



**Form 16—Inspection
Certificate/Aspect Certificate/QBCC
Licensee Aspect Certificate**

(Version 6 – July 2017)

NOTE: This form is to be used for the purposes of section 10(c) and 239 of the *Building Act 1975* and/or sections 32, 35B, 43, 44 and 47 of the *Building Regulation 2006*.

1. Indicate the type of certificate

The stages of assessable building work are listed in section 24 of the Building Regulation 2006 or as conditioned by the building certifier.

An aspect of building work is part of a stage (e.g. waterproofing).

- Inspection Certificate**
- Stage of building work (for single detached class 1a or class 10 building or structure)
(indicate the stage)

- Aspect of building work
(indicate the aspect) for Sleeper Retaining Walls

QBCC Licensee Aspect Certificate

Scope of the work

Scope of the work covered by the licence class under the *Queensland Building and Construction Commission Regulation 2003* for the aspect being certified, e.g. scope of work for a waterproofing licence is "installing waterproofing materials or systems for preventing moisture penetration". An aspect being certified may include "wet area sealing to showers".

2. Property description

The description must identify all land the subject of the application.

The lot and plan details (e.g. SP/RP) are shown on title documents or a rates notice.

If the plan is not registered by title, provide previous lot and plan details.

Street address (include no., street, suburb/locality and postcode)

42 Gardenia St	
BIRKDALE QLD	Postcode 4159

Lot and plan details (attach list if necessary)

LOT 2 on RP 813193

In which local government area is the land situated?

Redland City Council

3. Building/structure description

Building/structure description

Sleeper retaining wall

Class of building/structure

10

LOCAL GOVERNMENT USE ONLY

DATE RECEIVED		REFERENCE NUMBER/S	
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<p>4. Description of component/s certified</p> <p>Clearly describe the extent of work covered by this certificate, e.g. all structural aspects of the steel roof beams.</p>	<p>Concrete sleepers, steel soldiers, drainage gravel, slotted drainage pipe behind the wall and concrete footing</p> <p>Note: drainage aspects certified relate only to the structural stability of the retaining wall, being solely for the purpose of relieving hydrostatic lateral pressures placed on the retaining wall and does not relate to overland stormwater drainage.</p>				
<p>5. Basis of certification</p> <p>Detail the basis for giving the certificate and the extent to which tests, specifications, rules, standards, codes of practice and other publications, were relied upon.</p>	<p>AS4100 1998</p> <p>AS1170.1 2002</p> <p>AS3600 2018</p> <p>AS4678 2002</p>				
<p>6. Reference documentation</p> <p>Clearly identify any relevant documentation, e.g. numbered structural engineering plans.</p>	<p>035.S01</p>				
<p>7. Building certifier reference number and development approval number</p>	<table border="1"> <tr> <td>Building certifier reference number</td> <td>Development approval number</td> </tr> <tr> <td></td> <td></td> </tr> </table>	Building certifier reference number	Development approval number		
Building certifier reference number	Development approval number				
<p>8. Building certifier, competent person or QBCC licensee details</p> <p>A competent person must be assessed as competent before carrying out the inspection.</p> <p>The builder for the work cannot give a stage certificate of inspection.</p> <p>A competent person is assessed by the building certifier for the work as competent to practice in an aspect of the building and specification design, because of the individual's skill, experience and qualifications. The competent person must be registered or licensed under a law applying in the State to practice the aspect.</p> <p>If no relevant law requires the individual to be licensed or registered, the certifier must assess the individual as having appropriate experience, qualifications or skills to be able to give the help.</p> <p>If the chief executive issues any guidelines for assessing a competent person, the building certifier must use the guidelines when assessing the person.</p>	<p>Name (in full) Bruce G Muggenidge BE(Hons) MIEAust RPEQ</p> <p>Company name if applicable Contact person</p> <p>Phone no. (business hours) Mobile no. Fax no.</p> <p>Email address</p> <p>Postal address</p> <p>PO Box 306 Mansfield Postcode 4122</p> <p>Licence class Licence number</p> <p>RPEQ 8953</p> <p>Date approval to inspect received from building certifier</p>				

9. Signature of building certifier, competent person or QBCC licensee

Note: A building certifier must sign this form for temporary swimming pool fencing under section 4 of Schedule 1 of QDC MP 3.4.

Signature

[Redacted signature box]

Date

26 July 2021

The *Building Act 1975* is administered by the Department of Housing and Public Works

Right to Information Release

Level One Compliance Report

Earthworks Filling Operations

Proposed Residential Subdivision

42 Gardenia Drive, Birkdale

NOVEMBER 09, 2020

Prepared By

MORRISON GEOTECHNIC PTY LTD

Prepared for:

Pembroke Constructions

Document Reference: 17060



**MORRISON
GEOTECHNIC**

Brisbane Office
 Job No: DL20/430
 Ref No: 17125
 Author: R. Mitchell

9th November 2020

Pembroke Constructions
 7/973 Fairfield Road
 Yeerongpilly Qld 4109

ATTENTION: MR ISMAIL SAEED
 Email: ismail@pembc.com.au

Dear Sir,

**RE: LEVEL ONE COMPLIANCE REPORT FOR
 EARTHWORKS FILLING OPERATIONS
 PROPOSED RESIDENTIAL SUBDIVISION
 42 GARDENIA DRIVE, BIRKDALE**

Table of Contents

1.0	INTRODUCTION	2
1.1	General.....	2
1.2	Previous Earthworks.....	2
1.3	The Project.....	3
2.0	THE BRIEF	3
3.0	METHODOLOGY	3
3.1	Stripped Surface Assessment.....	3
3.2	Filling Operations.....	4
4.0	STATEMENT OF COMPLIANCE	5
5.0	EXCLUSIONS	5
6.0	LIMITATIONS	5
	ATTACHMENTS:	6
	Appendix A – Site Plan Showing Test Locations.....	6
	Appendix B – Laboratory Test Results Reports.....	7

1.0 INTRODUCTION

1.1 General

This report presents results of Level One Earthworks Inspections and associated Compaction Compliance testing carried out on Earthworks Fill constructed at 42 Gardenia Drive, Birkdale.

The work was commissioned by Mr. Ismail Saeed representing Pembroke Construction (The Client).

Earthworks were carried out by The Client.

Earthworks filling operations were carried out intermittently between October 12th 2020 and 22nd October 2020.

Picture 1: Aerial View of The Site (Nearmap, dated 17th September 2020)



1.2 Previous Earthworks

As far as what we have been made aware and what could reasonably be determined on site, no previous earthworks filling operations were observed to have been carried out at the site.

1.3 The Project

The Project included the subdividing of the existing lot into 3 new Lots. The new lots have been labelled as Lot 1, Lot 2 and Lot 3.

DRW Consulting Pty Ltd, Drawing No. 2928-EW01, Revision 0 indicates the extents of filling to be carried out at The Site. This plan is considered a reasonable indication of the actual fill constructed at The Site. The extent of fill covered by this report is presented on the Marked-Up Site Plan attached as Appendix A

For the actual thickness of fill, a lot disclosure plan can be requested from the Developer.

The Site is bounded by existing residential properties to the North, South, West and Gardena Drive to the East.

2.0 THE BRIEF

The Brief from the Client was limited to:

- Level One Inspection and Testing of the placement and compaction of fill materials in accordance with AS3798 2007 – “Guidelines on Earthworks for Commercial and Residential Developments”,
- Relative Density Control Testing in accordance with AS1289 – Testing of Soils for Engineering Purposes and at frequencies required in AS3798 Table 8.1.
- DRW Consulting Pty Ltd Drawings and notes on Drawings.

All other design requirements such as CBR and Quality of Materials, site classification, material and settlement assessments were advised to be not included in the Brief and are therefore excluded from this Report.

3.0 METHODOLOGY

Earthworks Inspection and Testing was carried out on the stripped and exposed ground surfaces and during the placement and compaction of fill materials.

Field and laboratory testing included a walk over assessments of the existing ground conditions, observation of filling and compaction activities and compaction testing.

3.1 Stripped Surface Assessment

The fill areas at The Site were observed to be stripped and cleared of all visible organic matter, deleterious, loose materials, unsuitable materials and topsoil to depths exposing a natural foundation suitable for the support of fill construction.

Materials forming the natural foundation exposed after the stripping, clearing and removal of unsuitable materials can be summarised as:

- Silty Sand (SM) – At least dense, fine to coarse sands, grey orange brown and yellow brown and moist.

Following the stripped surface assessment of the fill areas, the foundation was approved for filling using the following process:

- Walk over assessments confirming that the competent ground was exposed.
- Proof roll testing using approx. 12 Tonne pad foot roller carrying out multiple passes confirming no discernible movement of the exposed natural foundation.

On this basis, the compliant assessments in accordance with above indicate that the exposed natural ground forming the fill foundation is capable of supporting new fill materials.

Picture 2: View of Stripping Operations



3.2 Filling Operations

Fill materials were imported to site from an external source.

Materials used as fill at The Site can be summarised as:

- Imported – Sandy Clay (CI) – medium plasticity, fine to coarse sands with traces of gravel red brown and moist.

Placement and compaction of the fill materials was carried out using the following plant:

- Pad Foot Roller
- Excavator
- Body Trucks
- Water Truck

The fill materials were moisture conditioned at the fill sources and during placement to moisture contents suitable for compaction. Deleterious materials such as organics, sticks, roots and over size particles were sorted and removed during placement or were rejected for use. Occasional cobble sized particles may remain in the fill however are not considered to affect the fill as a mass.

Placement of the fill materials was carried in out layers appropriate for the above plant and compacted carrying out multiple passes.

Our representative observed the filling process as described above and was assessed to be consistent for the entire thickness of fill.

Compaction testing was carried out on the fill materials in accordance with Table 5.1 and 8.1 of AS3798 2007 (Guidelines on Earthworks for Commercial and Residential Developments) and tested to AS1289 test methods (Testing of Soils for Engineering Purposes). Testing achieved the required specification of 95% of the Hilf Density.

Fill placed and compacted at measured density ratios less than 95% were tyned, moisture conditioned and recompacted until the required specification was achieved. Retesting was carried out using Random Stratified Location methods.

The Location of the field density tests are shown on the Site Plan contained in Appendix A. These test locations and levels were not obtained by survey and therefore should only be considered as approximate.

4.0 STATEMENT OF COMPLIANCE

Our representatives observed the relevant earthworks operations including the stripped surface, fill placement and compaction operations and carried out compaction tests in accordance with the required standards (AS3798, AS1289).

It is confirmed that Level One Inspection and Testing has been carried out on the earthworks fill to form the residential lots at The Site. Based on the observations made by our Geotechnicians and the results of the field and laboratory tests, the placed and compacted fill at the above project has, as far as we have been able to assess, been constructed in general accordance with the intent of AS3798.

The fill can be deemed to be "controlled" in accordance with AS2870.

5.0 EXCLUSIONS

This statement does not include any topsoil which may be placed for use as dressing, trench backfill, pavement construction or any other subsequent earthworks after October 2020.

Assessments of material quality such as soaked CBR and site classifications are excluded from this commission.

Our on-site attendance specifically excludes assessments of fill material quality and engineering properties that are outside the requirements of AS3798 - 2007, including soil or fill reactivity and soaked CBR values. We note that the fill materials used may result in unfavourable site classifications and low subgrade design strengths.

Footings and ground slabs for any structures constructed over natural soils or controlled fill should be designed to accommodate the characteristic ground surface movements and settlement potential. Assessments of these design parameters are beyond the scope of this Report.

6.0 LIMITATIONS

This Report has been prepared by Morrison Geotechnic Pty Ltd (**Morrison Geotechnic**), and may include contributions from Morrison Geotechnic's officers and employees, sub-contractors, sub-consultants or agents (**Contributors**).

This Report is for the sole benefit and use of Pembroke Construction Pty Ltd (**Client**), its designers, clients and relevant statutory authorities for the sole purpose of providing Level One Inspections and Testing in respect of the 42 Gardenia Drive, Birkdale Development (**Project**). The Report is only intended to address those issues expressly described in the Brief/ Work Instructions in this Report.

This Report should not be used or relied upon for any other purpose without Morrison Geotechnic's prior written consent. Morrison Geotechnic and the Contributors do not accept any responsibility or liability in any way whatsoever for the use or reliance of this Report by anyone other than the **Client**, its designers, its clients and relevant statutory authorities or by anyone else for any purpose other than that for which it has been prepared.

Ref: 17125
Pembroke Construction

MORRISON GEOTECHNIC

Except with Morrison Geotechnic's prior written consent, this Report may not be:

- (a) released to any other party, whether in whole or in part (other than to the Client's officers, employees, advisers, designers, clients and relevant statutory authorities);
- (b) used or relied upon by any other party.

Morrison Geotechnic and the Contributors, do not accept any liability or responsibility whatsoever for, or in respect of, any use or reliance upon this Report by any other party. Morrison Geotechnic is not obliged to enter into discussions with any third party in respect of this Report.

The information (including technical information and information obtained through discussions) on which this report is based has been provided by the Client and third parties. Morrison Geotechnic and the Contributors:

- (a) have relied upon and presumed the accuracy of this information;
- (b) have not verified the accuracy or reliability of this information (other than as expressly stated in this Report);
- (c) have not made any independent investigations or enquiries in respect of those matters of which it has no actual knowledge at the time of giving this Report to the Client; and
- (d) make no warranty or guarantee, expressed or implied, as to the accuracy or reliability of this information.

Morrison Geotechnic and the Contributors do not accept responsibility or liability for any incorrect assumptions related to this Report. For the avoidance of doubt, this Report:

- (a) is not an environmental, contamination or hazardous materials assessment; may be invalid, incomplete or inaccurate (including errors in the scope of work, investigation methodology, observations, opinions and advice) where the information provided to Morrison Geotechnic was invalid, incomplete or inaccurate;
- (b) is limited to observations of those parts of the site described in Section 1.0.

No warranty or guarantee, whether express or implied, is made in respect of the geotechnical data, information, advice, opinions and recommendations present in this Report.

If further information becomes available, or additional assumptions need to be made, Morrison Geotechnic reserves its right to amend this Report.

If you have any queries regarding the above, please contact our Brisbane office.

Yours faithfully



RHYS MITCHELL
For and on behalf of
MORRISON GEOTECHNIC PTY LIMITED

ATTACHMENTS:
Appendix A – Site Plan
Appendix B - Laboratory Test Results Reports

Ref: 17125
Pembroke Construction

MORRISON GEOTECHNIC

Appendix A

Site Plan & Test Locations



Right to Information Release

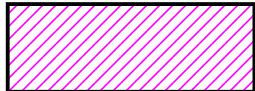


MORRISON
GEOTECHNIC

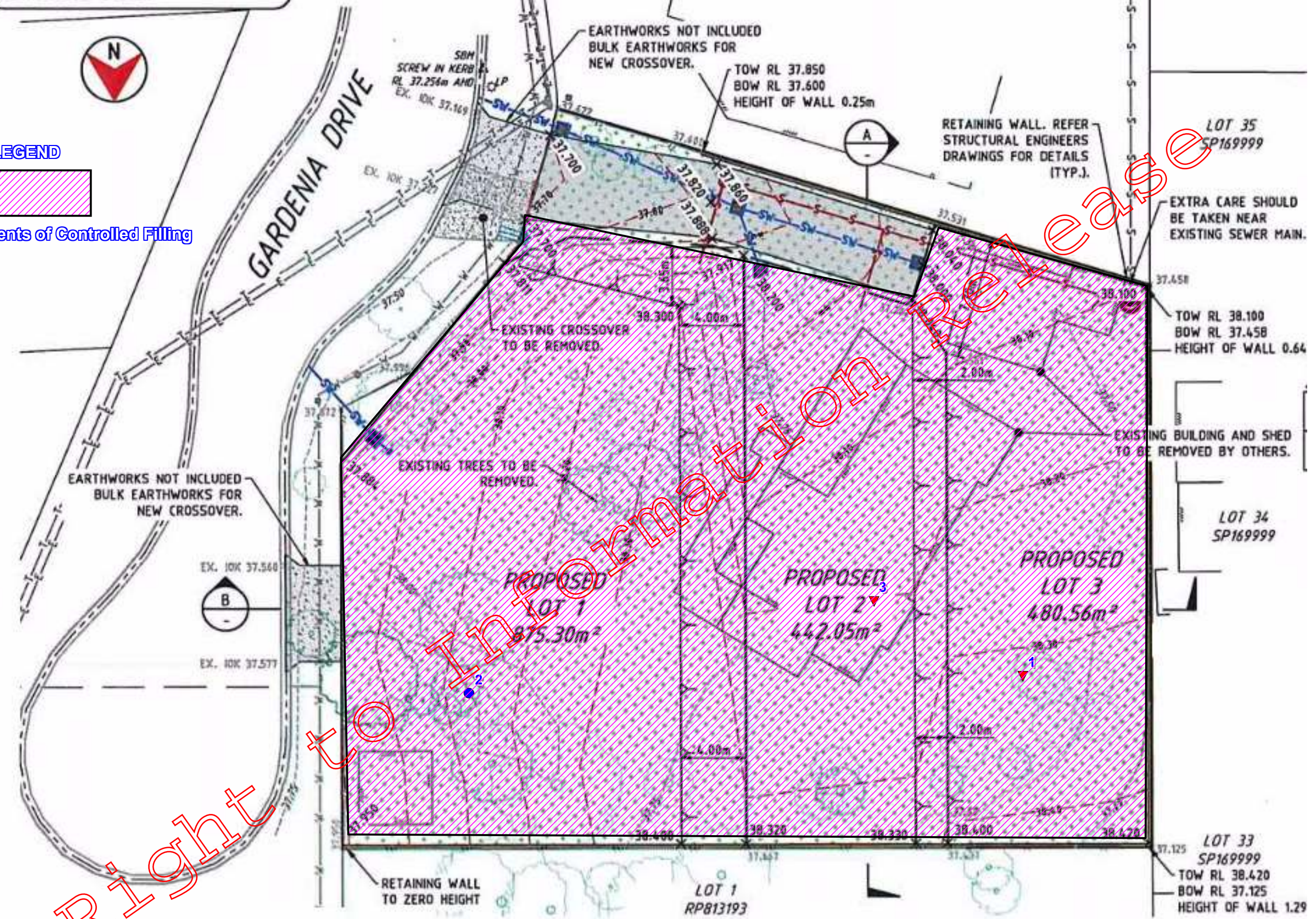
LOT 2 ON RP 813193



LEGEND



Approximate Extents of Controlled Filling



SITE FILLING & EXCAVATION LAYOUT

Right to Information Release



MORRISON GEOTECHNIC PTY LTD

ABN: 51 009 878 899

Unit 1/35 Limestone St, Darra 4076 Ph: 3279 0900
Email: brisbanelab@morrisongeo.com.au

Engineers: M.Ballard, D.Dragun
Geologists: R.Howchin
Laboratory: M.Morrison & N.O'Haire

LEGEND

- ▼ 0.0 - 0.99 Below Final Level
- ▼ 1.0 - 1.99 Below Final Level
- ▼ 2.0 - 2.99 Below Final Level
- ▼ 3.0 - 3.99 Below Final Level
- ▼ 4.0 - 4.99 Below Final Level
- Final Level

Map Description :	EARTHWORKS FIELD DENSITY TESTING - Level 1 Inspection		
Client :	PEMBROKE CONSTRUCTION		
Project :	42 GARDENIA DRIVE, BIRKDALE		
Project No :	DL20/430	Drawing No :	DL20/430 - 01
		Scale :	Not to Scale

Appendix B

Laboratory Test Reports



MORRISON
GEOTECHNIC

Material Test Report

Report Number: DL20/430-1
Issue Number: 1
Date Issued: 22/10/2020
Client: PEMBROKE CONSTRUCTION
 7/973 FAIRFIELD ROAD, YEERONGPILLY QLD 4109
Project Number: DL20/430
Project Name: LEVEL 1 SUPERVISION
Project Location: 42 GARDENIA DRIVE, BIRKDALE
Client Reference: 42GARDENIA
Work Request: 10518
Date Sampled: 15/10/2020
Dates Tested: 15/10/2020 - 21/10/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Allotment Fill
Material Source: Import



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: John Wieland
 Senior Soil Technician
 NATA Accredited Laboratory Number: 1169

Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

Sample Number	D20-10518A		
Test Number	1		
Date Tested	15/10/2020		
Time Tested	10:23		
Test Request #/Location	Lot 3		
Latitude	8m Off North Boundary		
Longitude	4m Off East Boundary		
Layer / Reduced Level	0.8m Below Final Level		
Soil Description	Sandy Clay. Red Brown		
Test Depth (mm)	150		
Sieve used to determine oversize (mm)	19.0		
Percentage of Wet Oversize (%)	**		
Field Wet Density (FWD) t/m ³	2.05		
Field Moisture Content %	16.1		
Field Dry Density (FDD) t/m ³	1.77		
Peak Converted Wet Density t/m ³	2.03		
Adjusted Peak Converted Wet Density t/m ³	**		
Moisture Variation (Wv) %	2.0		
Adjusted Moisture Variation %	**		
Hilf Density Ratio (%)	101.0		
Compaction Method	Standard		

Moisture Variation Note:

Positive values = test is dry of OMC
 Negative values = test is wet of OMC

Material Test Report

Report Number: DL20/430-2
Issue Number: 1
Date Issued: 02/11/2020
Client: PEMBROKE CONSTRUCTION
 7/973 FAIRFIELD ROAD, YEERONGPILLY QLD 4109
Project Number: DL20/430
Project Name: LEVEL 1 SUPERVISION
Project Location: 42 GARDENIA DRIVE, BIRKDALE
Client Reference: 42GARDENIA
Work Request: 10640
Date Sampled: 22/10/2020
Dates Tested: 22/10/2020 - 02/11/2020
Sampling Method: AS 1289.1.2.1 6.4 (b) - Sampling from layers in earthworks or pavement - compacted
Specification: 95% STD
Site Selection: Selected by GTA
Material: Allotment Fill
Material Source: Import Fill Clay



