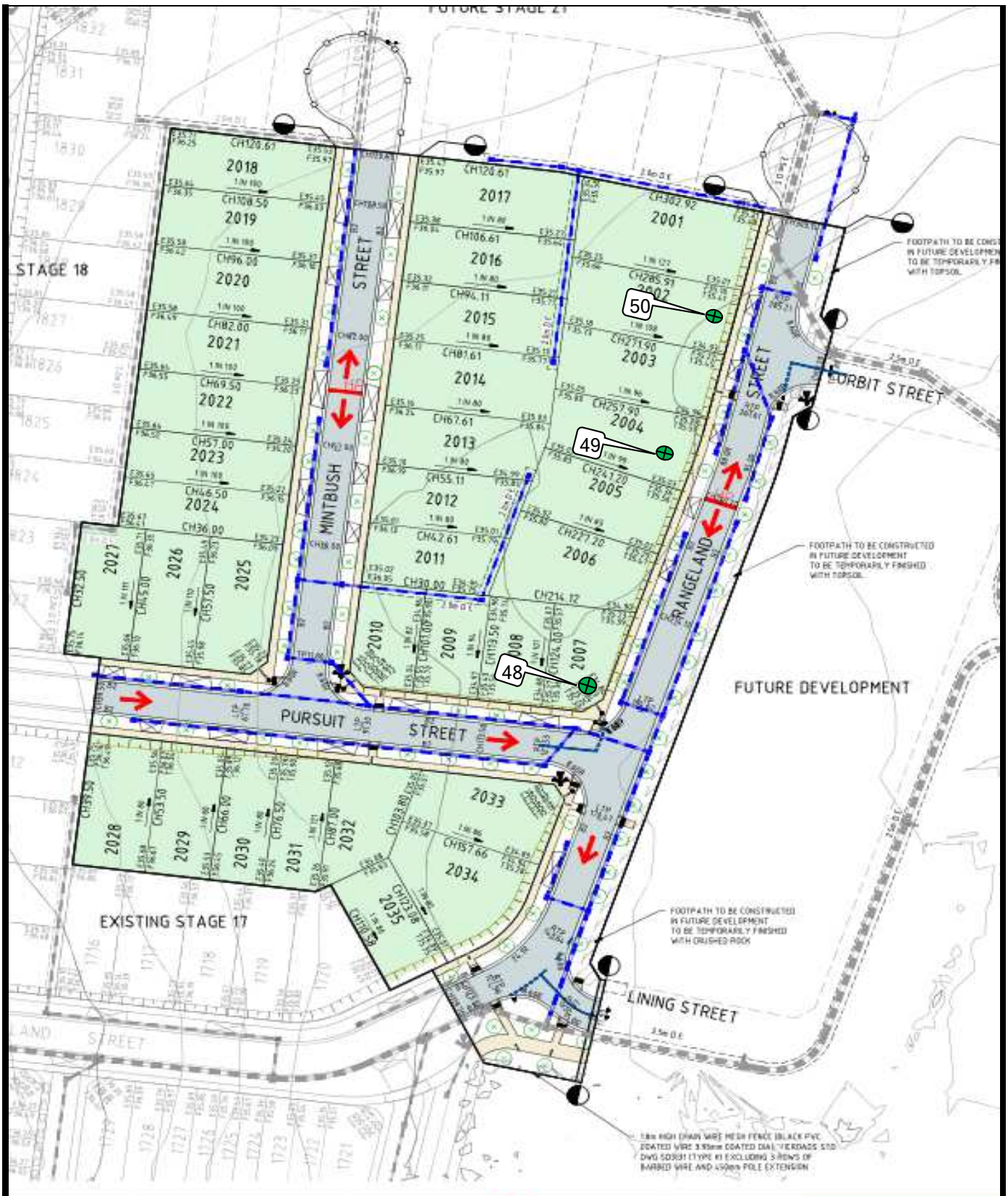
OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/046

