

LEVEL ONE

Reference  
No.: 2306-049

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out  
By*



PREPARED FOR: -

SYMON BROS CONSTRUCTION PTY LTD



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Appendix A Construction Drawings

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Client Name: Symon Bros Construction Pty Ltd

Project Name: The Grove West Stage 61

Date: 9<sup>th</sup> of March 2021

Author: Mr. Sam Loza

Reference No.: 2306-049

Revision: 0

Project Manager: Mr. George Dimopoulos

### **1. Introduction & Scope**

At the request of Symon Bros. Construction Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site from the 31<sup>st</sup> of August 2020 to the 26<sup>th</sup> of February 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. Construction 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 No. 2190E-61-03.

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 31<sup>st</sup> of August 2020 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 fill material used was sourced from site cut areas.



The fill material is best described as a silty CLAY, brown, grey-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:

- Dump trucks
- Elevating scrapers
- A watercart
- A sheepsfoot compactor (815)

The sheepsfoot compactor and scrapers 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 twenty-eight 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.

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. Construction 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. Construction Pty Ltd from the 31<sup>st</sup> of August 2020 to the 26<sup>th</sup> of February 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 Construction 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. Construction 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  
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APPENDIX A



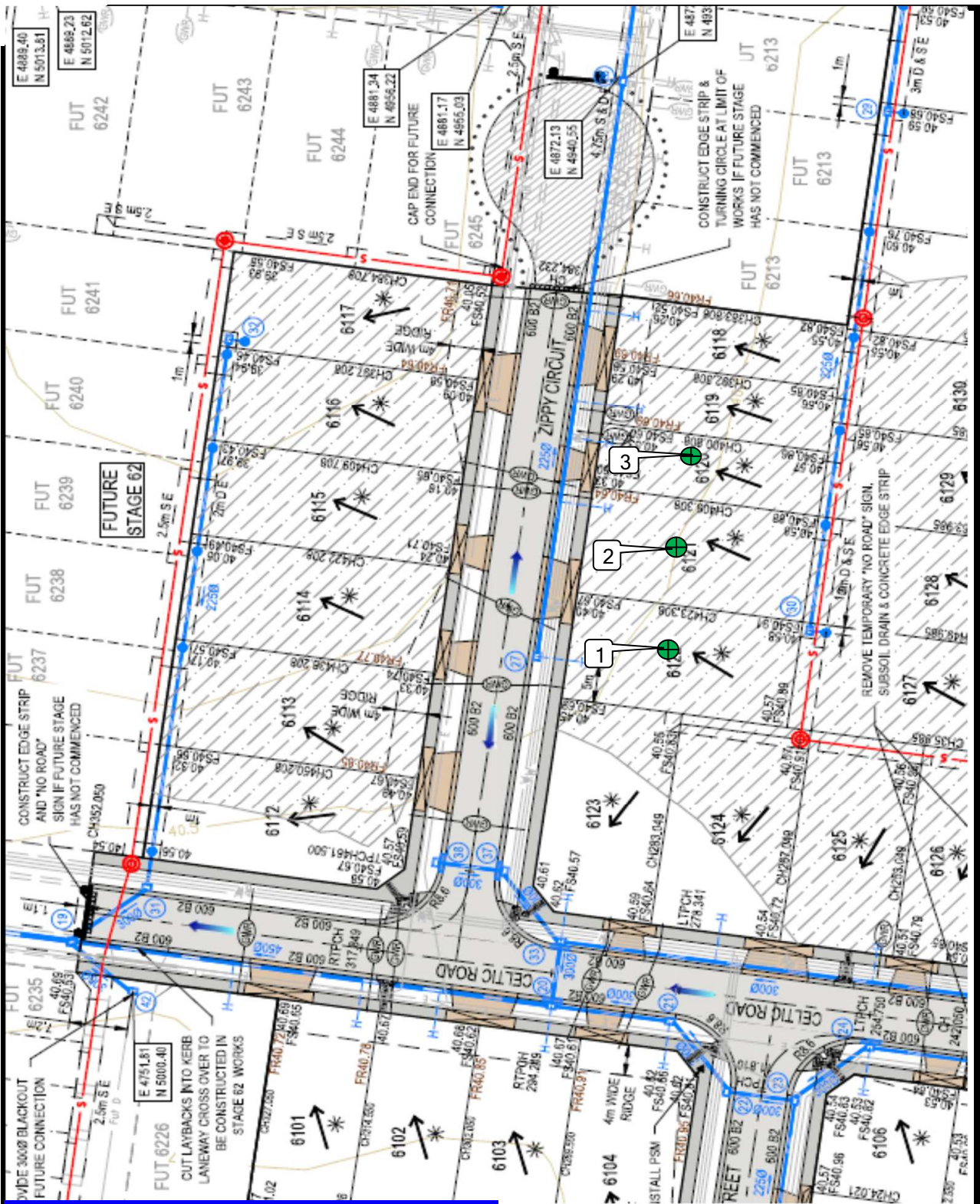


LEVEL ONE  
SURVEILLANCE  
AND INSPECTION REPORT

APPENDIX B







**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: The Grove West Stage 60 & 61**

**Sketch indicating compaction test locations**

**DATE: 31/8/2020**

**OPERATOR: TI**

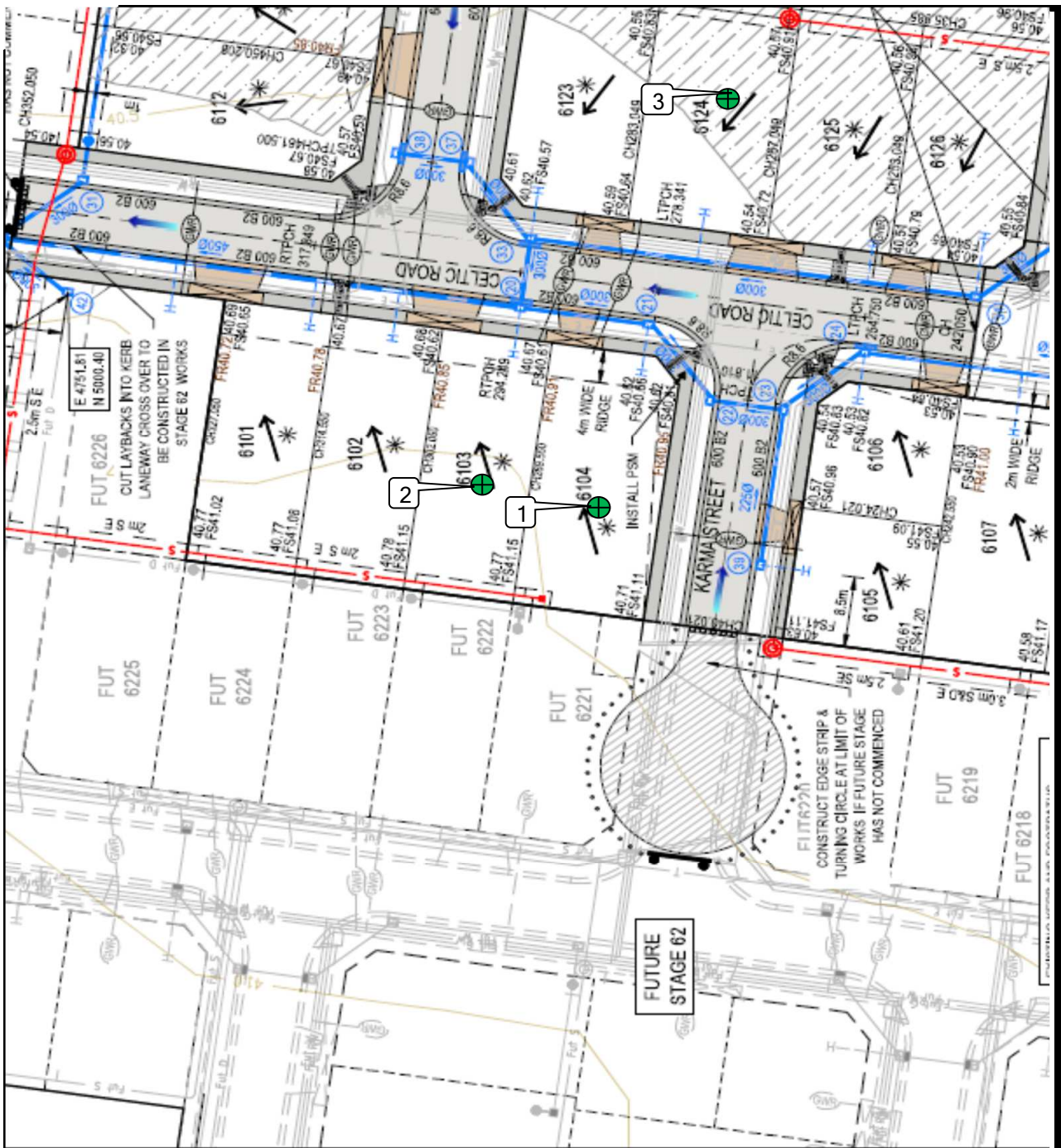
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**JOB No.: 2305/006**