Accredited for compliance with ISO/IEC 17025 - Testing

Approved Signatory: Nathaniel O'Haire
Branch Manager

NATA Accredited Laboratory Number: 1169

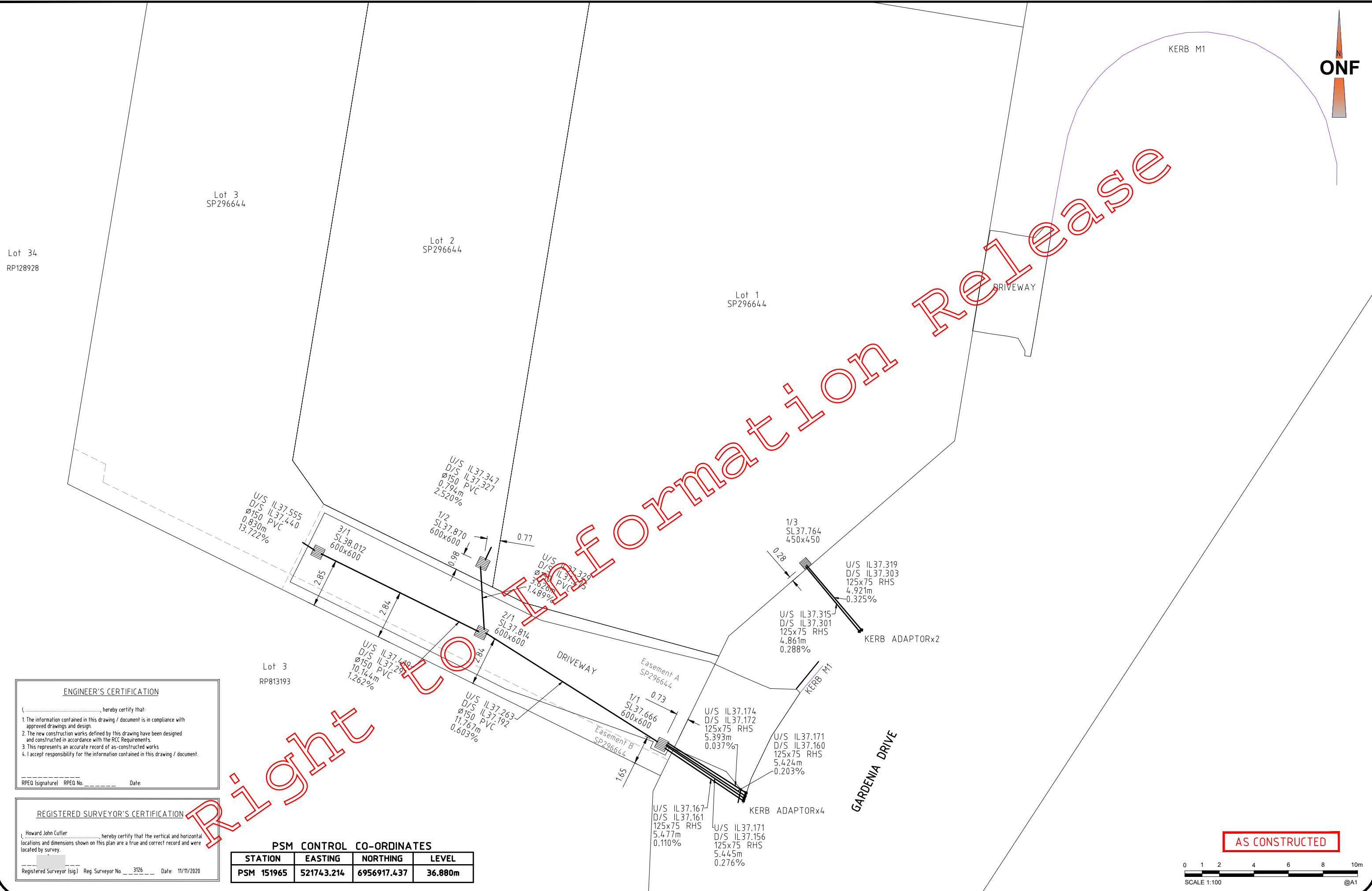
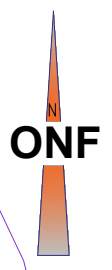
Compaction Control AS 1289 5.7.1 & 5.8.1 & 2.1.1

	D20-10640A	D20-10640B	
Sample Number	D20-10640A	D20-10640B	
Test Number	2	3	
Date Tested	22/10/2020	22/10/2020	
Time Tested	11:17	11:22	
Test Request #/Location	Lot 1	Lot 2	
Latitude	7m Off North Boundary	7m Off North Boundary	
Longitude	6m Off East Boundary	3m Off West Boundary	
Layer / Reduced Level	Final Level	0.3m Below Final Level	
Soil Description	Sandy Clay. Red Brown	Sandy Clay. Red Brown	
Test Depth (mm)	150	150	
Sieve used to determine oversize (mm)	19.0	19.0	
Percentage of Wet Oversize (%)	**	**	
Field Wet Density (FWD) t/m ³	2.00	2.08	
Field Moisture Content %	17.5	18.1	
Field Dry Density (FDD) t/m ³	1.70	1.76	
Peak Converted Wet Density t/m ³	2.08	2.10	
Adjusted Peak Converted Wet Density t/m ³	**	**	
Moisture Variation (Wv) %	0.5	0.0	
Adjusted Moisture Variation %	**	**	
Hilf Density Ratio (%)	96.5	98.5	
Compaction Method	Standard	Standard	

Moisture Variation Note:

Positive values = test is dry of OMC

Negative values = test is wet of OMC



Information Release

ENGINEER'S CERTIFICATION

I, _____, hereby certify that:

- The information contained in this drawing / document is in compliance with approved drawings and design.
- The new construction works defined by this drawing have been designed and constructed in accordance with the RCC Requirements.
- This represents an accurate record of as-constructed works.
- I accept responsibility for the information contained in this drawing / document.

RPEQ (signature) RPEQ No. _____ Date: _____

REGISTERED SURVEYOR'S CERTIFICATION

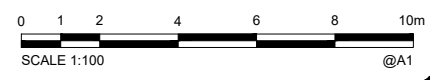
I, Howard John Cutler, hereby certify that the vertical and horizontal locations and dimensions shown on this plan are a true and correct record and were located by survey.

Registered Surveyor (sig) Reg. Surveyor No. 3126 Date: 11/11/2020

PSM CONTROL CO-ORDINATES

STATION	EASTING	NORTHING	LEVEL
PSM 151965	521743.214	6956917.437	36.880m

AS CONSTRUCTED



REVISIONS	DATE	BY	CHKD	PASSED
A	11/11/2020	AS CONSTRUCTED	DM	HC HC



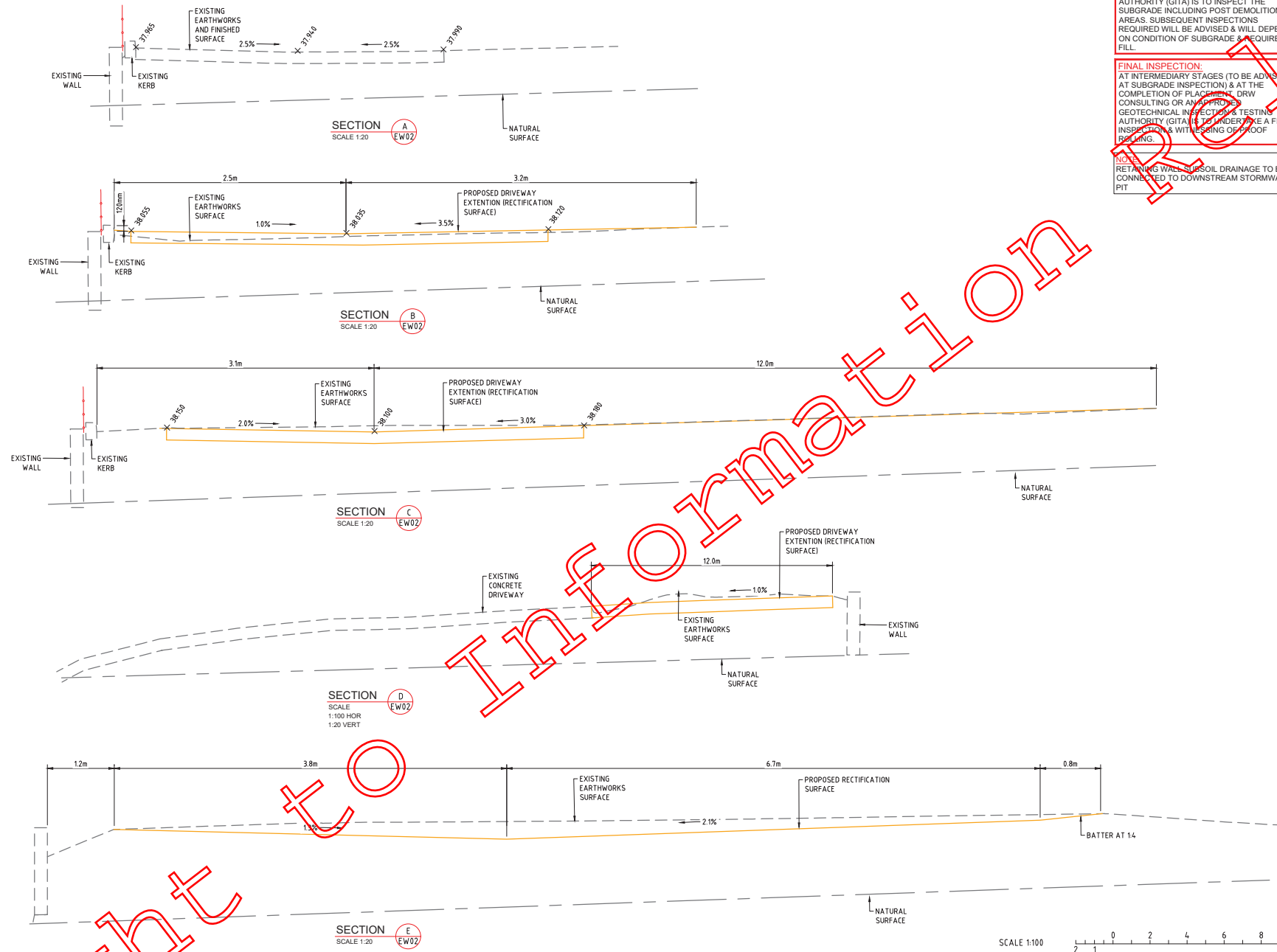
CLIENT: _____

Redland City Council

42 Gardenia Drive
Birkdale
AS CONSTRUCTED ROADS & DRAINAGE

SCALE	1:100
SHEET 1 OF 1 SHEETS	
DRAWING NO.	REVISION
	A

REAL PROPERTY DESCRIPTION
LOT 2 ON RP 813193



SUBGRADE INSPECTION:
PRIOR TO ANY FILLING OF THE SITE, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO INSPECT THE SUBGRADE INCLUDING POST DEMOLITION AREAS. SUBSEQUENT INSPECTIONS REQUIRED WILL BE ADVISED & WILL DEPEND ON CONDITION OF SUBGRADE & REQUIRED FILL.

FINAL INSPECTION:
AT INTERMEDIARY STAGES (TO BE ADVISED AT SUBGRADE INSPECTION) & AT THE COMPLETION OF PLACEMENT, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO UNDERTAKE A FINAL INSPECTION & WITNESSING OF PROOF FINISHING.

NOTE:
RETAINING WALL SUBSOIL DRAINAGE TO BE CONNECTED TO DOWNSTREAM STORMWATER PIT

DO NOT SCALE
CONFIRM ALL DIMENSIONS ON SITE
DIMENSIONS SHOWN ARE IN METRES UNLESS STATED OTHERWISE

REV	DESCRIPTION	DATE
A	ISSUED FOR APPROVAL	PJ 20.06.21
B	ISSUED FOR APPROVAL	PJ 06.07.21

LEGEND

- ⊙ EXISTING SEWER
- S- EXISTING ABANDONED SEWER
- T- EXISTING TELSTRA
- W- EXISTING WATER
- SW- EXISTING STORMWATER
- G- EXISTING GAS
- E- EXISTING U/G ELECTRICITY
- I- EXISTING KERB INVERT
- CS- EXISTING CONTOURS
- +58.500 EXISTING SPOT LEVEL
- FOOTPATH EXISTING CROSSOVER/
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED SERVICE
- PROPOSED METER
- PROPOSED RETAINING WALL
- AREA OF FILL
- AREA OF CUT
- PROPOSED FINISHED SURFACE OF RECTIFICATION



DIAL BEFORE YOU DIG (DBYD) DOCUMENTATION MUST BE OBTAINED BEFORE ANY ON-SITE CONSTRUCTION OR EXCAVATION COMMENCES. THIS DOCUMENT IS TO BE READ IN CONJUNCTION WITH THE DIAL BEFORE YOU DIG PLANS AND OTHER RELEVANT DOCUMENTATION.

ISSUED FOR APPROVAL

SIGNED
RPEQ No.
NAME
DATE

PROJECT
**PROPOSED DEVELOPMENT
42 GARDENIA DRIVE
BIRKDALE**
CLIENT

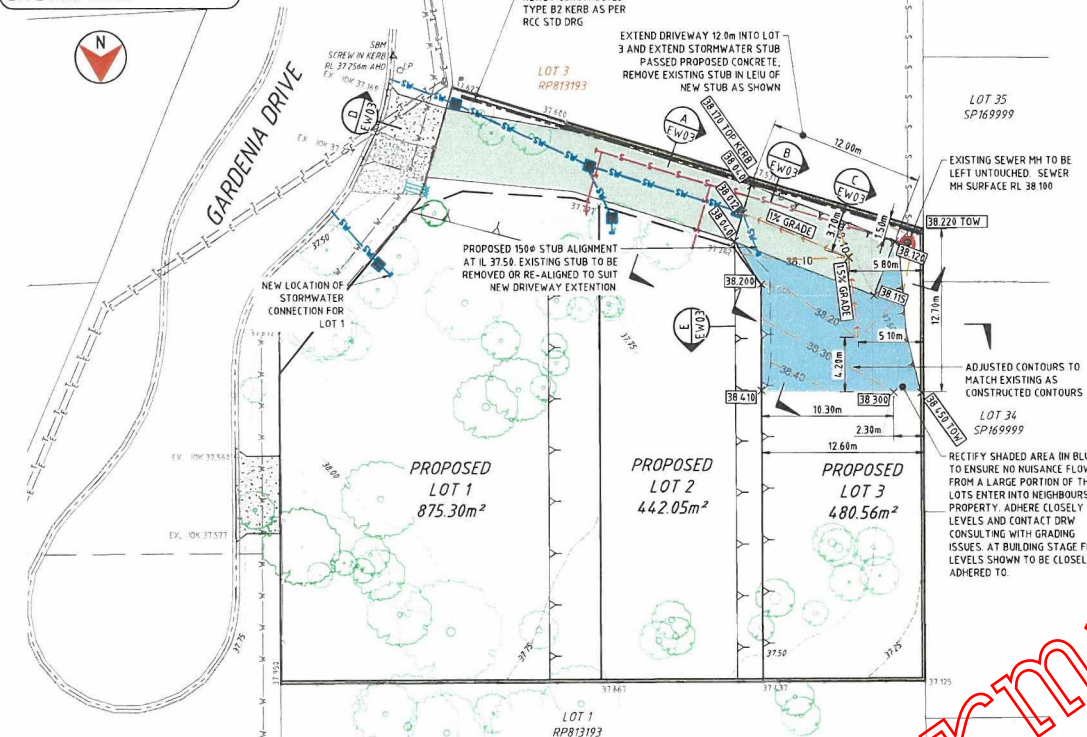
TITLE
**SITE FILLING &
EXCAVATION
RECTIFICATION
SECTIONS**

DRW Consulting Pty Ltd
CIVIL ENGINEERING
DESIGN SERVICES
ADV 08 549 899
ABN 48 482 554 266
2/16 Vanessa Blvd, Phone: (07) 3208 8344
Springwood QLD 4277, Fax: (07) 3208 8322
Email: mail@drwconsulting.com.au

Designed	N.T.	Drawn	N.T.	Date	31.03.17
Checked		Final Check		Scale	AS SHOWN
Drawing No.	2928-EW03			Rev.	B

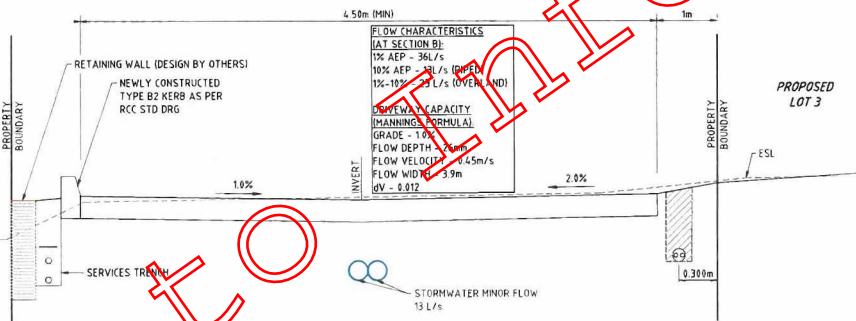
T:\15032 DRW\2928 - Gardenia 42\2928-AC - Standard\2928-AC.dwg Plotted by: JAKTA on ---

REAL PROPERTY DESCRIPTION
LOT 2 ON RP 813193



SITE FILLING & EXCAVATION RECTIFICATION LAYOUT

SCALE 1:200



TYPICAL SECTION - SECTION B

SCALE 1:200

AS CONSTRUCTED DETAILS

CERTIFY THAT THE AS CONSTRUCTED DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: _____ DATE: _____
NAME OF SIGNATORY (PRINT): A.K.SANI
RPED No: 16697
COMPANY NAME: DRW CONSULTING

NOTE:
ALL FINISHED FLOOR & EARTHWORKS PA LEVELS TO BE CONFORM WITH THE ARCHITECT/BUILDING DESIGNER.

NOTE:
THIS CERTIFICATION DOES NOT INCLUDE ANY ASPECT OF RETAINING WALLS STRUCTURAL DESIGN.

CONSTRUCTION INSPECTIONS:
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY DRW AT LEAST 24 HOURS PRIOR TO INSPECTION. CONTRACTOR TO CONTACT DRW TO CONFIRM INSPECTION REQUIREMENTS PRIOR TO COMMENCEMENT OF WORK. IF DRW ARE NOT PRESENT FOR RELEVANT INSPECTIONS, WORKS WILL NOT BE ACCEPTED.

SUBGRADE INSPECTION:
PRIOR TO ANY FILLING OF THE SITE, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO INSPECT THE SUBGRADE INCLUDING POST DEMOLITION AREAS. SUBSEQUENT INSPECTIONS REQUIRED WILL BE ADVISED & WILL DEPEND ON CONDITION OF SUBGRADE & REQUIRED FILL.

FINAL INSPECTION:
AT INTERMEDIARY STAGES (TO BE ADVISED AT SUBGRADE INSPECTION) & AT THE COMPLETION OF PLACEMENT, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO UNDERTAKE A FINAL INSPECTION & WITNESSING OF PROOF ROLLING.

NOTE:
RETAINING WALL SUBSOIL DRAINAGE TO BE CONNECTED TO DOWNSTREAM STORMWATER PIT

DISCLAIMER
WHILST EVERY EFFORT HAS BEEN MADE TO ENSURE THAT THE INFORMATION PROVIDED IN THIS DRAWING/DESIGN WAS ACCURATE AT THE TIME IT WAS COMPILED, AS PART OF THE COUNCIL'S 'AS CONSTRUCTED' RECORDS. IT REMAINS THE RESPONSIBILITY OF PROPERTY OWNERS AND THEIR CONTRACTORS, SUB-CONTRACTORS, EMPLOYEES, SERVANTS AND AGENTS AS APPROPRIATE, IN CIRCUMSTANCES TO MAKE A REASONABLE EFFORT TO ASCERTAIN THE PRESENT LOCATION OF EXISTING INFRASTRUCTURE INCLUDING WATER MAINS, SEWERS AND DRAINS BEFORE UNDERTAKING ANY CONSTRUCTION WORK. USER OF THIS INFORMATION SHOULD BE AWARE THAT SINCE ORIGINAL RECORDING OF THE DEPTHS IN RELATION TO GROUND LEVELS, CHANGES MAY HAVE OCCURRED AS A RESULT OF SUBSEQUENT WORK OR ACTIVITIES INCLUDING FILLING OR EXCAVATION. CONSEQUENTLY DRW CONSULTING PTY LTD TAKES NO RESPONSIBILITY FOR ANY APPARENT ERROR OR OMISSIONS THAT ARE SHOWN TO EXIST AS AT THE DATE THIS INFORMATION WAS PROVIDED OR AT A LATER DATE. THE ABOVE ALSO APPLIES TO LOCATION AND DEPTH OF OTHER PUBLIC UTILITIES. ANY DAMAGE CAUSED TO EXISTING PUBLIC UTILITIES BY THE CONTRACTOR WILL BE REPAIRED BY THE RELEVANT AUTHORITY AT THE CONTRACTOR'S EXPENSE.

- GENERAL**
- THESE NOTES ARE TO BE READ IN CONJUNCTION WITH REPLANS P9
 - INFRASTRUCTURE WORKS CHAPTER 12 EXCAVATION & FILL THE DEVELOPMENT AND/OR OPERATIONAL WORKS CONDITIONS, ANY REQUIREMENTS OF THESE CONDITIONS NOT INCLUDED IN THE DRW DESIGN ARE TO BE COMPLIED WITH.
 - CONTRACTOR TO ENSURE THAT ALL DOCUMENTATION REQUIRED BY THE DEVELOPMENT AND/OR OPERATIONAL WORKS CONDITIONS THAT ENABLE DRW TO SATISFACTORILY QUALIFY REGISTERED PROFESSIONAL ENGINEER QUERIES AND CERTIFICATION OF THE WORKS BY THE DRW RPED OR BY ANY RPED ENGAGED BY THE CONTRACTOR IS PROVIDED AT THE PRE-START MEETING / COMMENCEMENT OF WORKS AND AT THE COMPLETION OF THE WORKS.
 - REFER TO EROSION AND SEDIMENT NOTES.
 - UNLESS NOTED OTHERWISE, DRAWINGS HAVE BEEN DEVELOPED WITHOUT GEOTECHNICAL INVESTIGATION.
 - LEVELS ARE INDICATED FOR THE PURPOSES OF MEETING MINIMUM REQUIREMENTS. BUILDING DESIGN CONSULTANTS ARE TO BE ADVISED OF ANY AFFECT THE SAFETY & GENERAL COMFORT OF ANY FUTURE OCCUPANTS. APPLICATION OF WATER OF OTHER PALLIATIVE MEASURES ARE TO BE CARRIED OUT IN ACCORDANCE WITH BEST PRACTICE EROSION & SEDIMENT CONTROL GUIDELINES: (BCEA 2004).