CHECKED: KK

FIGURE No: -



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

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 9/08/2023

OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/051

CHECKED: KK

FIGURE No: -



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.: # 9111/053

LOCATION: SYMON BROS - Mambourin, Stage 20

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)	
10/08/23	51	<i>Refer to #9111/054 for approx. test site locations.</i>	1.95	16.5	100.5	1.95	19.0	175	2.5 Drier	86.5	0	0	900	
10/08/23	52		1.88	28.5	104.5	1.80	32.0	175	3.5 Drier	88.5	0	0	600	
10/08/23	53		1.95	27.5	105.0	✘ 1.86	28.5	175	1.5 Drier	95.5	7	0	800	
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-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 12:00pm Finish Time: 12:30pm

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.

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

❖

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1

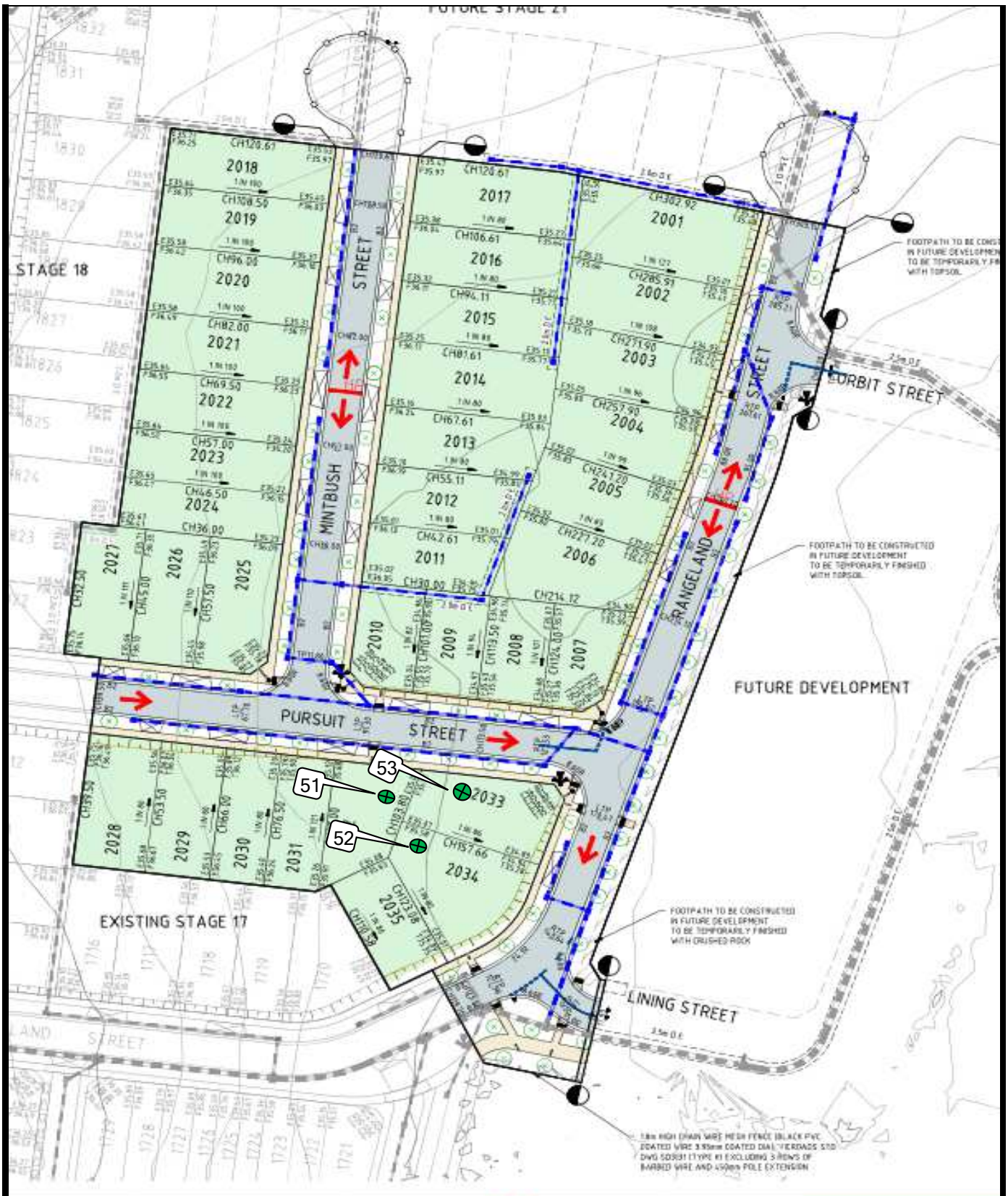


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NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 17/8/2023



