

LEVEL ONE

Reference  
No.: 2324-050

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out  
By*



PREPARED FOR: -

SYMON BROS CONSTRUCTIONS PTY LTD



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## Appendices

Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: Symon Bros Constructions Pty Ltd

Project Name: Lucas Estate Stage H3

Date: 10<sup>th</sup> of September 2021

Author: Mr. Sam Loza

Reference No.: 2324-050

Revision: 0

Project Manager: Mr. Nick Goutzamanis

### **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 15<sup>th</sup> of April 2021 to the 31<sup>st</sup> of May 2021 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) . Earthworks Cut to Fill Plan
- (2) . Road & Drainage Layout Plan Drawing No. 011 Rev A.

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

### **2. Site Preparation**

Site inspections were undertaken on the 15<sup>th</sup> of April 2021 confirming the selected areas to be filled as highlighted on the cut to fill plan were stripped of topsoil prior to filling.

An initial proof roll was undertaken and subsequently throughout the project duration to identify and rectify any soft areas.

### **3. Fill Material**

It is understood that the fill material used was from on-site excavations, mainly drainage trenches and road boxing.



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 occasional 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
- A watercart
- A sheepsfoot compactor (815)

The compactor placed material in horizontal loose layers of approximately 250-300mm. The 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).

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

#### **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 thirty-six 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 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.

The specified moisture criteria was a moisture content within the range of -10 percent to +5 percent of the material's optimum moisture content.

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

### **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 15<sup>th</sup> of April 2021 to the 31<sup>st</sup> of May 2021 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.

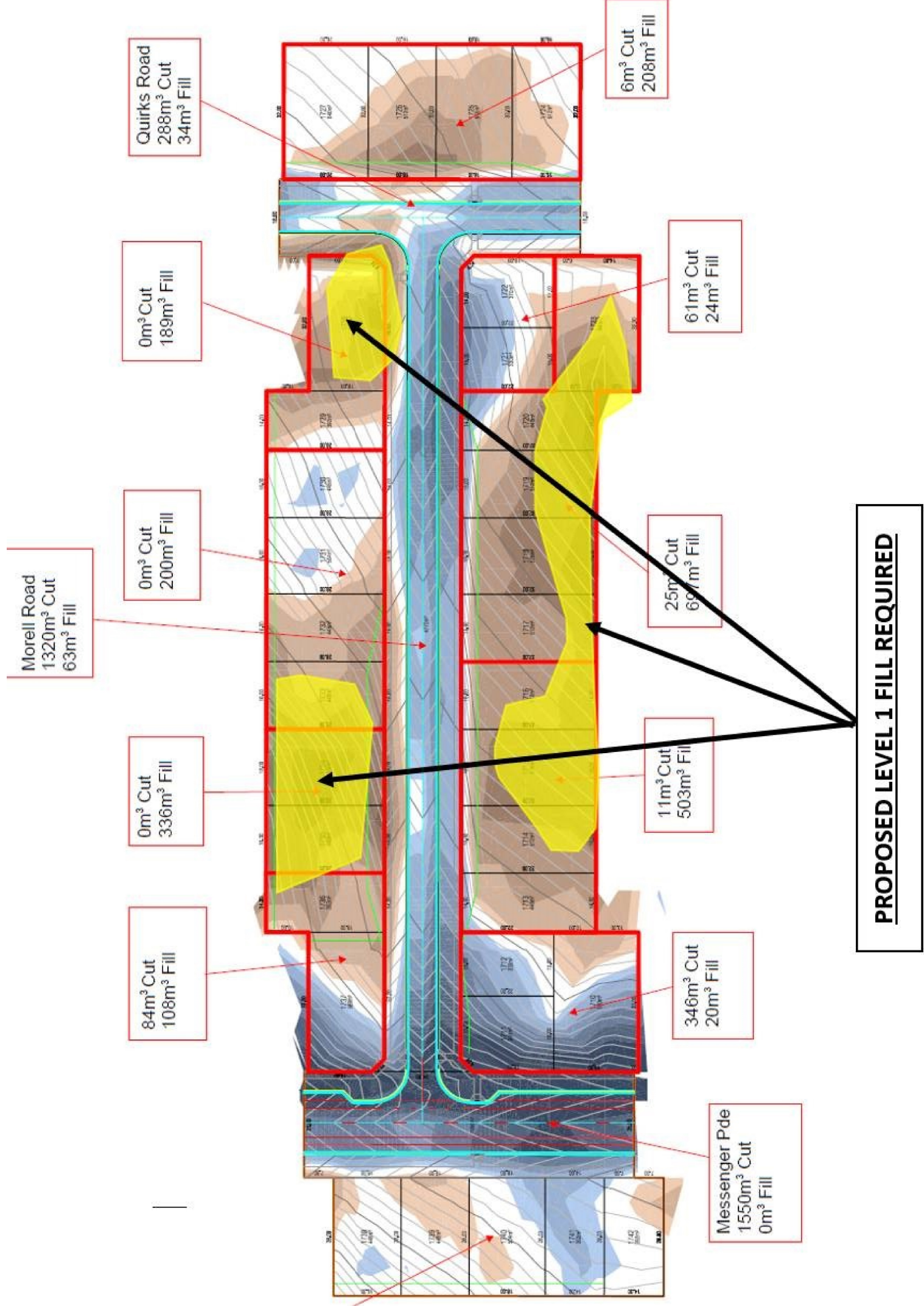
For & on behalf of  
Geotechnical Laboratories Pty Ltd.

Sam Loza  
Laboratory Manager.