- EARTHWORKS NOTES - RCC**
- PRIOR TO COMMENCEMENT OF EARTHWORKS, MAKING IMPROVEMENT OF FILL. A GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO BE ENGAGED TO UNDERTAKE INSPECTION & TESTING OF EARTHWORKS IN ACCORDANCE WITH THE 'AS CONSTRUCTED' RECORDS AND AS 3798-2007 GUIDELINES FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENT. SECTION 2 TESTING, THE GITA IS TO PROVIDE CERTIFICATION OF THE WORKS REQUIRED BY THE DEVELOPMENT AND/OR OPERATIONAL WORKS CONDITIONS THAT THE PROPOSED CUT/FILL BATTERS WILL NOT CAUSE AN ADVERSE EFFECT ON THE STABILITY AND INTEGRITY OF THE NEIGHBOURING BUILDINGS, PROPERTIES, UTILITY SERVICES AND INFRASTRUCTURES.
 - IN ORDER FOR THE DRW RPED TO BE ABLE TO CONFIRM THE IMPLEMENTATION OF THE ENGINEERING EARTHWORKS DESIGN AS REQUIRED BY THE DEVELOPMENT AND/OR OPERATIONAL WORKS CONDITIONS, DRW IS ADVISED PRIOR TO ANY MODIFICATION OF FILL OR ANY EARTHWORKS OBTAIN DRW TO AGREE THE SCOPE OF SUPERVISION BY THE GITA REFER NOTE 15 TO COORDINATE THE OVERALL INSPECTIONS BY AND ON BEHALF OF THE DRW RPED.
 - THE CONTRACTOR TO MAINTAIN SITE RECORDS AS PER SECTION 3 DOCUMENTATION OF AS 3798-2007. COPIES TO BE PROVIDED TO THE CLIENT AT THE COMPLETION OF THE WORKS.
 - THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK. ALL EXISTING SERVICES AND STRUCTURES ARE TO BE MAINTAINED IN GOOD ORDER FOR THE DURATION OF THE CONTRACT.
 - THE CONTRACTOR SHALL VERIFY BENCH MARK LEVELS AND ADVISE OF ANY DISCREPANCY BEFORE CONSTRUCTION.
 - THE PROPOSED FILL AREAS SHALL BE CLEARED OF ALL UNDESIRABLE MATERIALS AND REDUNDANT BELOW GROUND STRUCTURAL ELEMENTS AND ALL OTHER OBSTRUCTIONS TO THE WORKS. HOLES LEFT BY THE REMOVAL OF ANY OF THE ABOVE SHALL BE FILLED WITH APPROVED COMPACTED MATERIAL WITH PROPERTIES AT LEAST SIMILAR TO THE TO BE FILLED (CLEARED MATERIALS AND EARTHWORKS SPILL OTHER THEN CLEAN TOPSOIL) SHALL BE REMOVED FROM SITE.
 - UNDERTAKE EARTHWORKS ON SITE IN ACCORDANCE WITH THE APPROVED PLANS OF DEVELOPMENT.
 - ENSURE THAT EACH LOT IS SELF DRAINING AND GRASSED.
 - SHOULD ADEQUATE GRASS COVER NOT BE ESTABLISHED, THEN TOPSOIL & SEEDING/TURFING MAY NEED TO BE PLACED OVER CUT AND FILL AREAS TO MEET COUNCIL INFRASTRUCTURE REQUIREMENTS.
 - THROUGHOUT THE EARTHWORKS THE CONTRACTOR IS TO ENSURE NO SEDIMENT DISCHARGES FROM THE SITE AND EROSION AND SEDIMENT CONTROL IS IN PLACE.
 - ALL RETAINED FILL WITHIN 15M OF EARTH RETAINING STRUCTURES SHALL BE COMPACTED TO THE REQUIREMENTS OF THE GITA.

- EXCAVATION NOTES**
- EXCAVATED MATERIALS CANNOT BE ASSUMED TO BE SUITABLE AS STRUCTURAL FILL OR TO PROVIDE SUFFICIENT FOUNDATION BEARING CAPACITY ABOVE 250KA.
 - WHERE DESIGN SHOWS EXCAVATION MORE THAN 1.0M THAT IS WITHIN 1.0M OF THE PROPERTY BOUNDARY THEN BENCHING AT 1.5M INTERVALS MUST BE UNDERTAKEN.
 - THE EXCAVATED FACES MAY EXPOSE ORGANIC MATERIAL REQUIRING REMOVAL AND REPLACEMENT.

- RETAINING STRUCTURES**
- RETAINING STRUCTURES ARE TO BE INSTALLED ON A DESIGN AND CONSTRUCT BASIS.
 - RETAINING WALLS WITHIN 15M OF A PROPERTY BOUNDARY OR FORMING PART OF A DRAINAGE CHANNEL ARE TO BE PRE-CAST CONCRETE OR EQUIVALENT CONCRETE STRUCTURE.
 - THE CONTRACTOR IS REQUIRED TO PROVIDE FORM 15-DESIGN COMPLIANCE CERTIFICATE FOR ALL RETAINING WALLS AT THE PRE-START MEETING AND A FORM 16- INSPECTION CERTIFICATE ON COMPLETION OF EARTHWORKS.
 - THE CONTRACTOR'S FORM 15 IS TO PROVIDE CERTIFICATION THAT THE PROPOSED RETAINING STRUCTURES WILL NOT CAUSE ANY ADVERSE EFFECT ON THE STABILITY AND INTEGRITY OF THE NEIGHBOURING BUILDINGS, PROPERTIES, UTILITY SERVICES AND INFRASTRUCTURES.
 - THE FORM 16 INSPECTION CERTIFICATE MUST CONFIRM INSPECTION OF THE RETAINING STRUCTURES AT THE FOLLOWING STAGES:
i) FOOTING STAGE INCLUDING EXCAVATION AND REINFORCEMENT; AND
ii) AT THE TIME OF INSTALLING DRAINAGE BEHIND THE WALL INCLUDING GEO-FABRIC, BACKFILL, PERFORATED PIPE, AND CONNECTION OF THE PERFORATED PIPE TO THE STORMWATER DRAINAGE SYSTEM.
AND THE FORM 16 MUST PROVIDE CERTIFICATION FROM A RPED CONFIRMING THAT ALL RETAINING STRUCTURES HAVE BEEN CARRIED OUT AND INSPECTED IN ACCORDANCE WITH COUNCIL'S PLANNING SCHEME AND POLICIES, AS 3798 GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS, AND COMPLY WITH THE REQUIREMENTS OF THE CONDITIONS OF THE DEVELOPMENT PERMITS AND ACHIEVE THE LONG TERM FACTOR OF SAFETY GREATER THAN 1.5.
 - RETAINING WALLS ARE TO BE LOCATED WITHOUT ENDEARMENT ONTO ADJOINING PROPERTIES OR PUBLIC LAND, AND
i) WITH THE RETAINING WALL (INCLUDING FOOTINGS) WHOLLY LOCATED WITHIN THE ALLOTMENT BEING RETAINED.
ii) DO NOT CONSTRUCT RETAINING WALLS ON EXISTING OR PROPOSED PARKLAND, OR
iii) EXISTING OR PROPOSED ROAD SERVICES.
 - RETAINING WALLS TO STABILISE EXCAVATION MUST BE SET BACK OFF PROPERTY BOUNDARIES TO ACCOMMODATE SUBSOIL DRAINAGE AND TO BE SET BACK 300MM TO ACCOMMODATE CONVEYANCE OF ANY OVERLAND FLOW WITHOUT ENDEARMENT INTO THE NEIGHBOURING PROPERTY.

DO NOT SCALE
CONFIRM ALL DIMENSIONS ON SITE
DIMENSIONS SHOWN ARE IN METRES U.N.O.

REV	AMENDMENT	DATE
D	ISSUED FOR APPROVAL	16/06/2021
C	AS CONSTRUCTED	16/06/2021
B	ISSUED FOR APPROVAL	16/06/2021
A	ISSUED FOR APPROVAL	16/06/2021

LEGEND

- EXISTING SEWER
- EXISTING ABANDONED SEWER
- EXISTING TELSTRA
- EXISTING WATER
- EXISTING STORMWATER
- EXISTING GAS
- EXISTING UG ELECTRICITY
- EXISTING KERB INVERT
- EXISTING CONTOURS
- EXISTING SPOT LEVEL
- EXISTING CROSSOVER/ FOOTPATH
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED SERVICE
- PROPOSED METER
- PROPOSED RETAINING WALL
- AREA OF FILL
- AREA OF CUT
- PROPOSED FINISHED SPOT LEVELS FOR RECTIFICATION

DIAL 1100 BEFORE YOU DIG

DIAL BEFORE YOU DIG (DBYD) DOCUMENTATION MUST BE OBTAINED BEFORE ANY ON-SITE CONSTRUCTION OR EXCAVATION COMMENCES. THIS DOCUMENT IS TO BE READ IN CONJUNCTION WITH THE DIAL BEFORE YOU DIG PLANS AND OTHER RELEVANT DOCUMENTATION.

ISSUED FOR APPROVAL

SIGNED: _____
RPED No: _____
NAME: A. K. Sani
RPED No: 16697
DATE: 17-15-20
10:00

PROJECT: PROPOSED DEVELOPMENT
42 GARDENIA DRIVE
BIRKDALE
CLIENT:

TITLE: SITE FILLING & EXCAVATION RECTIFICATION LAYOUT

DRW Consulting Pty Ltd
CVIL ENGINEERING DESIGN SERVICES
ACN 483 543 753
ABN 44 483 543 753

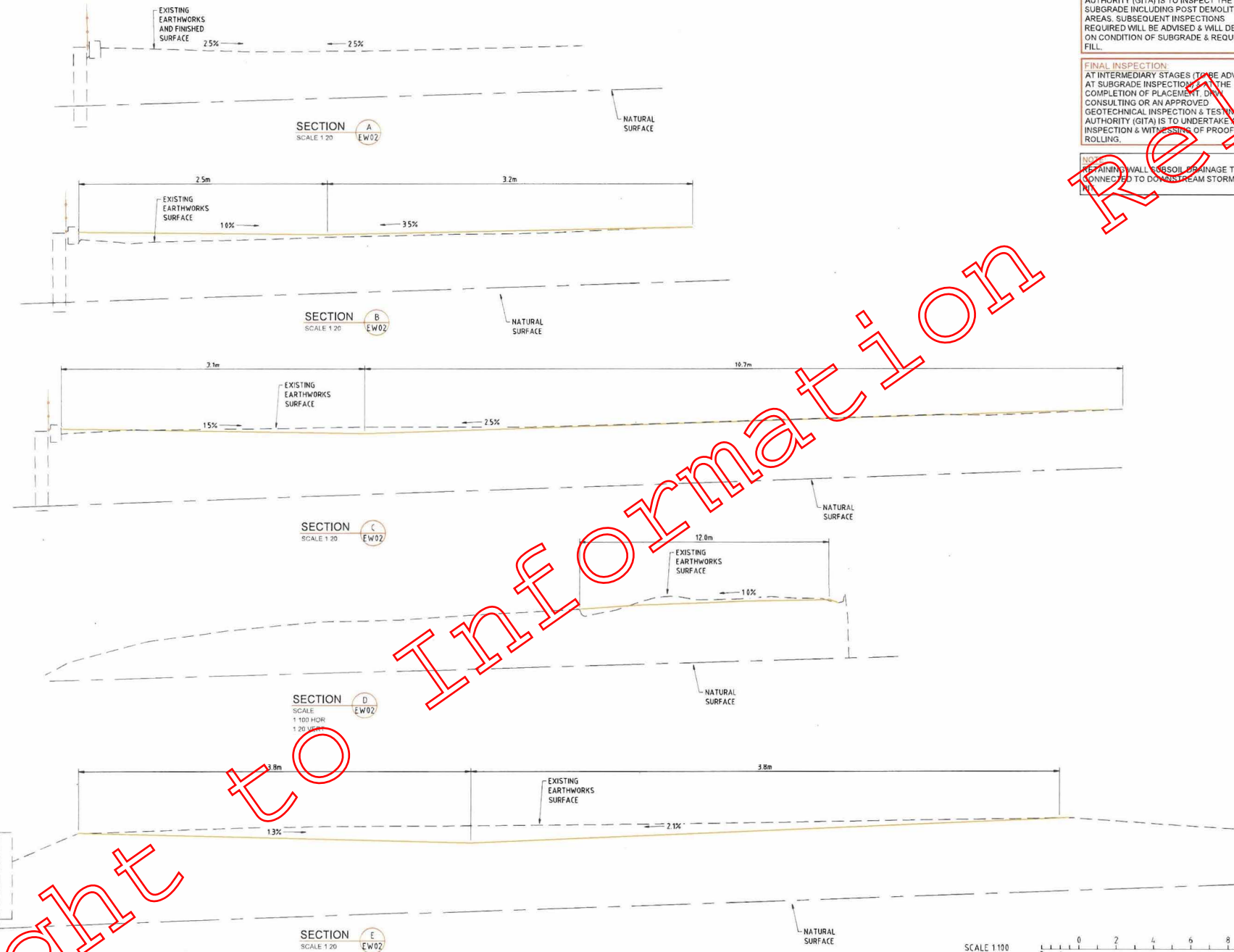
2/16 Yarra-16 Blvd. Phone: (07) 3208 8344
Springwood QLD 4127 Fax: (07) 3208 8322
Email: mail@drwconsulting.com.au

Designed	Drawn	Date
N.T	N.T	31.03.17

Checked: _____ Final Check: _____ Scale: AS SHOWN
Drawing No: 2928-EW02 Rev: D



REAL PROPERTY DESCRIPTION
LOT 2 ON RP 813193



SUBGRADE INSPECTION:
PRIOR TO ANY FILLING OF THE SITE, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO INSPECT THE SUBGRADE INCLUDING POST DEMOLITION AREAS. SUBSEQUENT INSPECTIONS REQUIRED WILL BE ADVISED & WILL DEPEND ON CONDITION OF SUBGRADE & REQUIRED FILL.

FINAL INSPECTION:
AT INTERMEDIARY STAGES (TO BE ADVISED AT SUBGRADE INSPECTION) & AT THE COMPLETION OF PLACEMENT, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO UNDERTAKE FINAL INSPECTION & WITNESSING OF PROOF ROLLING.

NOTE:
RETAINING WALL PER SOIL DRAINAGE TO BE CONNECTED TO DOWNSTREAM STORMWATER

DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE. DIMENSIONS SHOWN ARE IN METRES UNLESS OTHERWISE STATED.

REV.	AMENDMENT	DATE
A	ISSUED FOR APPROVAL	11.09.17

LEGEND

- G — EXISTING SEWER
- S- EXISTING ABANDONED SEWER
- T — EXISTING TELSTRA
- W — EXISTING WATER
- SW — EXISTING STORMWATER
- G — EXISTING GAS
- E — EXISTING L/VG ELECTRICITY
- - - EXISTING KERB INVERT
- - - EXISTING CONTOURS
- + 58.500 EXISTING SPOT LEVEL
- EXISTING CROSSOVER/FOOTPATH
- SW — PROPOSED STORMWATER
- S — PROPOSED SEWER
- PROPOSED SERVICE
- X — PROPOSED METER
- PROPOSED RETAINING WALL
- AREA OF FILL
- AREA OF CUT
- + 58.500 PROPOSED FINISHED SPOT LEVELS FOR RECTIFICATION



DIAL BEFORE YOU DIG (DBYD) DOCUMENTATION MUST BE OBTAINED BEFORE ANY ON-SITE CONSTRUCTION OR EXCAVATION COMMENCES. THIS DOCUMENT IS TO BE READ IN CONJUNCTION WITH THE DIAL BEFORE YOU DIG PLANS AND OTHER RELEVANT DOCUMENTATION.

ISSUED FOR APPROVAL

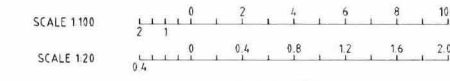
SIGNED: A. K. Sani
RPEQ No: RPEQ 10697
NAME: 2021_06_25
DATE: 11.09.17 +1000

PROJECT
**PROPOSED DEVELOPMENT
42 GARDENIA DRIVE
BIRKDALE**
CLIENT

TITLE
**SITE FILLING &
EXCAVATION
RECTIFICATION
SECTIONS**

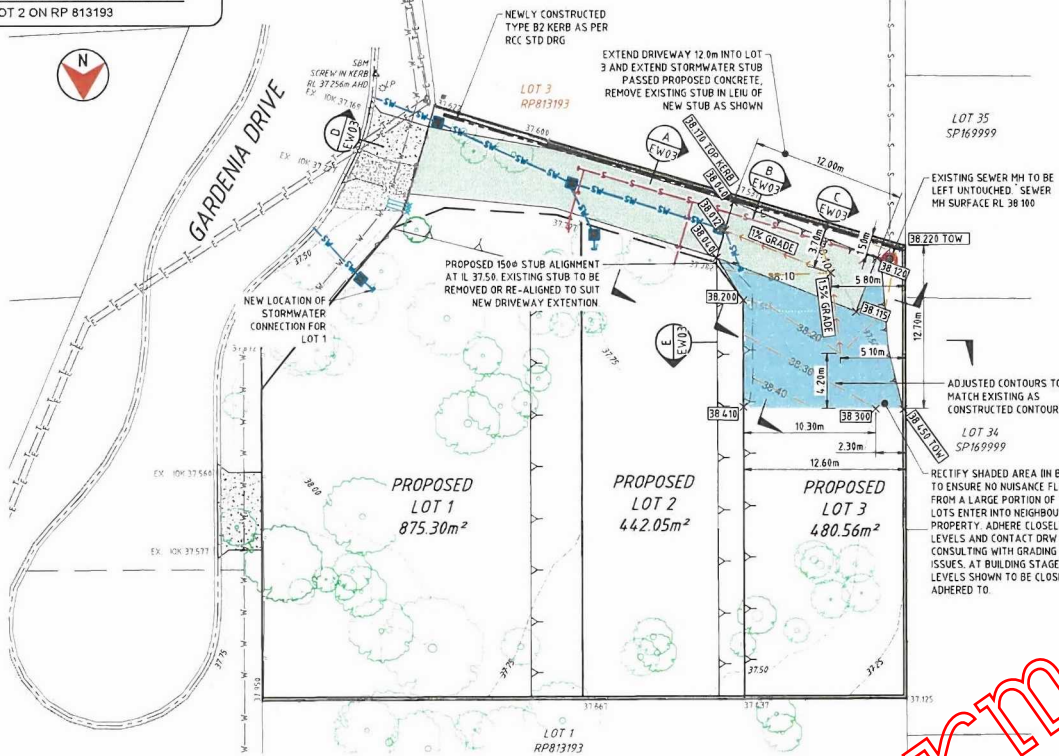
DRW CIVIL ENGINEERING DESIGN SERVICES
Consulting Pty Ltd
2/16 Vanessa Blvd, Springwood, QLD 4127
Phone: (07) 3268 8366
Fax: (07) 3268 8322
Email: mail@drwconsulting.com.au

Designed: N.T.	Drawn: N.T.	Date: 31.03.17
Checked: Final Check	Scale: AS SHOWN	
Drawing No: 2928-EW03	Rev: A	



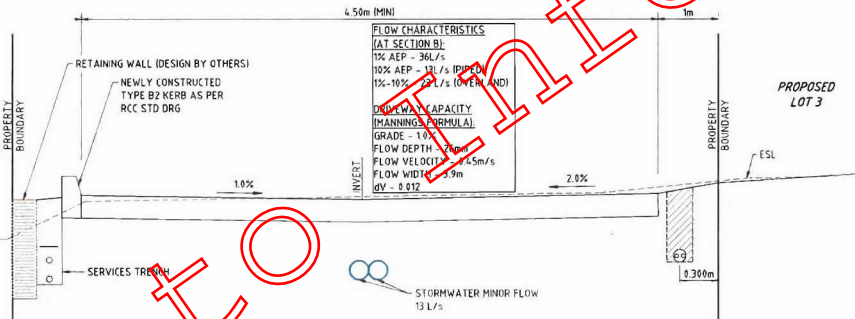
Right to Information

REAL PROPERTY DESCRIPTION
LOT 2 ON RP 813193



SITE FILLING & EXCAVATION RECTIFICATION LAYOUT

SCALE 1:200



TYPICAL SECTION - SECTION B

SCALE 1:200

NOTE:
ALL FINISHED FLOOR & EARTHWORKS FINISH LEVELS TO BE CONFIRMED WITH THE ARCHITECT/BUILDING DESIGNER.

NOTE:
THIS CERTIFICATION DOES NOT INCLUDE ANY ASPECT OF RETAINING WALLS & STRUCTURAL DESIGN.

CONSTRUCTION INSPECTIONS:
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY DRW AT LEAST 24 HOURS PRIOR TO INSPECTION. CONTRACTOR TO CONTACT DRW TO CONFIRM INSPECTION REQUIREMENTS PRIOR TO COMMENCEMENT OF WORK. IF DRW ARE NOT PRESENT FOR RELEVANT INSPECTIONS, WORKS WILL NOT BE ACCEPTED.

AS CONSTRUCTED DETAILS

I CERTIFY THAT THE AS CONSTRUCTED DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.

SIGNED: _____ DATE: _____
NAME OF SIGNATORY (PRINT) A.K.SANI
RPED No. 18697
COMPANY NAME DRW CONSULTING

SUBGRADE INSPECTION:
PRIOR TO ANY FILLING OF THE SITE, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO INSPECT THE SUBGRADE INCLUDING POST DEMOLITION AREAS. SUBSEQUENT INSPECTIONS REQUIRED WILL BE ADVISED & WILL DEPEND ON CONDITION OF SUBGRADE & REQUIRED FILL.

FINAL INSPECTION:
AT INTERMEDIARY STAGES (TO BE ADVISED AT SUBGRADE INSPECTION) & AT THE COMPLETION OF PLACEMENT, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO UNDERTAKE A FINAL INSPECTION & WITNESSING OF PROOF ROLLING.

