

Inertia Ref: 8721-C-SWDAL-003

7/02/2020

Ainat Group Pty Ltd

PO Box 331

Upper Coomera, QLD 4209

**PLANS AND DOCUMENTS
referred to in the PDA
DEVELOPMENT APPROVAL**

Approval no: DEV2019/1059

Date: 27 April 2020



RE: Stormwater Assessment for Development Application at 169-187 Teviot Road, Greenbank (Lot 18 on RP184970)

Dear Nigel,

Please find enclosed our assessment of the stormwater management components for the Development Application to support the proposed 40 lot subdivision located at 169-187 Teviot Road, Greenbank (Lot 18 on RP184970), see below figure for location of site.



Figure 1 – Location of Subject Site

The latest revision of this document has considered Economic Development Queensland (EDQ) response to further issues Item 5, to demonstrate that the proposed stormwater basin can be accommodated in the proposed area safely while providing adequate access for maintenance purposes. The basin will also be a permanent asset for the proposed residential subdivision and will be dedicated to Council upon plan sealing.

The subject site is 2.0 ha and is located within the Great Flagstone Priority Development Area (PDA).

In preparing this letter, we have documented the stormwater management systems that will need to be incorporated into the proposed development to ensure that the industry standards are met in accordance with the below:

- The proposed development shall ensure that all stormwater drainage is directed to a lawful point of discharge in accordance with QUDM Section 3.4 (2013);
- No adverse impact on adjoining or downstream properties in accordance with Queensland Urban Drainage Manual; and
- Best practice solution with regards to water quality has been designed in accordance with the State Planning Policy (2017) and certified by an RPEQ.

This assessment has been prepared in conjunction with Civil Dimension earthworks and servicing plans with the proposed stormwater management strategies documented in this report preceding other stormwater layout and strategies documented previously.

In addition, it should be noted that the stormwater basin (detention / bio-retention) proposed in the south western corner of the site will be permanent however still consider the overall concept stormwater layout plan from Civil Dimensions, refer Attachment 1 for details.

Throughout this assessment reference will be made to different lot types. 'Smaller lots' will refer to lots that range from 250 m² to 447 m² where 'larger lots' range from 516 m² to 783 m² (Lots 1, 14, 26, 36 & 40) Slightly different approaches will be taken stormwater management system for the lots that will be further elaborated on in later sections of the assessment.

Existing Site Conditions and Catchment Parameters

Currently, the majority of the subject site grades towards the south western corner at a grade of approximately 5%. A small eastern portion of the site grades to the south at approximately 2% before being impeded by an earth mound and directed to the west, in the same direction as the larger site portion. The pre development site flow is conveyed to a dam located in the south western corner before they discharge across the south western corner of the site. For further details refer to the existing survey for the subject site and surrounds included as Attachment 2.

In the post development scenario it is proposed to generally fall the site to the south western corner to mimic the pre development scenario and implement minimal earthworks on site. Stormwater discharge consent for the development has been obtained from the owner of Lot 15 on RP217719 in the form of a Deed of Agreement which satisfies the site requirement for a Lawful Point of Discharge (LPOD), refer Attachment 3. The consent allows for stormwater infrastructure to be constructed to convey stormwater to the existing overland flow easement (EMT A on RP217719) to the south west of the site that runs towards the existing railway line. Refer Inertia Engineering, *Preliminary Stormwater Drainage Layout Plan* (Ref: 8721-SK001) include as Attachment 4 for discharge location and details.

There is an external catchment to the north of the site that consists of landscape area. The runoff generated from this catchment will be conveyed through the site via Road 1. The flows generated from this catchment are only expected to be minor in nature and will be accounted for in the detailed design stage.

Stormwater Quantity Management

In accordance with Queensland Urban Design Manual (QUDM) requirements, the subject site is required to ensure that no adverse impacts on downstream properties or receiving water bodies are caused as a result of the development. It is proposed to maintain the same LPOD while ensuring no increase in peak discharges from the subject site for events up to and including the 1 in 100 year ARI event; refer Inertia Engineering, *Preliminary Stormwater Drainage Layout Plan* (Ref: 8721-SK001) include as Attachment 4.

The above mentioned objective is to be achieved through the use of detention storage measures. It is proposed that the detention storage required on site will be utilised through the combination of individual detention tanks for each lot and a detention basin located in the south western portion of the site.

In review of the existing site conditions, the subject site was analysed using the XPRAFTS software package which analysed the pre-developed and post-developed scenarios to determine an accurate volume of required detention storage.

It has been determined that approximately 533 m³ will provide sufficient volume to mitigate all storm event flow rates to those evident in the pre-development scenario. The storage volume has been split between the individual lot tanks (269 m³) for smaller lots, a total bulk storage volume (53 m³) for the combined larger lots and the end of line detention basin (211 m³). The following details on the detention storage have been provided to document the sites ability to meet requirements for stormwater mitigation. This proposal will be subject to further refinement and detailed design however will still achieve the required outcomes.

To achieve the required stormwater mitigation targets, the individual lot tanks for the smaller lots have been assumed to be 15 kL each with approximately 10 kL dedicated to stormwater mitigation and the remaining 5 kL dedicated to rainwater reuse. The individual lot tanks have been modelled as a lumped detention storage each with the same size outlet. It has been assumed that for the smaller lots, 200 m² of roof area will be conveyed to the tank where the ground area will bypass the tank and drain directly into the proposed stormwater network. The ground area of the smaller lots has been modelled to consist of the remaining lot area and consist of 30% impervious cover.

The larger lot storage volume has been calculated for future development of the lots. The total volume of 53 m³ should be distributed based on the proportional area of the combined total of the 5 lots ie Lot 1 is 783 m² and makes up 26% of combined lot areas, therefore should incorporate 14 m³ of detention storage. The tank will be required to attenuate an assumed roof area, which for the larger lots has been approximated to be 80% of the lot area. The remaining area has been assumed to be ground area which will bypass the larger lot detention system and be conveyed to directly to the detention basin.

The detention basin incorporates a combination of retaining walls and 1 in 4 batters to achieve the required volume to effectively mitigate stormwater flow rate. A 1 in 6 maintenance access has been considered from the proposed new road to basin surface level.

The storage volume types and other parameters were modelled as detailed below to effectively mitigate flow rates. A snapshot of the overall model setup has been provided in Figure 2.