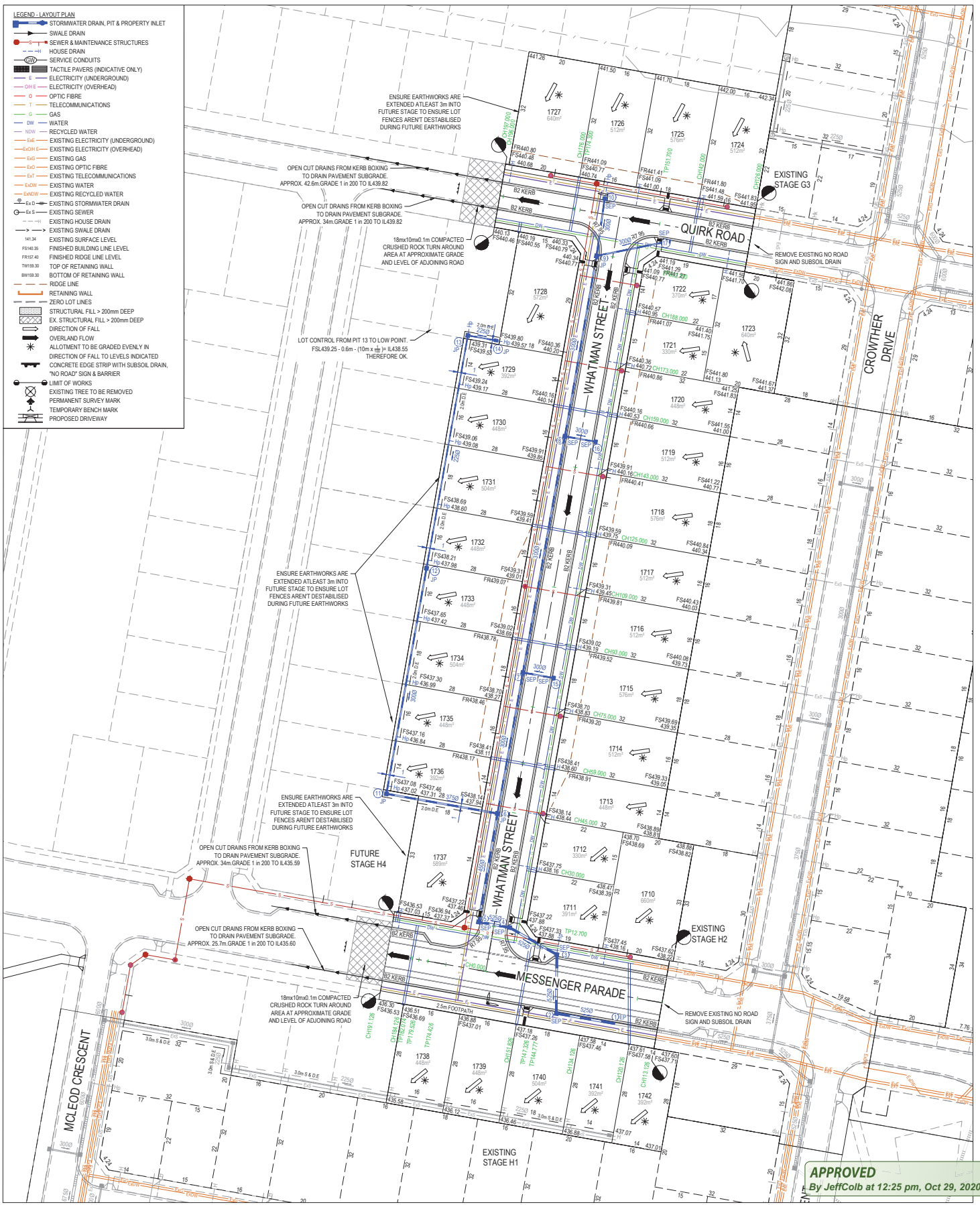


LEVEL ONE  
SURVEILLANCE  
AND INSPECTION REPORT

APPENDIX A







**APPROVED**  
By Jeff Colb at 12:25 pm, Oct 29, 2020

ROAD NAME	SERVICES OFFSET SCHEDULE									
	GAS		WATER		ELECTRICITY		SEWER			
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET		
MESSENGER PARADE	NORTH	2.1	NORTH	2.7	SOUTH	3.7	SOUTH	3.1	NORTH	1.0
WHATMAN STREET	EAST	2.1	EAST	2.7	WEST	2.7	WEST	2.1	WEST	1.0
QUIRK ROAD	SOUTH	2.1	SOUTH	2.7	NORTH	2.7	NORTH	2.1	NORTH	1.0

**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

ISSUED FOR APPROVAL

REV	DESCRIPTION	DATE	DRN	APP
A	ISSUED FOR APPROVAL	28.10.2020	TT	ZS
P2	ISSUED FOR CLIENT APPROVAL	05.10.2020	TT	ZS
P1	ISSUED FOR CLIENT APPROVAL	18.09.2020	TT	ZS
P0	ISSUED FOR INFORMATION	09.09.2020	TT	ZS

0 5 10 20 30 40 50

Designed Date: T. THEWLIS 09.09.2020  
Drawn: T. THEWLIS  
Approved: J. SPARK 10.09.2020  
Date:  
PS Number: PS 843734 A

**BW** Beveridge Williams  
SUIT 3, 180 ELEANOR DRIVE  
LUCAS VIC 3350  
ph: 03 5327 2000  
www.beveridgewilliams.com.au

Project Details: LUCAS ESTATE STAGE H3 BALLARAT CITY COUNCIL  
Drawing Title: LAYOUT PLAN

Sheet 03 of 16  
Scale: 1:500 @ A1  
Project Ref: 1800971 H3 010  
Stage No: 010  
Drawing No: A



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LEVEL ONE  
SURVEILLANCE  
AND INSPECTION REPORT

APPENDIX B



## DAILY SUMMARY - FIELD DENSITY TESTS

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

REPORT NO.: # 2323/057  
 LOCATION: SYMON BROS - Lucas Estate Stage H3

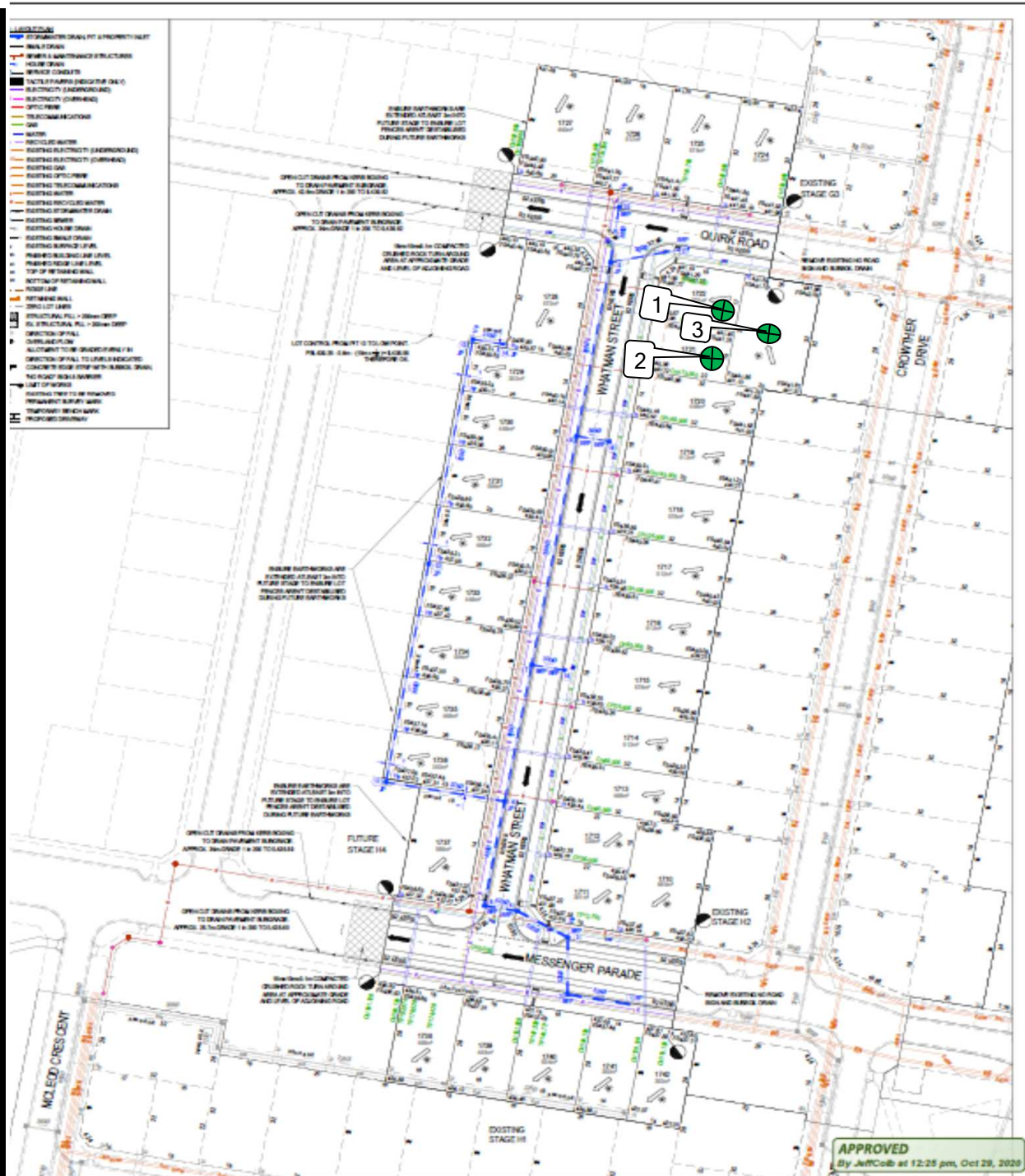
DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m <sup>3</sup> )	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)	
15/04/21	1	<i>Refer to #2323/058 for approx. test site locations.</i>	1.98	18.0	95.0	2.08	18.5	175	0.0 Drier	98.5	0	0	0	
15/04/21	2		1.99	25.0	100.0	1.99	24.0	175	1.0 Wetter	104.0	0	0	100	
15/04/21	3		2.05	19.5	99.0	2.07	19.0	175	0.0 Wetter	101.5	0	0	100	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite Compaction specimens sampled after compaction.  
 Test sites located - Geolab Procedure 4, Part 4.4. Start Time: 2:10pm Finish Time: 2:47pm