**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

**CLIENT: SYMON BROS**

**DATE: 1/9/2020**

**JOB No.: 2305/008**

**LOCATION: The Grove West Stage 61**

**OPERATOR: JC**

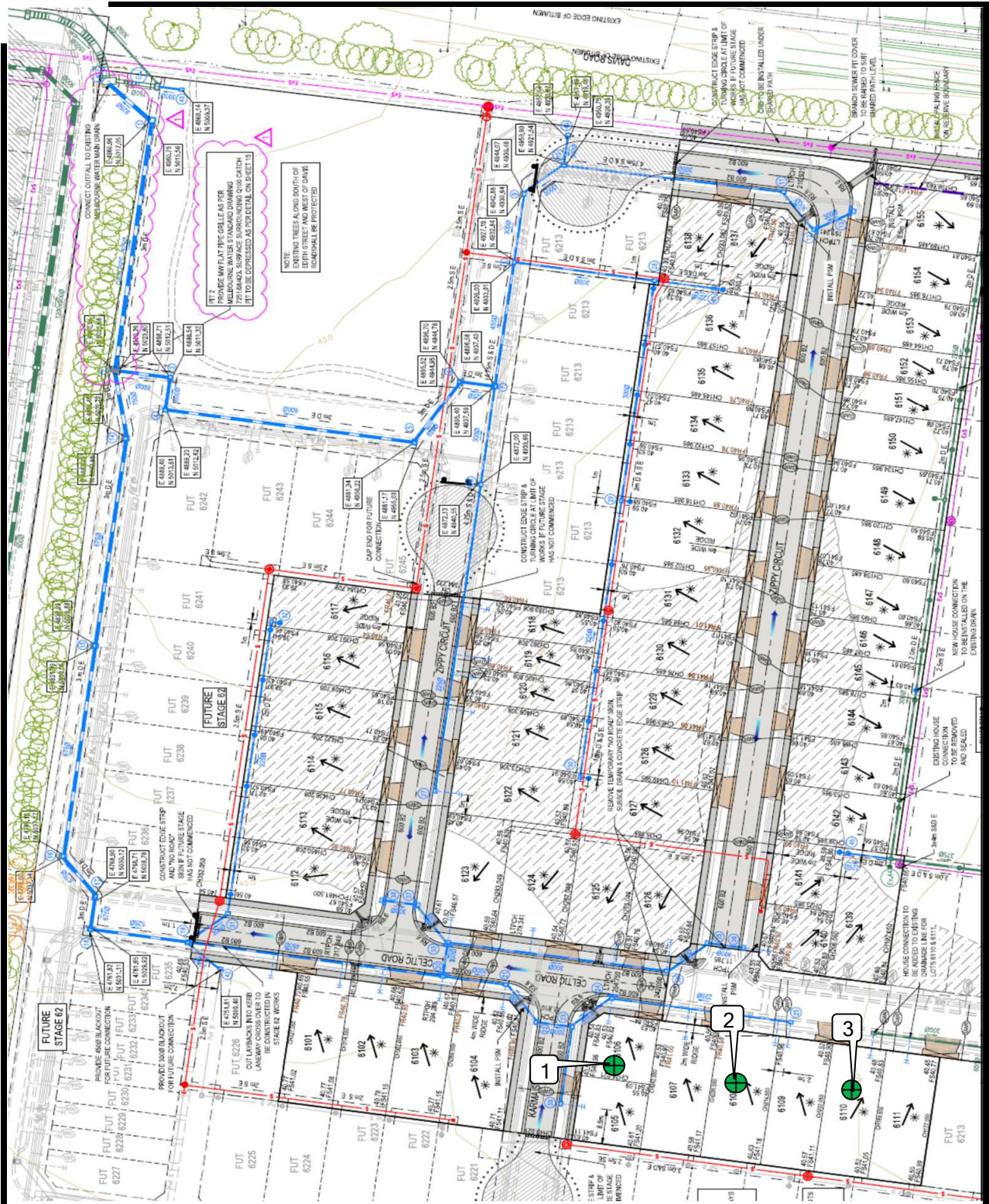
**CHECKED: KK**

**Sketch indicating compaction test