Table 2 – Detention Basin Parameters*

Detention Basin Storage	211 m ³
Detention Basin Height	0.855 m (+ 0.3 m freeboard)
Low Flow Outlet Pipe	375 dia RCP at Invert of Outlet pit
High Flow Overflow Weir	3 m wide overflow weir

Table 3 – Small Lots Individual Lot Parameters*

Detention Tank Storage	269 m ³
Detention Component Height	0.920 m (exc. reuse component)
Number of Tanks	34 Tanks (each lot excluding larger lots)
Low Flow Outlet Pipe	60 dia orifice outlet
Surcharge Pit	600 x 600 (not required – Only in case of emergency)

Table 4 – Large Lots Bulk Storage Parameters*

Bulk Detention Storage Volume	53 m ³
Detention Storage Height	1.24 m (Indicative)
Number of Tanks	TBC
Low Flow Outlet Pipe	100 dia outlet for each tank (Indicative)
Surcharge Pit	600 x 600 (not required – Only in case of emergency)

* Note: the tank parameters specified have been documented to show the site's ability to meet the required stormwater quantity outcomes. These arrangement will be subject to further refinement at the detailed design stage.

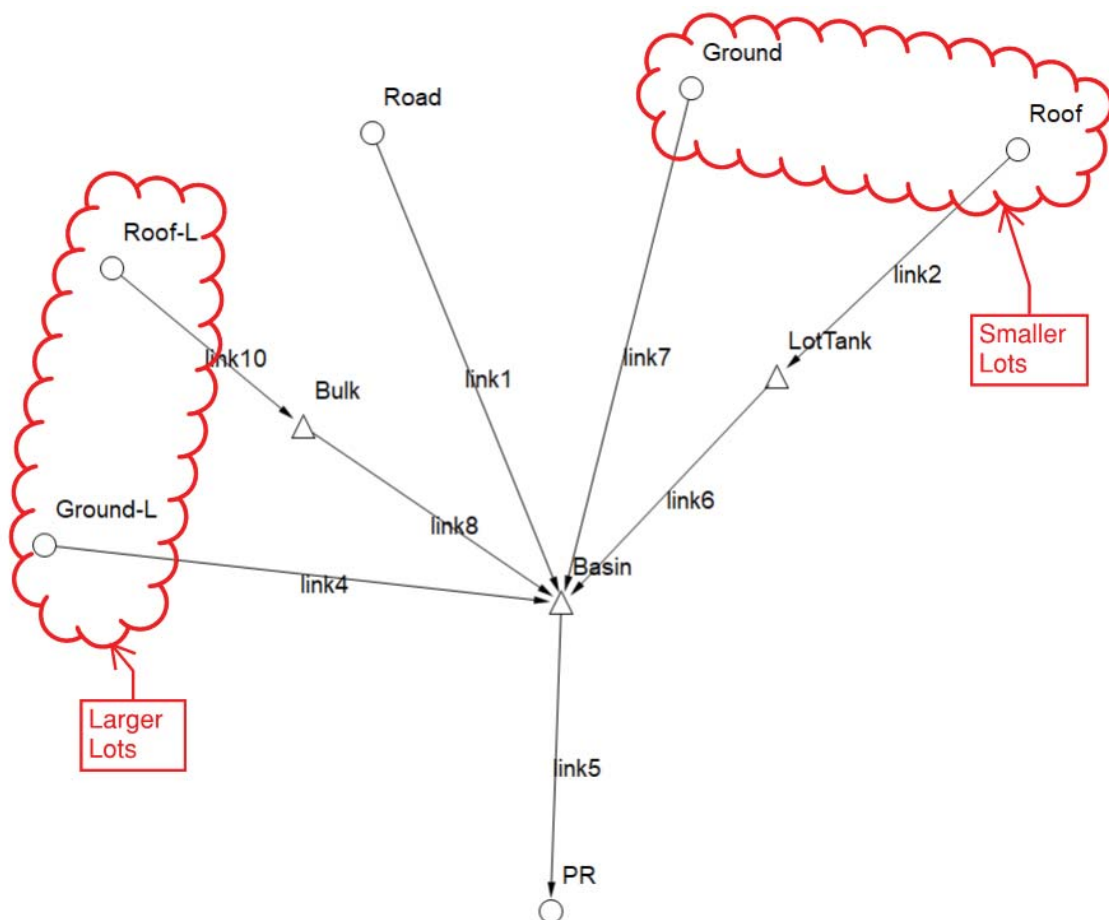


Figure 2 – XPRAFTS Model Setup

A comparison between the peak discharge values between each of the XPRAFTS modelled scenarios is presented in Table 4, which demonstrates that the above detention arrangement will provide sufficient volume to mitigate all storm events up to and including the Q100 to pre-development flow rates.

Table 4 - XPRAFTS Modelling Results

Design Storm (ARI)	Permissible Site Discharge – Pre Development Flow Rate (m ³ /s)	Post-Development Flows, Mitigated (m ³ /s)
Q2	0.322	0.323
Q5	0.504	0.378

Q10	0.622	0.495
Q20	0.783	0.610
Q50	0.979	0.750
Q100	1.167	1.014

Stormwater Quality Management

Stormwater quality provisions will be managed on site with the use of bio-retention basin to meet stormwater quality compliance with the State Planning Policy (SPP) code and WSUD Engineering Guidelines. Refer Inertia Engineering, *Preliminary Stormwater Drainage Layout Plan* (Ref: 8721-SK001) include as Attachment 4.

The proposed development catchment run-off was modelled using MUSIC (Version 6.3.0). To achieve the water quality objectives for South East Queensland specified in the SPP 2017 (80% TSS reduction, 60% TP reduction, 45% TN reduction, and 90% Gross Pollutants reductions).

The smaller lots will incorporate an underground 15kL tank for each lot with 5kL will be designated for rainwater tank reuse. The larger lots have been assumed to incorporate a minimum 7kL portion for reuse for each of the lots with further details to be confirmed at a later stage. For the purpose of modelling it has been assumed that the harvested rainwater will be utilised for 50% of the landscape areas on both the large and small lots. Ground areas for all lots will be directed over landscape buffers prior to discharge to the proposed stormwater drainage network.

The entire site will be conveyed to an end of line 100 m² bio-retention basin where it will be treated for pollutant removal prior to being discharged off site.

The setup of the MUSIC model treatment train and the results of the pollutant reduction targets are presented in Figure 3 below.