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*

*M. Crowe*  
**MICK CROWE**  
 (Approved Signatory)  
 Issue Date: 20/4/2021



APPROVED  
By JWCob at 12:25 pm, Oct 29, 2020

ROAD NAME	WATER		SEWER		ELECTRICITY		TELECOMMUNICATIONS		GAS	
	SIZE	DEPTH	SIZE	DEPTH	SIZE	DEPTH	SIZE	DEPTH	SIZE	DEPTH
WATER MAIN	150	1.0	150	1.0	150	1.0	150	1.0	150	1.0
SEWER MAIN	150	1.0	150	1.0	150	1.0	150	1.0	150	1.0
ELECTRICITY	150	1.0	150	1.0	150	1.0	150	1.0	150	1.0
TELECOMMUNICATIONS	150	1.0	150	1.0	150	1.0	150	1.0	150	1.0
GAS	150	1.0	150	1.0	150	1.0	150	1.0	150	1.0

**WARNING**  
The presence of underground services are shown on this plan. No guarantee is given that existing services are shown. Contact all underground service providers before commencement of works. **CALL 1100 BEFORE YOU DIG.**



**GEOTECHNICAL LABORATORIES**

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

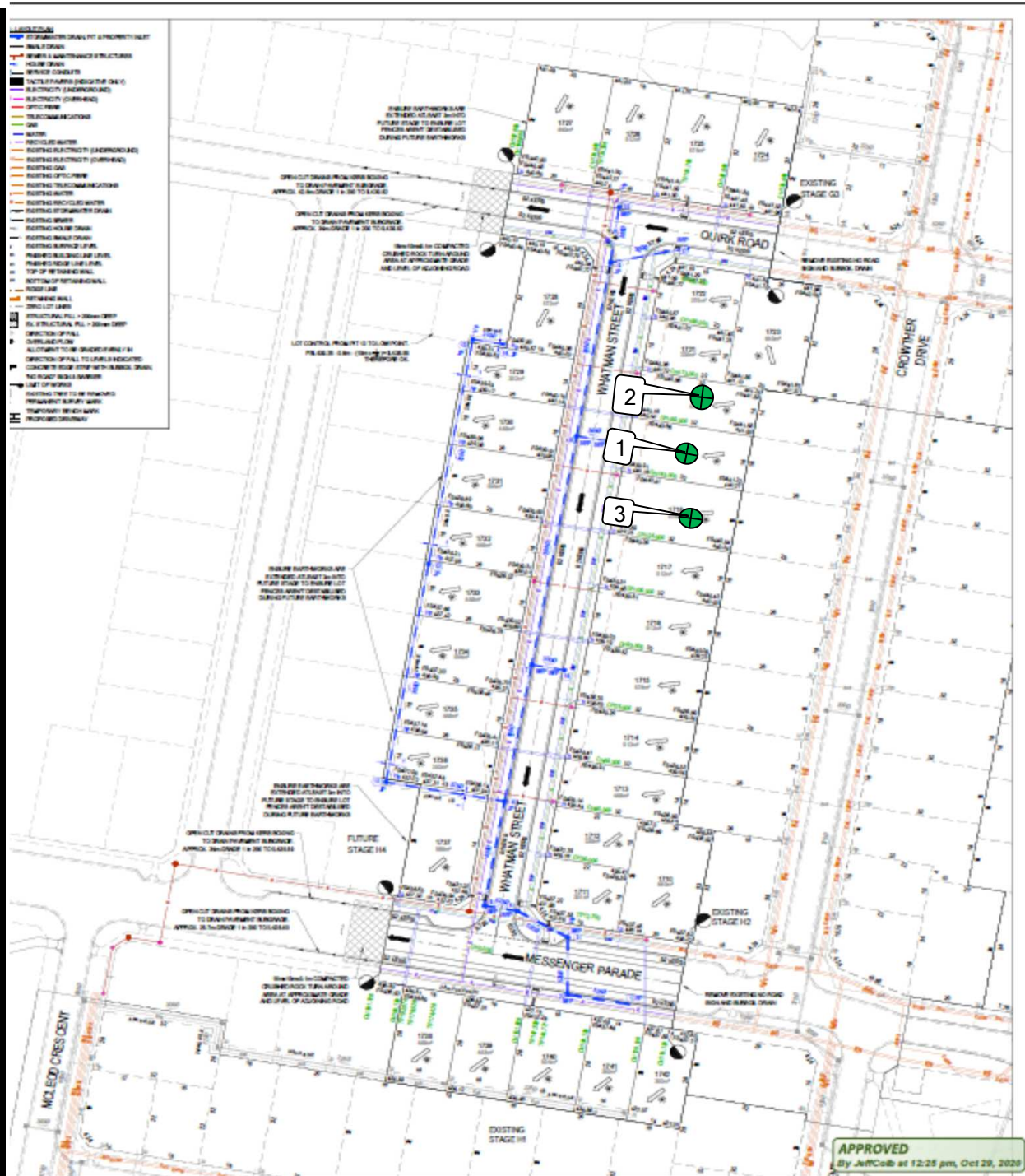
**CLIENT: SYMON BROS**  
**LOCATION: Lucas Estate Stage H3**  
**Sketch indicating compaction test locations**

**DATE: 15/04/2021**  
**OPERATOR: WS**  
**SCALE: NTS**

**JOB No.: 2323/058**  
**CHECKED: KK**  
**FIGURE No: -**







APPROVED  
By JWCob at 12:25 pm, Oct 29, 2020

ROAD NAME	WATER						SEWER					
	SIZE	DEPTH	DEPTH	DEPTH	DEPTH	DEPTH	SIZE	DEPTH	DEPTH	DEPTH	DEPTH	
WHITMAN STREET												
MESSENGER PARADE												

**WARNING**  
 The presence of underground services are shown on this plan. No guarantee is given that existing services are shown. Contact the relevant authority before commencement of works.  
**CALL 1100 BEFORE YOU DIG**



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

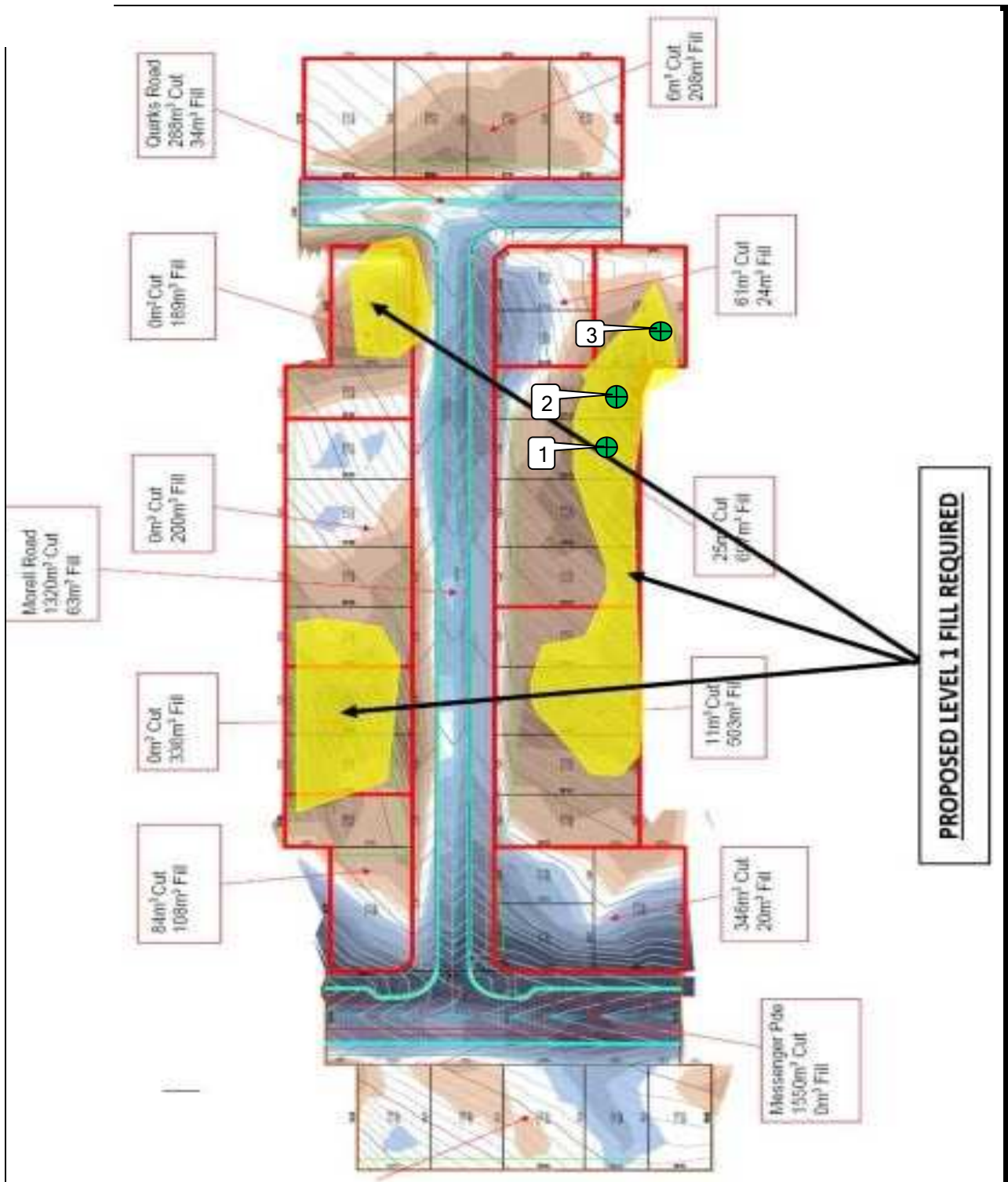
**CLIENT: SYMON BROS**  
**LOCATION: Lucas Estate Stage H3**  
 Sketch indicating compaction test locations