locations**

**SCALE: NTS**

**FIGURE No: -**





**GEOTECHNICAL  
LABORATORIES**

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**ACN 102 571 077**

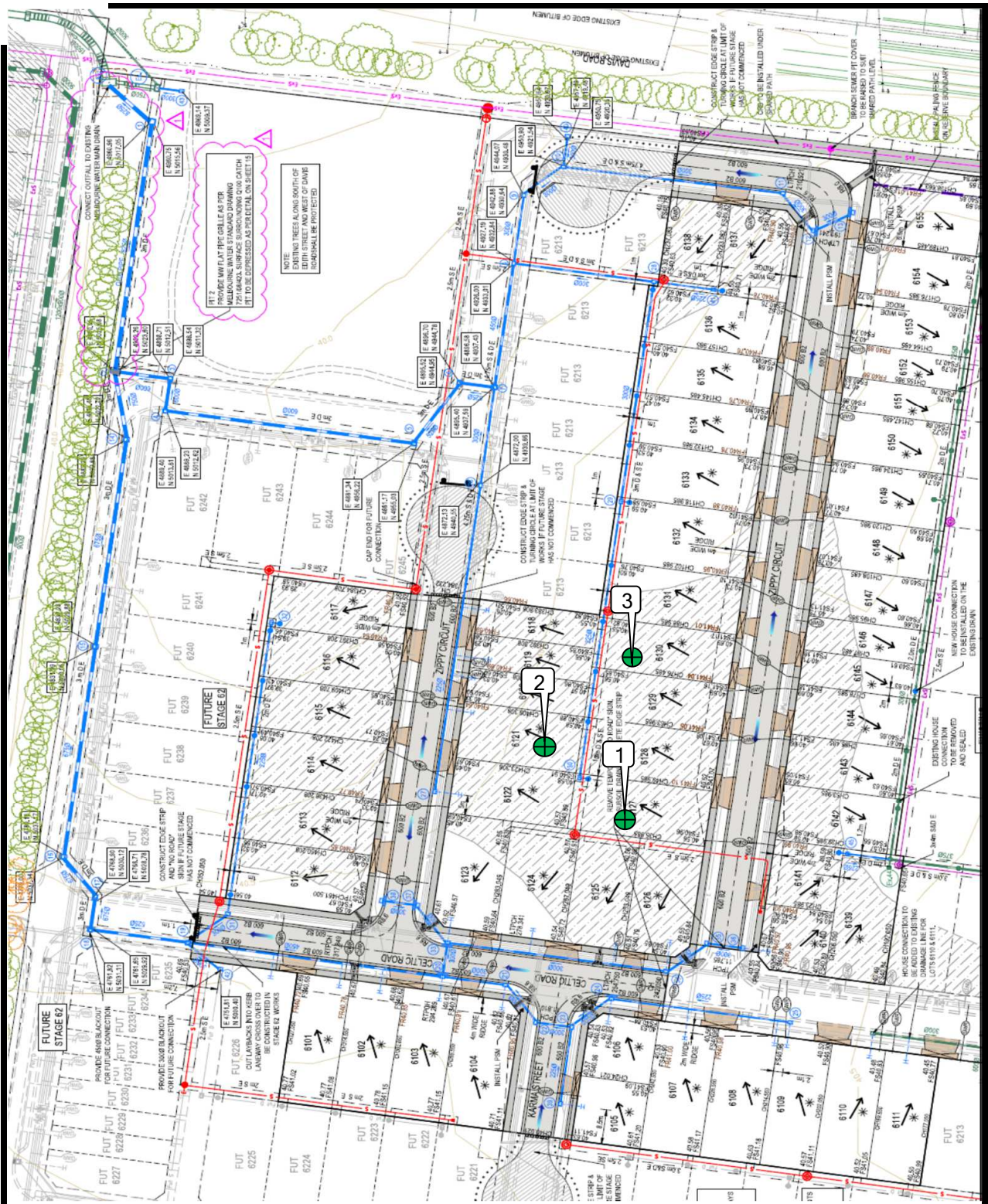
14 Ravenhall Way, Ravenhall, Vic 3023  
Email: info@geolab.com.au PH: (03) 8361-9140