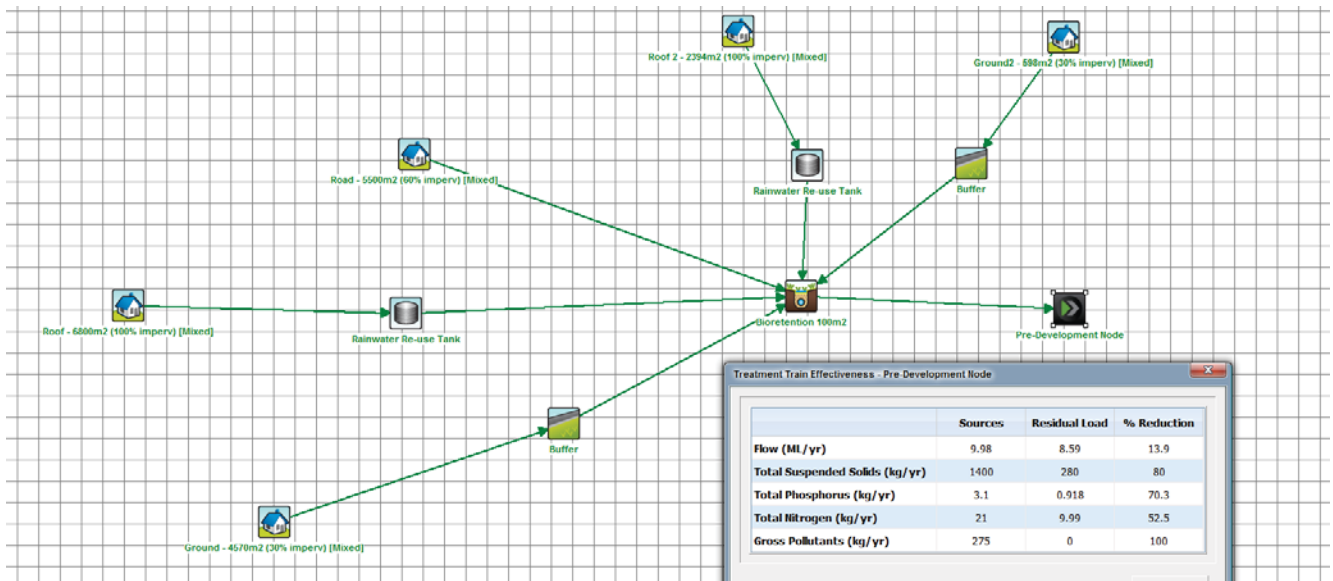


Figure 3 - Treatment Train and Results

The above results meet the percent reduction water quality objectives identified by the SPP 2017.

Conclusions

Inertia Engineering has demonstrated the proposed development can satisfy the stormwater management requirements for quantity and quality in accordance with QUDM and the SPP 2017. It has been documented that the development will incorporate the below stormwater management systems to adhere to these standards.

- 269 m³ of individual lot tanks from smaller lots ie. 15 kL individual lot underground tanks, with 10 kL for stormwater mitigation and 5 kL for rainwater harvesting to be utilised for landscape areas.
- 53 m³ bulk detention storage volume to be distributed proportionally throughout the larger lots.
- 211 m³ detention basin storage.
- 100 m² bio-retention basin.

Please do not hesitate to contact me for any further clarification.

Sincerely,



Daley Curran
Senior Civil Engineer

Certified by:-



Emma Clements
Principal Engineer
B.E. (Civil), M.I.E Aust, C.P.Eng, RPEQ 8614

Inertia

Inertia Engineering Pty Ltd
5B 85 Hudson Road, ALBION QLD 4010

Attachments: Attachment 1 – Civil Dimensions, *Concept Stormwater Layout Plan*
Attachment 2 – East Coast Surveys, *Detail & Level Survey Plan*
Attachment 3 – *Deed of agreement – Acceptance of stormwater discharge*
Attachment 4 – Inertia Engineering, *Preliminary Stormwater Drainage Layout Plan*



Attachment 1 – Civil Dimensions,
Overall Concept Stormwater Layout Plan

DISCLAIMER
THE INFORMATION SHOWN ON THIS
DRAWING IS PRELIMINARY IN NATURE
AND SUBJECT TO DETAIL DESIGN

PROJECT NAME

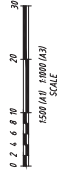
169-187
Teviot Rd,
Greenbank

CLIENT
Ainat Group Pty Ltd

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SCALE BAR



AS/NZS 466 103 198 527
Project:
Unit 8, 51 Freda St
Upper Mt Gravatt,
QLD 4122
Business:
Tel: 3422 2020

Civil Dimensions
Consulting Engineers

www.civildimensions.com.au

R.P.E.D. Certification provided for and on behalf of Civil Dimensions
expressly excludes, after due and geological testing, slope stability,
seismicity, and other geotechnical matters, and the effects of existing
vegetation and the effects of future development on the site and
its surroundings.

DESIGNED BY: YW

APPROVED BY: YW

DATE: 10/02/20

FOR AND ON BEHALF OF CIVIL DIMENSIONS PTY LTD

DATE: 10/02/20

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Concept
Stormwater Layout
Plan