**DATE: 19/04/2021**  
**OPERATOR: WS**  
**SCALE: NTS**

**JOB No.: 2323/060**  
**CHECKED: KK**  
**FIGURE No: -**







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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**

**DATE: 28/04/2021**

**JOB No.: 2323/062**

**LOCATION: Lucas Estate Stage H3**

**OPERATOR: SA**

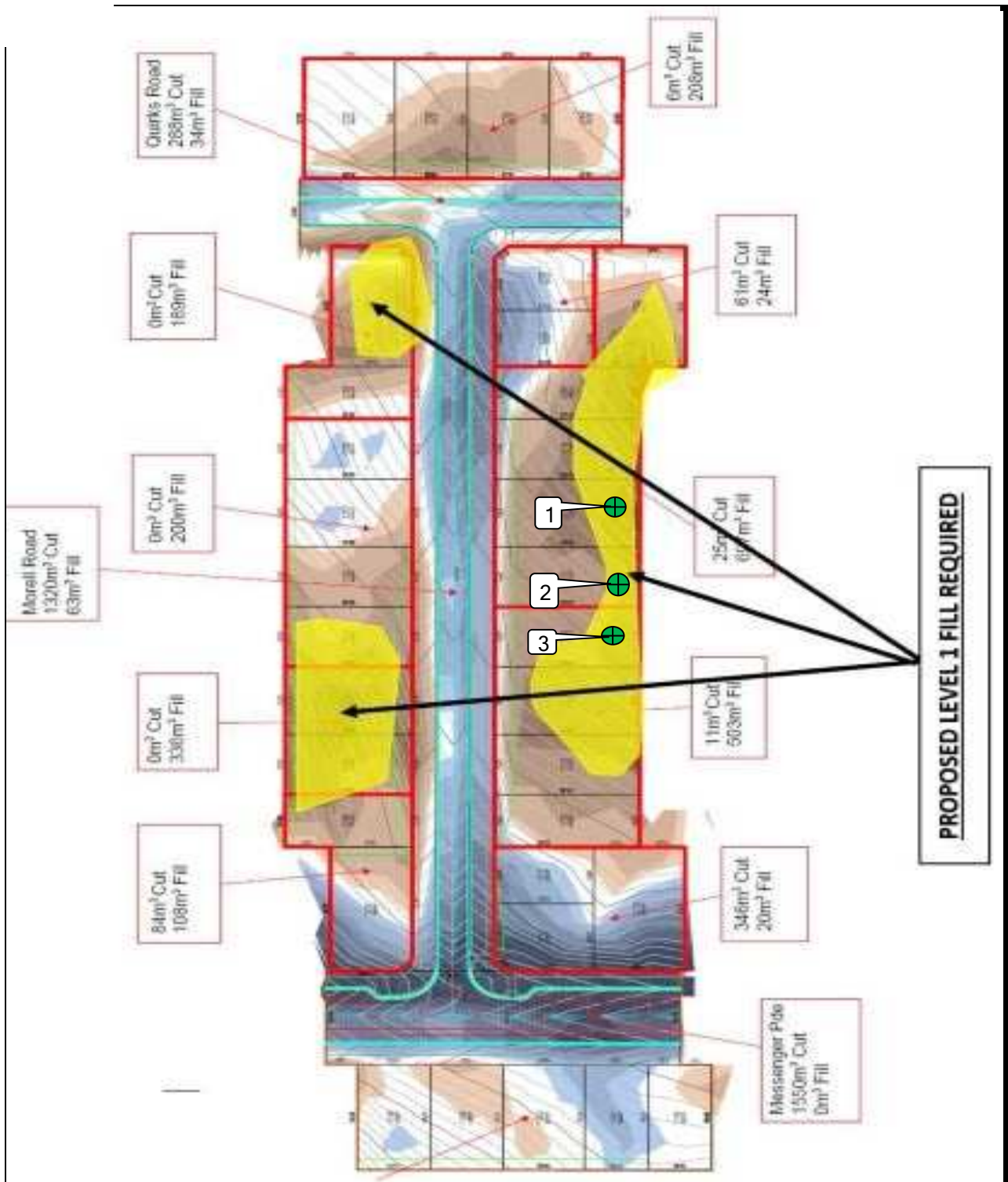
**CHECKED: KK**

**Sketch indicating compaction test locations**

**SCALE: NTS**

**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

**CLIENT: SYMON BROS**

**DATE: 29/04/2021**

**JOB No.: 2323/064**

**LOCATION: Lucas Estate Stage H3**

**OPERATOR: SL**

**CHECKED: KK**

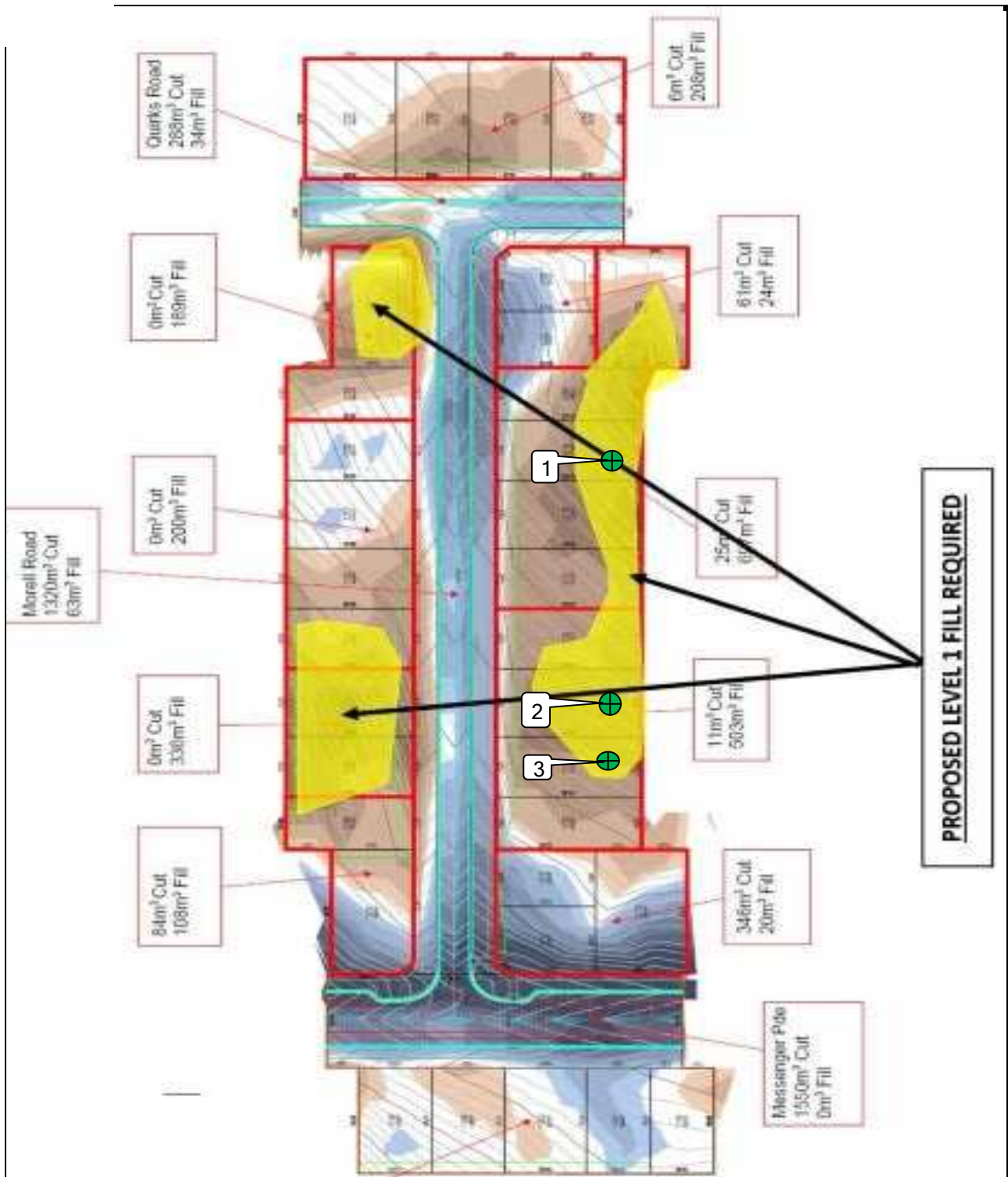
**Sketch indicating compaction test locations**