**GEOTECHNICAL
LABORATORIES**

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 10/08/2023

OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/054

CHECKED: KK

FIGURE No: -



GEOTECHNICAL LABORATORIES

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14 Ravenhall Way, Ravenhall, Vic 3023

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

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 9111/056

LOCATION: SYMON BROS - Mambourin, Stage 20

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)	
11/08/23	54	<i>Refer to #9111/057 for approx. test site locations.</i>	1.95	26.0	102.0	1.92	24.0	175	2.0 Wetter	108.5	0	0	600	
11/08/23	55		1.89	23.5	96.0	✱ 1.97	23.0	175	0.5 Wetter	102.0	4	0	300	
11/08/23	56		1.91	24.5	97.0	1.97	24.0	175	0.5 Wetter	103.0	0	0	300	
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-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11:30am Finish Time: 12:00pm

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



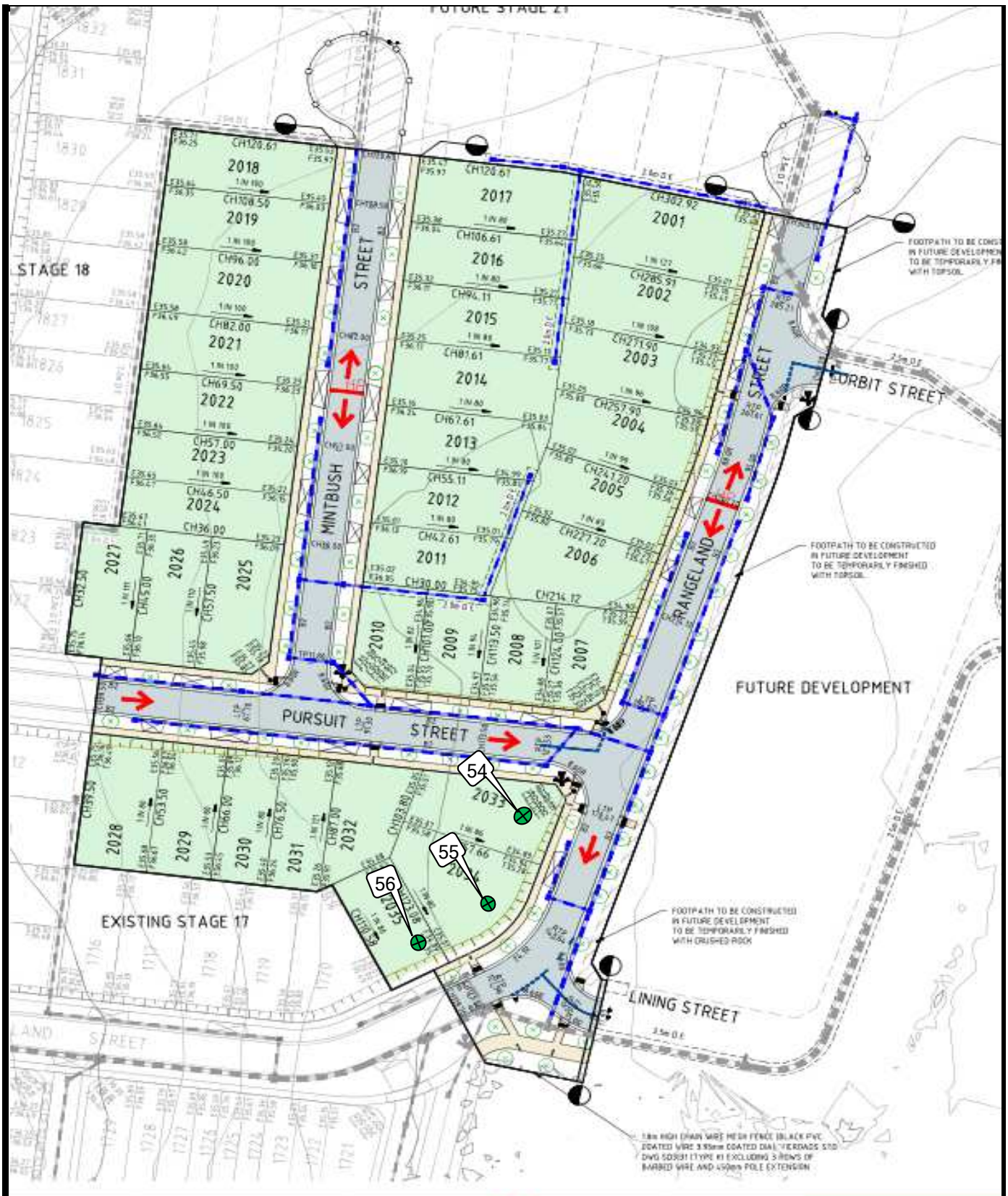
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17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 17/8/2023