**CLIENT: SYMON BROS**  
**LOCATION: The Grove West Stage 61**  
**Sketch indicating compaction test locations**

**DATE: 2/9/2020**  
**OPERATOR: JC**  
**SCALE: NTS**

**JOB No.: 2305/012**  
**CHECKED: KK**  
**FIGURE No: -**





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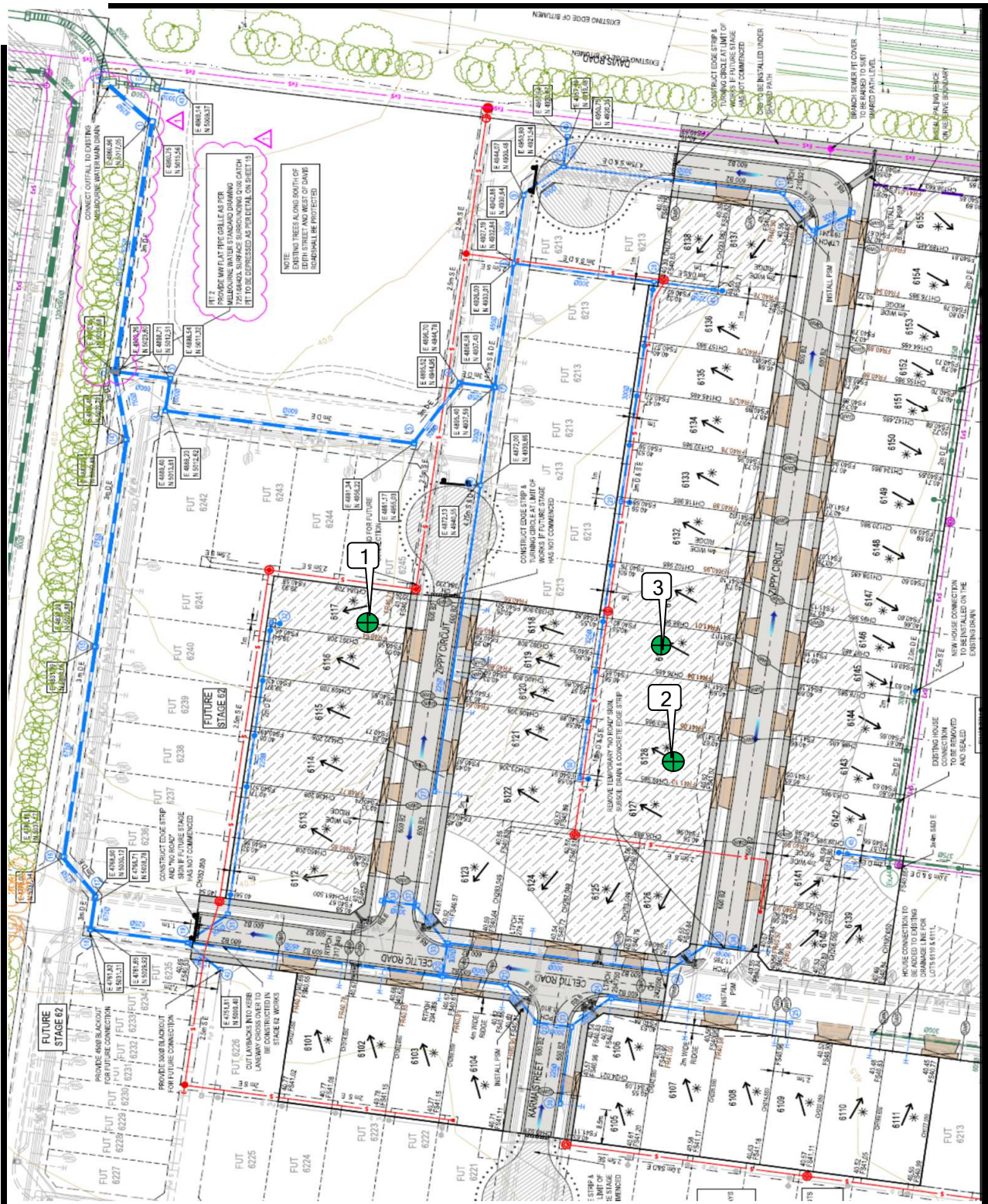
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**LOCATION: The Grove West Stage 61**  
 Sketch indicating compaction test locations

**DATE: 3/9/2020**  
**OPERATOR: RW**  
**SCALE: NTS**

**JOB No.: 2305/016**  
**CHECKED: KK**  
**FIGURE No: -**







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**CLIENT: SYMON BROS**  
**LOCATION: The Grove West Stage 61**  
 Sketch indicating compaction test locations

**DATE: 4/9/2020**  
**OPERATOR: WS**  
**SCALE: NTS**

**JOB No.: 2305/018**  
**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.: # 2305/019

LOCATION: SYMON BROS - The Grove West Stage 61

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)
7/09/20	1	<i>Refer to #2305/020 for approx. test site locations.</i>	1.94	22.0	103.0	✘ 1.88	25.5	175	3.5 Drier	86.5	4	0	0
7/09/20	2		1.95	24.0	104.5	✘ 1.86	28.0	175	4.0 Drier	85.0	5	0	0
7/09/20	3		1.92	22.0	101.5	1.89	25.0	175	2.5 Drier	89.0	0	0	0
7/09/20	4		1.97	22.5	104.5	1.88	25.5	175	3.0 Drier	88.5	0	0	0
7/09/20	5		1.99	22.0	103.5	✘ 1.92	24.5	175	2.5 Drier	89.0	6	0	0
7/09/20	6		1.83	20.5	98.0	1.87	23.5	175	3.0 Drier	87.5	0	0	0

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 11:25am Finish Time: 2:20pm

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.