**SCALE: NTS**

**FIGURE No: -**







**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: Lucas Estate Stage H3**

**Sketch indicating compaction test locations**

**DATE: 30/04/2021**

**OPERATOR: SA**

**SCALE: NTS**

**JOB No.: 2323/066**

**CHECKED: KK**

**FIGURE No: -**



### DAILY SUMMARY - FIELD DENSITY TESTS

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

REPORT NO.: # 2323/067  
 LOCATION: SYMON BROS - Lucas Stage H3

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m³)	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m³)	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)	
7/05/21	1	<i>Refer to #2323/068 for approx. test site locations.</i>	1.93	20.5	96.5	2.00	22.5	175	1.5 Drier	92.5	0	0	700	
7/05/21	2		1.98	21.0	98.0	2.02	21.0	175	0.0 Drier	100.0	0	0	700	
7/05/21	3		2.00	19.5	99.0	2.02	19.5	175	0.0 Drier	100.0	0	0	700	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite Compaction specimens sampled after compaction.  
 Test sites located - Geolab Procedure 4, Part 4.4. Start Time: 12:45pm Finish Time: 1:20pm

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.

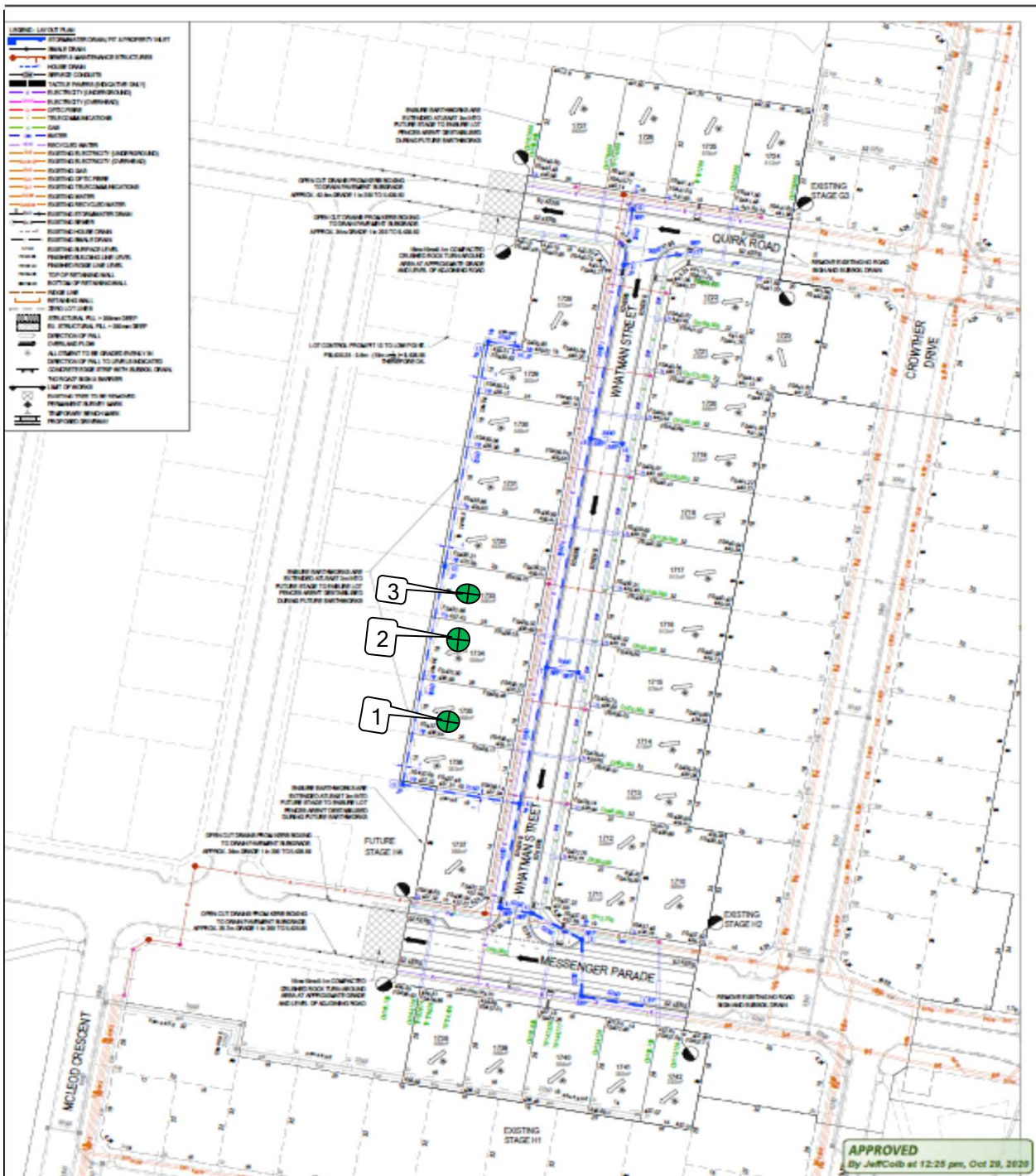
Soil Layer thickness: 200mm Moisture Content: AS 1289 2.1.1  
 Hilf Density Ratio and Hilf Moisture Variation ,Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1 Compaction Test: AS 1289 5.7.1  
 Field Density, Nuclear Gauge: AS 1289 5.8.1  
 Materials Sampled : AS 1289 1.2.1 Clause 6.4(b)



*Accredited for compliance with ISO/IEC 17025 - Testing*  
*NATA Accredited Laboratory Number 14561*

**MICK CROWE**  
 (Approved Signatory)

Issue Date: 12/5/2021



TYPICAL	USE	SAND		GRAVEL		SAND		GRAVEL	
		SPIT 14	SPIT 15	SPIT 14	SPIT 15	SPIT 14	SPIT 15		
ROADSIDE	SPIT	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
ROADSIDE	SPIT	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1

**WARNING**  
 BEFORE CONSTRUCTION BEGINS  
 The location of underground services are approximate only and their exact location should be checked on site. It is possible to show that existing services are shown. Engineering services before commencement of work. **CALL 1100 BEFORE YOU DIG**



**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: Lucas Estate Stage H3**  
 Sketch indicating compaction test locations

**DATE: 7/05/2021**  
**OPERATOR: WS**  
**SCALE: NTS**

**JOB No.: 2323/068**  
**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.: # 2323/069  
 LOCATION: SYMON BROS - Lucas Estate Stage H3

DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m <sup>3</sup> )	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	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)	
12/05/21	1	<i>Refer to #2323/070 for approx. test site locations.</i>	2.04	18.5	95.5	2.14	19.0	175	0.5 Drier	96.5	0	0	200	
12/05/21	2		2.03	22.0	102.0	1.99	23.0	175	1.0 Drier	94.5	0	0	200	
12/05/21	3		2.19	20.0	103.0	2.13	19.5	175	0.5 Wetter	102.5	0	0	200	
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite Compaction specimens sampled after compaction.  
 Test sites located - Geolab Procedure 4, Part 4.4. Start Time: 10:50am Finish Time: 11:10am

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)

❖

❖

Moisture Content: AS 1289 2.1.1

Compaction Test: AS 1289 5.7.1



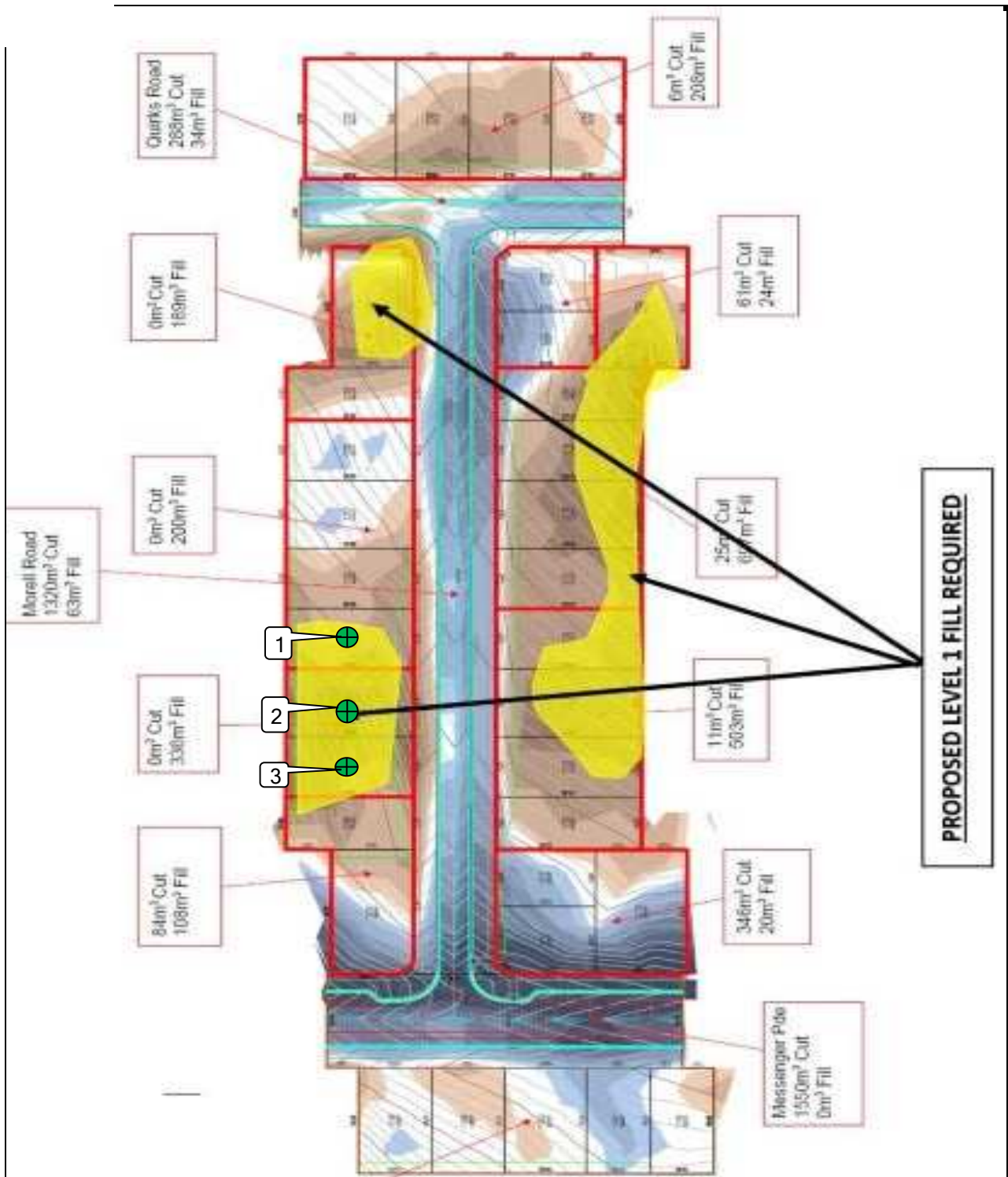
*Accredited for compliance with ISO/IEC  
 17025 - Testing*

*NATA Accredited Laboratory Number 14561*

**MICK CROWE**  
 (Approved Signatory)

Issue Date: 14/5/2021





**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**

**DATE: 12/05/2021**

**JOB No.: 2323/070**

**LOCATION: Lucas Estate Stage H3**

**OPERATOR: TI**

**CHECKED: KK**

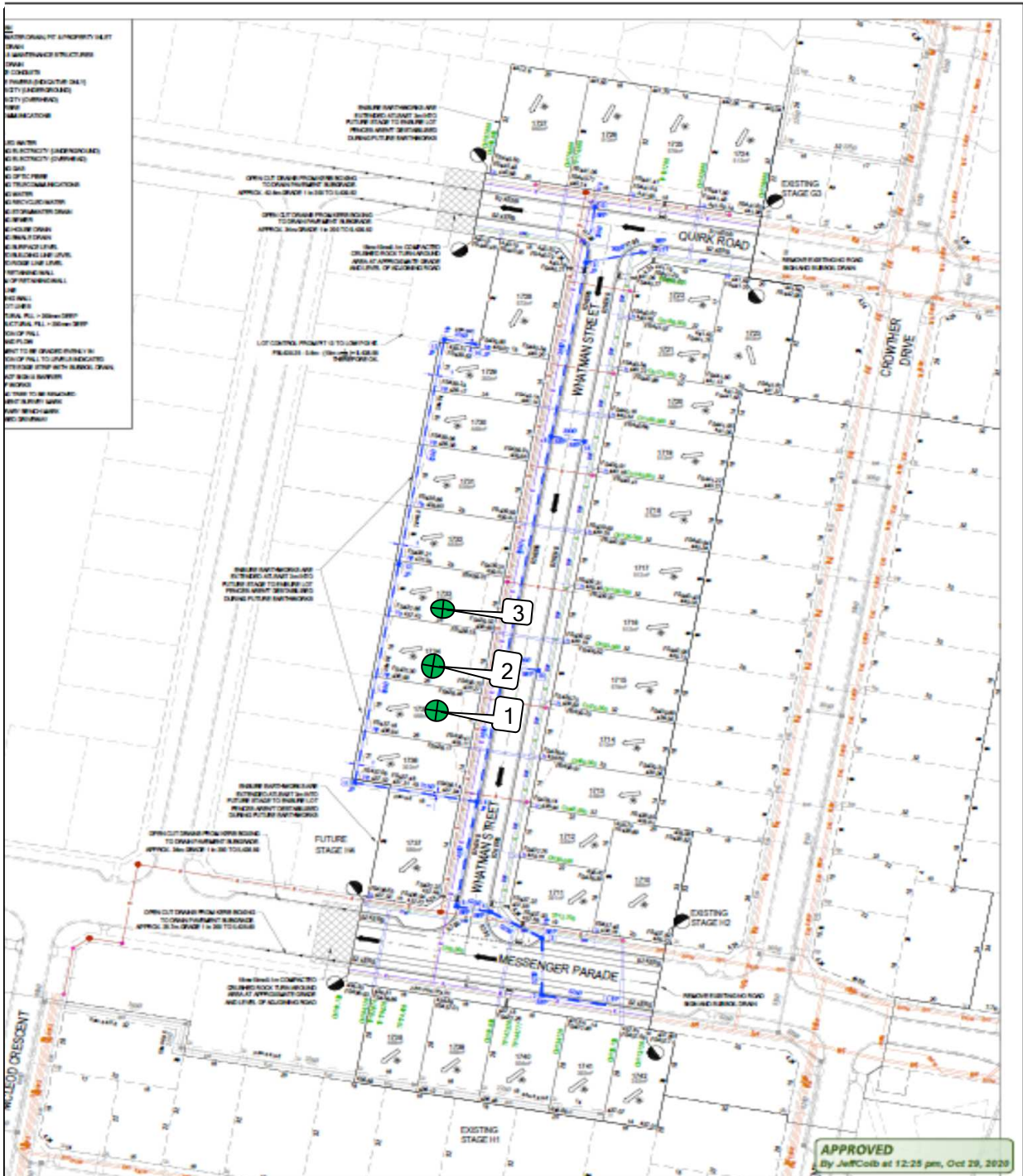
**Sketch indicating compaction test locations**