**GEOTECHNICAL
LABORATORIES**

GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 11/08/2023

OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/057

CHECKED: KK

FIGURE No: -



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.: # 9111/059

LOCATION: SYMON BROS - Mambourin, Stage 20

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)	
15/08/23	57	<i>Refer to #9111/060 for approx. test site locations.</i>	1.95	22.0	103.5	1.88	25.0	175	3.0 Drier	88.5	0	0	0	
15/08/23	58		1.98	24.5	99.0	2.00	27.0	175	2.0 Drier	91.5	0	0	0	
15/08/23	59		2.06	24.0	103.5	1.99	27.0	175	3.0 Drier	89.0	0	0	300	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8:20am Finish Time: 8:45am

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)



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17025 - Testing

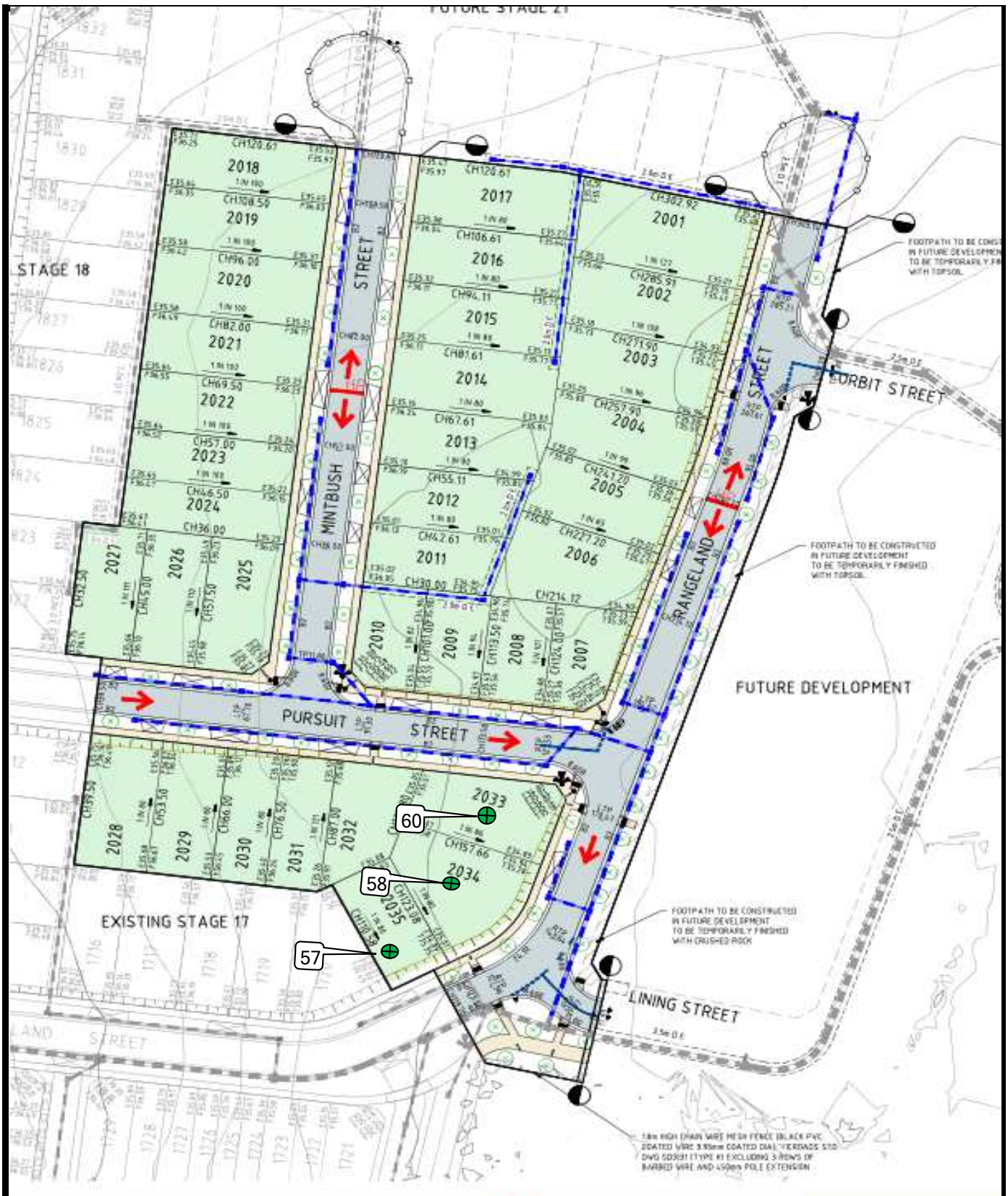
NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 21/8/2023

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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: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 15/08/2023

OPERATOR: FH

SCALE: NTS

JOB No.: 9111/060

CHECKED: KK

FIGURE No: -



**GEOTECHNICAL
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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.: # 9111/061

LOCATION: SYMON BROS - Mambourin, Stage 20

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)	
16/08/23	60	<i>Refer to #9111/062 for approx. test site locations.</i>	1.94	25.0	102.0	1.90	28.0	175	3.0 Drier	89.5	0	0	0	
16/08/23	61		1.94	31.5	102.0	1.90	33.5	175	2.0 Drier	93.5	0	0	0	
16/08/23	62		2.04	19.0	102.5	1.98	21.0	175	2.0 Drier	91.0	0	0	0	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10:00am Finish Time: 10:30am

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)