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

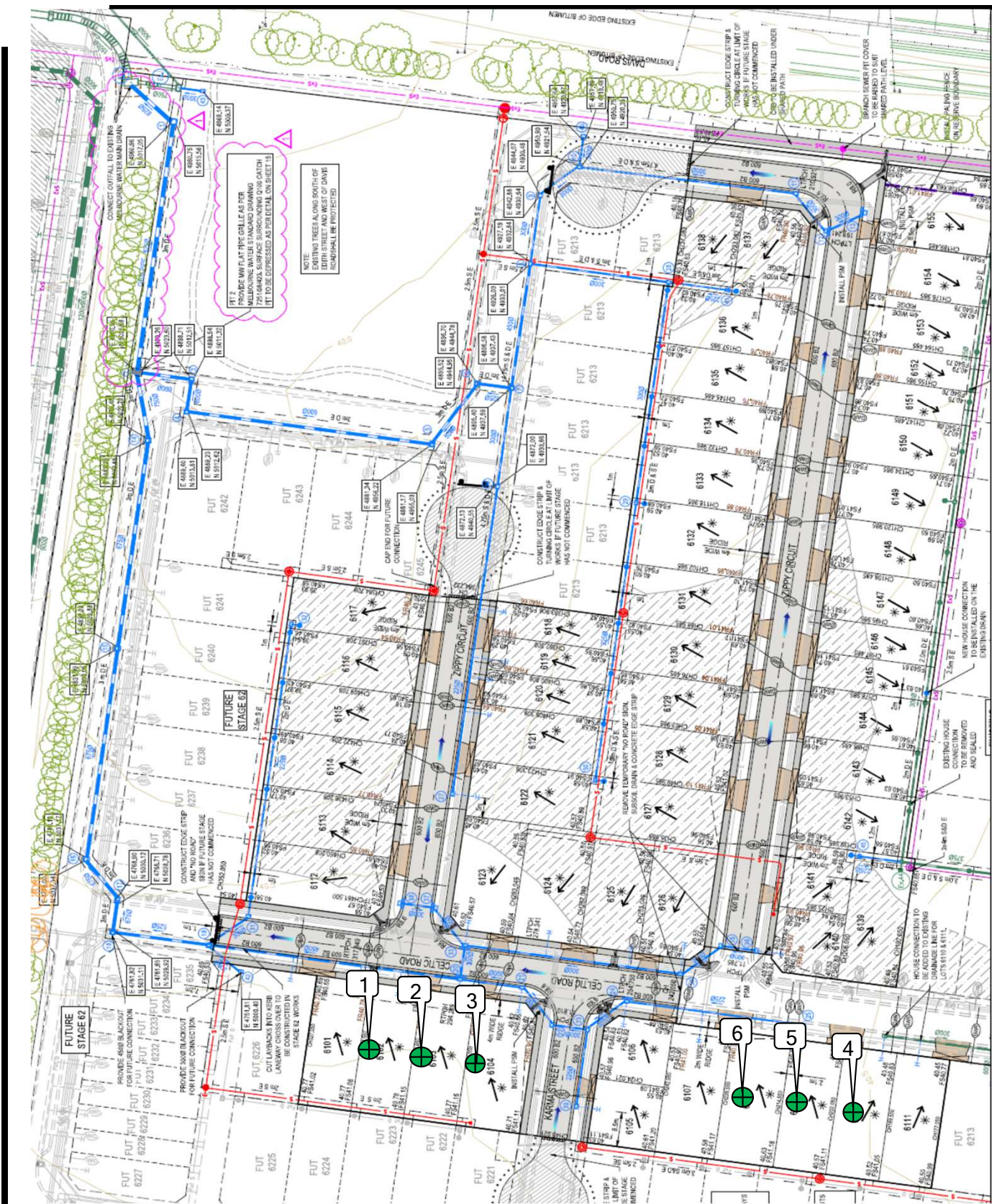


*Accredited for compliance with ISO/IEC  
 17025 - Testing*

*NATA Accredited Laboratory Number 14561*

**MICK CROWE**  
 (Approved Signatory)

Issue Date: 10/9/2020