**SCALE: NTS**

**FIGURE No: -**







ITEM NAME	TYPE	SPRINKLER SYSTEM COVERAGE				FIRE PROTECTION				WATER			
		SEW	OFFSET (m)	SEW	OFFSET (m)	SEW	OFFSET (m)	SEW	OFFSET (m)	SEW	OFFSET (m)	SEW	OFFSET (m)
MESSENGER PARADE	WIDTH	0.1	NORTH	0.1	SOUTH	0.1	NORTH	0.1	SOUTH	0.1	NORTH	0.1	SOUTH
WHYMAN STREET	WIDTH	0.1	NORTH	0.1	SOUTH	0.1	NORTH	0.1	SOUTH	0.1	NORTH	0.1	SOUTH

**APPROVED**  
By JWC/Colb at 12:25 pm, Oct 29, 2020

**WARNING**  
SOURCE OF INFORMATION: GEOTECHNICAL LABORATORIES  
The location of underground services are approximate only and their exact location should be checked on site. It is guaranteed to show that all existing services are shown, unless an engineering service before commencement of work.  
SCALE: 1:1000 SUBJECT: YOUR JOB  
SEE 1100 FOR A/C



**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**

**DATE: 13/05/2021**

**JOB No.: 2323/074**

**LOCATION: Lucas Estate Stage H3**

**OPERATOR: DB/NE**

**CHECKED: KK**

**Sketch indicating compaction test locations**

**SCALE: NTS**

**FIGURE No: -**

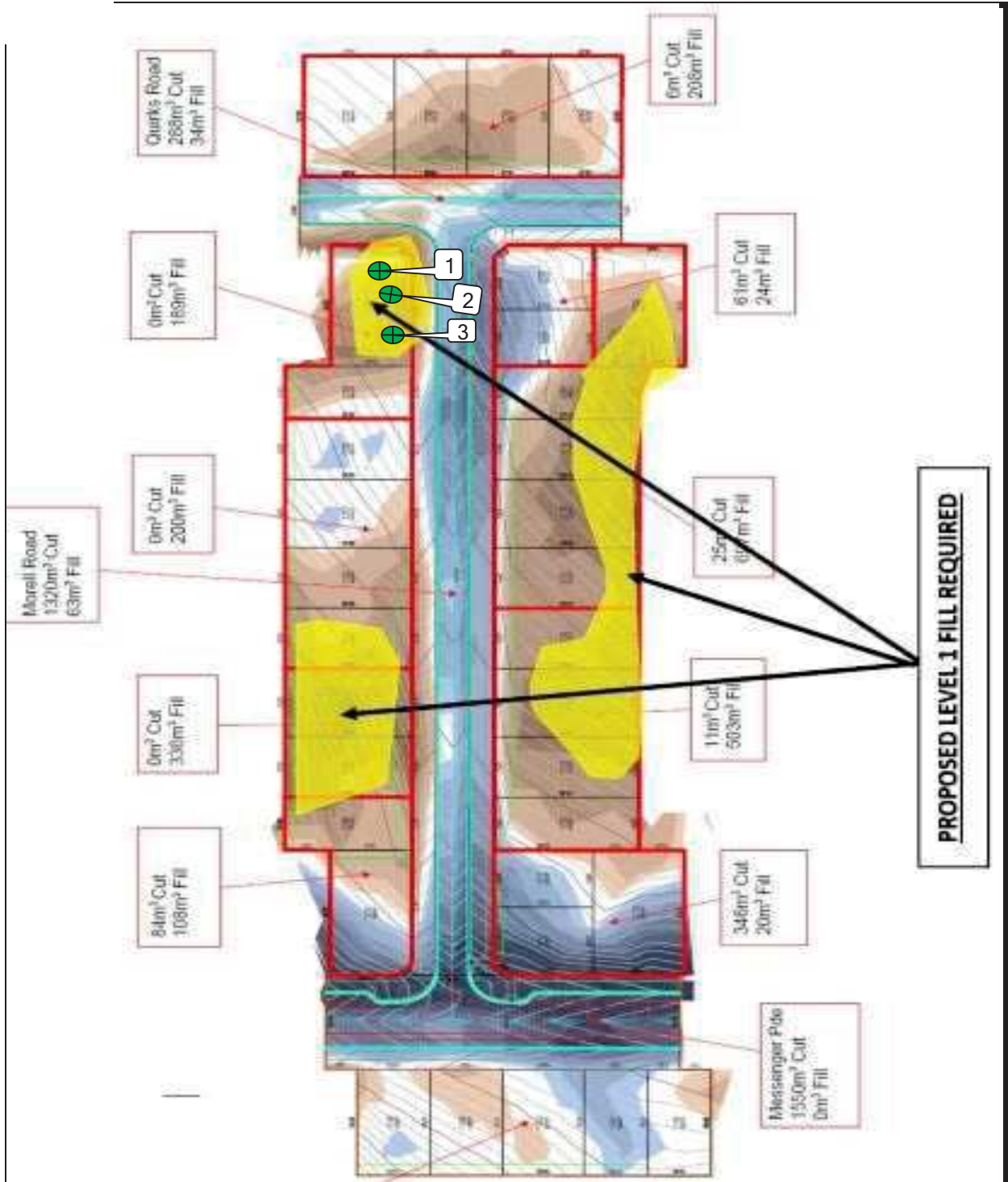












**GEOTECHNICAL  
LABORATORIES**

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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: Lucas Estate Stage H3**

