

LEVEL ONE

Reference  
No.: 1993-073

SURVEILLANCE

AND INSPECTION REPORT

*Carried Out  
By*



PREPARED FOR: -

DRAPERS CIVIL CONTRACTING PTY LTD



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## Appendices

Appendix A Construction Drawings

Appendix B Daily Field Compaction Summary Results



Client Name: Drapers Civil Contracting Pty Ltd

Project Name: Wandana Estate Stage 2B

Date: 16<sup>th</sup> of February 2021

Author: Mr. Sam Loza

Reference No.: 1993-073

Revision: 0

Project Manager: Mr. Kieran Missen

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

At the request of Drapers Civil Contracting Pty Ltd, Geotechnical Laboratories has carried out inspection and testing of the above-mentioned site from the 7<sup>th</sup> of May 2020 to the 16<sup>th</sup> of June 2020 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 Drapers Civil Contracting Pty Ltd and was used to determine compliance of earthworks in conjunction with the requirements of AS 3798 – 2007 (See Appendix A).

(1). Site Layout Plan Drawing No. R200 Rev 2.

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

### **2. Site Preparation**

Site inspections were undertaken on the 7<sup>th</sup> of May 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.

The decommissioned service trench was inspected and a clean firm base was established prior to the commencement of backfilling.

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**

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



The fill material is best described as a silty CLAY, brown, grey brown, slightly moist to moist, medium plasticity with basalt gravel 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:

- Dump trucks / highway trucks
- A watercart
- A sheepsfoot compactor (815)

The sheepsfoot compactor placed material in horizontal loose layers of approximately 300mm. The sheepsfoot compactor also performed compaction of the clay 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 twenty-four compaction tests were performed on the allotment filling 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, Drapers Civil Contracting 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 Drapers Civil Contracting Pty Ltd from the 7<sup>th</sup> of May 2020 to the 16<sup>th</sup> of June 2020 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 Drapers Civil Contracting 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.

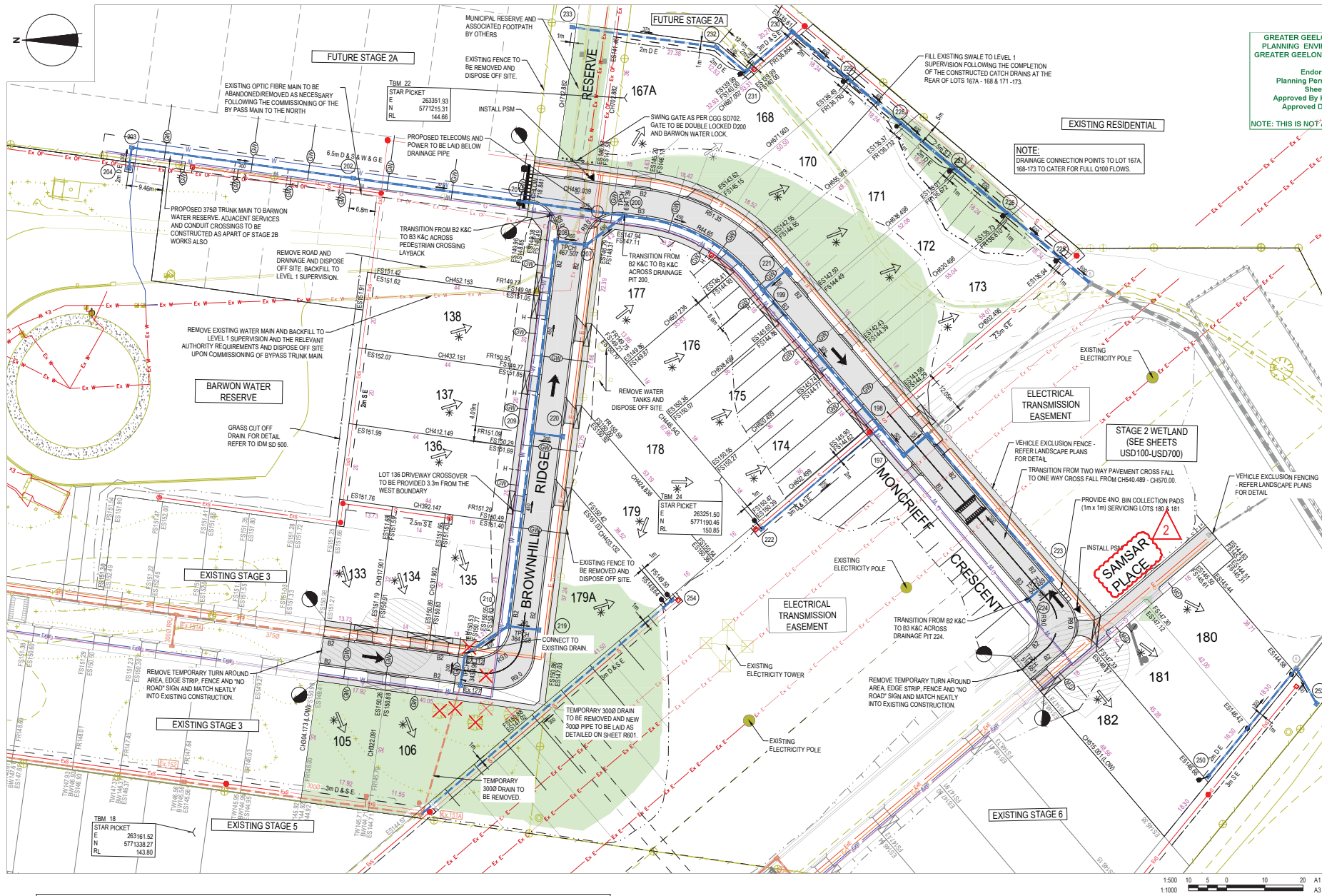
Test results and controlled fill compliance relates only to fill placed by Drapers Civil Contracting Pty Ltd and for earthworks completed at the time of inspection and testing. Any previous or subsequent earthworks will require a separate evaluation.