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

**CLIENT: SYMON BROS**

**LOCATION: The Grove West Stage 61**

**Sketch indicating compaction test locations**

**DATE: 7/9/2020**

**OPERATOR: WS**

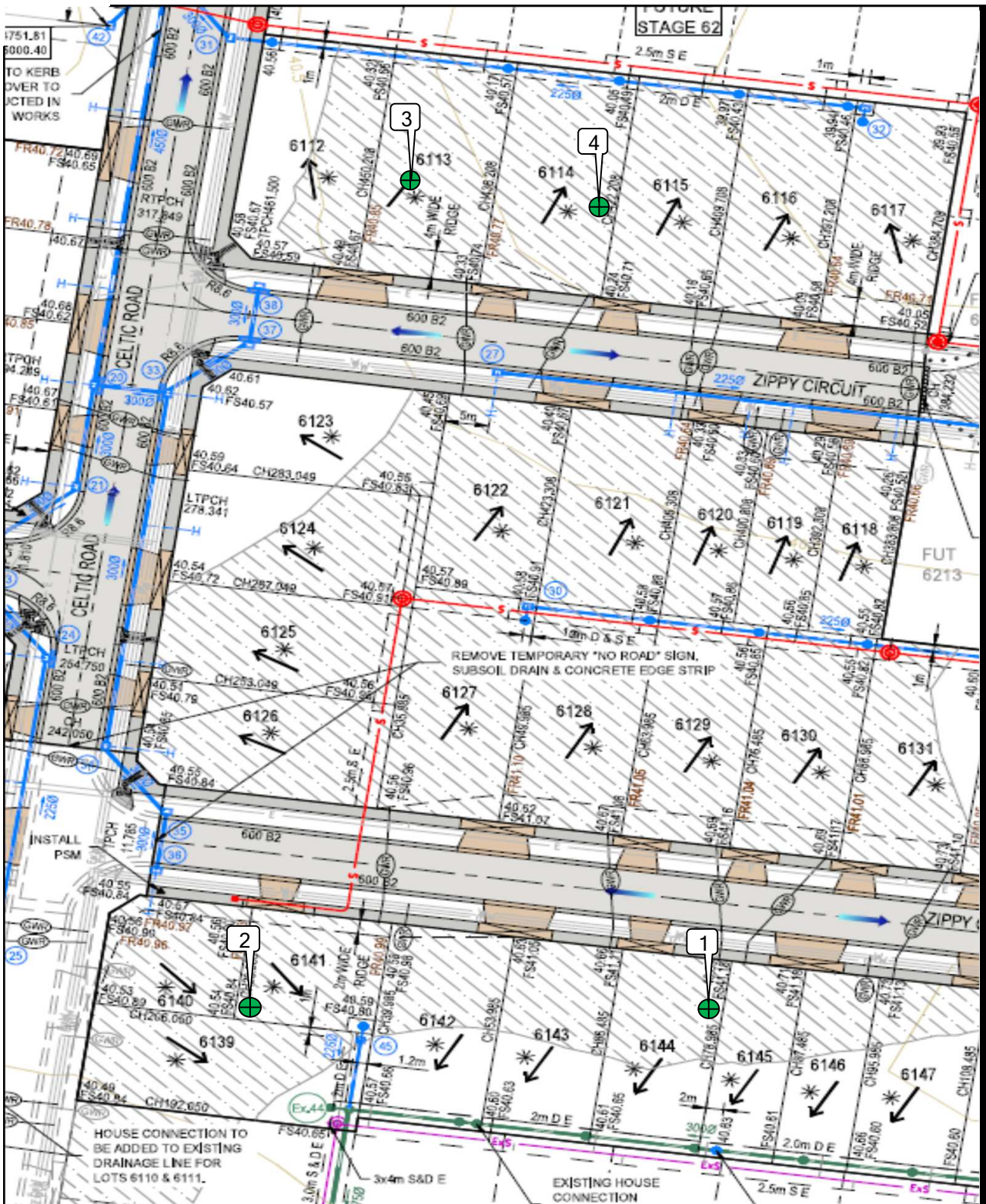
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**JOB No.: 2305/020**