**Sketch indicating compaction test locations**

**DATE: 21/05/2021**

**OPERATOR: SA**

**SCALE: NTS**

**JOB No.: 2323/078**

**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.: # 2323/093


LOCATION: SYMON BROS - Lucas Estate Stage H3

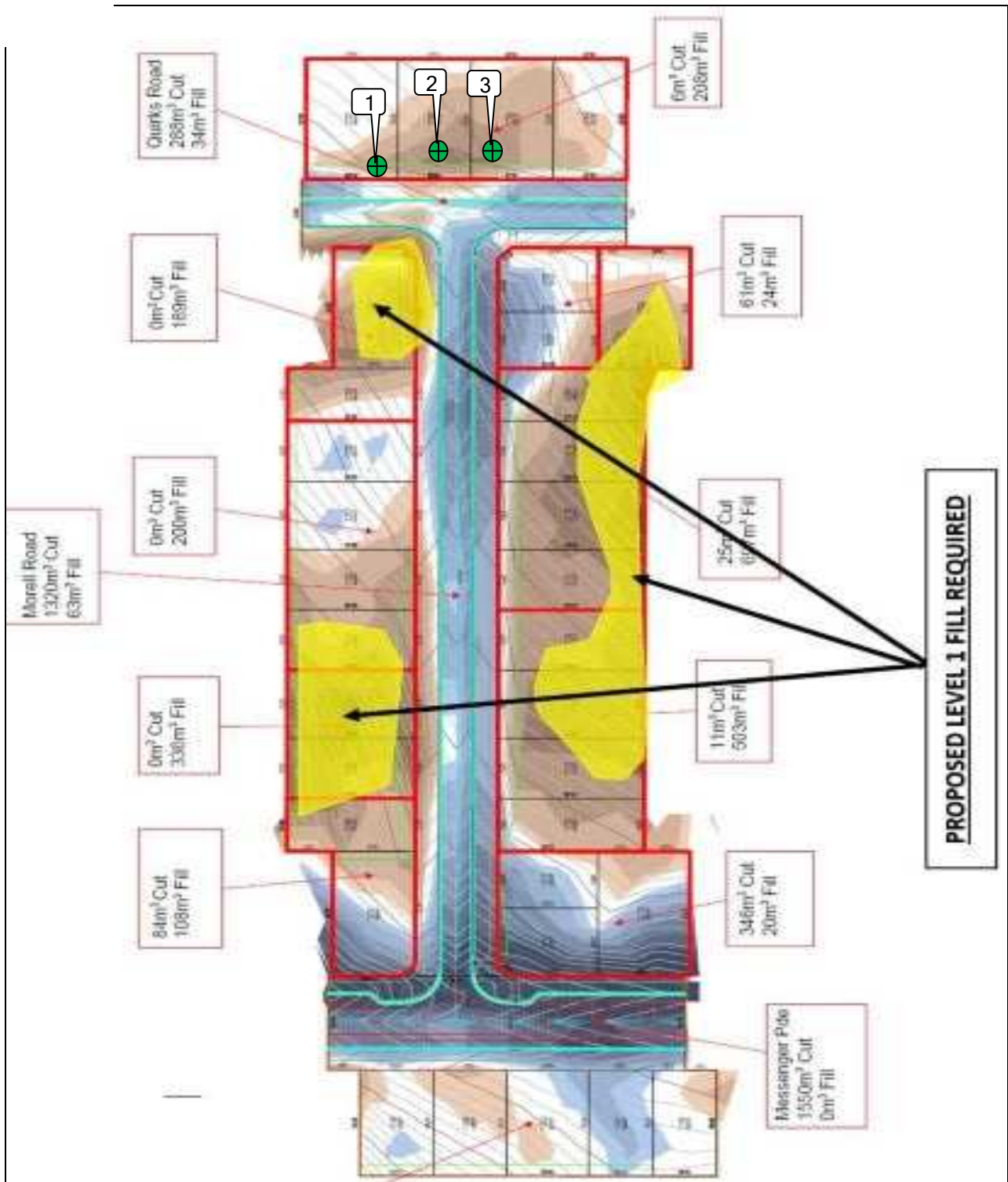
DATE OF TESTS	TEST NUM.	TEST LOCATION	FIELD WET DENSITY (t/m <sup>3</sup> )	FIELD MOISTURE CONTENT (%)	HILF DENSITY RATIO STANDARD (%)	STANDARD PCWD OR APCWD (t/m <sup>3</sup> )	STANDARD OPTIMUM MOISTURE CONTENT (%)	PROBE DEPTH SETTING (mm)	VARIATION FROM OPTIMUM MOISTURE CONTENT (%)	MOISTURE RATIO (%)	WET +19mm (%)	WET +37.5mm (%)	APPROX. DEPTH BELOW FINISH LEVEL (mm)
31/05/21	1	<i>Refer to #2323/094 for approx. test site locations.</i>	2.02	18.5	95.5	✘ 2.12	19.0	175	0.5 Drier	96.5	3	0	200
31/05/21	2		2.17	15.5	102.0	✘ 2.12	17.5	175	2.0 Drier	89.5	3	0	0
31/05/21	3		2.10	17.0	98.0	✘ 2.14	19.5	175	2.5 Drier	86.5	4	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite Compaction specimens sampled after compaction.  
 Test sites located - Geolab Procedure 4, Part 4.4. Start Time: 9:15am Finish Time: 10:20am

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 Moisture Content: AS 1289 2.1.1  
 Hilf Density Ratio and Hilf Moisture Variation, Hilf Adjusted (APCWD) & Peak (PCWD) Converted Wet Density AS 1289 5.7.1 Compaction Test: 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  
 ❖

  
**MICK CROWE**  
 (Approved Signatory)  
 Issue Date: 3/6/2021

  
**NATA**  
 ACCREDITED FOR  
**TECHNICAL  
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*Accredited for compliance with ISO/IEC 17025 - Testing*  
*NATA Accredited Laboratory Number 14561*



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

**CLIENT: SYMON BROS**

**LOCATION: Lucas Estate Stage H3**

**Sketch indicating compaction test locations**

**DATE: 31/05/2021**

**OPERATOR: NE**

**SCALE: NTS**

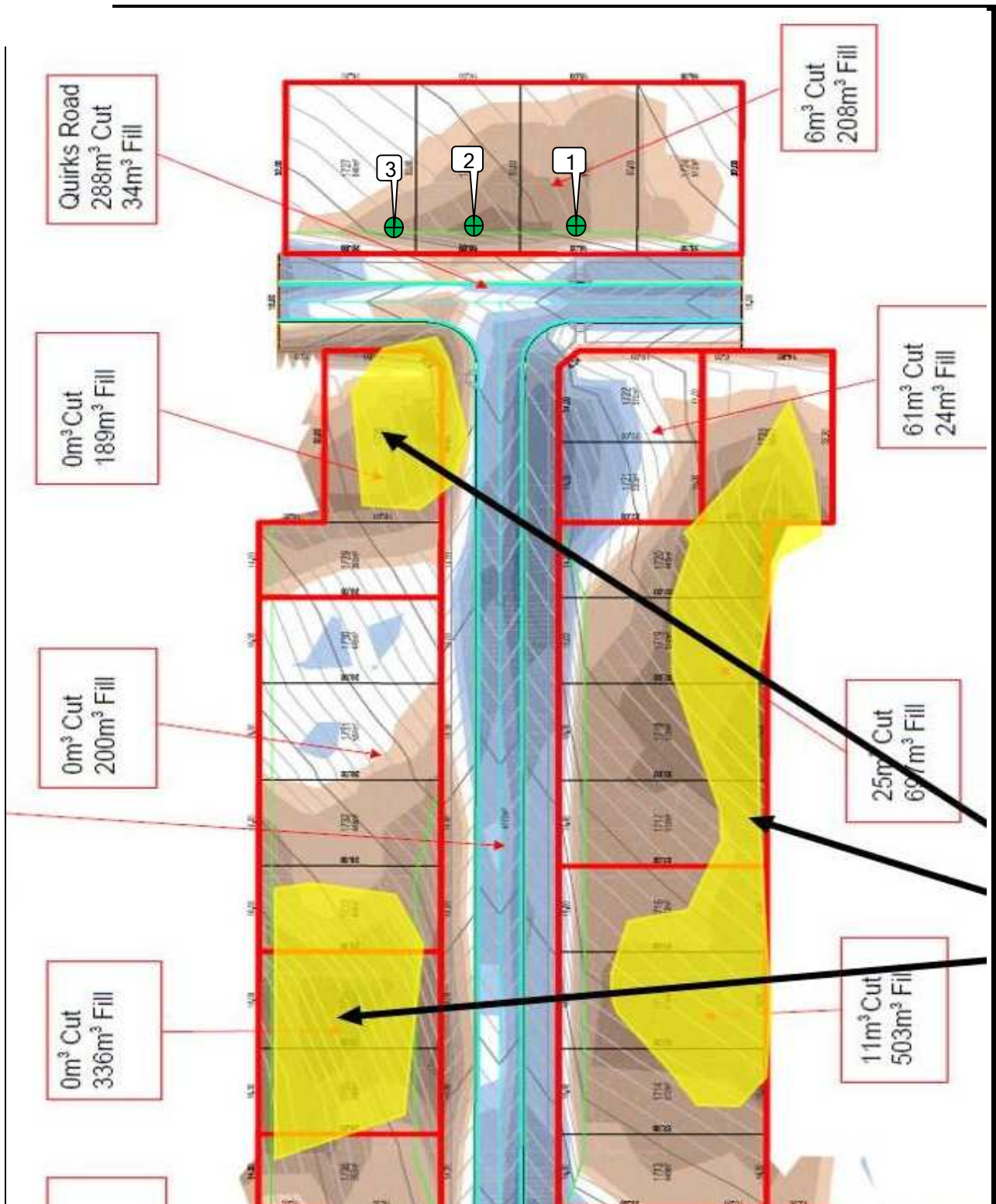
**JOB No.: 2323/094**

**CHECKED: KK**

**FIGURE No: -**







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**CLIENT: SYMON BROS**

**DATE: 28/05/2021**

**JOB No.: 2323/088**

**LOCATION: Lucas Estate Stage H#**

**OPERATOR: TI**

**CHECKED: KK**

**Sketch indicating compaction test locations**

**SCALE: NTS**

**FIGURE No: -**