For & on behalf of  
Geotechnical Laboratories Pty Ltd.

Sam Loza  
Laboratory Manager.



LEVEL ONE  
SURVEILLANCE  
AND INSPECTION REPORT  
  
APPENDIX A



**LEGEND - LAYOUT PLAN**

GREATER GEELONG CITY COUNCIL  
PLANNING ENVIRONMENT ACT 1987  
GREATER GEELONG PLANNING SCHEME  
Endorsed Plan  
Planning Permit No: 192200000000000000  
Sheet 2 of 2  
Approved By Kevin Pendlebury  
Approved Date 23/4/2020

NOTE: THIS IS NOT A BUILDING APPROVAL

- STORMWATER DRAIN, PIT & PROPERTY INLET
- SWALE DRAIN
- HOUSE DRAIN
- SERVICE CONDUITS
- TILE PAVERS
- EXISTING ELECTRICITY (UNDERGROUND)
- EXISTING ELECTRICITY (OVERHEAD)
- EXISTING GAS
- EXISTING OPTIC FIBRE
- EXISTING TELSTRA
- EXISTING WATER
- EXISTING RECYCLED WATER
- EXISTING STORMWATER DRAIN
- EXISTING SEWER
- EXISTING HOUSE DRAIN
- EXISTING SWALE DRAIN
- EXISTING SURFACE LEVEL
- FINISHED BUILDING LINE LEVEL
- FINISHED RIDGE LINE LEVEL
- TOP OF RETAINING WALL
- BOTTOM OF RETAINING WALL
- RETAINING WALL
- BUILDING ENVELOPE
- PAVEMENT TREATMENT
- EX. STRUCTURAL FALL > 200mm DEEP
- EX. STRUCTURAL FALL > 200mm DEEP
- DIRECTION OF FALL
- OVERLAND FLOW
- ALLOTMENT TO BE GRADED EVENLY IN DIRECTION OF FALL TO LEVELS INDICATED
- CONCRETE EDGE STRIP WITH SUBSOIL DRAIN
- "NO ROAD" SIGN & BARRIER
- LIMIT OF WORKS
- EXISTING TREE TO BE REMOVED
- PERMANENT SURVEY MARK
- TEMPORARY BENCH MARK
- PROPOSED DRIVEWAY

**WARNING**  
**BWARE OF UNDERGROUND & OVERHEAD SERVICES**  
The locations of underground & overhead services are approximate only & 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

**NOTE**  
VEHICLE EXCLUSION MEASURES SHOWN ON THIS DRAWING ARE INDICATIVE ONLY. ALL VEHICLE EXCLUSION MEASURES ARE ALL TO FORM PART OF THE LANDSCAPE WORKS.

**NOTE**  
REFER ENERGY SAFE VICTORIA FOR 'NO GO ZONES' AND SPECIFIC GUIDELINES FOR WORKING UNDER AND WITHIN CLOSE PROXIMITY TO OVERHEAD POWERLINES

2

1. \* DENOTES OFFSET FROM BACK OF KERB

ROAD NAME	GAS		TRUNK WATER		WATER		OPTIC FIBRE		ELECTRICITY		PUBLIC LIGHTING	
	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)	SIDE	OFFSET (m)
BROWN HILL RIDGE	NORTHWEST	1.70	-	-	NORTHWEST	2.10	SOUTHEAST	1.80	SOUTHEAST	2.40	SOUTHEAST	1.10"
MONCRIEFF CRESCENT	WEST	1.70	WEST	5.65	WEST	2.10	EAST	1.80	EAST	2.40	EAST	1.10"
SAMSAIR PLACE	SOUTH	1.00	-	-	SOUTH	1.60	SOUTH	2.70	SOUTH	3.60	SOUTH	1.10"

REVISION	DATE	ISSUE DESCRIPTION	DRAWN	CHECKED	APPROVED
2	17/6/20	LANEWAY NAME CHANGE AND GAS OFFSET CHANGE	C.ROHDE	M.TROUNCE	T.PALIOS
1	04/03/20	ALTERED LOT 136 DRIVEWAY OFFSET	C.ROHDE	M.TROUNCE	T.PALIOS
0	18/02/20	CONSTRUCTION ISSUE	C.ROHDE	M.TROUNCE	T.PALIOS
C	19/12/19	AMENDED AS PER COUNCIL COMMENTS (17/12/19)	C.ROHDE	A.WALE	T.PALIOS
B	03/10/19	TENDER ISSUE	C.ROHDE	A.WALE	T.PALIOS
A	16/08/19	ISSUED FOR APPROVAL	C.ROHDE	A.WALE	T.PALIOS



PROJECT  
**WANDANA ESTATE - STAGE 2B LAYOUT PLAN**

DRAWING TITLE  
**WANDANA ESTATE - STAGE 2B LAYOUT PLAN**

STATUS  
**ISSUED FOR CONSTRUCTION**

SCALE AT A1	DRAWN	DESIGNED
1:500 @ A1	C.ROHDE	C.ROHDE
PROJECT ENGINEER	PROJECT MANAGER	DATE FIRST ISSUE
A.WALE	T.PALIOS	16/08/19
PROJECT NO.	DRAWING NO.	REVISION
180363.2B	R200	2



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.: # 1992/304  
 LOCATION: DRAPERS - Wandana Estate Stage 2

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)
7/05/20	1	<i>Refer to #1992/305 for approx. test site locations.</i>	1.89	20.0	96.5	1.96	19.0	175	0.5 Wetter	104.0	0	0	2800
7/05/20	2		1.96	23.5	96.0	2.04	20.0	175	3.5 Wetter	118.5	0	0	2800
7/05/20	3		1.89	22.0	97.0	1.94	21.5	175	0.5 Wetter	103.5	0	0	2800
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

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: 10.20am

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.