**CHECKED: KK**

**FIGURE No: -**





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

**CLIENT: SYMON BROS**

**LOCATION: The Grove West Stage 61**

**Sketch indicating compaction test locations**

**DATE: 23/9/2020**

**OPERATOR: JC**

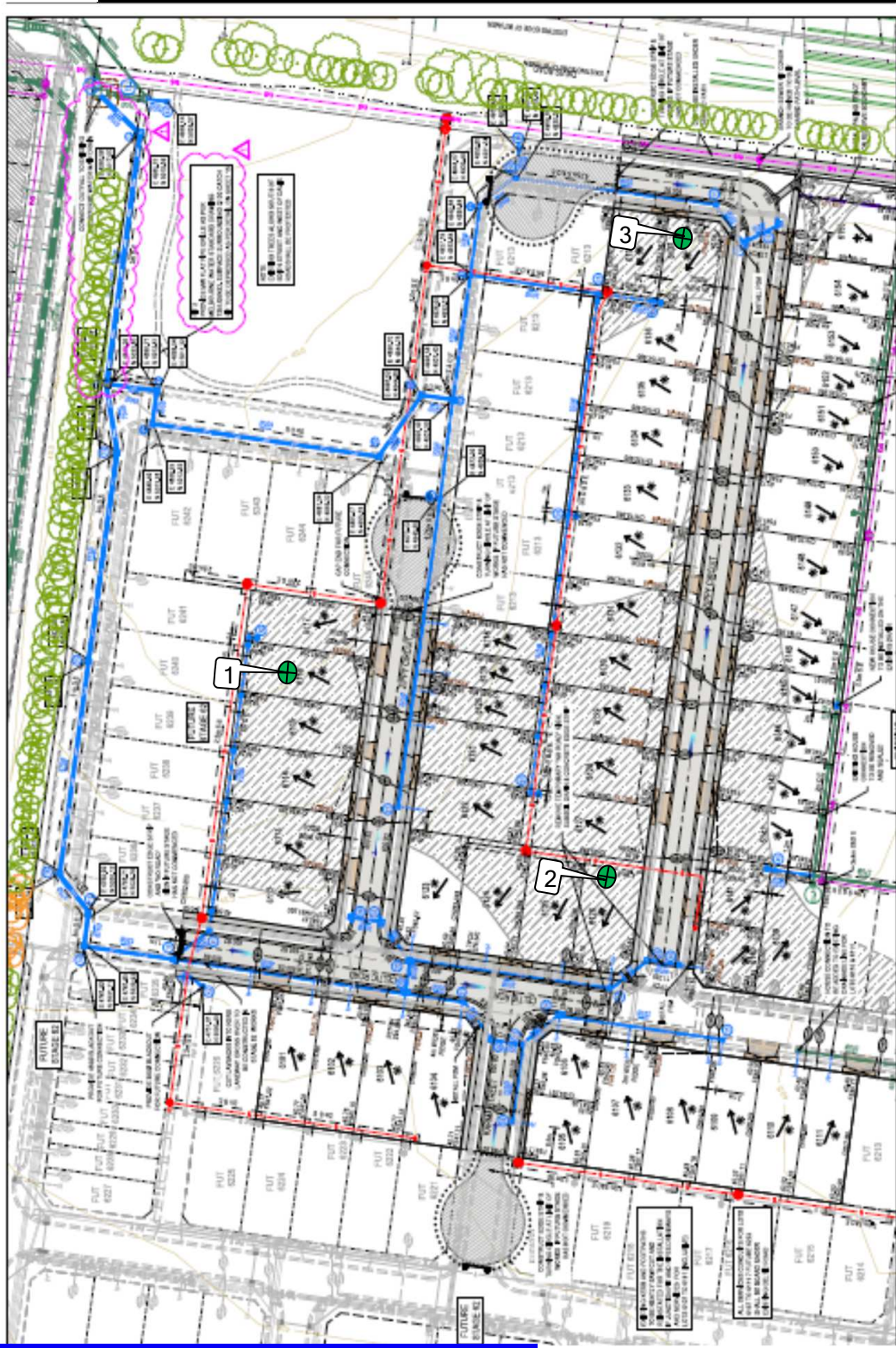
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**JOB No.: 2305/042**

**CHECKED: KK**

**FIGURE No: -**





NO.	DESCRIPTION	DATE	BY	CHECKED
1	ISSUED FOR PERMIT	26/02/2021	TI	KK
2	ISSUED FOR PERMIT	26/02/2021	TI	KK
3	ISSUED FOR PERMIT	26/02/2021	TI	KK

NO.	DESCRIPTION	DATE	BY	CHECKED
1	ISSUED FOR PERMIT	26/02/2021	TI	KK
2	ISSUED FOR PERMIT	26/02/2021	TI	KK
3	ISSUED FOR PERMIT	26/02/2021	TI	KK






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**CLIENT: SYMON BROS**

**DATE: 26/02/2021**

**JOB No.: 2305/140**

**LOCATION: The Grove West Stage 61**

**OPERATOR: TI**

**CHECKED: KK**

Sketch indicating compaction test locations

**SCALE: NTS**

**FIGURE No: -**