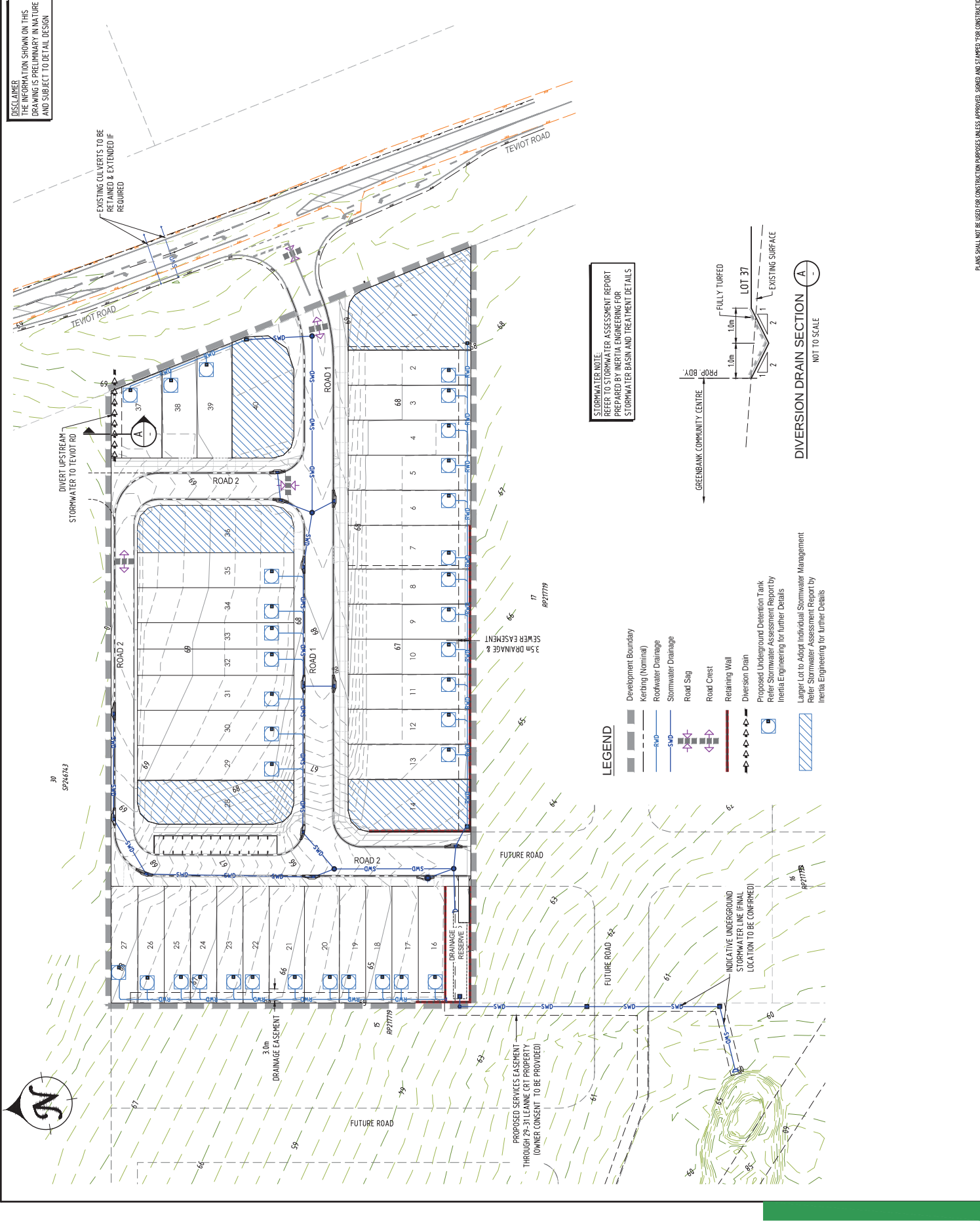
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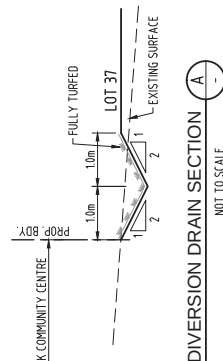
PLANS SHALL NOT BE USED FOR CONSTRUCTION PURPOSES UNLESS APPROVED, SIGNED AND STAMPED FOR CONSTRUCTION



STORMWATER NOTE:
REFER TO STORMWATER ASSESSMENT REPORT
PREPARED BY INERTIA ENGINEERING FOR
STORMWATER BASIN AND TREATMENT DETAILS

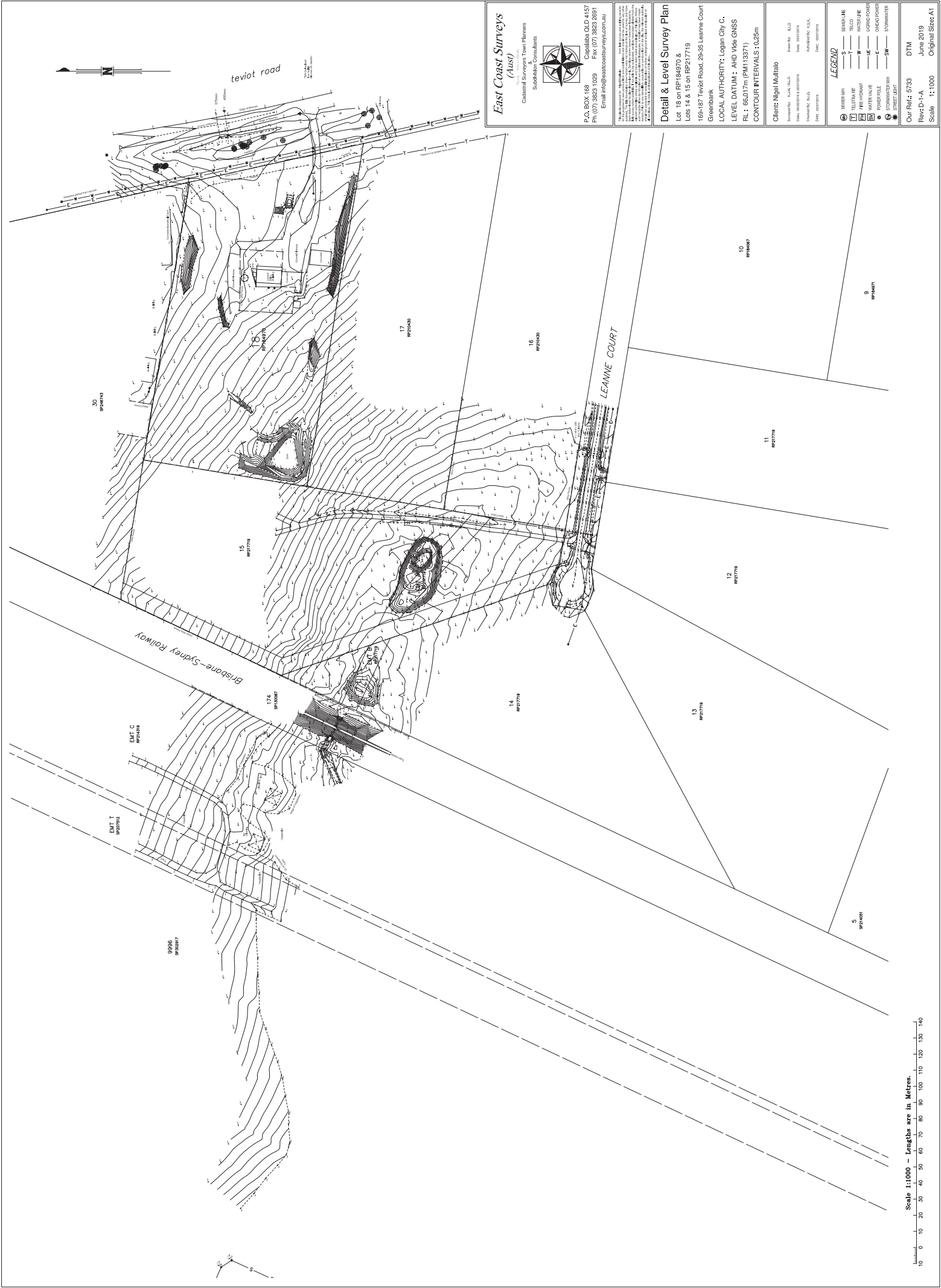
LEGEND

- Development Boundary
- Kerbing (Nominal)
- Roadwater Drainage
- Stormwater Drainage
- Road Sag
- Road Crest
- Retaining Wall
- Diversion Drain
- Proposed Underground Detention Tank
- Refer Stormwater Assessment Report by Inertia Engineering for further Details
- Larger Lot to Adopt Individual Stormwater Management
- Refer Stormwater Assessment Report by Inertia Engineering for further Details