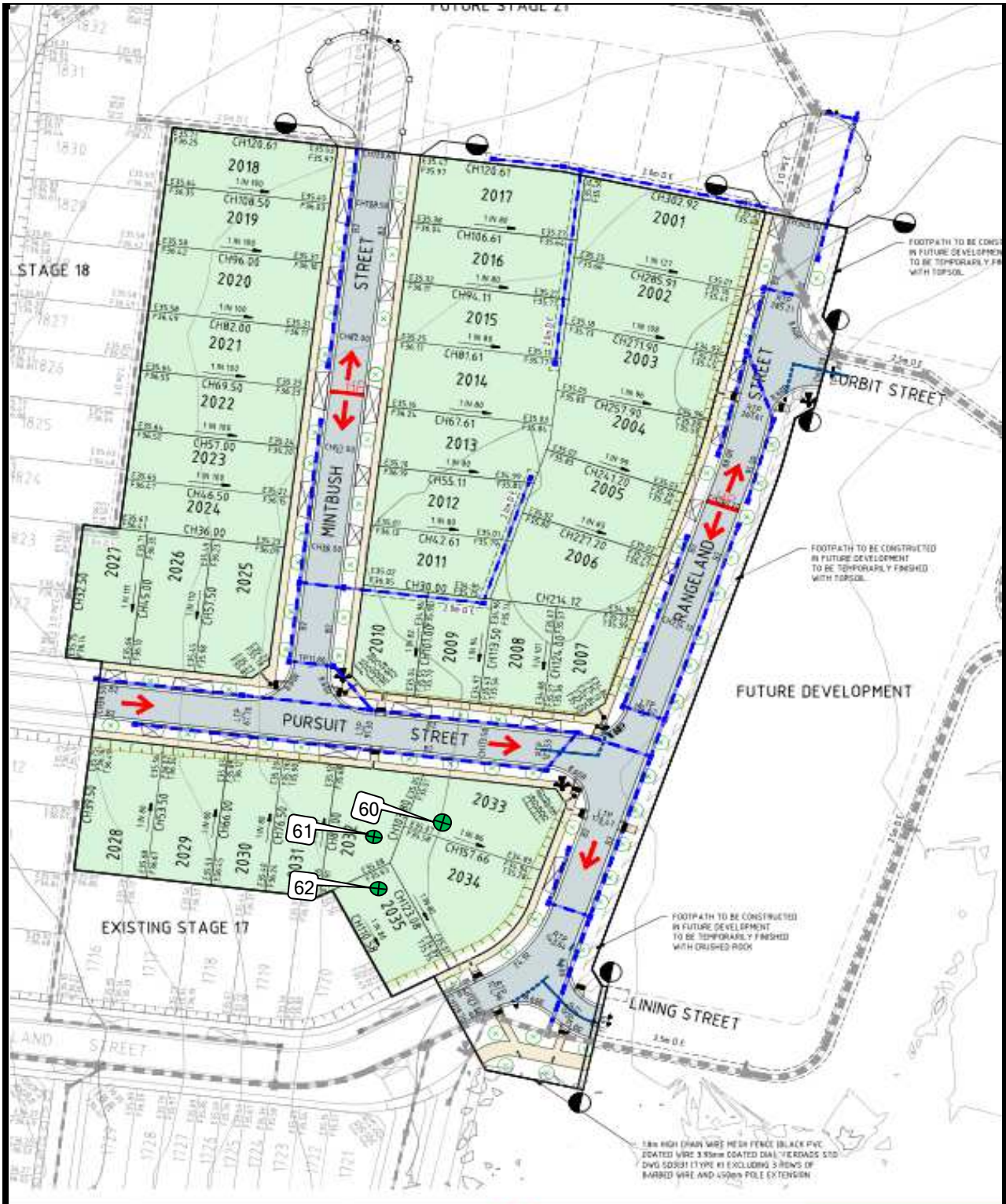


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17025 - Testing*

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 24/8/2023



**GEOTECHNICAL
LABORATORIES**

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ACN 102 571 077**

14 Ravenhall Way, Ravenhall, Vic 3023
Email: info@geolab.com.au PH: (03) 8361-9140

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 16/08/2023

OPERATOR: FH

SCALE: NTS

JOB No.: 9111/062

CHECKED: KK

FIGURE No: -



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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.: # 9111/063

LOCATION: SYMON BROS - Mambourin, Stage 20

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)	
17/08/23	63	Refer to #9111/064 for approx. test site locations.	1.87	26.0	98.0	1.90	28.0	175	2.5 Drier	92.0	0	0	0	
17/08/23	64		1.90	28.0	98.5	1.92	30.5	175	3.0 Drier	91.0	0	0	0	
17/08/23	65		1.89	22.5	98.5	1.92	24.0	175	1.5 Drier	93.0	0	0	0	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Compaction specimens sampled after compaction.

Test sites located - Geolab Procedure 4, Part 4.4.

