Reference
No.: 1917-065

LEVEL ONE

SURVEILLANCE

AND INSPECTION REPORT

Carried Out
By

GEOTECHNICAL LABORATORIES

PREPARED FOR: -

DRAPERS CIVIL CONTRACTING PTY LTD

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Appendices

Client Name: Drapers Civil Contracting Pty Ltd

Project Name: The Quay 2 Estate Stage 6

Date: 5th of June 2018

Author: Mr. Sam Loza

Reference No.: 1917-065

Revision: 0

Project Manager: Mr. Matthew Jackman

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 on the 19th of March 2018 and the 3rd of May 2018 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). Reeds Consulting Standard Faceplan Layout Drawing No. 6R2 (Version F).

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 19th of March 2018 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.

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 CLAY, brown, grey-brown, medium plasticity, slightly silty, slightly moist to moist with basalt gravel 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 and / or highway trucks
- A watercart
- A sheepsfoot compactor (815)

The sheepsfoot compactor placed material in horizontal loose layers of approximately 250mm-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 three 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, 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 on the 3rd of May 2018 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

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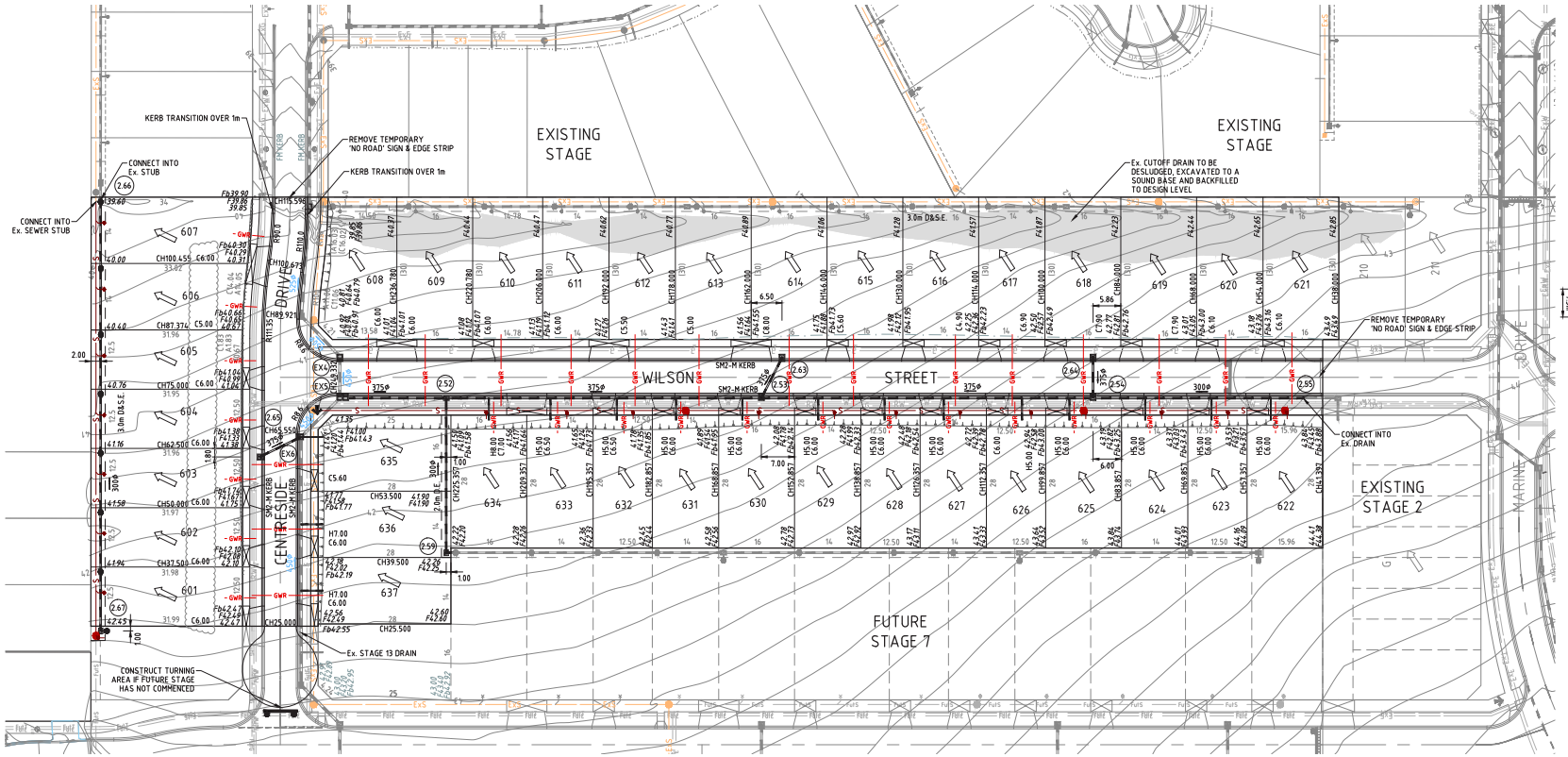
APPENDIX A

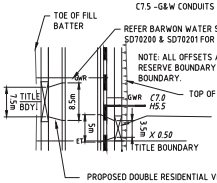


Scale 1:500 @ A1

LEGEND

- EXISTING SURFACE CONTOURS (0.20m INT.)
- OVERALL DIRECTION TO LEGAL POINT OF DISCHARGE
- FILL IN EXCESS OF 200mm
- TOP OF BATTER
- TOE OF BATTER

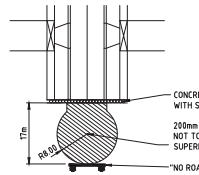
DESCRIPTION OF ABBREV.
X 0.50 -EDGE OF VEHICLE CROSSING AT 0.50m OFFSET (ONLY SHOWN WHERE NON-STD.)
HS.5 -PROPERTY DRAIN AT 5.5m OFFSET (WHERE DRAIN IN NON-PERPEDNDICULAR, O/S REFERS TO INTERS. OF DRAIN & BL).
C7.5 -G&W CONDUITS AT 7.5m OFFSET



TYPICAL NOTATIONS - EXAMPLE:

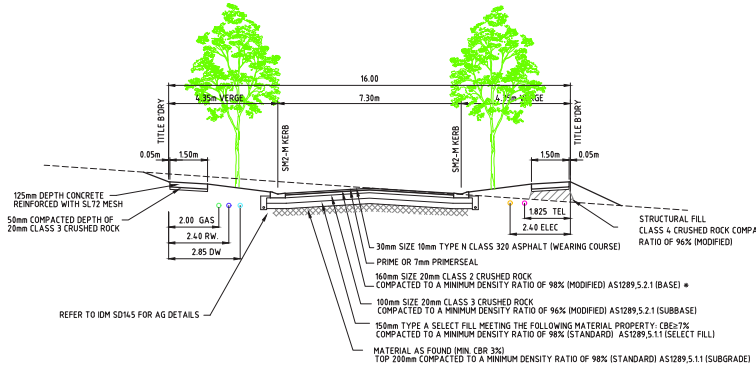
NOT TO SCALE

NOTE CROSSING DIMENSIONS ARE CHANGED



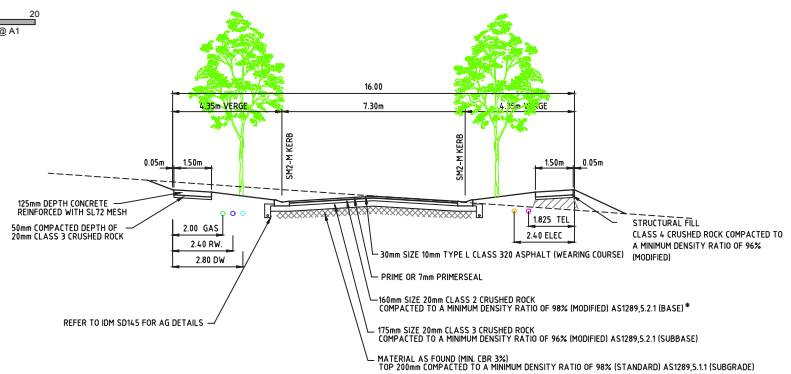
TYPICAL TEMPORARY TURN AREA DETAIL

NOT TO SCALE



CENTRESIDE DRIVE TYPICAL SECTION

NOTE: * BASE THICKNESS WILL NEED TO INCREASE BY 5mm WHERE A PRIME WILL BE APPLIED OVER THE BASE IN LIEU OF A PRIMERSEAL



WILSON STREET TYPICAL SECTION

NOTE: * BASE THICKNESS WILL NEED TO INCREASE BY 5mm WHERE A PRIME WILL BE APPLIED OVER THE BASE IN LIEU OF A PRIMERSEAL

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.

CONSTRUCTION PLAN

THIS DRAWING IS NOT TO BE COPIED OR SCALED

VERSION	REMARKS		
F	LOT 601-607 G & W CONDUITS AMENDED	12.11.17	JZ
E	LOT 615 CROSSING AMENDED	28.11.17	JZ
D	LOT 606 & 611 CROSSING AMENDED & LOT H AMENDED TO LOT 635, 636 & 637	25.09.17	JZ
C	CONSTRUCTION ISSUE	19.09.17	JZ
B	LOT 613 CROSSING AMENDED	30.08.17	JZ

LEGEND

- DRAIN, PROPERTY INLET & PIT
- EX DRAIN & PIT
- HOUSE DRAIN
- SEWER AND MAINTENANCE HOLE
- EX SEWER AND MAINTENANCE HOLE
- WATER MAIN
- EX WATER MAIN, VALVE & HYDRANT
- GAS MAIN
- EX GAS MAIN, VALVE
- TELSTRA SERVICES & PITS
- EX TELSTRA SERVICES & PITS
- RECYCLED WATER
- EX RECYCLED WATER
- ELECTRICAL U.G. SERVICES
- EX ELECTRICAL U.G. SERVICES
- ELECTRICAL SERVICE & PIT
- EX ELECTRICAL ASSETS
- EX ELECTRICAL OVERHEADS
- GAS & WATER CONDUITS
- TOP OF BATTER
- TOE OF BATTER
- FINISHED SURFACE AFTER CUTTING OR FILLING
- TOP OF PROPOSED BATTER
- PROPOSED PAVEMENT OR FOOTPATH SURFACE
- EXISTING OR PROPOSED INVERT LEVEL OF PIPE OR OPEN DRAIN
- TANGENT POINT
- CHAINAGE
- PSM
- STREET SIGN
- DRAINAGE PIT No.
- TBM
- EX FENCE
- EX WALL OR BUILDING

DRAWN BY	NARENDER.K	DESIGNED BY	J.ZHOU
MELWAY	493 D12	CHECKED BY	-
DATUM	AHD	AUTHORISED BY	S.RAVIDA

REEDS CONSULTING
LAND SURVEYING
CIVIL ENGINEERING
PLANNING
DEVELOPMENT CONSULTING

SURF COAST SHIRE
THE QUAY 2 ESTATE
STAGE 6
LAYOUT PLAN

DRAWING No.	VERSION
6R2	F
REFERENCE	
21437E/6	
SHEET	
2 OF 9	

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LEVEL ONE

SURVEILLANCE

AND INSPECTION REPORT

APPENDIX B

GEOTECHNICAL LABORATORIES
ACN 102 571 077
Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
PO Box 2693 Gladstone Park VIC 3043
PH: (03) 9335 1225

DAILY SUMMARY - FIELD DENSITY TESTS

REPORT NO.: # 1916/230

LOCATION: DRAPERS - The Quay 2 Estate Stage 6

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)
3/05/18	1	***Refer to #1916/231 for approx. test site locations.***	1.79	27.0	103.5	1.72	33.0	175	6.0 Drier	81.5	0	0	0
3/05/18	2		1.74	28.0	99.5	1.74	33.0	175	5.5 Drier	84.0	0	0	0
3/05/18	3		1.87	26.5	103.0	1.82	30.0	175	4.0 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: 10.30am Finish Time: 10.52am

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

Soil Layer thickness: 200mm

Compaction Test: AS 1289 5.7.1

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 FOR TECHNICAL COMPETENCE

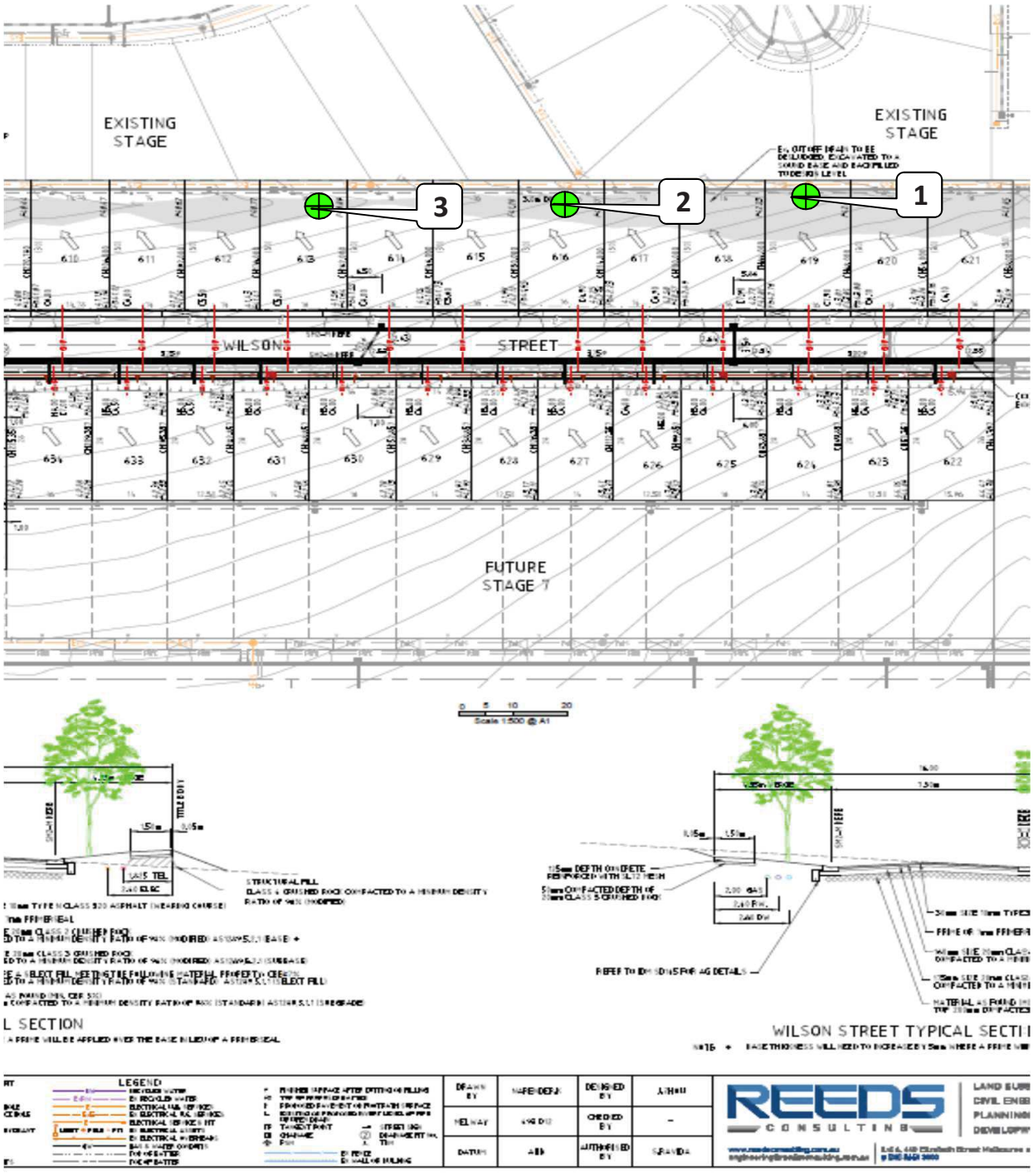
Accredited for compliance with ISO/IEC 17025. The results of the tests, calibrations and/or measurements included in this document are traceable to Australian/National standards. This document may not be reproduced except in full.

NATA Accredited Laboratory Number 14561

MICK CROWE

(Approved Signatory)

Issue Date: 9/5/2018



GEOTECHNICAL LABORATORIES

GEOTECHNICAL LABORATORIES
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Factory 1/8-10 Catalina Drive, Tullamarine Vic 3043
PO Box 184 Keilor VIC 3036
PH: (03) 9335 1225 Fax: (03) 9335 1775

CLIENT: DRAPERS	DATE: 3/5/18	JOB No.: 1916/231
LOCATION: The Quay 2 Estate Stage 6	OPERATOR: NW	CHECKED: EG
Sketch indicating compaction test locations	SCALE: NTS	FIGURE No: -