Attachment 2 – East Coast Surveys, *Detail & Level Survey Plan*



East Coast Surveys
(Aust)
Cadastral Surveys Town Planners
Subdivision Consultants

P.O. BOX 168
Parramatta NSW 2150
Ph (02) 9621 1029
Email info@eastcoastsurveys.com.au

Contract No. 168
Contract Date 16/08/2019
Contract Value \$28,381

Detail & Level Survey Plan
Lot 18 on RP184970 &
Lots 14 & 15 on RP217719
Greenbank
LOCAL AUTHORITY: Logan City C.
LEVEL DATUM: AHD Wide GNSS
RL: 66.017m (PM113371)
CONTOUR INTERVALS: 0.25m

Client: Nigel Mullins

Drawn By: R.L.G.
Data Collection: 16/08/2019
Approved: R.L.G.
Date: 16/08/2019

LEGEND

SEWER MAIN	S	SEWER LINE
TELEPHONE	T	TELEPHONE
FIRE HYDRANT	F	FIRE HYDRANT
WATER MAIN	W	WATER MAIN
WATER VALVE	V	WATER VALVE
POWER POLE	P	POWER POLE
STORMWATER MAIN	SW	STORMWATER
STREET LIGHT	SL	STREET LIGHT

Our Ref: 5733 DTM
Rev: D-1-A
June 2019
Scale 1:1000 Original Size: A1



Attachment 3 – Deed of agreement – Acceptance of stormwater discharge

DATED: 17th May 2019

BETWEEN: Peter Popovic and Coral Popovic

"Grantor"

AND: Nigel Mulitalo

"Grantee"

DEED

P P NM

This **DEED** made the Friday, 17th day of May, 2019 .

BETWEEN: **Peter Popovic and Coral Popovic**
29-31 Leanne Court, Greenbank, Queensland

"Grantor"

AND: **Nigel Mulitalo**
PO Box 331, Upper Coomera, Queensland

"Grantee"

INTRODUCTION

- A. The Grantor is the owner of the Land.
- B. The Grantee has entered into a contract to purchase the Adjoining Land.
- C. The Grantee proposes to develop the Adjoining Land and will require the Sewer and Stormwater Works to be constructed on the Sewer and Stormwater Land to cater for the increased use of the Adjoining Land.
- D. The Grantor has consented to grant access to the Grantee to the Sewer and Stormwater Land and to the grant of the Easement over the Land.
- E. This Deed sets out the terms on which the parties agree to the construction of the Sewer and Stormwater Works and the grant of the Easement.

IT IS AGREED

1 DEFINITIONS AND INTERPRETATION

1.1 Definitions

In this Deed:

"Adjoining Land" means the land located at **169-187 Teviot Road, Greenbank** more particularly described as **Lot 18 on RP 184970**;

"Approvals" means all approvals, permits or consents necessary for the construction of the Sewer and Stormwater Works and the grant of the Easement because of a Requirement;

"Business Day" means a day that is not a Saturday, Sunday or any other day which is a public holiday or a bank holiday in the place where an act is to be performed or a payment is to be made;

"Deed" means this document, including any schedule or annexure to it;



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CF PP NEM

"Sewer and Stormwater Land" means that part of the Land required to construct the Sewer and Stormwater Works in accordance with the Sewer and Stormwater Works Plans;

"Sewer and Stormwater Works" means the proposed works to be carried out by the Grantee on the Land in accordance with the Sewer and Stormwater Works Plan and this Deed;

"Sewer and Stormwater Works Plans" means the plans and specifications for the construction of the Sewer and Stormwater Works as approved by the Grantor's project manager;

"Easement" means the easement in the form attached in Annexure A;

"Easement Plan" means a plan delineating the boundaries of the easement to be prepared in accordance with clause 4.2;

"Land" means the land comprising **29-31 Leanne Court, Greenbank** more particularly described as **Lot 15 on RP 217719**;

"Local Government" means the **Logan City Council**;

"Requirement" means any requirement, notice, order or direction received from or given by any statutory, public or other competent authority, present or future and includes the provisions of any statute, subordinate legislation or local law.

1.2 Interpretation

(a) Reference to:

- (i) one gender includes the others;
- (ii) the singular includes the plural and the plural includes the singular;
- (iii) a person includes a body corporate;
- (iv) a party includes the party's executor's administrators, successors and permitted assigns;
- (v) a statute, regulation or provision of a statute or regulation ("Statutory Provision") includes:
 - A. that Statutory Provision as amended or re-enacted from time to time; and
 - B. a statute, regulation or provision enacted in replacement of that Statutory Provision; and
- (vi) money is to Australian dollars, unless otherwise stated.

(b) "Including" and similar expressions are not words of limitation.

- (ii) the date the Grantee's project manager reasonable nominates as the date for completion of the construction of the Sewer and Stormwater Works.

3 GRANT BY GRANTOR

3.1 In consideration of the benefit of the Sewer and Stormwater Works will give to the Grantor and the Land, the Grantor grants to the Grantee:

- (a) after having given the Grantor reasonable notice in writing, the right to enter onto the Sewer and Stormwater Land for planning and construction purposes, to construct, inspect, clean, repair, maintain or renew all or any part of the Sewer and Stormwater Works (such access to include access by all relevant parties and council officers during these planning and operational phases);
- (b) after having given the Grantor reasonable notice in writing, the right to enter upon the part of the Land not within the boundaries of the Sewer and Stormwater Land for the purpose of accessing the Sewer and Stormwater Land until the Works have been completed (including the right of access during the planning and operational work phases by engineers, surveyors general workers and their equipment and council officers; and
- (c) from time to time to drain sewerage, water and stormwater in any quantity through the pipes laid by the Grantee under the Drainage Land.
- (d) The Grantor acknowledges and consents to the discharge of the piped stormwater to the existing dam on the land, being the accepted and agreed point of discharge of the stormwater.

3.2 When exercising its rights under this clause, the Grantee must:

- (a) take all care to ensure that as little disturbance as is possible is caused to the Land and the Sewer and Stormwater Land; and
- (b) restore the surface of the Sewer and Stormwater Land as is practically possible to the condition it was in prior to the commencement of the Works.

4 EASEMENT

4.1 The Grantor must, when requested by the Grantee, execute in favour of the Grantee or the Body Corporate the Easement.