Start Time: 2:00pm Finish Time: 2:30pm

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)

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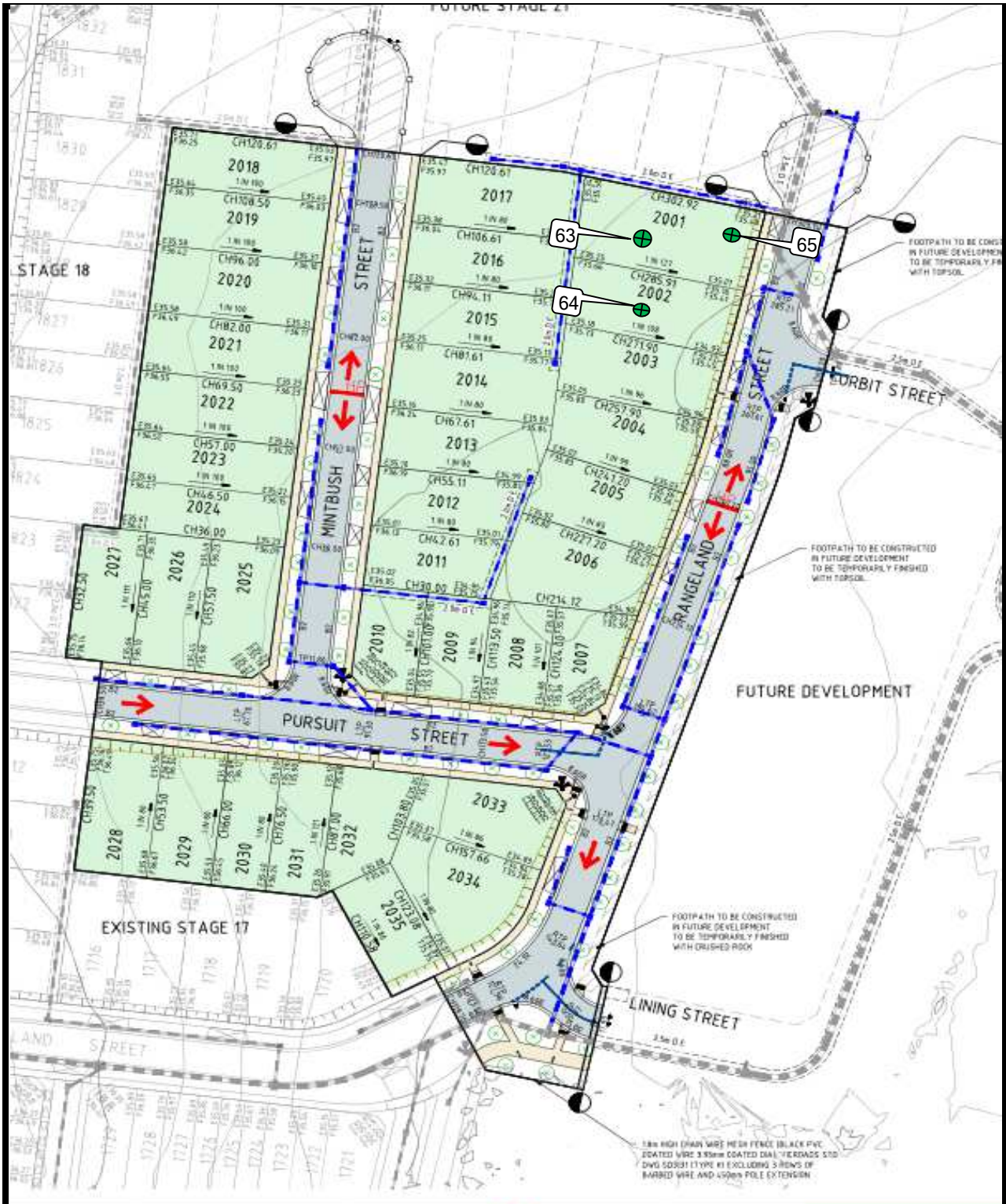


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17025 - Testing*

NATA Accredited Laboratory Number 14561

MICK CROWE
(Approved Signatory)

Issue Date: 24/8/2023



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

CLIENT: SYMON BROS

LOCATION: Mambourin Stage 20

Sketch indicating compaction test locations

DATE: 17/08/2023

OPERATOR: KOB

SCALE: NTS

JOB No.: 9111/064

CHECKED: KK

FIGURE No: -