NOTE:
RETAINING WALL SUBSOIL DRAINAGE TO BE CONNECTED TO DOWNSTREAM STORMWATER PIT

DISCLAIMER:
WHILST EVERY EFFORT HAS BEEN MADE TO ENSURE THAT THE INFORMATION PROVIDED IN THIS DRAWING/DESIGN WAS ACCURATE AT THE TIME IT WAS COMPILED, AS PART OF THE COUNCIL'S AS CONSTRUCTED RECORDS, IT REMAINS THE RESPONSIBILITY OF PROPERTY OWNERS AND THEIR CONTRACTORS, SUBCONTRACTORS, EMPLOYEES, SERVANTS AND AGENTS APPROPRIATE TO THE CIRCUMSTANCES TO MAKE A REASONABLE EFFORT TO ASCERTAIN THE PRESENT CONDITION OF EXISTING INFRASTRUCTURE INCLUDING WATER MAINS, SEWERS AND DRAINS BEFORE UNDERTAKING ANY CONSTRUCTION WORK. USEFUL INFORMATION SHOULD BE AWARE THAT SINCE THE ORIGINAL RECORDING OF THE DEPTHS IN RELATION TO GROUND LEVELS, CHANGES MAY HAVE OCCURRED AS A RESULT OF SUBSEQUENT WORK OR ACTIVITIES INCLUDING GRADING OR EXCAVATION. DRW CONSULTING PTY LTD TAKES NO RESPONSIBILITY FOR ANY APPARENT ERROR OR OMISSIONS THAT ARE SHOWN TO EXIST AS AT THE DATE OF INFORMATION WAS PROVIDED OR AT A LATER DATE. THE ABOVE ALSO APPLIES TO LOCATION AND DEPTH OF OTHER PUBLIC UTILITIES. ANY DAMAGE CAUSED TO EXISTING PUBLIC UTILITIES BY THE CONTRACTOR WILL BE REPAIRED BY THE RELEVANT AUTHORITY AT THE CONTRACTOR'S EXPENSE.

GENERAL:
61. THESE NOTES ARE TO BE READ IN CONJUNCTION WITH RELIANTS PSP 9 INFRASTRUCTURE WORKS CHAPTER 12, EXCAVATION & FILL. ANY DEVELOPMENT AND/OR OPERATIONAL WORKS (INCLUDING ANY REQUIREMENTS OF THESE CONDITIONS NOT INCLUDED IN THE DRW DESIGN ARE TO BE COMPLIED WITH.
62. CONTRACTOR TO ENSURE THAT ALL DOCUMENTATION REQUIRED BY THE DEVELOPMENT AND/OR OPERATIONAL WORKS CONDITIONS THAT ENABLE RPED OR A SUITABLY QUALIFIED REGISTERED PROFESSIONAL ENGINEER (QUEENSLAND) CERTIFICATION OF THE WORKS BY THE DRW RPED OR BY ANY RPED ENGAGED BY THE CONTRACTOR, IS PROVIDED AT THE PRE-START MEETING / COMMENCEMENT OF WORKS AND AT THE COMPLETION OF THE WORKS.
63. REFER TO EROSION AND SEDIMENT NOTES.
64. UNLESS NOTED OTHERWISE, DRAWINGS HAVE BEEN DEVELOPED WITHOUT GEOTECHNICAL INVESTIGATION.
65. LEVELS ARE INDICATED FOR THE PURPOSES OF MEETING FLOODING REQUIREMENTS. BUILDING DESIGN CONSULTANTS ARE TO BE CONSULTED TO CONFIRM LEVELS FOR OTHER PURPOSES.
66. ADEQUATE PRECAUTIONS ARE TO BE TAKEN TO MINIMIZE DUST WHICH MAY AFFECT THE SAFETY & GENERAL COMFORT OF ALL PERSONS. REGULAR APPLICATION OF WATER OF OTHER PALLIATIVE MEASURES IS TO BE CARRIED OUT IN ACCORDANCE WITH BEST PRACTICE EROSION & SEDIMENT CONTROL GUIDELINES. (NSW 2008)

EARTHWORKS NOTES (RCC):
E1. PRIOR TO COMMENCEMENT OF EARTHWORKS, OBTAINING PERMISSION OF FILL A GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO BE ENGAGED TO UNDERTAKE INSPECTION & TESTING OF THE SUBGRADE IN ACCORDANCE WITH AS 3794-2007 GUIDELINES. APPLICATION OF BEST PRACTICE EROSION AND SEDIMENT CONTROL GUIDELINES IS TO BE UNDERTAKEN. THE GITA IS TO PROVIDE CERTIFICATION (WHERE REQUIRED BY THE DEVELOPMENT AND/OR OPERATIONAL WORKS CONDITIONS) THAT THE PROPOSED CUT/FILL BATTERS WILL NOT CAUSE AN ADVERSE EFFECT ON THE STABILITY AND INTEGRITY OF THE NEIGHBOURING BUILDINGS, PROPERTIES, UTILITY SERVICES AND INFRASTRUCTURE.
E2. IN ORDER FOR THE DRW RPED TO BE ABLE TO CONFIRM THE IMPLEMENTATION OF THE ENGINEERING EARTHWORKS DESIGN AS REQUIRED BY THE DEVELOPMENT AND/OR OPERATIONAL WORKS CONDITIONS, DRW IS TO BE ADVISED PRIOR TO ANY MODIFICATION OF FILL OF ANY EARTHWORKS OWNERS TO AGREE THE SCOPE OF SUPERVISION BY THE GITA REFER TO EROSION & SEDIMENT CONTROL GUIDELINES BY THE GITA ON BEHALF OF THE DRW RPED.
E3. THE CONTRACTOR TO MAINTAIN SITE RECORDS AS PER SECTION 3 DOCUMENTATION OF ASBESTOS COPIES TO BE PROVIDED TO THE CLIENT AT THE COMPLETION OF THE WORKS.
E4. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SERVICES AND STRUCTURES ARE TO BE MAINTAINED IN GOOD ORDER FOR THE DURATION OF THE CONTRACT.
E5. THE CONTRACTOR SHALL VERIFY BENCH MARK LEVELS AND ADVISE OF ANY DISCREPANCY BEFORE CONSTRUCTION.
E6. THE PROPOSED FILL AREAS SHALL BE CLEARED OF ALL UNDESIRABLE MATERIALS AND REDUNDANT BELOW GROUND STRUCTURAL ELEMENTS AND ALL OTHER OBSTRUCTIONS TO THE WORKS. HOLES LEFT BY THE REMOVAL OF ANY OF THE ABOVE SHALL BE FILLED WITH APPROVED COMPACTED MATERIAL WITH PROPERTIES AT LEAST SIMILAR TO THE MATERIALS SHOWN. CLEARED MATERIALS AND EARTHWORKS SPILL OTHER THEN CLEAN TOPSOIL SHALL BE REMOVED FROM SITE.
E7. UNDERTAKE EARTHWORKS ON SITE IN ACCORDANCE WITH THE APPROVED PLANS OF DEVELOPMENT.
E8. ENSURE THAT EACH LOT IS SELF DRAINING AND GRASSED.
E9. SHOULD ADEQUATE GRASS COVER NOT BE ESTABLISHED, THEN TOPSOIL & SEEDING/TURFING MAY NEED TO BE PLACED OVER CUT AND FILL AREAS TO MEET COUNCIL INFRASTRUCTURE REQUIREMENTS.
E10. THROUGHOUT THE EARTHWORKS THE CONTRACTOR IS TO ENSURE NO SEDIMENT DISCHARGES FROM THE SITE AND EROSION AND SEDIMENT CONTROL IS IN PLACE.
E12. ALL RETAINED FILL WITHIN 15M OF EARTH RETAINING STRUCTURES SHALL BE COMPACTED TO THE REQUIREMENTS OF THE GITA.

EXCAVATION NOTES:
X1. EXCAVATED MATERIALS (CANNOT BE ASSUMED TO BE SUITABLE AS STRUCTURAL FILL OR TO PROVIDE SUFFICIENT FOUNDATION BEARING CAPACITY ABOVE 25KPA).
X2. WHERE DESIGN SHOWS EXCAVATION MORE THAN 1.0M THAT IS WITHIN 1.5M OF THE PROPERTY BOUNDARY THEN BENCHING AT 1.0M INTERVALS MUST BE UNDERTAKEN.
X3. THE EXCAVATED FACES MAY EXPOSE ORGANIC MATERIAL REQUIRING REMOVAL AND REPLACEMENT.

RETAINING STRUCTURES:
R1. RETAINING STRUCTURES ARE TO BE INSTALLED ON A DESIGN AND CONSTRUCT BASIS.
R2. RETAINING WALLS WITHIN 15M OF A PROPERTY BOUNDARY OR FORMING PART OF A DRAINAGE CHANNEL, ARE TO BE PRE-CAST CONCRETE OR EQUIVALENT CONCRETE STRUCTURE.
R3. THE CONTRACTOR IS REQUIRED TO PROVIDE FORM 15-DESIGN COMPLIANCE CERTIFICATE FOR ALL RETAINING WALLS AT THE PRE-START MEETING AND A FORM 16- INSPECTION CERTIFICATE ON COMPLETION OF EARTHWORKS.
R4. THE CONTRACTOR'S FORM 15 IS TO PROVIDE CERTIFICATION THAT THE PROPOSED RETAINING STRUCTURES WILL NOT CAUSE ANY ADVERSE EFFECT ON THE STABILITY AND INTEGRITY OF THE NEIGHBOURING BUILDINGS, PROPERTIES, UTILITY SERVICES AND INFRASTRUCTURE.
R5. THE FORM 16- INSPECTION CERTIFICATE MUST COMBINE INSPECTION OF THE RETAINING STRUCTURE(S) AT THE FOLLOWING STAGES:
i) FOOTING STAGE INCLUDING EXCAVATION AND REINFORCEMENT; AND
ii) AT THE TIME OF INSTALLING DRAINAGE BEHIND THE WALL INCLUDING GEO-FABRIC BACKFILL, PERFORATED PIPE, AND CONNECTION OF THE PERFORATED PIPE TO THE STORMWATER DRAINAGE SYSTEM.
R6. THE FORM 16 MUST PROVIDE CERTIFICATION FROM A RPED CONFIRMING THAT ALL RETAINING STRUCTURES HAVE BEEN CARRIED OUT AND INSPECTED IN ACCORDANCE WITH COUNCIL'S PLANNING SCHEME AND POLICES, AS STATED QUERIES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS, AND COMPLY WITH THE REQUIREMENTS OF THE CONDITIONS OF THE DEVELOPMENT PERMITS AND ACHIEVE THE LONG TERM FACTOR OF SAFETY GREATER THAN 1.5.
R6. RETAINING WALLS ARE TO BE LOCATED WITHOUT ENCRoACHMENT ONTO ADJOINING PROPERTIES OR PUBLIC LAND, AND:
i) WITHIN THE RETAINING WALL INCLUDING FOOTINGS) WHOLLY LOCATED WITHIN THE ALLOTMENT BEING RETAINED.
ii) DO NOT CONSTRUCT RETAINING WALLS ON EXISTING OR PROPOSED PARKLAND, OR
iii) EXISTING OR PROPOSED ROAD RESERVES.
R7. RETAINING WALLS TO STABILISE EXCAVATION MUST BE SET BACK OFF PROPERTY BOUNDARIES TO ACCOMMODATE SUBSOIL DRAINAGE AND TO BE SET BACK 300MM TO ACCOMMODATE CONVEYANCE OF ANY OVERLAND FLOW WITHOUT ENCRoACHMENT INTO THE NEIGHBOURING PROPERTY.

DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE. DIMENSIONS SHOWN ARE IN METRES U.N.O.

REV.	AMENDMENT	DATE
0	ISSUED FOR CONSTRUCTION APPROVAL	13/03/21
AC	AS CONSTRUCTED	31/03/21
B	ISSUED FOR APPROVAL	31/03/21
C	ISSUED FOR APPROVAL	31/03/21
D	ISSUED FOR APPROVAL	31/03/21

LEGEND

(Symbol)	EXISTING SEWER
(Symbol)	EXISTING ABANDONED SEWER
(Symbol)	EXISTING TIE/STRA
(Symbol)	EXISTING WATER
(Symbol)	EXISTING STORMWATER
(Symbol)	EXISTING GAS
(Symbol)	EXISTING UG ELECTRICITY
(Symbol)	EXISTING KERB INVERT
(Symbol)	EXISTING CONTOURS
(Symbol)	EXISTING SPOT LEVEL
(Symbol)	EXISTING CROSSOVER/ FOOTPATH
(Symbol)	PROPOSED STORMWATER
(Symbol)	PROPOSED SERVICE
(Symbol)	PROPOSED METER
(Symbol)	PROPOSED RETAINING WALL
(Symbol)	AREA OF FILL
(Symbol)	AREA OF CUT
(Symbol)	PROPOSED FINISHED SPOT LEVELS FOR RECTIFICATION

PROPOSED STORMWATER CONNECTION FOR NEW DRIVEWAY EXTENSION

PROPOSED 1500 STUB ALIGNMENT AT IL 37.50. EXISTING STUB TO BE REMOVED OR RE-ALIGNED TO SUIT NEW DRIVEWAY EXTENSION

NEW LOCATION OF STORMWATER CONNECTION FOR NEW DRIVEWAY EXTENSION

DIAL 1100 BEFORE YOU DIG

DIAL BEFORE YOU DIG (DIBYD) DOCUMENTATION MUST BE OBTAINED BEFORE ANY SITE CONSTRUCTION OR EXCAVATION COMMENCES. THIS DOCUMENT IS TO BE READ IN CONJUNCTION WITH THE DIAL BEFORE YOU DIG PLANS AND OTHER RELEVANT DOCUMENTATION.

ISSUED FOR APPROVAL

SIGNED: _____ A. K. Sani
RPED No. 18697
NAME: _____
DATE: _____

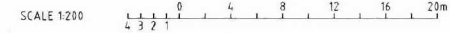
PROJECT: **PROPOSED DEVELOPMENT 42 GARDENIA DRIVE BIRKDALE**

CLIENT: _____

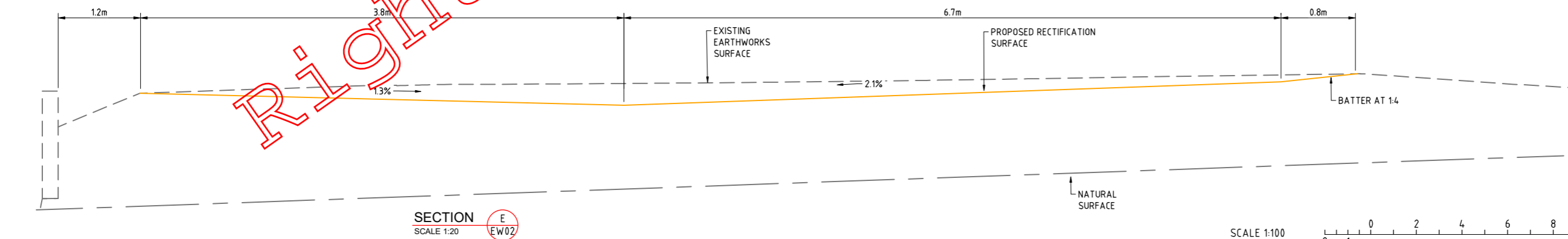
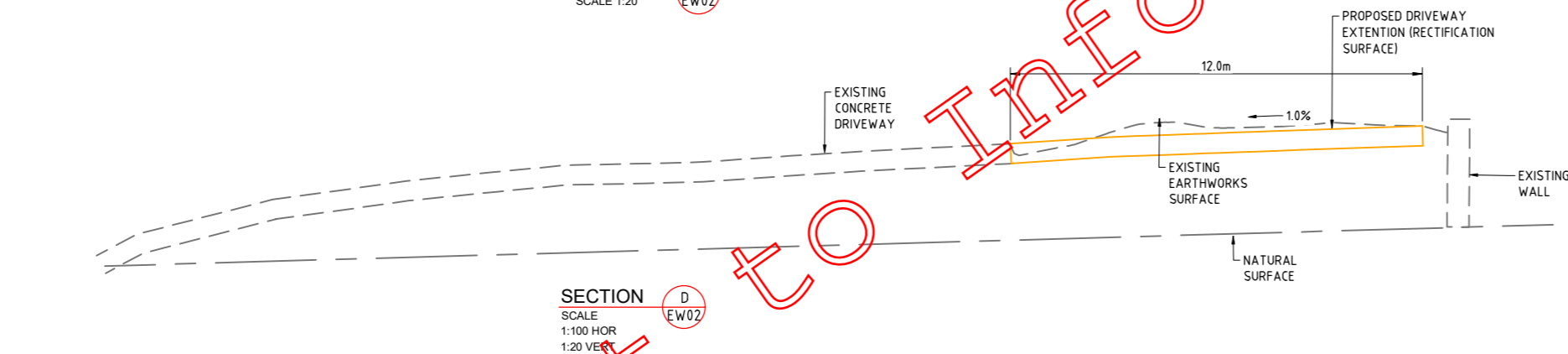
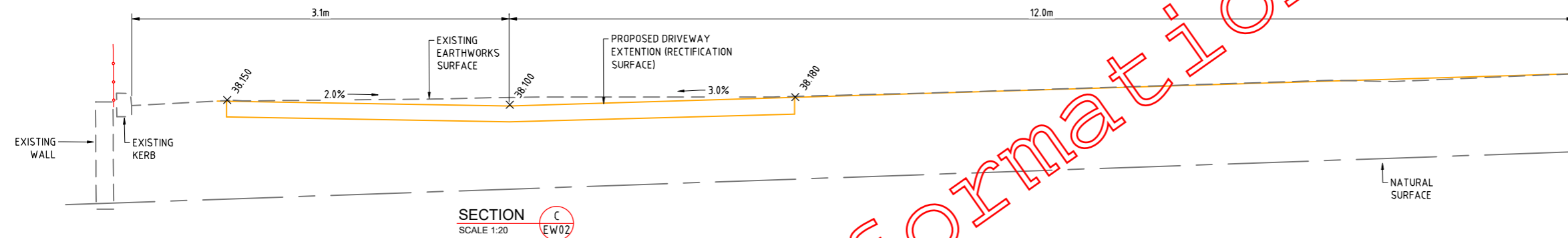
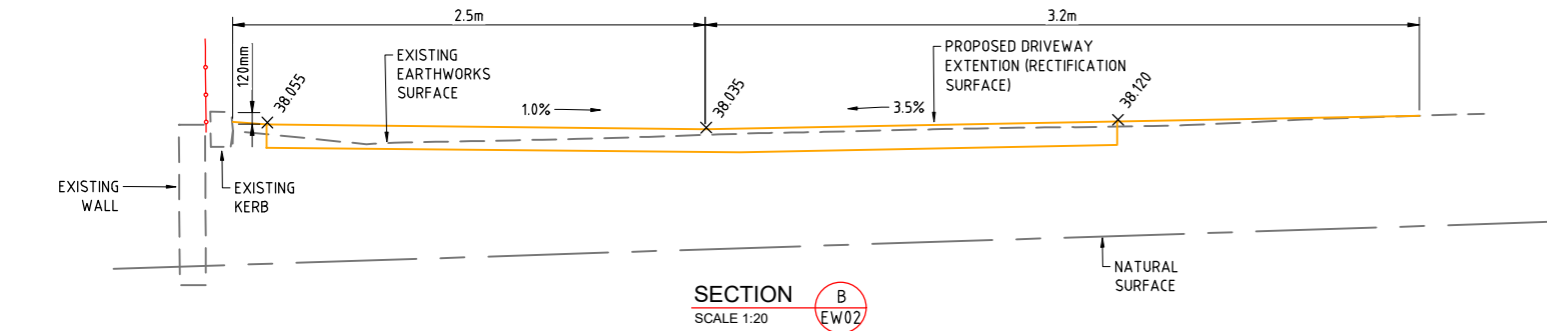
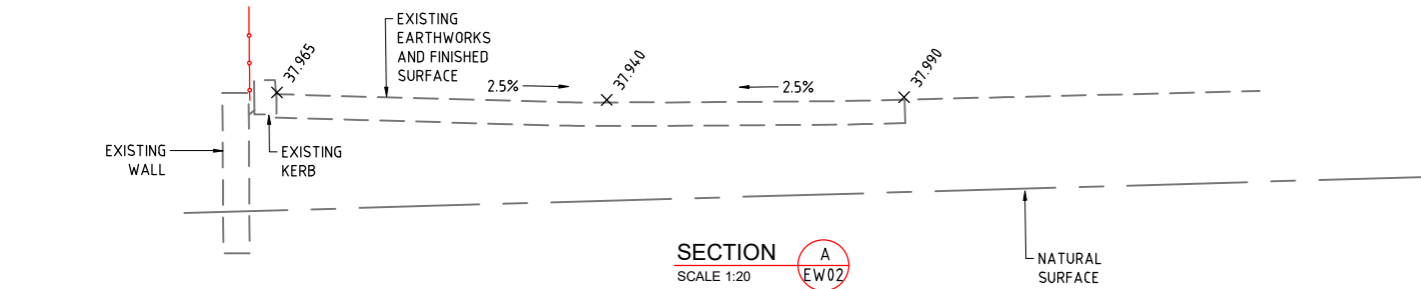
TITLE: **SITE FILLING & EXCAVATION RECTIFICATION LAYOUT**

DRW Consulting Pty Ltd CIVIL ENGINEERING DESIGN SERVICES
ACR 043 553 553
144 44 443 553 553
27/6 Vaneva St. Phone: (137) 3208 8344
Springwood QLD 4127 Fax: (137) 3208 8322
Email: mail@drwconsulting.com.au

Designed: N.T. Drawn: N.T. Date: 31.03.21
Checked: Final Check Scale: AS SHOWN
Drawing No. 2928-EW02 Rev: D



REAL PROPERTY DESCRIPTION
LOT 2 ON RP 813193



SUBGRADE INSPECTION:
PRIOR TO ANY FILLING OF THE SITE, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO INSPECT THE SUBGRADE INCLUDING POST DEMOLITION AREAS. SUBSEQUENT INSPECTIONS REQUIRED WILL BE ADVISED & WILL DEPEND ON CONDITION OF SUBGRADE & REQUIRED FILL.

FINAL INSPECTION:
AT INTERMEDIARY STAGES (TO BE ADVISED AT SUBGRADE INSPECTION) & AT THE COMPLETION OF PLACEMENT, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO UNDERTAKE A FINAL INSPECTION & WITNESSING OF PROOF ROLLING.

NOTE:
RETAINING WALL SUBSOIL DRAINAGE TO BE CONNECTED TO DOWNSTREAM STORMWATER PIT

DO NOT SCALE. CONFIRM ALL DIMENSIONS ON SITE. DIMENSIONS SHOWN ARE IN METRES U.N.O.

REV.	AMENDMENT	BY	DATE
A	ISSUED FOR APPROVAL	PJ	20.06.21
B	ISSUED FOR APPROVAL	PJ	06.07.21

LEGEND

- S— EXISTING SEWER
- S— EXISTING ABANDONED SEWER
- T— EXISTING TELSTRA
- W— EXISTING WATER
- SW— EXISTING STORMWATER
- G— EXISTING GAS
- E— EXISTING U/G ELECTRICITY
- — EXISTING KERB INVERT
- 35— EXISTING CONTOURS
- +58.500 EXISTING SPOT LEVEL
- EXISTING CROSSOVER/ FOOTPATH
- SW— PROPOSED STORMWATER
- S— PROPOSED SEWER
- — PROPOSED SERVICE
- X PROPOSED METER
- PROPOSED RETAINING WALL
- AREA OF FILL
- AREA OF CUT
- PROPOSED FINISHED SURFACE OF RECTIFICATION

DIAL 1100
BEFORE YOU DIG

DIAL BEFORE YOU DIG (DBYD) DOCUMENTATION MUST BE OBTAINED BEFORE ANY ON-SITE CONSTRUCTION OR EXCAVATION COMMENCES. THIS DOCUMENT IS TO BE READ IN CONJUNCTION WITH THE DIAL BEFORE YOU DIG PLANS AND OTHER RELEVANT DOCUMENTATION.

ISSUED FOR APPROVAL

SIGNED
RPEQ No.
NAME
DATE

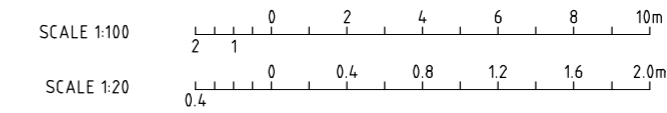
A. K. Sani
RPEQ 10697
2021.07.15
21:43:47 +10'00"

PROJECT
**PROPOSED DEVELOPMENT
42 GARDENIA DRIVE
BIRKDALE**
CLIENT

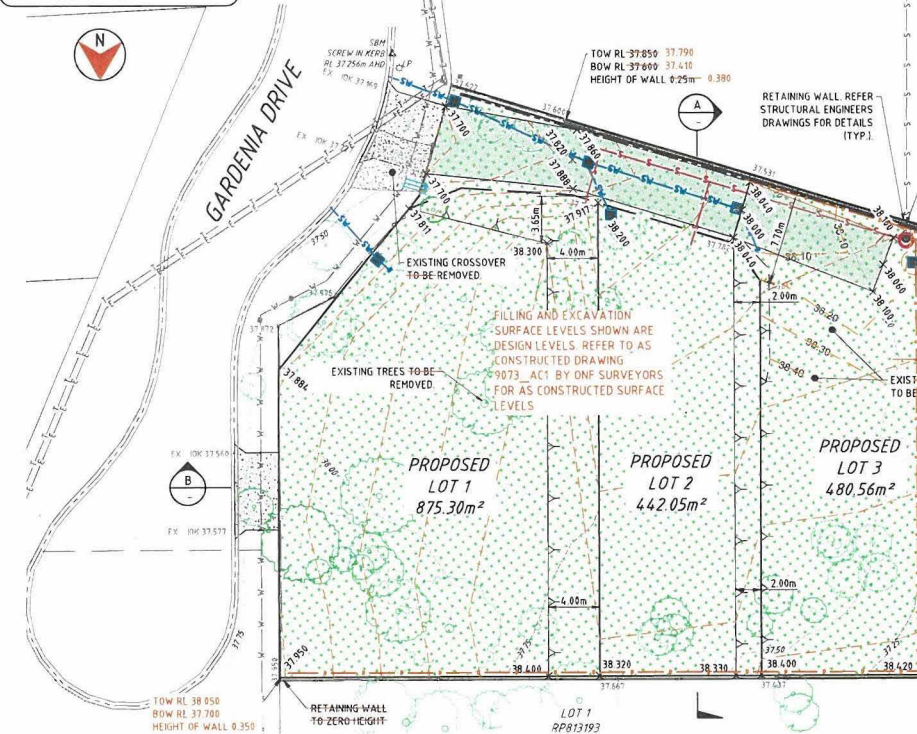
TITLE
**SITE FILLING &
EXCAVATION
RECTIFICATION
SECTIONS**

DRW CIVIL ENGINEERING DESIGN SERVICES
Consulting Pty Ltd
2/16 Vanessa Blvd, Phone : (07) 3208 8344
Springwood, QLD. 4127. Fax : (07) 3208 8322
Email : mail@drwconsulting.com.au

Designed N.T.	Drawn N.T.	Date 31.03.17
Checked	Final Check	Scale AS SHOWN
Drawing No. 2928-EW03	Rev. B	

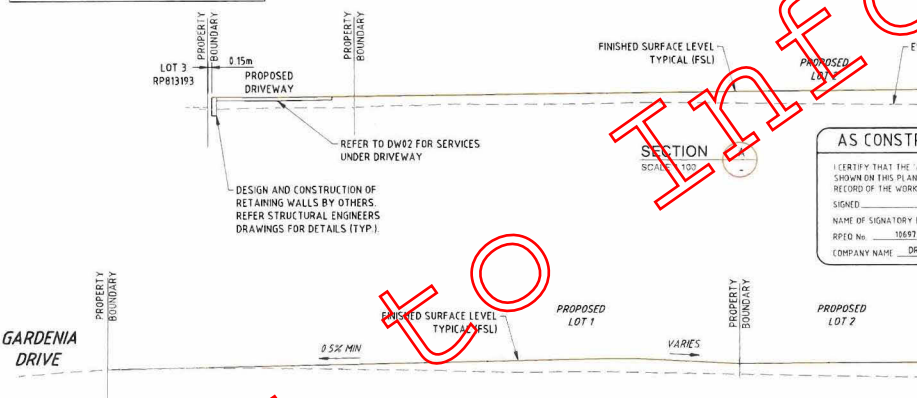


REAL PROPERTY DESCRIPTION
LOT 2 ON RP 813193



NOTE:
RETAINING WALL SUBSOIL DRAINAGE TO BE CONNECTED TO DOWNS TREAM STORMWATER PIT

SITE FILLING & EXCAVATION LAYOUT
SCALE 1:200



SECTION B
SCALE 1:100

NOTE:
THIS DRAWING IS TO BE READ IN CONJUNCTION WITH NOTES ON SHEET B-N01

NOTE:
ALL FINISHED FLOOR & EARTHWORKS PAD LEVELS TO BE CONFIRMED WITH THE ARCHITECT/BUILDING DESIGNER

CONSTRUCTION INSPECTIONS
NOTIFICATION OF INSPECTIONS MUST BE RECEIVED BY DRW AT LEAST 24 HOURS PRIOR TO INSPECTION. CONTRACTOR TO CONTACT DRW TO CONFIRM INSPECTION REQUIREMENTS PRIOR TO COMMENCEMENT OF WORK. IF DRW ARE NOT PRESENT FOR RELEVANT INSPECTIONS, WORKS WILL NOT BE ACCEPTED.

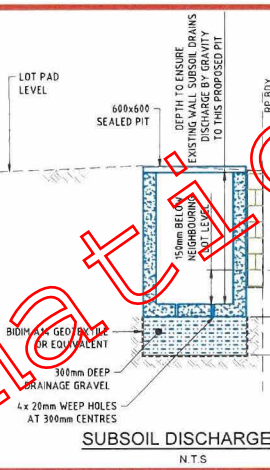
DISCLAIMER
WHILST EVERY EFFORT HAS BEEN MADE TO ENSURE THAT THE INFORMATION PROVIDED IN THIS DRAWING/DESIGN WAS ACCURATE AT THE TIME IT WAS COMPILED, AS PART OF THE COUNCIL'S 'AS CONSTRUCTED' RECORDS, IT REMAINS THE RESPONSIBILITY OF PROPERTY OWNERS AND THEIR CONTRACTORS, SUB-CONTRACTORS, EMPLOYEES, SERVANTS AND AGENTS AS APPROPRIATE IN THE CIRCUMSTANCES TO MAKE ALL REASONABLE EFFORTS TO ASCERTAIN THE PRECISE LOCATION OF EXISTING INFRASTRUCTURE INCLUDING WATER MAINS, SEWERS AND DRAINS BEFORE UNDERTAKING EXCAVATION OR CONSTRUCTION WORK.

SUBGRADE INSPECTION:
PRIOR TO ANY FILLING OF THE SITE, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO INSPECT THE SUBGRADE INCLUDING POST DEMOLITION AREAS. SUBSEQUENT INSPECTIONS REQUIRED WILL BE ADVISED & WILL DEPEND ON CONDITION OF SUBGRADE & REQUIRED FILL.

FINAL INSPECTION:
AT INTERMEDIARY STAGES (TO BE ADVISED AT SUBGRADE INSPECTION) & AT THE COMPLETION OF PLACEMENT, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO UNDERTAKE A FINAL INSPECTION & WITNESSING OF PROOF ROLLING.

EARTHWORKS QUANTITIES

SURFACE FROM	SURFACE TO	CUT m ³	FILL m ³	BALANCE m ³
EXISTING	EARTHWORKS	-1.7	+865.4	+863.6



SUBSOIL DISCHARGE PIT
N.T.S.

AS CONSTRUCTED DETAILS
I CERTIFY THAT THE 'AS CONSTRUCTED' DETAILS SHOWN ON THIS PLAN ARE A TRUE AND ACCURATE RECORD OF THE WORKS.
SIGNED: _____ DATE: _____
NAME OF SIGNATORY (PRINT): A.K.SANI
RPED No: 10897
COMPANY NAME: DRW CONSULTING

GENERAL

- G1. THESE NOTES ARE TO BE READ IN CONJUNCTION WITH REFINED PSP & INFRASTRUCTURE WORKS CHAPTER 12, EXCAVATION & FILL. THE DEVELOPMENT AND/OR OPERATIONAL WORKS CONDITIONS ANY REQUIREMENTS OF THESE CONDITIONS NOT INCLUDED IN THE DRW DESIGN ARE TO BE COMPLIED WITH.
- G2. CONTRACTOR TO ENSURE THAT ALL DOCUMENTATION REQUIRED BY THE DEVELOPMENT AND/OR OPERATIONAL WORKS CONDITIONS THAT ENABLE RPED TO BE A SUITABLY QUALIFIED REGISTERED PROFESSIONAL ENGINEER (QUEENSLAND) CERTIFICATION OF THE WORKS BY THE DRW BEFORE BY ANY RPED ENGAGED BY THE CONTRACTOR, IS PROVIDED AT THE PRE-START MEETING.
- G3. REFER TO EROSION AND SEDIMENT NOTES.
- G4. UNLESS NOTED OTHERWISE, DRAWINGS HAVE BEEN DEVELOPED WITHOUT GEOTECHNICAL INVESTIGATION.
- G5. LEVELS ARE INDICATED FOR THE PURPOSES OF MEETING DRAINAGE REQUIREMENTS. BUILDING DESIGN CONSULTANTS ARE TO BE CONSULTED TO CONFIRM LEVELS FOR OTHER PURPOSES.
- G6. APPLICATION PRECAUTIONS ARE TO BE TAKEN TO MINIMIZE RISK WHICH MAY AFFECT THE SAFETY & GENERAL CONDUCT OF ANY PERSONS OR ANY APPLICATION OF WATER OF OTHER PALLIATIVE MEASURES ARE TO BE REPORTED OUT IN ACCORDANCE WITH BEST PRACTICE PRACTICE & SEDIMENT CONTROL GUIDELINES. RECA. DRW.

EARTHWORKS NOTES

- E1. PRIOR TO COMMENCEMENT OF EARTHWORKS INCLUDING SUBGRADE FILL, A GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO BE ENGAGED TO UNDERTAKE INSPECTION & TESTING OF EARTHWORKS IN ACCORDANCE WITH THE SCOPE OF WORK AND EXISTING SERVICES & AS3794-2007 GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS. PRIOR TO INSPECTION BY THE GITA, IS TO PROVIDE EVIDENCE OF THE WORKS REQUIRED BY THE DEVELOPMENT AND/OR OPERATIONAL WORKS CONDITIONS THAT THE PROPOSED CUT/FILL BATTERS WILL NOT CAUSE ANY ADVERSE EFFECT ON THE STABILITY AND INTEGRITY OF THE NEIGHBOURING BUILDINGS, PROPERTIES, UTILITY SERVICES AND INFRASTRUCTURES.
- E2. IN ORDER FOR THE DRW TO BE ABLE TO CONFIRM THE IMPLEMENTATION OF THE ENGINEERING EARTHWORKS DESIGN AS REQUIRED BY THE DEVELOPMENT AND/OR OPERATIONAL WORKS CONDITIONS, DRW IS TO BE ADVISED PRIOR TO ANY IMPORTATION OF FILL OR ANY EARTHWORKS ON-SITE, TO AGREE THE SCOPE OF SUPERVISION BY THE GITA (REFER NOTE G1) AND TO COORDINATE THE OVERALL INSPECTIONS BY AND ON BEHALF OF THE DRW (RPED).
- E3. THE CONTRACTOR TO MAINTAIN SITE RECORDS AS PER SECTION 3 DOCUMENTATION OF AS3794-2007. COPIES TO BE PROVIDED TO THE CLIENT AT THE COMPLETION OF THE WORKS.
- E4. THE CONTRACTOR SHALL VERIFY THE LOCATION OF ALL EXISTING SERVICES PRIOR TO COMMENCEMENT OF WORK AND EXISTING SERVICES AND STRUCTURES ARE TO BE MAINTAINED IN GOOD ORDER FOR THE DURATION OF THE CONTRACT.
- E5. THE CONTRACTOR SHALL VERIFY BENCH MARK LEVELS AND ADVISE OF ANY DISCREPANCY BEFORE CONSTRUCTION.
- E6. THE PROPOSED FILL AREAS SHALL BE CLEARED OF ALL UNSUITABLE MATERIALS AND REDUNDANT BELOW GROUND STRUCTURAL ELEMENTS AND ALL OTHER OBSTRUCTIONS TO THE WORKS HOLES LEFT BY THE REMOVAL OF ANY OF THE ABOVE SHALL BE FILLED WITH APPROVED COMPLETED MATERIAL WITH PROPERTIES AT LEAST SIMILAR TO THE TO WHICH SIMILAR (CLEARED MATERIALS AND EARTHWORKS SPILL OTHER THEN CLEAN TOPSOIL) SHALL BE REMOVED FROM SITE.
- E7. UNDERLIE EARTHWORKS ON SITE IN ACCORDANCE WITH THE APPROVED PLANS OF DEVELOPMENT.
- E8. ENSURE THAT EACH LOT IS SELF DRAINING, AND GRASSED.
- E9. SHOULD ADEQUATE GRASS COVER NOT BE ESTABLISHED, THEN TOPSOIL & SEEDING/TURFING MAY NEED TO BE PLACED OVER CUT AND FILL AREAS TO MEET COUNCIL INFRASTRUCTURE REQUIREMENTS.
- E10. THROUGHOUT THE EARTHWORKS THE CONTRACTOR IS TO ENSURE NO SEDIMENT DISCHARGES FROM THE SITE AND EROSION AND SEDIMENT CONTROL IS IN PLACE.
- E11. ALL RETAINED FILL WITHIN 15M OF EARTH RETAINING STRUCTURES SHALL BE COMPACTED TO THE REQUIREMENTS OF THE GITA.
- E12. EXCAVATED MATERIALS CANNOT BE ASSUMED TO BE SUITABLE AS STRUCTURAL FILL OR TO PROVIDE SUFFICIENT FOUNDATION BEARING CAPACITY ABOVE 150kPa.
- E13. WHERE DESIGN SHOWS EXCAVATION MORE THAN 1.0M THAT IS WITHIN 15M OF THE PROPERTY BOUNDARY THEN BENCHING AT 1:1 BATTERS MUST BE UNDERTAKEN.
- E14. THE EXCAVATED FACES MAY EXPOSE ORGANIC MATERIAL REQUIRING REMOVAL AND REPLACEMENT.

EXCAVATION NOTES

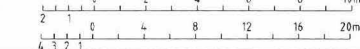
- X1. EXCAVATED MATERIALS CANNOT BE ASSUMED TO BE SUITABLE AS STRUCTURAL FILL OR TO PROVIDE SUFFICIENT FOUNDATION BEARING CAPACITY ABOVE 150kPa.
- X2. WHERE DESIGN SHOWS EXCAVATION MORE THAN 1.0M THAT IS WITHIN 15M OF THE PROPERTY BOUNDARY THEN BENCHING AT 1:1 BATTERS MUST BE UNDERTAKEN.
- X3. THE EXCAVATED FACES MAY EXPOSE ORGANIC MATERIAL REQUIRING REMOVAL AND REPLACEMENT.

RETAINING STRUCTURES

- R1. RETAINING STRUCTURES ARE TO BE INSTALLED ON A DESIGN AND CONSTRUCT BASIS.
- R2. RETAINING WALLS WITHIN 15M OF A PROPERTY BOUNDARY OR FORMING PART OF A DRAINAGE CHANNEL ARE TO BE PRE-CAST CONCRETE OR EQUIVALENT CONCRETE STRUCTURE.
- R3. THE CONTRACTOR IS REQUIRED TO PROVIDE FORM 15-DESIGN COMPLIANCE CERTIFICATE FOR ALL RETAINING WALLS AT THE PRE-START MEETING AND A FORM 16- INSPECTION CERTIFICATE ON COMPLETION OF EARTHWORKS.
- R4. THE CONTRACTOR'S FORM IS TO PROVIDE CERTIFICATION THAT THE PROPOSED RETAINING STRUCTURES WILL NOT CAUSE ANY ADVERSE EFFECT ON THE STABILITY AND INTEGRITY OF THE NEIGHBOURING BUILDINGS, PROPERTIES, UTILITY SERVICES AND INFRASTRUCTURES.
- R5. THE FORM 16- INSPECTION CERTIFICATE MUST CONFIRM INSPECTION OF THE RETAINING STRUCTURE(S) AT THE FOLLOWING STAGES:
(i) FOOTING STAGE INCLUDING EXCAVATION AND REINFORCEMENT; AND
(ii) AT THE TIME OF INSTALLING DRAINAGE BEHIND THE WALL INCLUDING GEO-FABRIC BACKFILL, PERFORATED PIPE, AND CONNECTION OF THE PERFORATED PIPE TO THE STORMWATER DRAINAGE SYSTEM.
AND THE ABOVE MUST PROVIDE CERTIFICATION FROM A RPED CONFIRMING THAT ALL RETAINING STRUCTURES HAVE BEEN CARRIED OUT AND INSPECTED IN ACCORDANCE WITH COUNCIL'S PLANNING SCHEME AND POLICIES, AS 3794 GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS, AND COMPLY WITH THE REQUIREMENTS OF THE CONDITIONS OF THE DEVELOPMENT PERMITS AND ACHIEVE THE LONG TERM FACTOR OF SAFETY GREATER THAN 1.5.
- R6. RETAINING WALLS ARE TO BE LOCATED WITHOUT ENCROACHMENT ONTO ADJOINING PROPERTIES OR PUBLIC LAND, AND
(i) WITH THE RETAINING WALL INCLUDING FOOTINGS WHOLLY LOCATED WITHIN THE ALLOTMENT BEING RETAINED;
(ii) NOT TO CONSTRUCT RETAINING WALLS ON EXISTING OR PROPOSED PARKLAND; OR
(iii) EXISTING OR PROPOSED ROAD RESERVES.
- R7. RETAINING WALLS TO STABILISE EXCAVATION MUST BE SET BACK OFF PROPERTY BOUNDARIES TO ACCOMMODATE SUBSOIL DRAINAGE AND TO BE SET BACK 300MM TO ACCOMMODATE CONVEYANCE OF ANY OVERLAND FLOW WITHOUT ENCROACHMENT INTO THE NEIGHBOURING PROPERTY.

EARTHWORKS QUANTITIES NOTES

- 1. EARTHWORKS QUANTITIES ARE A PRELIMINARY ESTIMATION ONLY AND ACCURATE ONLY TO 35%.
- 2. EARTHWORKS QUANTITIES DO NOT INCLUDE EXCAVATIONS FOR PIPE TRENCHES, STORMWATER STRUCTURES OR UNDERGROUND DETENTION.
- 3. ALLOWANCES SHOULD BE MADE FOR REPLACEMENT OF UNSUITABLE MATERIAL QUANTITIES ARE IN-SITU AND DO NOT ACCOUNT FOR BUILDING FACTORS.
- 4. TOPSOIL VOLUME IS NOT INCLUDED TO THE EARTHWORKS VOLUME.
- 5. CROSSOVER VOLUME IS NOT INCLUDED TO THE EARTHWORKS VOLUME.
- 6. RE. INDICATE BULK EARTHWORKS PAD LEVEL.
- 7. ESL FINISHED SURFACE LEVEL.
- 8. ESL EXISTING SURFACE LEVEL.
- 9. ESC EXISTING SURFACE LEVEL.



DO NOT SCALE DIMENSIONS SHOWN ARE IN METRES UNLESS OTHERWISE STATED

REV.	AMENDMENT	DATE
01	ISSUED FOR CONSTRUCTION	15/03/2024
02	AS CONSTRUCTED	31/03/2024
03	ISSUED FOR APPROVAL	01/04/2024
04	ISSUED FOR APPROVAL	01/04/2024

LEGEND

- EXISTING WATER
- EXISTING ABANDONED SEWER
- EXISTING TELSTRA
- EXISTING WATER
- EXISTING STORMWATER
- EXISTING GAS
- EXISTING UG ELECTRICITY
- EXISTING KEB LEVEL
- EXISTING SPOT LEVEL
- EXISTING CROSSOVER/ FOOTPATH
- PROPOSED STORMWATER
- PROPOSED SEWER
- PROPOSED SERVICE
- PROPOSED METER
- PROPOSED RETAINING WALL
- AREA OF FILL
- AREA OF CUT
- PROPOSED BULK EARTHWORKS LEVEL



DIAL 1100 BEFORE YOU DIG

DIAL BEFORE YOU DIG (DBVD) DOCUMENTATION MUST BE OBTAINED BEFORE ANY ON-SITE CONSTRUCTION OR EXCAVATION COMMENCES. THIS DOCUMENT IS TO BE READ IN CONJUNCTION WITH THE DIAL BEFORE YOU DIG PLANS AND OTHER RELEVANT DOCUMENTATION.

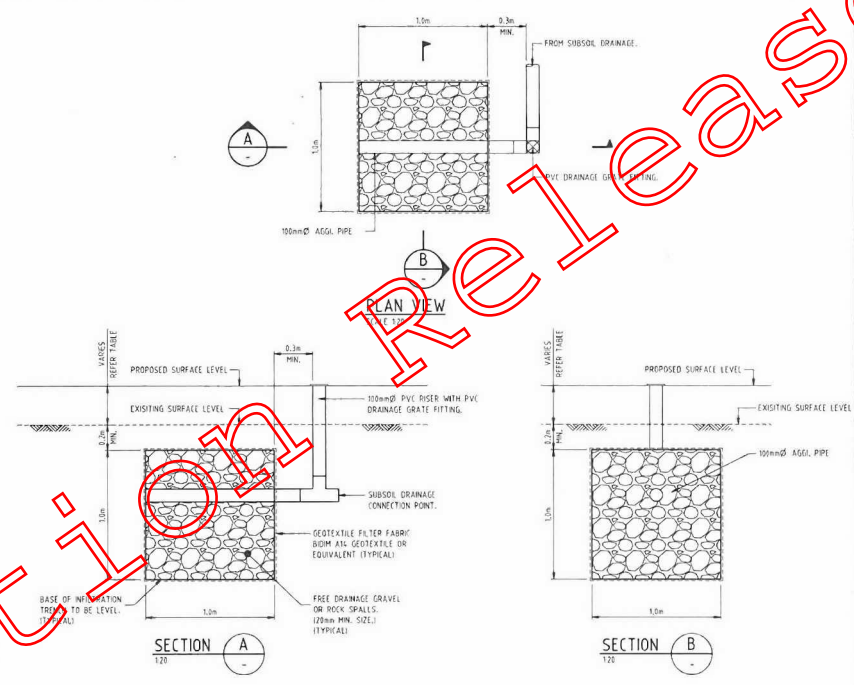
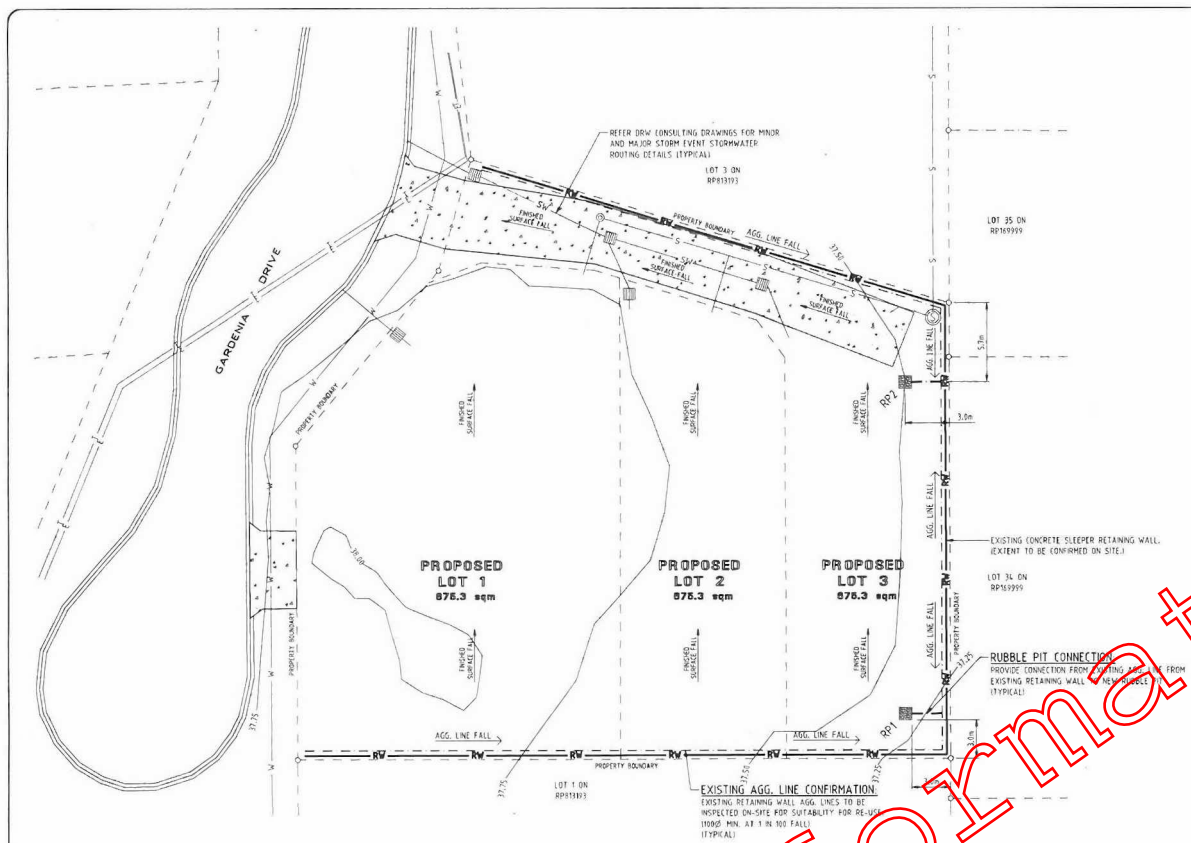
AS CONSTRUCTED

PROJECT
PROPOSED DEVELOPMENT
42 GARDENIA DRIVE
BIRKDALE
CLIENT

TITLE
SITE FILLING & EXCAVATION LAYOUT, SECTIONS & DETAILS

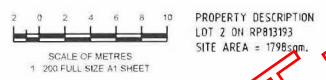
DRW Consulting Pty Ltd
2/11 Vanessa Blvd, Phone: (07) 3208 6344, Springwood QLD 4272, Fax: (07) 3208 6322, Email: info@drwconsulting.com.au
CIVIL ENGINEERING DESIGN SERVICES
AS 4919:2001
Designed: N.T., Drawn: N.T., Date: 31.03.17
Checked: Final Check, Scale: AS SHOWN
Drawing No: 2928-EW01, Rev: C

Information Release



SUMP RUBBLE PIT DETAILS

RETAINING WALL AGG. PIPE DISCHARGE PLAN



PROPERTY DESCRIPTION
LOT 2 ON RP813193
SITE AREA = 1796sqm.

RUBBLE PIT DESIGN LEVELS TABLE	
DESCRIPTION	RPI
EXISTING SURFACE LEVEL	37.700
PROPOSED SURFACE LEVEL	38.400
TOP OF RUBBLE PIT	37.100
BTM OF RUBBLE PIT	36.700

ALL EXISTING AND PROPOSED LEVELS TO BE CONFIRMED ON-SITE.

DESIGN & CERTIFICATION IS LIMITED TO THE RUBBLE PITS SHOWN ON THIS DRAWING ONLY.
RUBBLE PITS ONLY TO BE USED AS A LEGAL POINT OF DISCHARGE FOR THE RETAINING WALL AGG. PIPE.
REFER DRW CONSULTING P/L DRAWING PACKAGE JOB REF. 29281 FOR ALL OTHER ENGINEERING DETAILS.
RUBBLE PIT DESIGN BASED ON THE SOIL PERMEABILITY TEST BY GEOTECH ENGINEERING CONSULTANTS (REF. 6075/1924).

- GENERAL NOTES**
- FOR FURTHER SETTING OUT INFORMATION REFER TO THE SURVEY PLANS &/OR SURVEY REPORT & EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN EXTRACTED FROM RECORDS ONLY.
 - INLET OF SURVEY/INVERTS OF STORMWATER LEVELS TO BE CONFIRMED ON SITE BEFORE COMMENCEMENT OF WORKS (TYPICAL).
 - ALL LEVELS ARE BASED ON APPROXIMATE M.S.L. UNLESS OTHERWISE STATED.
 - COMPREHENSIVE SURVEY SHALL BE UNDERTAKEN TO OBTAIN ALL LEVELS PRESENTED ON THIS PLAN.

- EXISTING SERVICES NOTE**
- EXISTING SERVICES SHOWN ON THIS PLAN HAVE BEEN DERIVED FROM COUNCIL, BURIAL AND OTHER RECORDS. POSITIVE AND/OR VACUUM ELEVATION SHOULD BE OBTAINED PRIOR TO COMMENCEMENT OF WORKS AND SHOWN ON SITE. RECORDS OF EXISTING SERVICES REFER TO CONSTRUCTION CONVENTIONS AND SHALL BE VERIFIED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF WORKS. INCREASED CONSTRUCTION RISKS ASSOCIATED WITH EXISTING SERVICES.

STORMWATER NOTES

- ALL DIMENSIONS ARE TO BE CHECKED ON-SITE BEFORE WORK COMMENCES.
- DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWING.
- DURING CONSTRUCTION BARRIERS, LIGHTS & SIGNS SHALL BE MAINTAINED TO ENSURE SAFE PASSAGE OF TRAFFIC AND PEDESTRIANS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH S.A.A. CODES & BY-LAWS AND ORDINANCES OF THE RELEVANT LOCAL AUTHORITY AND WORKPLACE HEALTH AND SAFETY REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL RELEVANT AUTHORITIES AND PAYING ALL FEES NECESSARY BEFORE COMMENCING WORK FOR LOCATING ALL EXISTING SERVICES AND FOR REPAIR OF ANY SERVICES DAMAGED AS A RESULT OF THE WORKS.
- ALL R.E.P. PIPES TO BE CLASS "2" U.N.D. AND ALL U.V.P.E. PIPES SHALL BE CLASS "SM" U.N.D. R.E.P. OR F.R.C. PIPES MAY BE USED.
- THE LEVANT SURVEYOR SHALL PEG PIT LOCATIONS AND STAKE R.P. BOUNDARIES PRIOR TO CONSTRUCTION.
- ROADWAYS AND PRIVATE PROPERTY SHALL BE REINSTATED TO ITS ORIGINAL CONDITION.
- CONTRACTOR TO VERIFY ALL INVERT LEVELS, SURFACE LEVELS, COVER OVER DRAINAGE LINES, AND MINIMUM FALLS ARE CORRECT & OBTAINABLE PRIOR TO COMMENCEMENT OF WORK.
- THE CONTRACTOR'S ATTENTION IS DRAWN TO THE REQUIREMENTS OF THE WORKPLACE HEALTH AND SAFETY ACT 2002. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THIS ACT AND IN PARTICULAR THE CONTRACTOR IS TO ENSURE THE REQUIREMENTS OF THIS SPECIFICATION WITH REGARD TO "NOTIFICATION IN RELATION TO A NOTIFIABLE PROJECT" ARE FULFILLED.
- FOR FURTHER SETTING OUT DETAILS REFER TO ARCHITECT'S DRAWINGS.
- FOR HYDRAULIC, ELECTRICAL AND OTHER SERVICES ABOVE THOSE SHOWN THIS PLAN IS INTENDED FOR REFER TO RELEVANT CONSULTANTS FOR FURTHER DETAILS AND PLANS.
- ALL ENVIRONMENT PROTECTION MEASURES SHOULD BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK INCLUDING CLEARING AND COMPLETING A SURVEY OF SITES & EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN EXTRACTED FROM RECORDS ONLY & SHOULD BE CONFIRMED ON-SITE BY BUILDER PRIOR TO CONSTRUCTION.

LEGEND

— 37.75	EXISTING SURFACE CONTOURS
—	EXISTING WATER
—	EXISTING SEWER
—	EXISTING STORMWATER
—	EXISTING TELECOM
—	EXISTING ELECTRICAL
—	PROPOSED RUBBLE PIT (REFER TABLE & DETAILS)
—	EXISTING RETAINING WALL AGG. LINES

REVISIONS

NO.	DATE	EVENT	DETAIL	INITIAL
20.02.21	P	PRELIMINARY ENGINEERING DRAWING		

ROOFBROOK
CIVIL AND STRUCTURAL ENGINEERING DESIGN

Office: Suite 5, Level 2, 444 Waterloo St, KANGAROO POINT QLD 4159
Postal: PO Box 386, (HEMSIDE) SOUTH QLD 4032
Phone: (07) 3557 9095 Email: admin@roofbrook.com.au

RETAINING WALL AGG. PIPE DISCHARGE PLAN & DETAILS

PROPOSED SUBDIVISION AT
42 GARDENIA DRIVE, BIRKDALE
for [redacted]

DIAL BEFORE YOU DIG
www.1100.com.au

IMPORTANT EXISTING SERVICES NOTE

DBYD REFERENCE NO: 30545752

ROOFBROOK CONSULTING ENGINEERS P/L TAKE NO RESPONSIBILITY FOR ANY INACCURACIES OR ERRORS THAT ARISE FROM LAND OR SERVICE LEVELS AND DEPTHS THAT VARY FROM ON-SITE CONDITIONS TO WHAT IS REPRESENTED IN THE PLAN FOR ANY TIME LATER AND INCLUDING THE DATE OF ISSUE. THE LEVELS AND DEPTHS HAVE BEEN OBTAINED FROM COUNCIL PLANS OR SURVEYS PROVIDED AND UNOBTAINED ACTIVITIES SERVICES COULD POTENTIALLY ALTER LEVELS AND DEPTHS AND THEREFORE IT IS THE OWNERS/CONTRACTORS RESPONSIBILITY TO CONFIRM THE EXACT LEVELS, DEPTHS AND LOCATION OF EXISTING SERVICES PRIOR TO CONSTRUCTION. ANY DAMAGE CAUSED TO EXISTING UTILITIES BY THE CONTRACTOR WILL BE REPAIRED BY THE RELEVANT AUTHORITIES AT THE CONTRACTORS EXPENSE.

RELEVANT CONTACT DETAILS OF MAJOR ASSET OWNERS

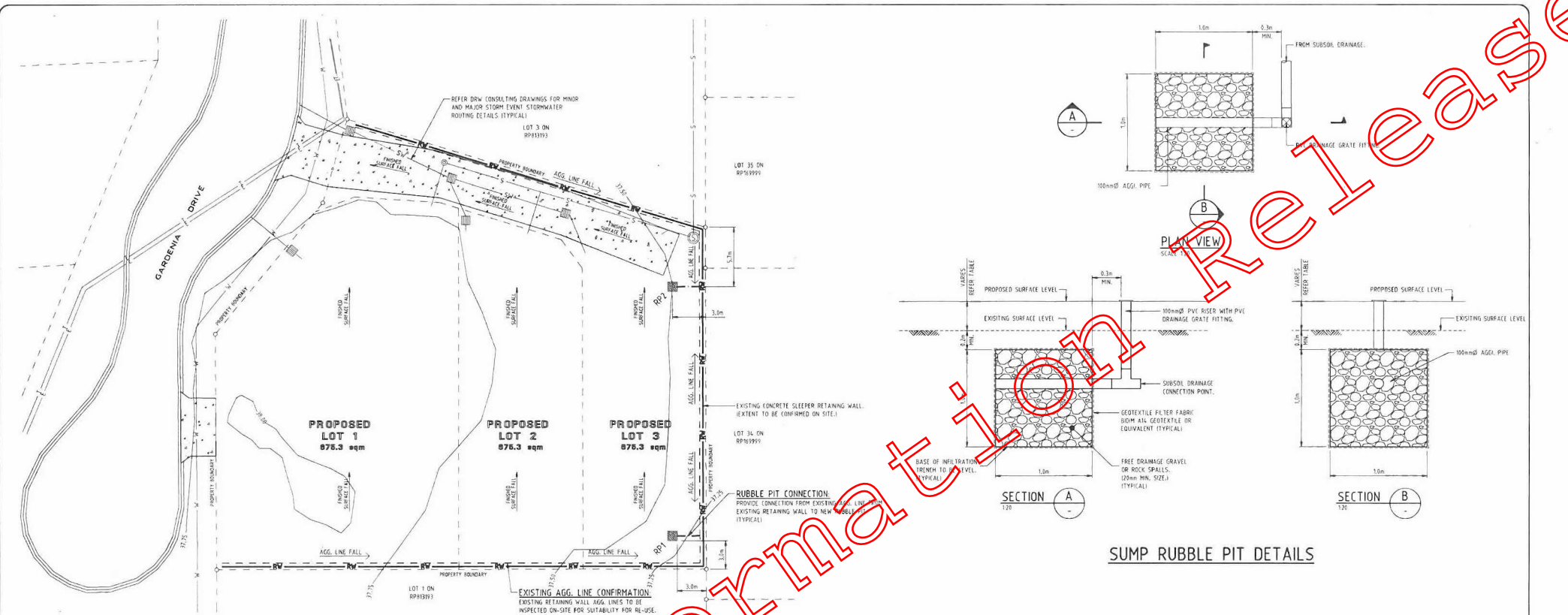
REDLAND BAY CITY COUNCIL	PH: (07) 3829 8999
TELSTRA	PH: 1800 653 935
OPTUS	PH: 1800 595 777
ENERGEX	PH: (07) 3644 5400
APA GROUP	PH: (08) 936 6500
JAPT	PH: 1800 784 354
PIPE NETWORKS	PH: 1800 291 100
NEXTEEN	PH: 1800 336 886

SCALE: AS NOTED DATE: SEP '21 SHEET: 1 OF 1

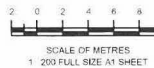
DESIGN: R.D.F. DRAWN: C.S.K.

JOB No: 3818 DRG. No: 01 P. AMM

CHECKED: APP: [redacted]



RETAINING WALL AGG. PIPE DISCHARGE PLAN



PROPERTY DESCRIPTION
 LOT 2 ON RP819193
 SITE AREA = 1798sqm.

- DESIGN & CERTIFICATION IS LIMITED TO THE RUBBLE PITS SHOWN ON THIS DRAWING FOR THE RETAINING WALL AGG. PIPES.
- RUBBLE PITS ONLY TO BE USED AS A LEGAL POINT OF DISCHARGE FOR THE RETAINING WALL AGG. PIPES.
- REFER DRW CONSULTING DRAWINGS FOR MINOR AND MAJOR STORM EVENT STORMWATER ROUTING DETAILS (TYPICAL)
- RUBBLE PIT DESIGN BASED ON THE SOIL PERMEABILITY TEST BY GEOTECH ENGINEERING SERVICES (REF. G475/17)
- FINAL DESIGN DETAILS & CONNECTIONS TO RUBBLE PITS TO BE CONFIRMED ON-SITE
- CONTACT ROOFBROOK P/L TO REVIEW SITE TO CONFIRM CONSTRUCTION IS IN ACCORDANCE WITH APPROVED PLAN

GENERAL NOTES

- FOR FURTHER SETTING OUT INFORMATION, REFER TO THE SURVEY PLANS (N2).
- SURVEY POINTS & EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN EXTRACTED FROM RECORDS ONLY.
- INVEST BY DRIFTWAY & INVERTS OF STORMWATER DRAINAGE LEVELS TO BE CONFIRMED ON-SITE BEFORE COMMENCEMENT OF WORKS (TYPICAL).
- ALL LEVELS ARE BASED ON ADJUDICATED B.C.L. B.M. DATUM (TYPICAL) DATA.
- CONSTRUCTION SURVEY SHALL BE UNDERTAKEN TO CONFIRM ALL LEVELS PRESENTED ON THIS PLAN.

EXISTING SERVICES NOTE

EXISTING SERVICES SHOWN ON THIS PLAN HAVE BEEN DERIVED FROM (LOCAL B.M.) AND (SITE RECORDS). METHODIC MAJOR WATER CREATION SHOULD BE INDICATED IN ADJUDICATED RECORDS WHERE REQUIRED TO OBTAIN ACCURATE LOCATION OF EXISTING SERVICES BEFORE CONSTRUCTION COMMENCES OR (CONSTRUCTION SURVEY) FAILURE TO DO SO MAY LEAD TO WORKS CONSTRUCTION BEING UNDERTAKEN AT OWNERS RISK.

RUBBLE PIT DESIGN LEVELS TABLE

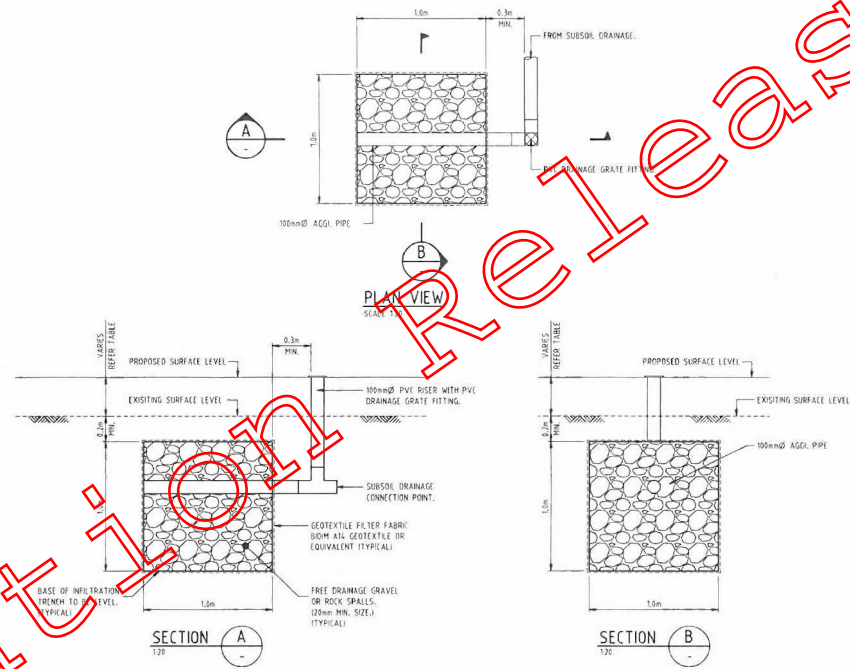
DESCRIPTION	RP1	RP2
EXISTING SURFACE LEVEL	37.300	37.500
PROPOSED SURFACE LEVEL	38.400	38.115
TOP OF RUBBLE PIT	37.100	37.300
BTM OF RUBBLE PIT	34.100	34.300

ALL EXISTING AND PROPOSED LEVELS TO BE CONFIRMED ON-SITE.