4.2 The Grantor authorises the Grantee to enter onto the Land to cause a survey of the Sewer and Stormwater Land to be made and to prepare the Easement Plan generally in accordance with the diagram attached hereto and marked Annexure A..

4.3 The Easement Plan will locate the boundaries of the Easement generally in accordance with the diagram attached hereto and marked Annexure A, but dependent upon the detail design and survey of the area which will define the waterway alignment within the boundaries of the Sewer and Stormwater Land.

- 4.4 The Grantee must obtain any necessary Approvals for the Easement Plan that are required to enable it to be registered.
- 4.5 The Grantor must grant the Easement to the Grantee or the Body Corporate if required by the Grantee, within a reasonable time after the Easement Plan has been prepared in registrable form.
- 4.6 The Grantee or the Body Corporate as the case may be must deliver 3 copies of the Easement and the original Easement Plan already signed by it to the Grantor or its solicitors as soon as the Easement plan has been prepared together with a cheque payable to the Grantor for registration fees and stamp duty payable on the Easement and the Easement Plan.
- 4.7 The Grantor must sign the Easement and the Easement Plan within a reasonable time of them being submitted to it and must lodge the Easement and the Easement Plan with the freehold registry of the Department of Natural Resources as soon as they have been signed and stamped.
- 4.8 As soon as the Easement and Easement Plan are registered, the Grantor must deliver 1 copy of the Easement and a copy of the registration confirmation statement evidencing the registration of the Easement and Easement Plan to the Grantee.

5 COSTS

- 5.1 The Grantee must pay all reasonable costs, including but not limited to the Grantor's legal and other consultant's fees, in connection with:
 - (a) negotiating and signing this Deed;
 - (b) applying for and obtaining the Approvals;
 - (c) the design of the Sewer and Stormwater Works;
 - (d) surveying the Sewer and Stormwater Land on which the works are to be constructed;
 - (e) construction of the Sewer and Stormwater Works;
 - (f) preparation of the Easement Plan and the Easement; and
 - (g) all stamp duty and registration fees in respect of this Deed, the Easement Plan and the Easement.

6 NO DISPOSITION

- 6.1 the Grantor will not dispose of the Land without first obtaining from the Disponent and delivering to the Grantee a Deed by which the Disponent covenants to be bound by this Deed.

- (c) Where a word or expression is given a particular meaning, other parts of speech and grammatical forms of that word or expression have a corresponding meaning.
- (d) Headings are for convenience only and do not form part of this Deed or affect its interpretation.
- (e) A provision of this Deed must not be construed to the disadvantage of a party merely because that party was responsible for the preparation of the Deed or the inclusion of the provision in the Deed.
- (f) If an act must be done on a specified day which is not a Business Day, it must be done instead on the next Business Day.

1.3 Parties

- (a) If a party consists of more than 1 person, this Deed binds each of them separately and any 2 or more of them jointly.
- (b) An obligation, representation or warranty in favour of more than 1 person is for the benefit of them separately and jointly.
- (c) A party which is a trustee is bound both personally and in its capacity as a trustee.

2 SEWER AND STORMWATER WORKS

2.1 The Grantee must, at its own expense:

- (a) apply for the Approvals required for the Sewer and Stormwater Works within a reasonable time after the date of this Deed;
- (b) obtain the Approvals before commencing the Sewer and Stormwater Works; and
- (c) obtain the Grantor's consent to the Sewer and Stormwater Works Plan before applying for the Approvals.

2.2 To the extent required by any Requirement, the Grantor consents to the making of any applications for the Approvals.

2.3 The Grantee must give the Grantor a copy of the Sewer and Stormwater Works Plan promptly after signing this Deed.

2.4 The Grantee must ensure that the Sewer and Stormwater Works are constructed:

- (a) as far as reasonably practicable and generally in accordance with the Sewer and Stormwater Works Plans and with all relevant Requirements;
- (b) in accordance with the Grantee's project manager's directions; and
- (c) by the earlier of:
 - (i) 1 month from the date the last of the Approvals is obtained; and

Handwritten signatures and initials: A large 'P' on the left, a stylized signature in the middle, and the initials 'NSM' on the right.

7 INDEMNITY

7.1 The Grantor is not liable for any damage or injury suffered by any person:

- (a) while on the Land under a right conferred by this Deed; or
- (b) as a result of the construction of the Sewer and Stormwater Works and any party exercising a right confirmed by this Deed to go upon the Land or construct the Sewer and Stormwater Works and indemnifies the Grantor against any claim, demand or damage suffered by the Grantor as a result.

7.2 The Grantee releases the Grantor from and indemnifies it against all claims for damages, loss, injury or death:

- (a) whether or not it is caused by the Grantor's negligence or default if it:
 - (i) occurs on the Land;
 - (ii) arises from the use of the Sewer and Stormwater Land; or
 - (iii) otherwise arises from the exercise by the Grantee of its rights under this Deed; and
 - (iv) if it arises from the negligence or default of the Grantee.

8 INSURANCE

8.1 While the Grantee is carrying out the Sewer and Stormwater Works, the Grantee must have current insurance as follows:

- (a) public liability insurance for \$10,000,000;
- (b) contractor's all risk insurance to the full value of the Sewer and Stormwater Works; and
- (c) an unlimited policy of workers' compensation insurance.

8.2 The Grantee must, if requested by the Grantor, produce copies of all policies required under clause 8.1.

9 FURTHER ASSURANCE

9.1 Each party must promptly at its own cost do all things (including executing all documents) necessary or desirable to give full effect to this Deed.

10 SEVERABILITY

10.1 If anything in this Deed is unenforceable, illegal or void then it is severed and the rest of this Deed remains in force.

11 ENTIRE UNDERSTANDING**11.1 This Deed and the Easement:**

- (a) are the entire agreement and understanding between the parties on everything connected with the subject matter of this Deed; and
- (b) supersede any prior agreement or understanding on anything connected with the subject matter.

11.2 Each party has entered into this Deed without relying on any representation by any other party or any person purporting to represent that party.**12 VARIATION****12.1 An amendment or variation to this Deed is not effective unless it is in writing and signed by the parties.****13 WAIVER****13.1 A party's failure or delay to exercise a power or right does not operate as a waiver of that power or right.****13.2 The exercise of a power or right does not preclude either its exercise in the future or the exercise of any other power or right.****13.3 A waiver is not effective unless it is in writing****13.4 Waiver of a power or right is effective only in respect of the specific instance to which it relates and for the specific purpose for which it is given.****14 NOTICES****14.1 A notice or other communication connected with this Deed ("Notice") has no legal effect unless it is in writing.****14.2 In addition to any other method of service provided by law, the Notice may be:**

- (a) sent by prepaid post to the address of the addressee set out in this Deed or subsequently notified;
- (b) sent by facsimile to the facsimile number of the addressee; or
- (c) delivered at the address of the addressee set out in this Deed or subsequently notified.