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)

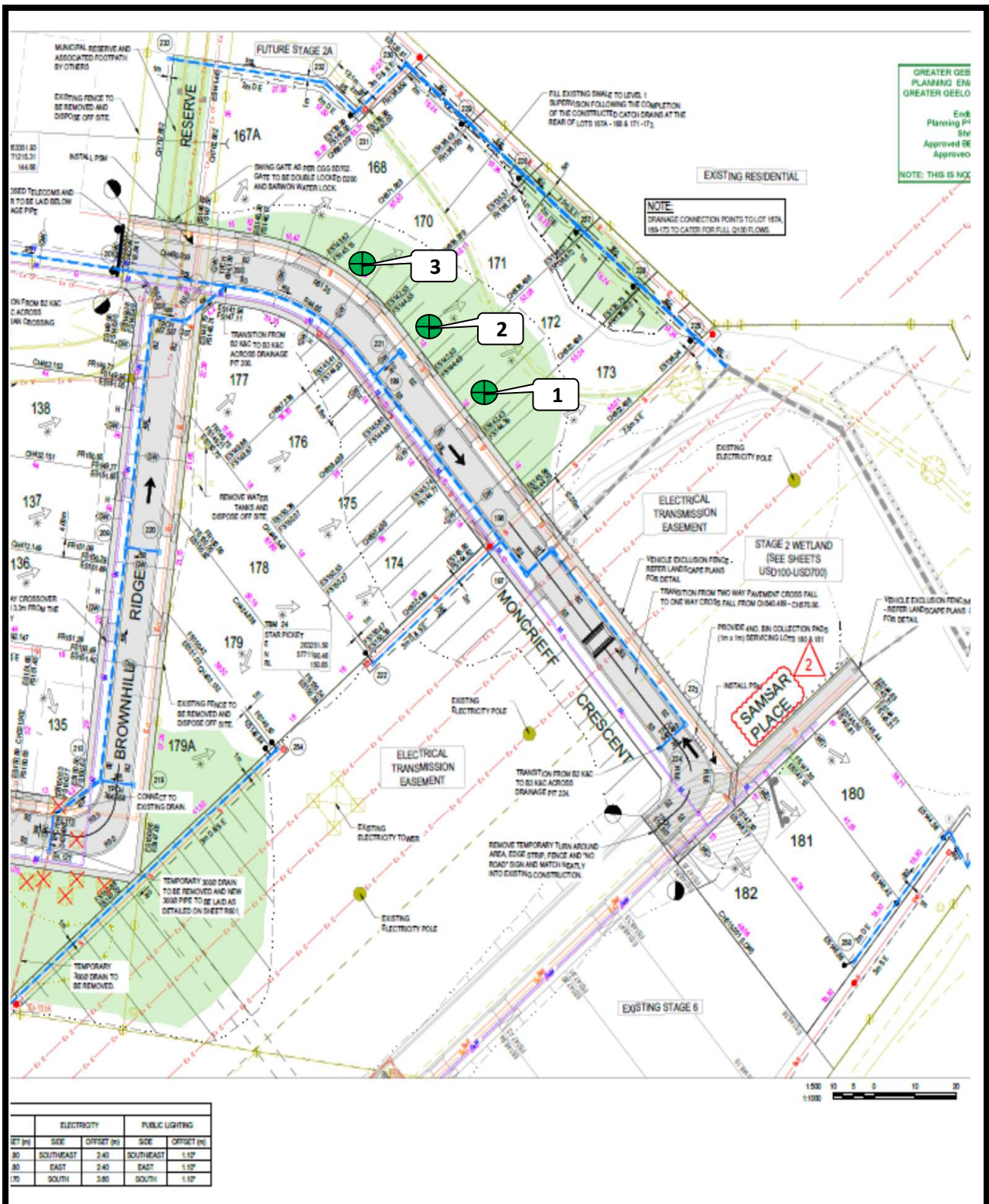


Accredited for compliance with ISO/IEC  
17025 - Testing

NATA Accredited Laboratory Number 14561

**MICK CROWE**  
 (Approved Signatory)

Issue Date: 11/5/2020



**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: DRAPERS**

**LOCATION: Wandana Estate Stage 2**

**Sketch indicating compaction test locations**

**DATE: 7/5/2020**

**OPERATOR: RW**

**SCALE: NTS**

**JOB No.: 1992/305**

**CHECKED: EG**

**FIGURE No: -**



GEOTECHNICAL LABORATORIES

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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1992/306

LOCATION: DRAPERS - Wandana Stage 2B

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)
8/05/20	1	<b>Refer to #1992/307 for approx. test site locations.</b>	2.11	18.0	101.5	2.08	17.0	175	1.0 Wetter	105.5	0	0	2400
8/05/20	2		2.03	19.5	98.0	2.07	18.5	175	1.0 Wetter	105.0	0	0	2400
8/05/20	3		1.90	21.0	97.0	1.96	20.5	175	0.0 Wetter	101.0	0	0	2400
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

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: 9.25am

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)