STORMWATER NOTES

- ALL DIMENSIONS ARE TO BE CHECKED ON-SITE BEFORE WORK COMMENCES.
- DIMENSIONS SHALL NOT BE OBTAINED BY SEALING THE DRAWING.
- DURING CONSTRUCTION BARRIERS, LIGHTS & SIGNS SHALL BE MAINTAINED TO ENSURE SAFE PASSAGE OF TRAFFIC & PEDESTRIANS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LOCAL AUTHORITY.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH S.A.A. CODES & BY-LAWS AND ORDINANCES OF THE RELEVANT LOCAL AUTHORITY AND WORKPLACE HEALTH AND SAFETY REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL RELEVANT AUTHORITIES AND PAYING ALL FEES NECESSARY BEFORE COMMENCING WORK FOR LOCATING ALL EXISTING SERVICES AND FOR REPAIR OF ANY SERVICES DAMAGED AS A RESULT OF THE WORKS.
- ALL R.C.P. PIPES TO BE CLASS "2" U.N.D. AND ALL U.P.V.E. PIPES SHALL BE CLASS "SM" U.N.D. R.E.P. OR F.R.K. PIPES MAY BE USED.
- THE CLIENTS SURVEYOR SHALL PEG PIT LOCATIONS AND STAKE R.P. BOUNDARIES PRIOR TO CONSTRUCTION.
- ROADWAYS AND PRIVATE PROPERTY SHALL BE REINSTATED TO ITS ORIGINAL CONDITION.
- CONTRACTOR TO VERIFY ALL INVERT LEVELS, SURFACE LEVELS, COVER OVER DRAINAGE LINES, AND MINIMUM FALLS ARE CORRECT & OBTAINABLE PRIOR TO COMMENCEMENT OF WORK.
- THE CONTRACTOR'S ATTENTION IS DRAWN TO THE REQUIREMENTS OF THE WORKPLACE HEALTH AND SAFETY ACT 2002. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THIS ACT AND IN PARTICULAR THE CONTRACTOR IS TO ENSURE THE REQUIREMENTS OF THIS SPECIFICATION WITH REGARD TO "NOTIFICATION IN RELATION TO A NOTIFIABLE PROJECT" ARE FULFILLED.
- FOR FURTHER SETTING OUT DETAILS REFER TO ARCHITECT'S DRAWINGS.
- FOR HYDRAULIC, ELECTRICAL AND OTHER SERVICES ASIDE THOSE WHICH THIS PLAN IS INTENDED FOR REFER TO RELEVANT CONSULTANTS FOR FURTHER DETAILS AND PLANS.
- ALL ENVIRONMENT PROTECTION MEASURES SHOULD BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK, INCLUDING CLEARING AND COMMENCING.
- SURVEY, SETOUT & EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN EXTRACTED FROM RECORDS ONLY & SHOULD BE CONFIRMED ON-SITE BY BUILDER PRIOR TO CONSTRUCTION.

SUMP RUBBLE PIT DETAILS



IMPORTANT EXISTING SERVICES NOTE

DBYD REFERENCE NO: 30545752

ROOFBROOK CONSULTING ENGINEERS P/L TAKE NO RESPONSIBILITY FOR ANY MISPLACED OR ERRORS THAT ARISE FROM LAND OR SERVICE LEVELS AND DEPTHS THAT VARY FROM ON-SITE CONDITIONS TO WHAT IS REPRESENTED IN THE PLAN FOR ANY TIME LATER LAND INCLUDING THE DATE OF ISSUE. THE LEVELS AND DEPTHS HAVE BEEN OBTAINED FROM COUNCIL PLANS OR SURVEYS PROVIDED AND UNPRESEEN ACTIVITIES/EVENTS COULD POTENTIALLY ALTER LEVELS AND DEPTHS AND THEREFORE IT IS THE OWNERS/CONTRACTORS RESPONSIBILITY TO CONFIRM THE EXACT LEVELS, DEPTHS AND LOCATION OF EXISTING SERVICES PRIOR TO CONSTRUCTION. ANY DAMAGE CAUSED TO EXISTING UTILITIES BY THE CONTRACTOR WILL BE REPAIRED BY THE RELEVANT AUTHORITIES AT THE CONTRACTORS EXPENSE.

RELEVANT CONTACT DETAILS OF MAJOR ASSET OWNERS

OWNER	PHONE
REDLAND BAY CITY COUNCIL	PH (07) 3829 8999
TELSTRA	PH 1800 653 935
OPTUS	PH 1800 505 777
ENERGEX	PH (07) 3641 5400
APA GROUP	PH (08) 8155 4500
APT	PH 1800 796 366
PIPE NETWORKS	PH 1800 221 100
NEXTEEN	PH 1800 336 886

LEGEND

- 37.75 --- EXISTING SURFACE CONTOURS
- --- EXISTING WATER
- --- EXISTING SEWER
- --- EXISTING STORMWATER
- --- EXISTING TELECOM
- --- EXISTING ELECTRIC
- --- PROPOSED RUBBLE PIT (REFER TABLE & DETAILS)
- --- EXISTING RETAINING WALL AGG. LINES

DISCLAIMER
 This drawing is the property of Roofbrook Consulting Engineers P/L. It is to be used only for the purposes of the project for which it was prepared. The client is responsible for the accuracy of the data and information provided to the drafter. The drafter is not responsible for the accuracy of the data and information provided to the drafter. The drafter is not responsible for the accuracy of the data and information provided to the drafter.

DATE	EVENT	DETAIL	INITIAL
24.09.21	A	ORIGINAL ISSUE FOR REDLAND CITY COUNCIL APPROVAL	

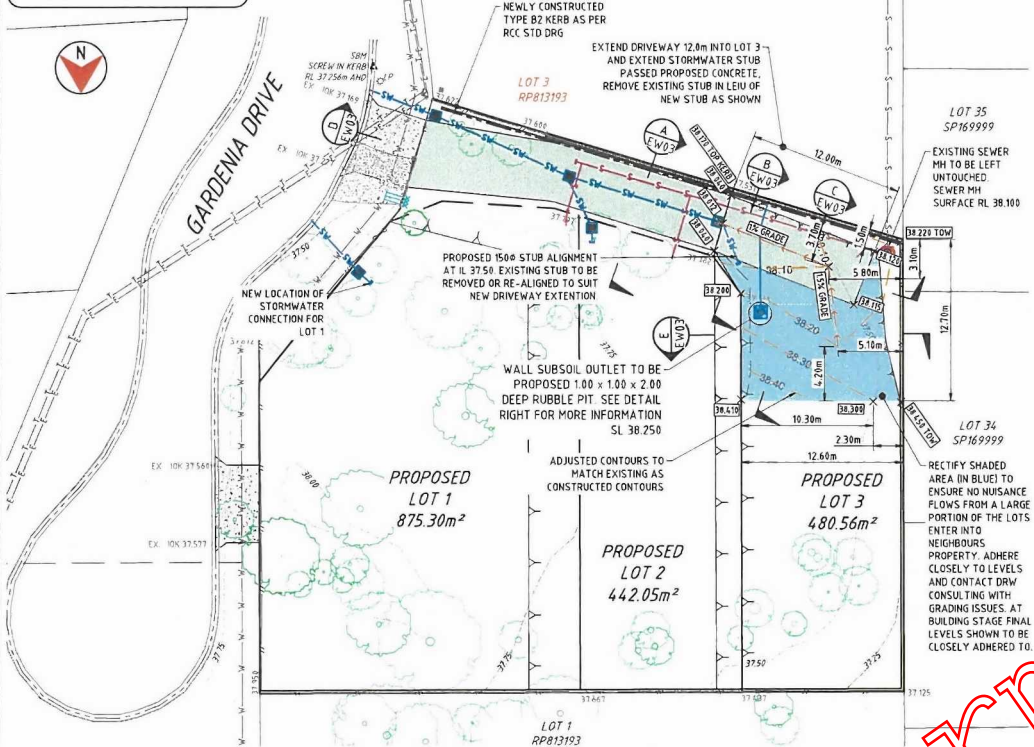
ROOFBROOK
 CIVIL AND STRUCTURAL ENGINEERING DESIGN
 Office: Suite 5, Level 2, 444 Victoria St, KANGAROO POINT QLD 4155
 Postal: PO Box 306, (CHERMESIDE SOUTH) QLD 4152
 Phone: (07) 3857 8085 Email: admin@roofbrook.com.au

RETAINING WALL AGG. PIPE DISCHARGE PLAN & DETAILS

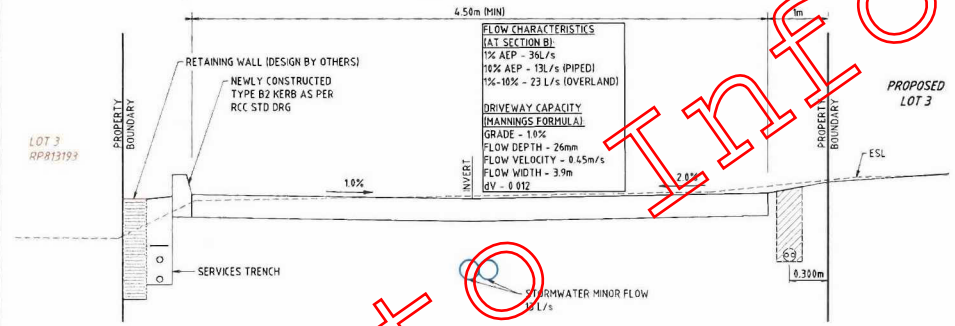
PROPOSED SUBDIVISION AT
 AT
 42 GARDENIA DRIVE, BIRKDALE
 for

SCALE	AS NOTED	DATE	SEP '21	SHEET 1 OF 1
DESIGN	R.D.F.	DRAWN	C.S.K.	
JOB No.	3818	DRG. No.	01	A
CHECKED		APP.		

REAL PROPERTY DESCRIPTION
LOT 2 ON RP 813193



SITE FILLING & EXCAVATION RECTIFICATION LAYOUT
SCALE 1:200



TYPICAL SECTION - SECTION B
SCALE 1:200

NOTE:
FOR GENERAL EARTHWORKS AND EXCAVATION NOTES REFER TO 2928-EW01. FOR SITE SECTIONS REFER TO 2928-EW02.

NOTE:
RETAINING WALL SUBSOIL DRAINAGE TO BE CONNECTED TO DOWNSTREAM STORMWATER OR INFILTRATION PIT

NOTE:
ALL FINISHED FLOOR, EARTHWORKS AND LEVELS TO BE COMPLETED WITH THE ARCHITECTURAL DESIGNER

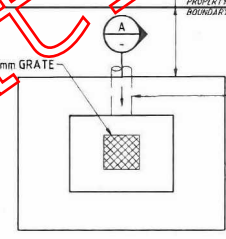
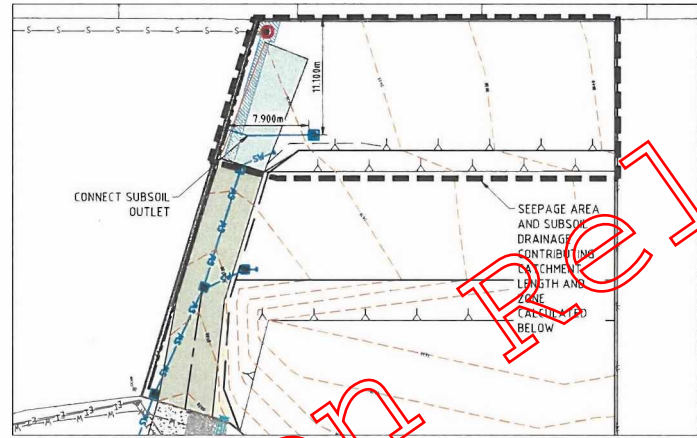
NOTE:
THIS CERTIFICATION DOES NOT INCLUDE ANY ASPECT OF RETAINING WALLS & STRUCTURAL DESIGN.

AS CONSTRUCTED DETAILS

DATE	DATE
NAME OF SIGNATORY (PRINT)	ASSAM
FIELD NO.	1007
COMPANY NAME	DRW CONSULTING

SUBGRADE INSPECTION:
PRIOR TO ANY FILLING OF THE SITE, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO INSPECT THE SUBGRADE INCLUDING POST DEMOLITION AREAS. SUBSEQUENT INSPECTIONS REQUIRED WILL BE ADVISED & WILL DEPEND ON CONDITION OF SUBGRADE & REQUIRED FILL.

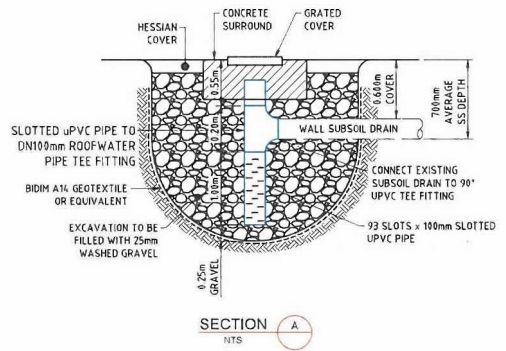
FINAL INSPECTION:
AT INTERMEDIARY STAGES (TO BE ADVISED AT SUBGRADE INSPECTION) & AT THE COMPLETION OF PLACEMENT, DRW CONSULTING OR AN APPROVED GEOTECHNICAL INSPECTION & TESTING AUTHORITY (GITA) IS TO UNDERTAKE A FINAL INSPECTION & WITNESSING OF PROOF ROLLING.



INFILTRATION RATE (Q_{max})
K_{sat} = 0.00000046m/s (0.039mm/day - See Geotech)
Length of potential ponded/seepage zone = 50m
Width of potential ponded/seepage section = 2m
Depth of ponded/seepage section = 0.15m
Depth of infiltration pit = 1.2m
Q_{max} = 0.00006m³/s

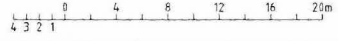
PERFORATIONS CHECK:
150mm x 7m IS5X BLOCKED OPENINGS)
SLOT WIDTH = 15mm
SLOT LENGTH = 7.5mm
DIAMETER = 100mm
SLOTS/METER = 93 SLOTS
ORIFICE FLOW CAPACITY/m = 0.0029m³/2

RESULTS:
Q_{max} = ORIFICE FLOW CAPACITY = OK
K_{sat} = 0.0039mm/day or 1.66mm/hr
Hydraulic Conductivity (Hc) = 189 - 200mm/hr
No liners required as Hc is 10 times greater than K_{sat}
Infiltration Pit Size Volume = Q_{max}



RUBBLE PIT DETAIL
NTS

SCALE 1:200



DO NOT SCALE
CONTRARY ALL DIMENSIONS ON SITE
DIMENSIONS SHOWN ARE IN METRES UNLESS

REV.	AMENDMENT	BY	DATE
1	ISSUED FOR APPROVAL	DRW	19.21
AC	AS CONSTRUCTED	LCC	22.21
B	ISSUED FOR APPROVAL	DRW	05.21
C	ISSUED FOR APPROVAL	DRW	20.06.21
D	ISSUED FOR APPROVAL	PJ	20.06.21
E	ADDED SCHEDULE	PJ	08.03.21

- LEGEND
- EXISTING SEWER
 - EXISTING ABANDONED SEWER
 - EXISTING TELSTRA
 - EXISTING WATER
 - EXISTING STORMWATER
 - EXISTING GAS
 - EXISTING U/S ELECTRICITY
 - EXISTING KERR INVERT
 - EXISTING CONTOURS
 - EXISTING SPOT LEVEL
 - EXISTING CROSSOVER/FOOTPATH
 - PROPOSED STORMWATER
 - PROPOSED SEWER
 - PROPOSED SERVICE
 - PROPOSED METER
 - PROPOSED RETAINING WALL
 - AREA OF FILL
 - AREA OF CUT
 - PROPOSED FINISHED SPOT LEVELS FOR RECTIFICATION

DIAL 1100
BEFORE YOU DIG

DIAL BEFORE YOU DIG (DBYD) DOCUMENTATION MUST BE OBTAINED BEFORE ANY ON-SITE CONSTRUCTION OR EXCAVATION COMMENCES. THIS DOCUMENT IS TO BE READ IN CONJUNCTION WITH THE DIAL BEFORE YOU DIG PLANS AND OTHER RELEVANT DOCUMENTATION.

ISSUED FOR APPROVAL

SIGNED: [Signature] A. K. Sani PPEO

RPEQ No. 0997

NAME: 02.10.14 +10/07

DATE:

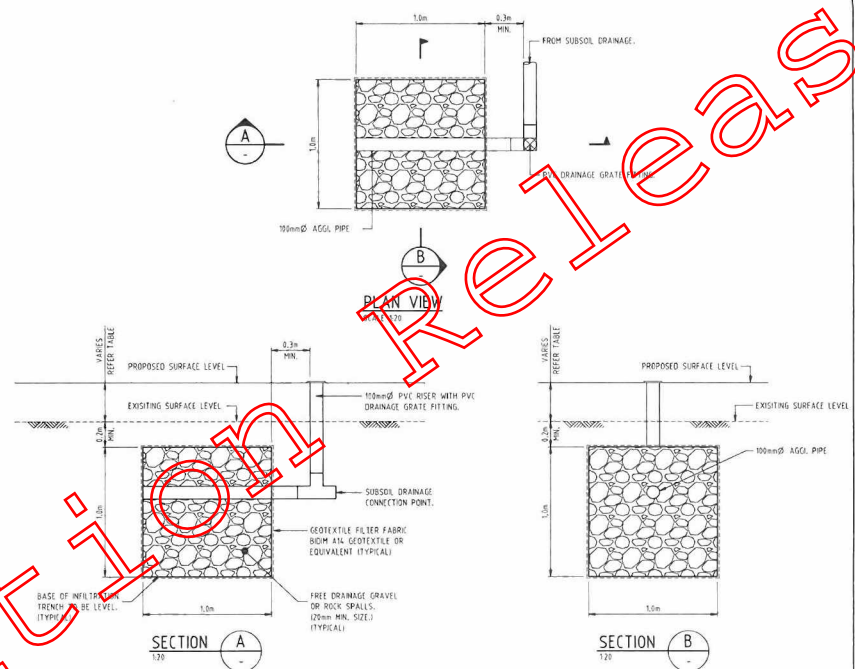
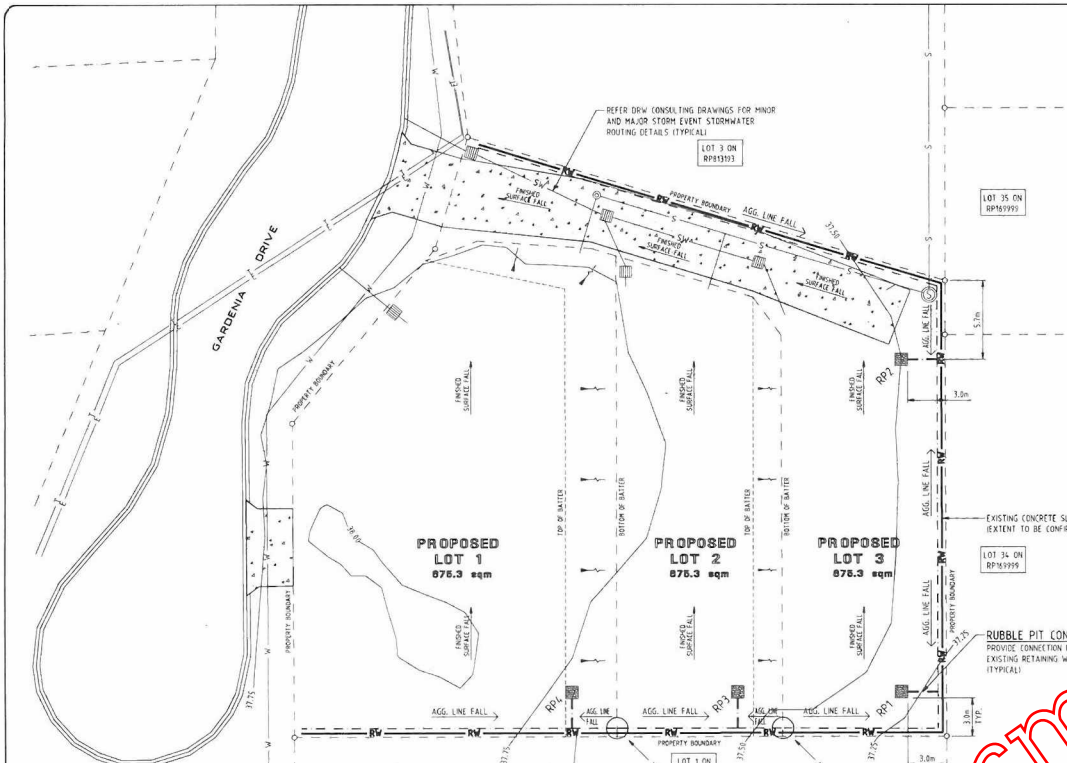
PROJECT
PROPOSED DEVELOPMENT
42 GARDENIA DRIVE
BIRKDALE
CLIENT

TITLE
SITE FILLING & EXCAVATION RECTIFICATION LAYOUT

DRW CONSULTING PTY LTD
CIVIL ENGINEERING DESIGN SERVICES
2/16 Vanessa Blvd., Phone: (07) 3268 8344
Springwood QLD 4277, Fax: (07) 3268 9322
Email: mail@drwconsulting.com.au

Designed	Drawn	Date
N.T	N.T	31.03.17
Checked	Final Check	Scale
		AS SHOWN
Drawing No.	Rev.	
2928-EW02	F	

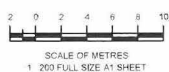
Right to Information Release



SUMP RUBBLE PIT DETAILS

EXISTING AGG. LINE CONFIRMATION & MODIFICATION
 EXISTING RETAINING WALL AGG. LINES TO BE INSPECTED ON SITE FOR SUITABILITY FOR RE-USE. (MIN. 100MM MIN. AT 1 IN 100 FALL)
 CONTRACTOR TO REDIRECT EXISTING AGG. LINES AS APPROPRIATE TO FALL TO NOMINATED RUBBLE PITS.
 CONTRACTOR TO LOCATE AGG. LINES AT PROPOSED PROPERTY BOUNDARIES & CUT PIPE & CAP & ENSURE FALLS TO RESPECTIVE RUBBLE PITS. (TYPICAL)

RETAINING WALL AGG. PIPE DISCHARGE PLAN



PROPERTY DESCRIPTION
 LOT 2 ON RP813193
 SITE AREA = 1798 sqm

DESCRIPTION	RP1	RP2	RP3	RP4
EXISTING SURFACE LEVEL	37.300	37.500	37.500	37.700
PROPOSED SURFACE LEVEL	38.400	38.115	38.330	38.400
TOP OF RUBBLE PIT	37.100	37.300	37.300	37.500
OTM OF RUBBLE PIT	36.100	36.300	36.300	36.500

ALL EXISTING AND PROPOSED LEVELS TO BE CONFIRMED ON-SITE.

- DESIGN & CERTIFICATION IS LIMITED TO THE RUBBLE PITS SHOWN ON THIS DRAWING ONLY.
- RUBBLE PITS ONLY TO BE USED AS A LEGAL POINT OF DISCHARGE FOR THE RETAINING WALL AGG. PIPES.
- REFER DRAW CONSULTING P/L DRAWING PACKAGE FROM REF. 2768 FOR ALL OTHER CIVIL DETAILS.
- RUBBLE PIT DESIGN BASED ON THE SOIL PERMEABILITY TEST BY GEOTECH ENGINEERING SERVICES (REF. G02/2741)
- FINAL DESIGN DETAILS & CONNECTIONS TO RUBBLE PITS TO BE CONFIRMED ON-SITE.
- CONTACT ROOFBROOK P/L TO REVIEW SITE TO CONFIRM CONSTRUCTION IS IN ACCORDANCE WITH APPROVED PLAN.

GENERAL NOTES

- FOR FURTHER SETTING OUT INFORMATION, REFER TO THE SURVEY PLANS ONLY.
- SURVEY STAKES & BENCH MARKS SHOWN ON THIS DRAWING HAVE BEEN EXTRACTED FROM RECORDS ONLY.
- REFER TO SURVEY & BENCH MARKS TO ESTABLISH BUILT LEVELS TO BE COMPLETED ON SITE BEFORE COMMENCEMENT OF WORKS (IF ANY).
- ALL LEVELS AND BENCH MARKS TO BE VERIFIED BY THE CONTRACTOR.
- CONTRACTOR'S SURVEY SHALL BE UNDERTAKEN TO CONFIRM ALL LEVELS PRESENTED IN THIS PLAN.

EXISTING SERVICES NOTE

EXISTING SERVICES SHOWN ON THIS PLAN HAVE BEEN DERIVED FROM COUNCIL, BUNAW AND OTHER RECORDS AND/OR VISUAL OBSERVATION SHOULD BE UNDERSTOOD AND ADEQUATE CHECKS REQUIRED TO OBTAIN ACTUAL LOCATIONS AND DEPTHS OF EXISTING SERVICES PRIOR TO CONSTRUCTION. CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING ALL SERVICES TO BE EXISTING SERVICES.

STORMWATER NOTES

- ALL DIMENSIONS ARE TO BE CHECKED ON-SITE BEFORE WORK COMMENCES.
- DIMENSIONS SHALL NOT BE OBTAINED BY SCALING THE DRAWING.
- DURING CONSTRUCTION BARRIERS, LIGHTS & SIGNS SHALL BE MAINTAINED TO ENSURE SAFE PASSAGE OF TRAFFIC & PEDESTRIANS IN ACCORDANCE WITH THE REQUIREMENTS OF THE LEGAL AUTHORITY.
- ALL WORKMANSHIP AND MATERIALS SHALL BE IN ACCORDANCE WITH S.A.A. CODES & BY-LAWS AND ORDINANCES OF THE RELEVANT LOCAL AUTHORITY AND WORKPLACE HEALTH AND SAFETY REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR NOTIFYING ALL RELEVANT AUTHORITIES AND PAYING ALL FEES NECESSARY BEFORE COMMENCING WORK FOR LOCATING ALL EXISTING SERVICES AND FOR REPAIR OF ANY SERVICES DAMAGED AS A RESULT OF THE WORKS.
- ALL R.C.P. PIPES TO BE CLASS "7" U.N.D. AND ALL U.P.V.C. PIPES SHALL BE CLASS "SN8" U.N.O. R.C.P. OR F.R.C. PIPES MAY BE USED.
- THE LEGAL SURVEYOR SHALL SET PIT LOCATIONS AND STAKE R.P. BOUNDARIES PRIOR TO CONSTRUCTION.
- ROADWAYS AND PRIVATE ROADS SHALL BE RESTORED TO ITS ORIGINAL CONDITION.
- CONTRACTOR TO VERIFY ALL INVERT LEVELS, SURFACE LEVELS, COVER OVER DRAINAGE LINES, AND MINIMUM FALLS ARE CORRECT & SATISFACTORY PRIOR TO COMMENCEMENT OF WORK.
- THE CONTRACTOR'S ATTENTION IS DRAWN TO THE REQUIREMENTS OF THE WORKPLACE HEALTH AND SAFETY ACT 2015. ALL WORK IS TO BE CARRIED OUT IN ACCORDANCE WITH THIS ACT AND IN PARTICULAR THE CONTRACTOR IS TO ENSURE THE REQUIREMENTS OF THIS SPECIFICATION WITH REGARD TO "NOTIFICATION IN RELATION TO A NOTIFIABLE PROJECT" ARE FULFILLED.
- FOR FURTHER SETTING OUT DETAILS REFER TO AGENCIES' DRAWINGS.
- FOR HYDRAULIC, ELECTRICAL AND OTHER SERVICES ASIDE THOSE WHICH THIS PLAN IS INTENDED FOR REFER TO RELEVANT CONSULTANTS FOR FURTHER DETAILS AND PLANS.
- ALL ENVIRONMENT PROTECTION MEASURES SHOULD BE IMPLEMENTED PRIOR TO ANY CONSTRUCTION WORK INCLUDING CLEARING AND COMMENCING LAID, SURVEY, SETOUT & EXISTING SERVICES SHOWN ON THIS DRAWING HAVE BEEN EXTRACTED FROM RECORDS ONLY & SHOULD BE CONFIRMED ON-SITE BY BUILDER PRIOR TO CONSTRUCTION.

LEGEND

- 37.75 --- EXISTING SURFACE CONTOURS
- EXISTING WATER
- EXISTING SEWER
- EXISTING STORMWATER
- EXISTING TELECOM
- EXISTING ELECTRICAL
- PROPOSED RUBBLE PIT (REFER TABLE & DETAILS)
- EXISTING RETAINING WALL AGG. LINES

REVISIONS
 The contractor shall be responsible for the accuracy of the information contained in this drawing and shall be held responsible for any consequences resulting from the use or reliance on this information if revised.

NO.	DATE	DESCRIPTION	INITIALS
11.11.21	A	ISSUE FOR REDLAND CITY COUNCIL APPROVAL	
21.01.21	B	ORIGINAL ISSUE FOR REDLAND CITY COUNCIL APPROVAL	

ROOFBROOK
 CIVIL AND STRUCTURAL ENGINEERING DESIGN
 Office: Suite 5, Level 2, 444 Wilton St., KANGAROO POINT QLD 4159
 Postal: PO Box 380, CHERMSIDE SOUTH QLD 4032
 Phone: 071 3857 9055 Email: admin@roofbrook.com.au

RETAINING WALL AGG. PIPE DISCHARGE PLAN & DETAILS
 DRW CONSULTING P/L
 UNIT 2/16 VANNESSA BLVD, SPRINGWOOD Q 4127
 Ph: 07 3208 8344

PROPOSED SUBDIVISION AT
 AT
 42 GARDENIA DRIVE, BIRKDALE
 for



IMPORTANT EXISTING SERVICES NOTE

DBYD REFERENCE NO 30545752
 ROOFBROOK CONSULTING ENGINEERS P/L TAKE NO RESPONSIBILITY FOR ANY INACCURACIES OR ERRORS THAT ARISE FROM LAND OR SERVICE LEVELS AND DEPTHS THAT VARY FROM ON-SITE CONDITIONS TO WHAT IS REPRESENTED IN THE PLAN FOR ANY TIME LATER AND BELONGING TO THE DATE OF ISSUE. THE LEVELS AND DEPTHS HAVE BEEN OBTAINED FROM COUNCIL PLANS OR SURVEYS PROVIDED AND UNDESIGNED ACTIVITIES/DEPTHS COULD POTENTIALLY ALTER LEVELS AND DEPTHS AND THEREFORE IT IS THE OWNERS/CONTRACTORS RESPONSIBILITY TO CONFIRM THE EXACT LEVELS, DEPTHS AND LOCATION OF EXISTING SERVICES PRIOR TO CONSTRUCTION. ANY DAMAGE CAUSED TO EXISTING UTILITIES BY THE CONTRACTOR WILL BE REPAIRED BY THE RELEVANT AUTHORITIES AT THE CONTRACTOR'S EXPENSE.

RELEVANT CONTACT DETAILS OF MAJOR ASSET OWNERS

OWNER	PHONE
REDLAND BAY CITY COUNCIL	Ph: 071 3527 8999
TELSTRA	Ph: 1800 453 935
OPTUS	Ph: 1800 595 777
ENERGEX	Ph: 071 3644 5400
APA GROUP	Ph: 1800 815 4500
AAPT	Ph: 1800 786 366
PIPE NETWORKS	Ph: 1800 291 100
NEXGEN	Ph: 1800 336 888

SCALE	AS NOTED	DATE	SEP '21	SHEET 1 OF 1
DESIGN	R.D.F.	DRAWN	C.S.K.	
JOB No	3818	DRG. No	01	B AMMT
CHECKED		APP		REV 1/0

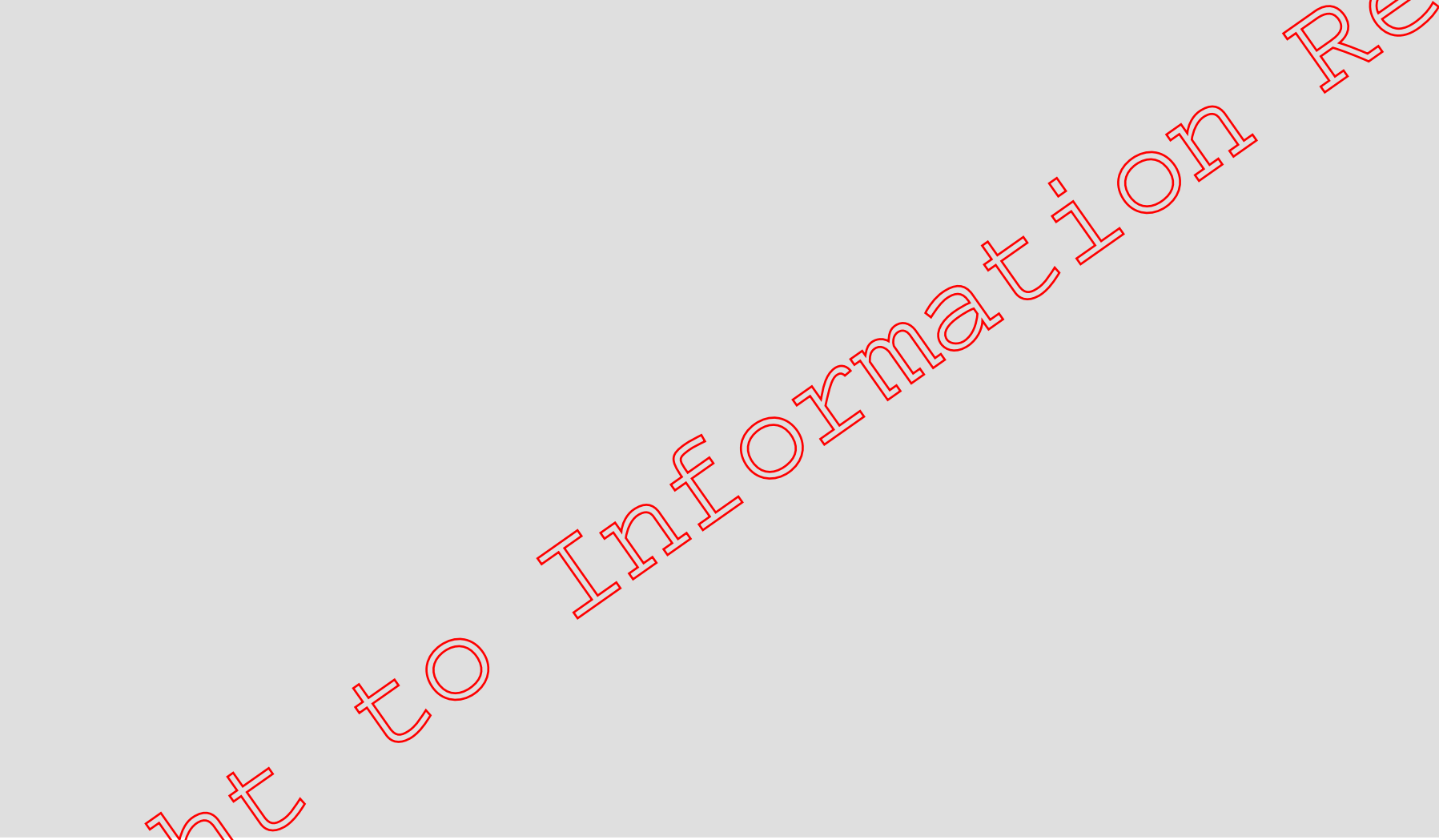
Activity Report By Vehicle For 13/02/2019

Printed for: Alwin Wever

Printed on: 8/12/2021

Vehicle: 407168 (EEN) Group: oldhistory

Event Type	Event Time	Speed	Trip		Driver	Location
			Distance	Stopped For		
13/02/2019						



Confidential Information. Property of:
REDLAND CITY COUNCIL

Note: The trip distance and stopped time are based on the ignition switch being cycled.

Time Zone:
Page:

(UTC+10:

Activity Report By Vehicle For 13/02/2019

Printed for: Alwin Wever

Printed on: 8/12/2021

Right to Information Release

Ignition Off	9:29:47 AM	-	6.8 km	Unknown Driver	40 Gardenia Dr, Birkdale QLD 4159, Australia
Ignition On	9:58:55 AM	-	-	29 min Unknown Driver	40 Gardenia Dr, Birkdale QLD 4159, Australia

Right to Information Release

Confidential Information. Property of:
REDLAND CITY COUNCIL

Note: The trip distance and stopped time are based on the ignition switch being cycled.

Time Zone:
Page:

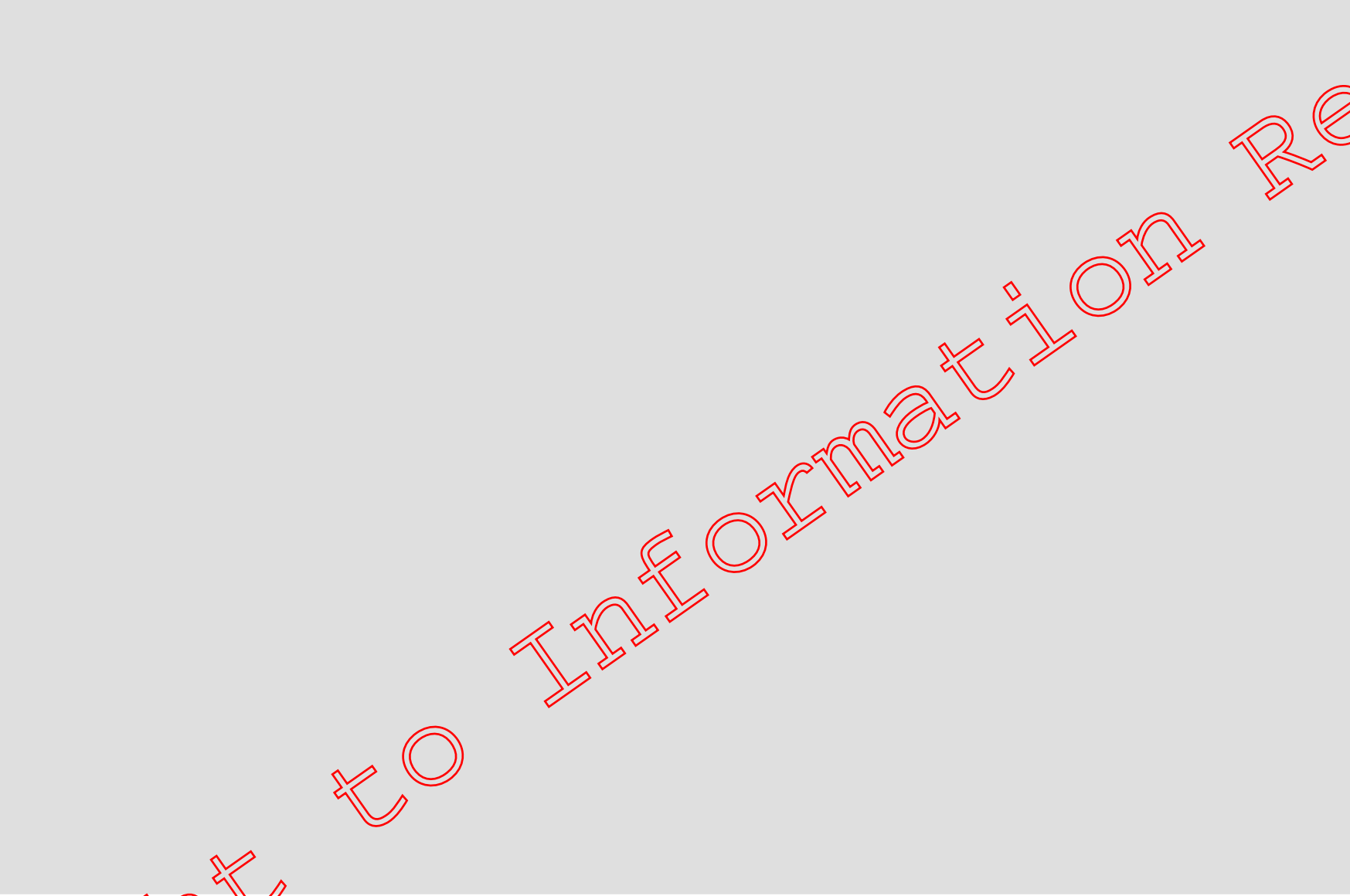
(UTC+10:

Irrelevant information

Activity Report By Vehicle For 13/02/2019

Printed for: Alwin Wever

Printed on: 8/12/2021



Right to Information Release

Confidential Information. Property of:
REDLAND CITY COUNCIL

Note: The trip distance and stopped time are based on the ignition switch being cycled.

Time Zone:
Page:

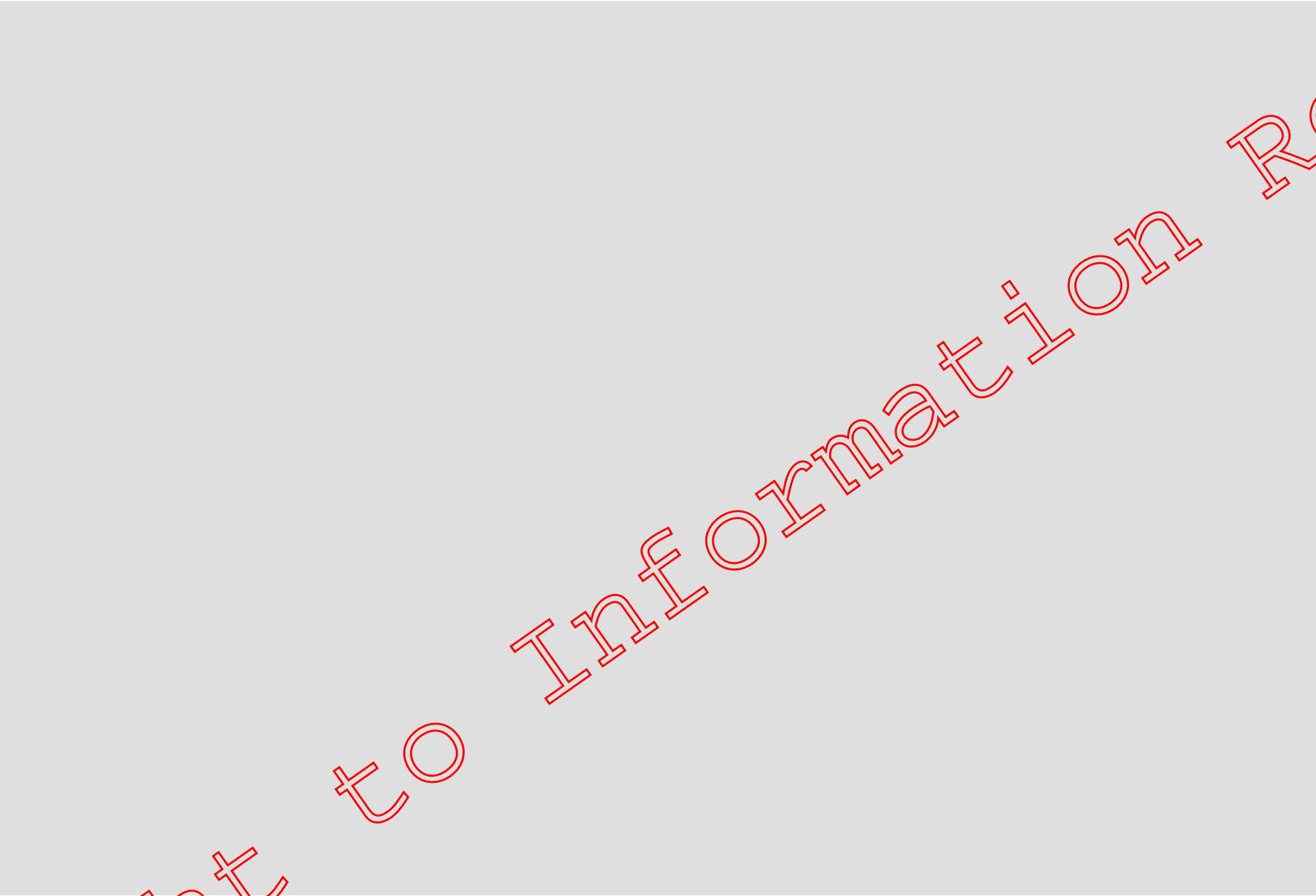
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Irrelevant information

Activity Report By Vehicle For 13/02/2019

Printed for: Alwin Wever

Printed on: 8/12/2021



Right to Information Release

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Note: The trip distance and stopped time are based on the ignition switch being cycled.

Time Zone:
Page:

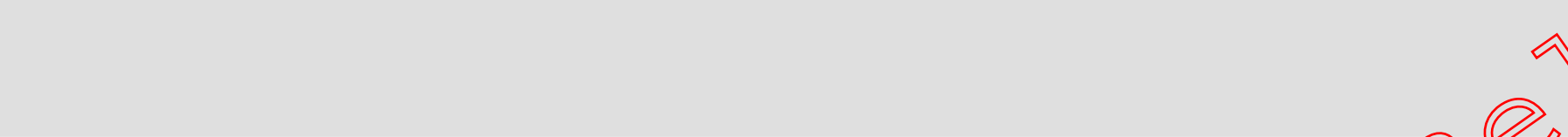
(UTC+10:

Irrelevant information

Activity Report By Vehicle For 13/02/2019

Printed for: Alwin Wever

Printed on: 8/12/2021



Right to Information Release

Confidential Information. Property of:
REDLAND CITY COUNCIL

Note: The trip distance and stopped time are based on the ignition switch being cycled.

Time Zone:
Page:

(UTC+10:

Release

File Edit View Tools Add Help

Search

27.50765 153.21709

Search

Get Directions History

27.50765 153.21709

Places

My Places

Sightseeing tour

- Quarry Cel-Fi
- 4165015 Quarry Cel-Fi
- HD_F00173_20201106-144500_20201106-151500.kml

- Track 14:53:32
 - 171m elevation
 - 213m elevation ASA site
 - 119m elevation
 - 34m elevation
- Temporary Places

Layers

- Primary Database
 - Announcements
 - Borders and Labels
 - Places
 - Photos
 - Roads
 - 3D Buildings
 - Weather
 - Gallery
 - More
 - Terrain



Information

Right



Right to Information release

Irrelevant information