14.3 A Notice must be treated as given and received:

- (a) if sent by post, on the 2nd Business Day (at the address to which it is posted) after posting;



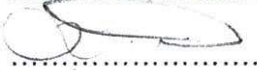
- (b) if sent by facsimile before 5pm on a Business Day at the place of receipt, on the day it is sent and otherwise on the next Business Day at the place of receipt; or
 - (c) if otherwise delivered before 5pm on a Business Day at the place of delivery, upon delivery, and otherwise on the next Business Day at the place of delivery.
- 14.4 Despite clause 14.3(2) a facsimile is not treated as given or received unless at the end of the transmission the sender's facsimile machine issues a report confirming the transmission of the number of pages in the Notice.
- 14.5 A Notice sent or delivered in a manner provided by clause 14.2 must be treated as validly given to and received by the party to which it is addressed even if:
- (a) the addressee has been liquidated or deregistered or is absent from the place at which the Notice is delivered or to which it is sent; or
 - (b) the Notice is returned unclaimed.
- 14.6 Any Notice by a party may be given and may be signed by its solicitor.
- 14.7 Any Notice to a party may be given to its solicitor by any of the means listed in clause 14.2 to the solicitor's business address or facsimile number.

15 GOVERNING LAW AND JURISDICTION

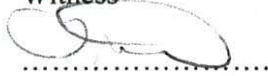
- 15.1 The law of Queensland governs this Deed.
- 15.2 The parties submit to the non-exclusive jurisdiction of the courts of Queensland and the Federal Court of Australia.



Executed as a Deed on this day of May 2019.


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Witness


.....

Witness

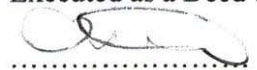

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Peter Popovic-Grantor


.....

Coral Popovic-Grantor

Executed as a Deed this day of May 2019


.....

Witness


.....

Nigel Mulitalo-Grantee

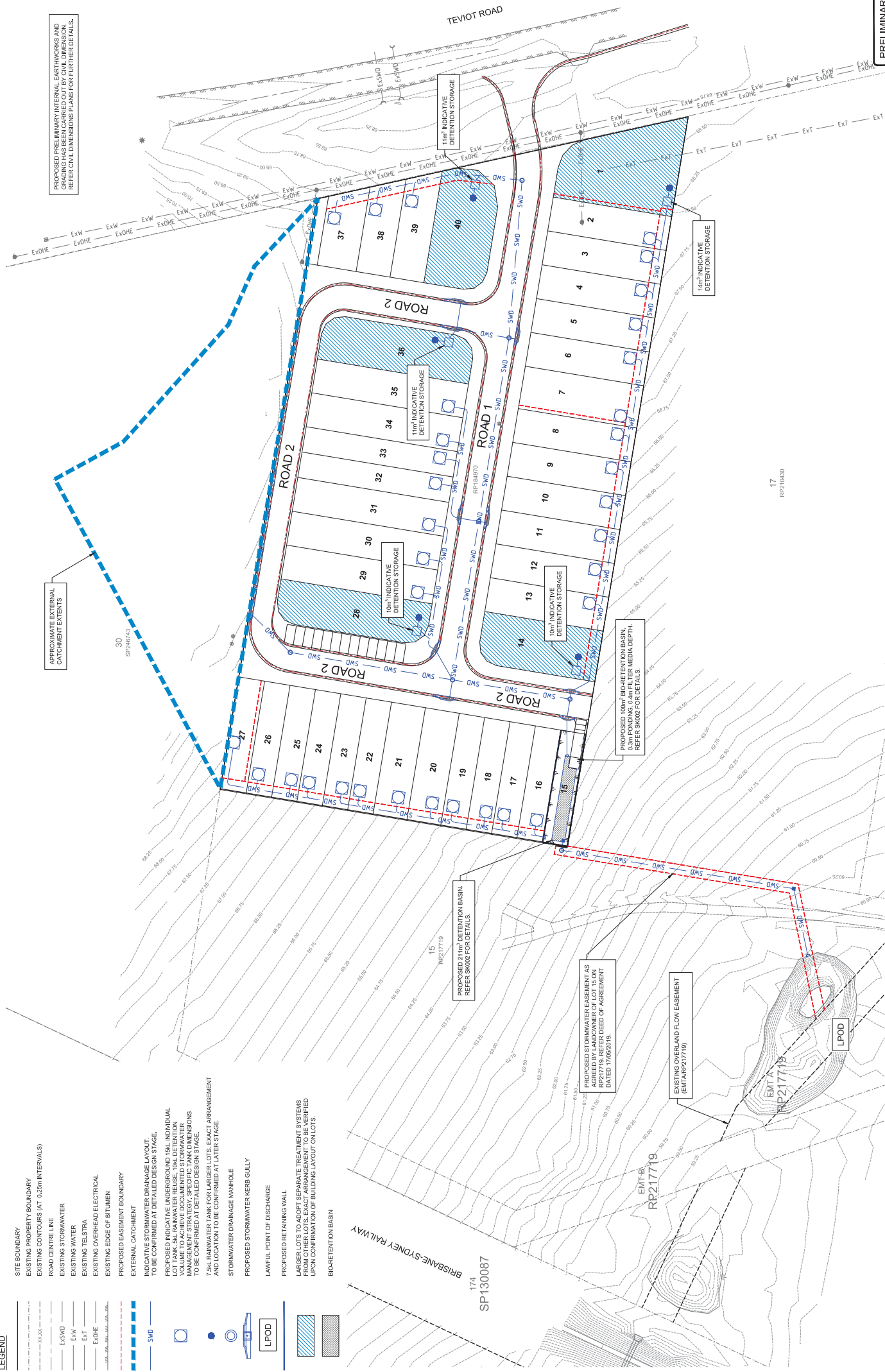
Annexure A

Easement

RP NCM
R.