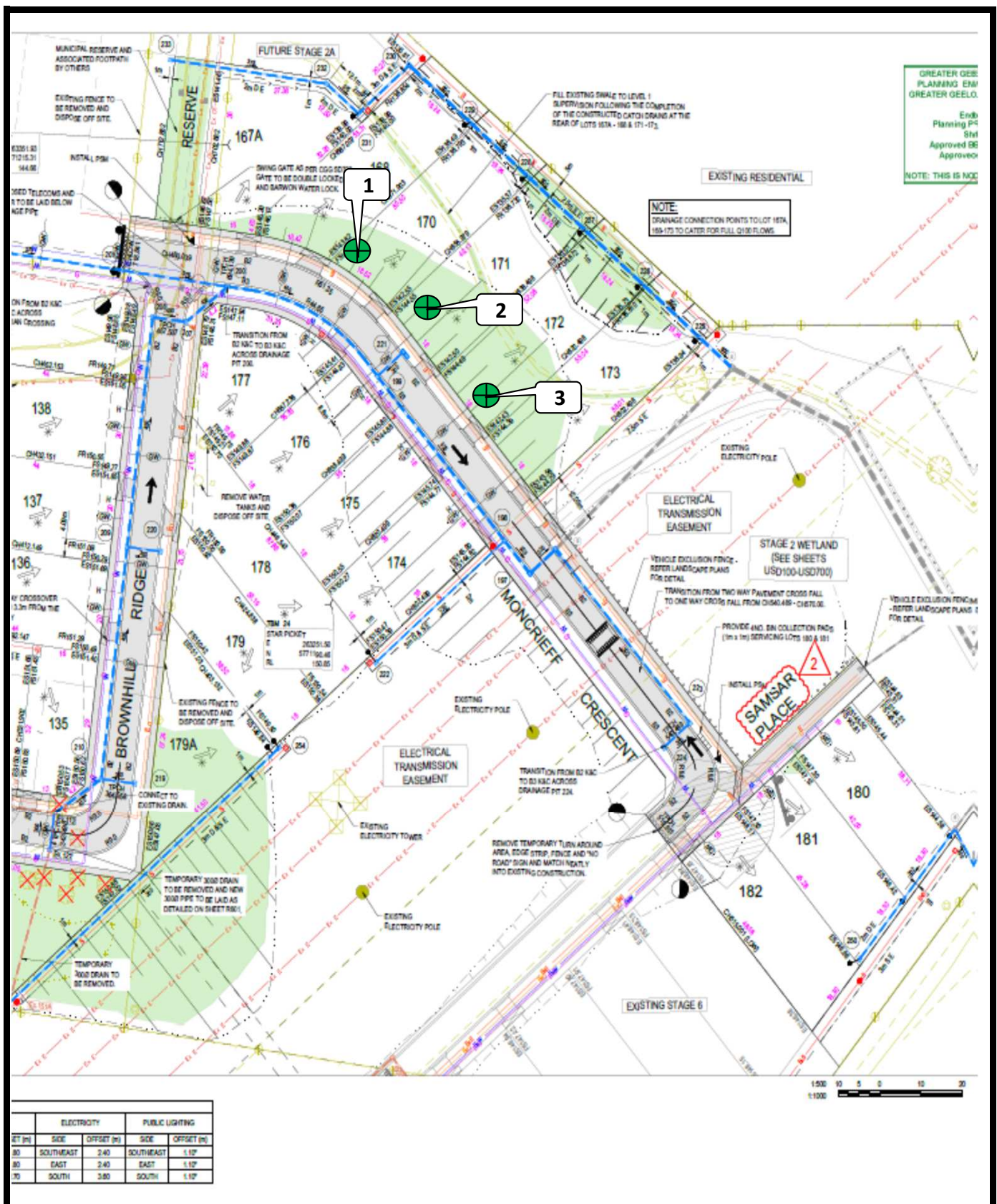
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NATA Accredited Laboratory Number 14561

MICK CROWE  
(Approved Signatory)

Issue Date: 12/5/2020





**GEOTECHNICAL  
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**CLIENT: DRAPERS**

**LOCATION: Wandana Estate Stage 2B**

**Sketch indicating compaction test locations**

**DATE: 8/5/2020**

**OPERATOR: RW**

**SCALE: NTS**

**JOB No.: 1992/307**

**CHECKED: EG**

**FIGURE No: -**



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1992/308  
 LOCATION: DRAPERS - Wandana Estate Stage 2B

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)
11/05/20	1	<i>Refer to #1992/309 for approx. test site locations.</i>	1.94	21.5	98.0	1.98	21.0	175	0.5 Wetter	103.5	0	0	2000
11/05/20	2		1.87	24.0	97.0	1.92	23.0	175	0.5 Wetter	103.0	0	0	2000
11/05/20	3		2.03	21.0	101.0	2.01	19.5	175	1.5 Wetter	107.5	0	0	2000
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9.10am Finish Time: 9.30am

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)



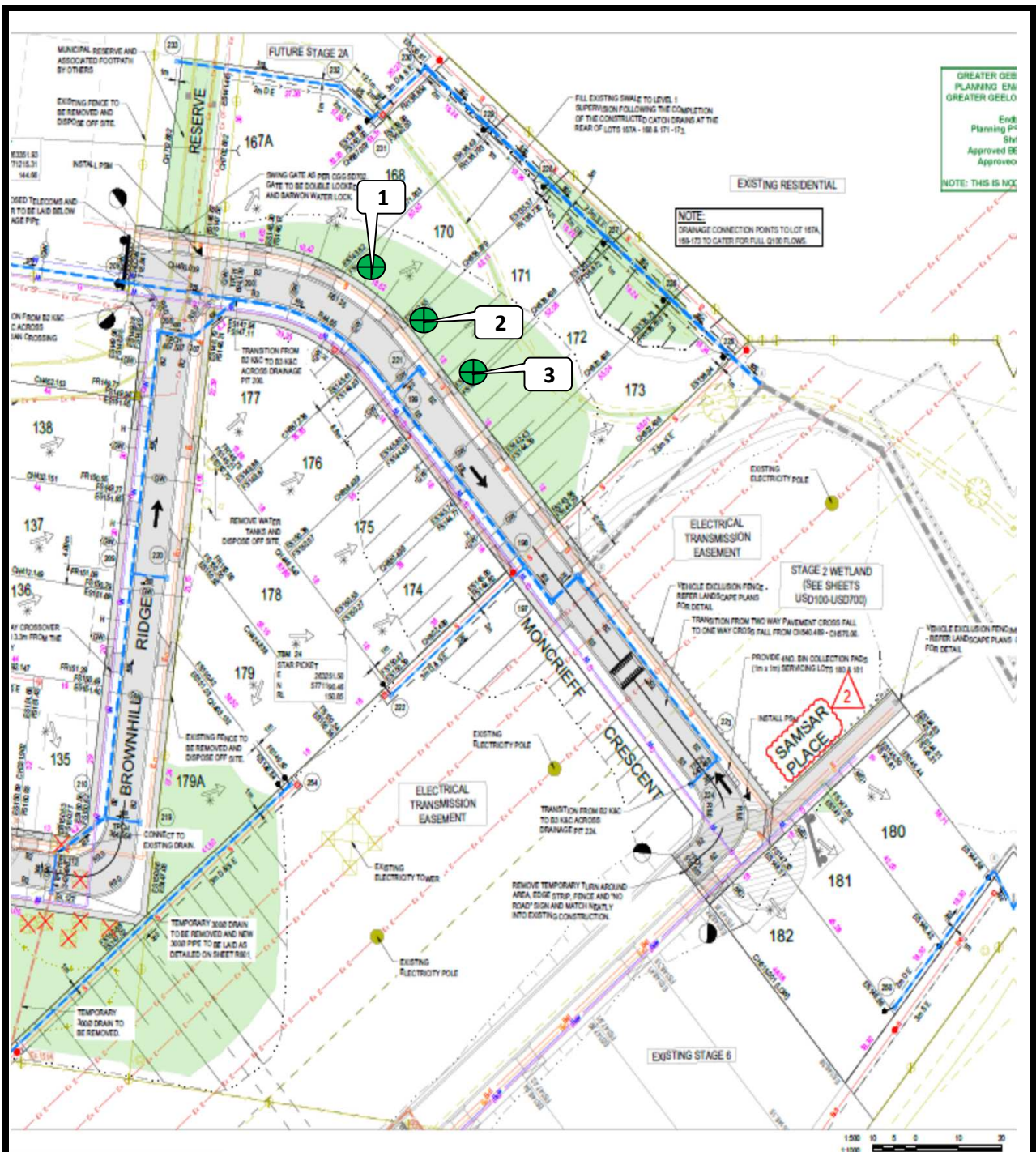
Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

**MICK CROWE**  
 (Approved Signatory)

Issue Date: 13/5/2020





ELECTRICITY		PUBLIC LIGHTING	
SET (M)	SIDE	OFFSET (M)	OFFSET (M)
80	SOUTHEAST	2.40	SOUTHEAST 1.10*
80	EAST	2.40	EAST 1.10*
100	SOUTH	3.80	SOUTH 1.10*



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**CLIENT: DRAPERS**

**LOCATION: Wandana Estate Stage 2B**

**Sketch indicating compaction test locations**

**DATE: 11/5/2020**

**OPERATOR: RW**

**SCALE: NTS**

**JOB No.: 1992/309**

**CHECKED: EG**

**FIGURE No: -**



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1992/310

LOCATION: DRAPERS - Wandana Estate Stage 2B

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)
12/05/20	1	<b><i>Refer to #1992/311 for approx. test site locations.</i></b>	2.01	18.5	97.0	✱ 2.08	17.5	175	0.5 Wetter	104.0	12	0	400
12/05/20	2		1.92	21.5	96.5	1.99	19.5	175	2.0 Wetter	110.0	0	0	400
12/05/20	3		2.02	18.0	98.5	2.05	17.5	175	0.5 Wetter	102.5	0	0	400
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 9.25am Finish Time: 9.50am

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

❖



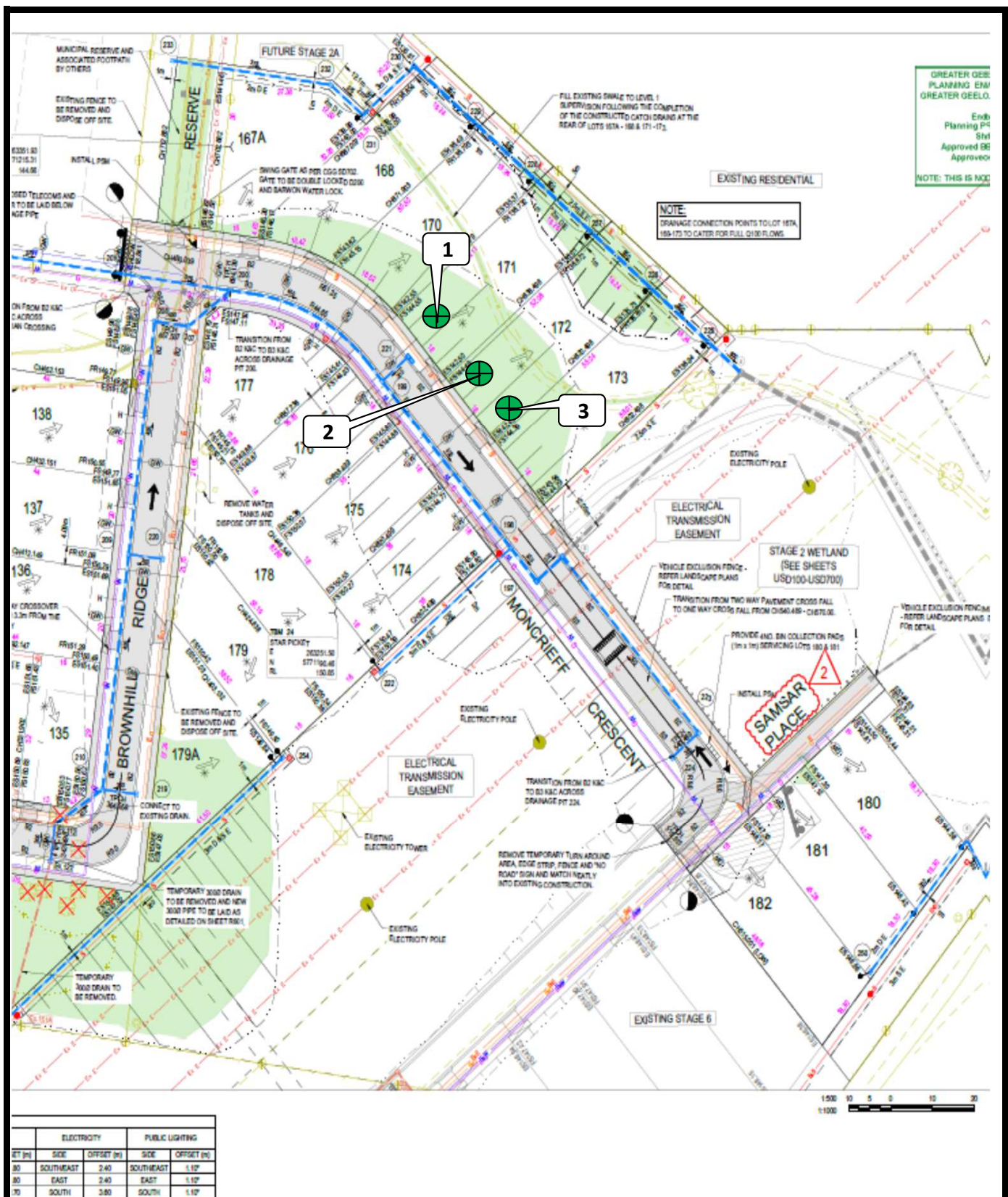
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17025 - Testing

NATA Accredited Laboratory Number 14561

**MICK CROWE**  
(Approved Signatory)

Issue Date: 13/5/2020





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**CLIENT: DRAPERS**

**LOCATION: Wandana Estate Stage 2B**

**Sketch indicating compaction test locations**

**DATE: 12/5/2020**

**OPERATOR: RW**

**SCALE: NTS**

**JOB No.: 1992/311**

**CHECKED: EG**

**FIGURE No: -**





GEOTECHNICAL LABORATORIES

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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1992/312

LOCATION: DRAPERS - Wandana Estate Stage 2B

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)
13/05/20	1	<b>Refer to #1992/313 for approx. test site locations.</b>	2.07	17.5	104.0	1.99	18.5	175	1.0 Drier	95.0	0	0	0
13/05/20	2		2.02	18.0	97.0	2.08	17.5	175	0.5 Wetter	102.5	0	0	200
13/05/20	3		2.03	20.5	97.0	2.09	18.5	175	2.0 Wetter	112.0	0	0	400
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8.35am Finish Time: 8.52am

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)

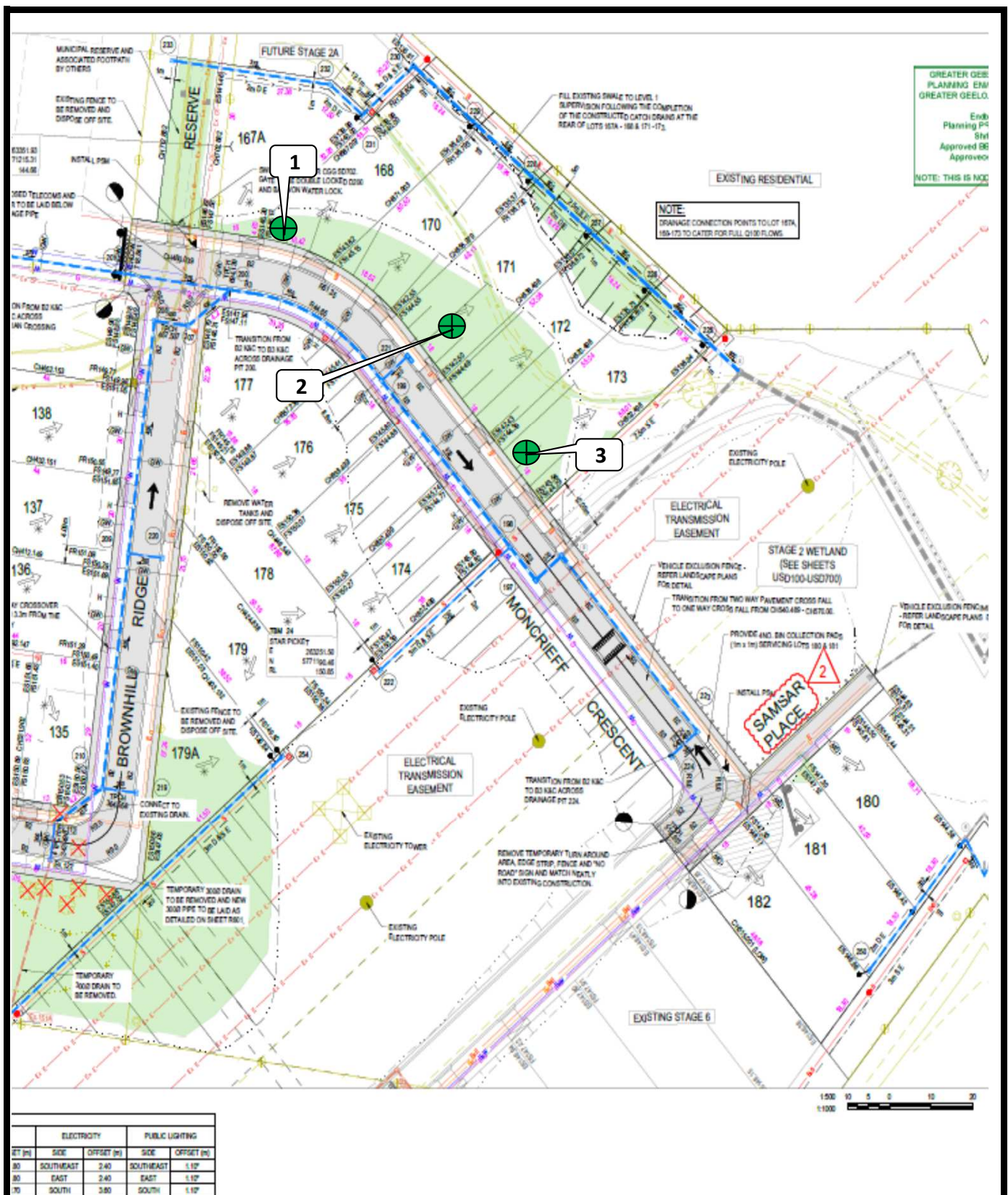


Accredited for compliance with ISO/IEC 17025 - Testing

NATA Accredited Laboratory Number 14561

MICK CROWE  
(Approved Signatory)

Issue Date: 14/5/2020



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

**CLIENT: DRAPERS**

**LOCATION: Wandana Estate Stage 2B**

**Sketch indicating compaction test locations**

**DATE: 13/5/2020**

**OPERATOR: RW**

**SCALE: NTS**

**JOB No.: 1992/313**

**CHECKED: EG**

**FIGURE No: -**



GEOTECHNICAL LABORATORIES

ACN 102 571 077

14 Ravenhall Way, Ravenhall, Vic 3023

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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1992/314

LOCATION: DRAPERS - Wandana Estate Stage 2B

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)
14/05/20	1	<b>Refer to #1992/315 for approx. test site locations.</b>	1.93	15.0	96.0	2.01	14.5	175	0.5 Wetter	103.0	0	0	0
14/05/20	2		2.04	16.0	95.0	✱ 2.15	15.0	175	1.0 Wetter	108.0	15	0	200
14/05/20	3		2.03	17.0	95.5	✱ 2.13	15.0	175	2.0 Wetter	112.5	6	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
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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: 8.22am Finish Time: 8.34am

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: 15/5/2020







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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1992/330  
 LOCATION: DRAPERS - Wandana Estate Stage 2B

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)
28/08/20	1	<i>Refer to #1992/331 for approx. test site locations.</i>	2.08	22.0	102.0	2.05	20.5	175	1.5 Wetter	108.5	0	0	800
28/08/20	2		2.08	22.0	101.5	2.05	19.5	175	2.0 Wetter	111.0	0	0	400
28/08/20	3		2.19	20.0	103.0	✱ 2.13	17.5	175	2.5 Wetter	114.0	5	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 8.10am 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



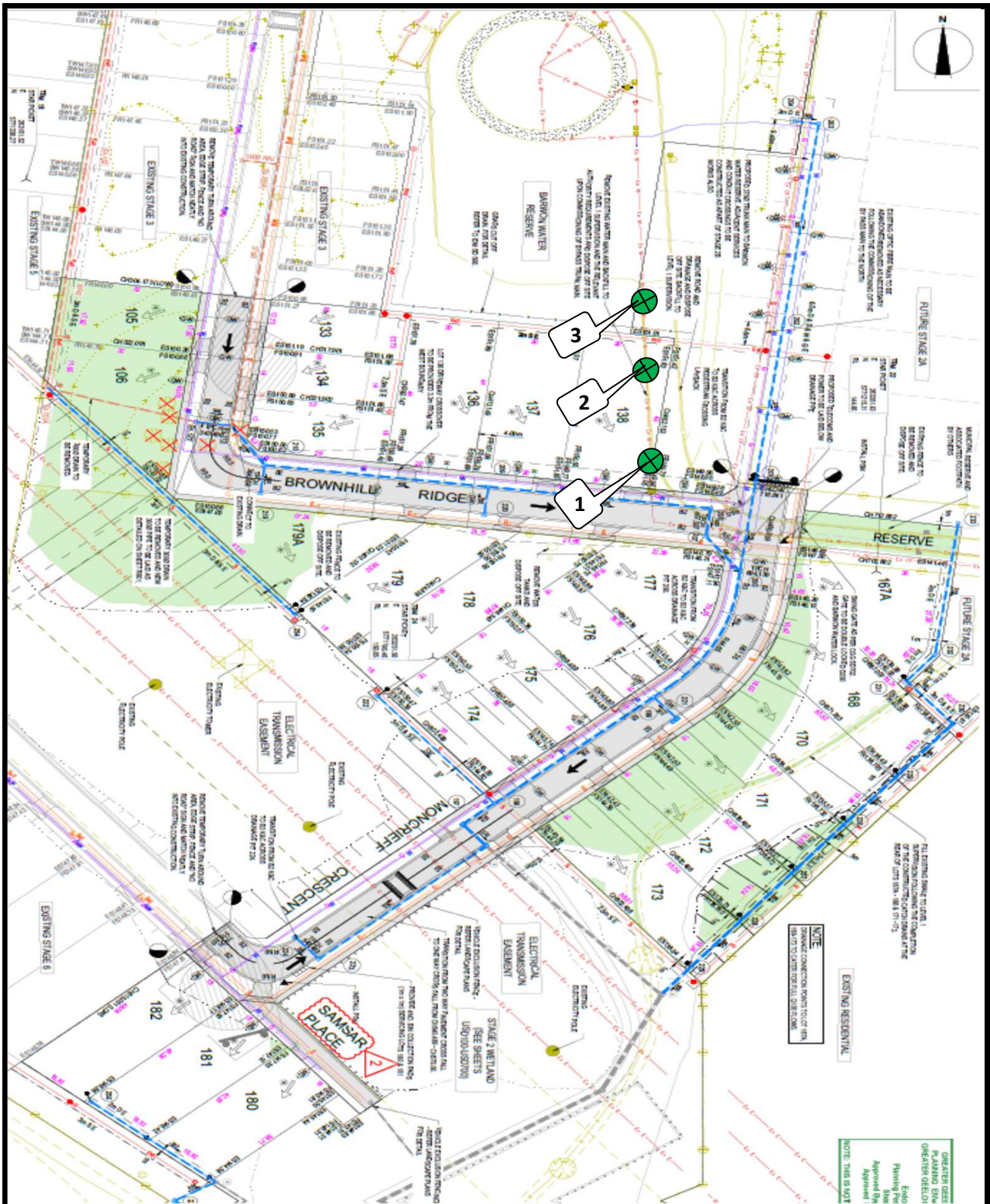
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17025 - Testing

NATA Accredited Laboratory Number 14561

**MICK CROWE**  
 (Approved Signatory)

Issue Date: 1/9/2020





**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: DRAPERS**

**LOCATION: Wandana Estate Stage 2B**

**Sketch indicating compaction test locations**

**DATE: 28/8/2020**

**OPERATOR: JC**

**SCALE: NTS**

**JOB No.: 1992/331**

**CHECKED: KK**

**FIGURE No: -**



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## DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1992/336  
 LOCATION: DRAPERS - Wandana Estate Stage 2B

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)
16/06/20	1	<i>Refer to #1992/337 for approx. test site locations.</i>	1.99	17.5	100.5	1.98	17.0	175	0.5 Wetter	103.0	0	0	0
16/06/20	2		2.17	11.5	101.0	2.15	11.5	175	0.0 Drier	100.0	0	0	500
16/06/20	3		2.00	25.5	103.5	✱ 1.93	28.0	175	2.5 Drier	91.0	16	0	0
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-
-	-		-	-	-	-	-	-	-	-	-	-	-

NOTES: Clayey Fill Ex. Onsite

Test sites located - Geolab Procedure 4, Part 4.4.

Compaction specimens sampled after compaction.

Start Time: 10.20am Finish Time: 10.40am

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



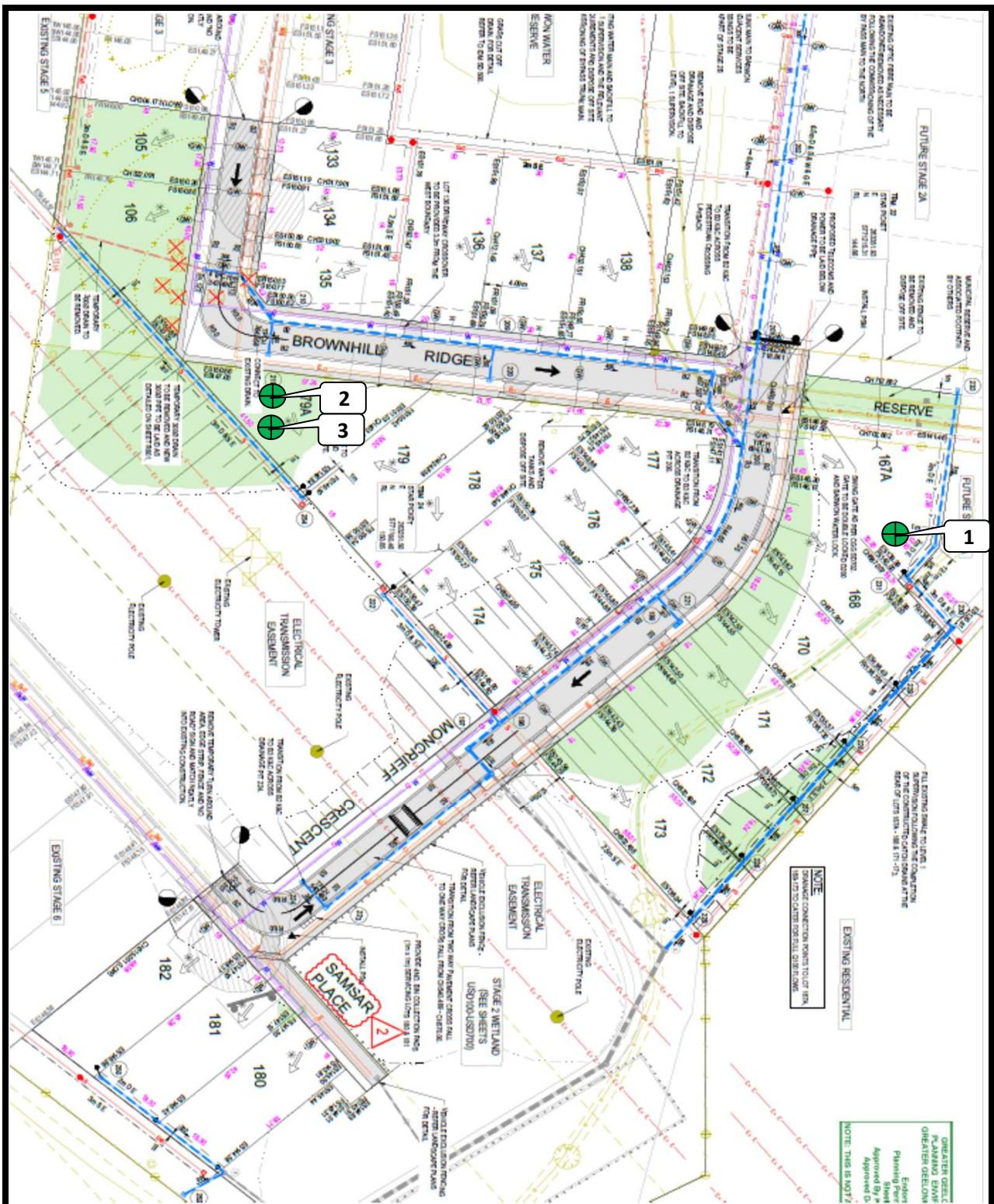
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NATA Accredited Laboratory Number 14561

**MICK CROWE**  
 (Approved Signatory)

Issue Date: 18/9/2020





**GEOTECHNICAL  
LABORATORIES**

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**CLIENT: DRAPERS**

**LOCATION: Wandana Estate Stage 2B**

**Sketch indicating compaction test locations**

**DATE: 16/9/2020**

**OPERATOR: JC**

**SCALE: NTS**

**JOB No.: 1992/337**

**CHECKED: CL**

**FIGURE No: -**