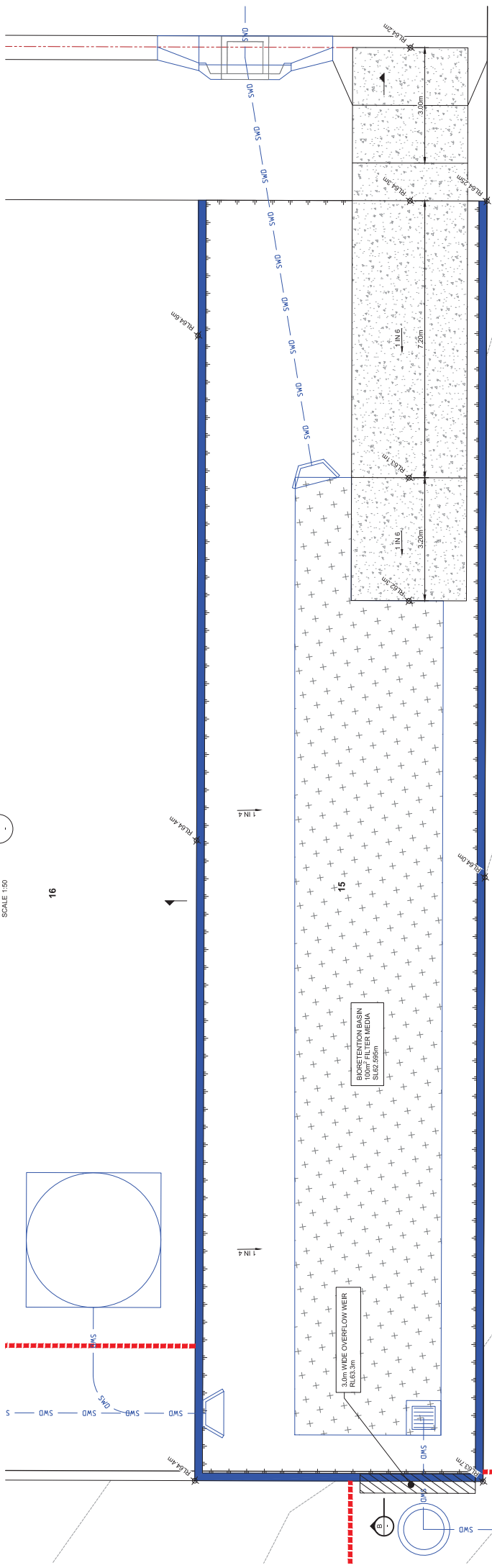
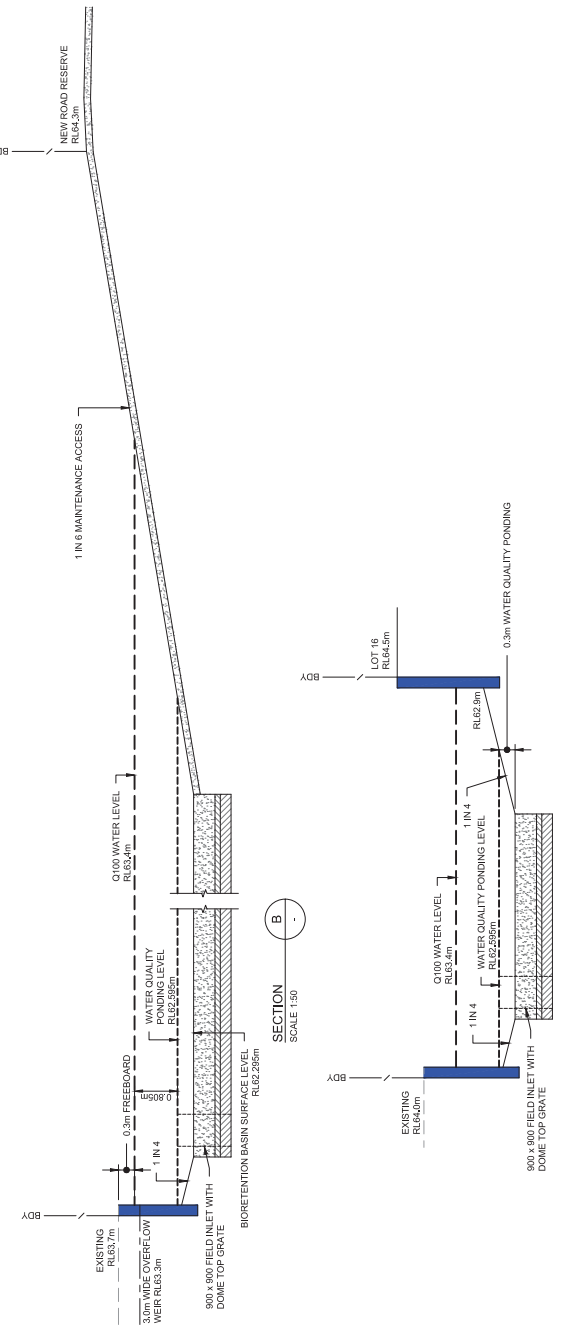


Attachment 4 – Inertia Engineering,
Preliminary Stormwater Drainage Layout Plan

[illegible]

LEGEND

- SITE BOUNDARY
- EXISTING PROPERTY BOUNDARY
- EXISTING CONTOURS (AT 0.25m INTERVALS)
- ROAD CENTRE LINE
- EXISTING STORMWATER
- EXISTING WATER
- EXISTING TELSTRA
- EXISTING OVERHEAD ELECTRICAL
- EXISTING EDGE OF BITUMEN
- PROPOSED EASEMENT BOUNDARY
- INDICATIVE STORMWATER DRAINAGE LAYOUT:
TO BE CONFIRMED AT DETAILED DESIGN STAGE.
- PROPOSED INDICATIVE UNDERGROUND 15kV INDIVIDUAL
UNDERGROUND CABLE ROUTE TO BE CONFIRMED AT
VOLUME TO ACHIEVE DOCUMENTED STORMWATER
MANAGEMENT STRATEGY. SPECIFIC TANK DIMENSIONS
TO BE CONFIRMED AT DETAILED DESIGN STAGE.
- STORMWATER DRAINAGE MANHOLE
- PROPOSED STORMWATER KERB GULLY
- PROPOSED RETAINING WALL
- BIO-RETENTION BASIN



PRELIMINARY

8721

PRELIMINARY BASIN LAYOUT & DETAILS

PROJECT: LOTTERY RIDGE ESTATE

SCALE BAR: 0 1 2 3m SCALE 1:50 @ A1

CLIENT: INERTIA

TOWN PLANNER: EAST COAST SURVEYS

NORTH POINT:

DATE: 31.01.2020

APPROVED:

FOR INFORMATION:

DESCRIPTION:

8721

SK002

PRELIMINARY BASIN LAYOUT & DETAILS

LOT 16 RL64.5m

SCALE BAR: 0 1 2 3m SCALE 1:50 @ A1

CLIENT: INERTIA

TOWN PLANNER: EAST COAST SURVEYS

NORTH POINT:

DATE: 31.01.2020

APPROVED:

FOR INFORMATION:

DESCRIPTION: