Our Reference: LU23111-OPW-01 (Rev A)
Council Reference: RAL/25/0017

A: 3a Scott Street, Parramatta Park QLD 4870
P: PO Box 8, Stratford QLD 4870
W: www.lekkerurban.com.au
E: contact@lekkerurban.com.au

Friday 22 May 2026

Operational Works Application

RE: 30 McGrath Road, Mareeba

Lot 21 on SP320486 and Lot 22 on SP320486

To Assessing Officer,

On behalf of our client, McGrath Devco Pty Ltd, we are pleased to submit the enclosed Operational Works Application for the proposed 12-lot residential subdivision at the above-referenced site. This application has been prepared in accordance with the relevant statutory requirements and Council's adopted standards, and is submitted for your consideration and approval.

The following documentation has been prepared and enclosed for assessment:

- Attachment A – DA Form 1 – Development Application Details
- Attachment B – FNQROC Development Manual Statement of Compliance.
- Attachment C – Decision Notice & Summary Response to Conditions
- Attachment D – RPEQ Certified Civil Engineering Drawings.
- Attachment E – Stormwater Management Plan (Provided by Lekker Urban)

The enclosed civil engineering drawings have been prepared and certified by a Registered Professional Engineer of Queensland (RPEQ) and reflect the design intent for all civil infrastructure works associated with the subdivision, including road works, stormwater drainage, earthworks, and reticulated services.

Application Fee

The application assessment fee has been calculated at **$3,702.00**, comprising a base fee of $1,794.00 plus $159.00 per lot across 12 lots, in accordance with Council's current schedule of fees and charges. Please note that the electrical engineering Operational Works submission will be lodged under separate cover in due course.

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Lodgement Meeting

We welcome the opportunity to attend a lodgement meeting with Council officers to discuss the application in further detail and address any preliminary queries. We believe early engagement will assist in streamlining the assessment process and ensuring a timely outcome for all parties.

Should you require any additional information or documentation in support of this application, please do not hesitate to contact our office on (07) 4253 7023 or via the email address provided above. We look forward to working with Council on this application and trust that the enclosed documentation is sufficient to progress the assessment.

Yours faithfully,



Joshua Affleck
Civil Engineer – Civil Lead | MIEAust CPEng NER RPEQ (No. 24039)

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Attachment A

DA Form 1 – Development Application Details

Lekker Urban.

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DA Form 1 – Development application details

Approved form (version 1.6 effective 2 August 2024) made under section 282 of the Planning Act 2016.

This form **must** be used to make a development application **involving code assessment or impact assessment**, except when applying for development involving only building work.

For a development application involving **building work only**, use *DA Form 2 – Building work details*.

For a development application involving **building work associated with any other type of assessable development (i.e. material change of use, operational work or reconfiguring a lot)**, use this form (*DA Form 1*) **and** parts 4 to 6 of *DA Form 2 – Building work details*.

Unless stated otherwise, all parts of this form **must** be completed in full and all required supporting information **must** accompany the development application.

One or more additional pages may be attached as a schedule to this development application if there is insufficient space on the form to include all the necessary information.

This form and any other form relevant to the development application must be used to make a development application relating to strategic port land and Brisbane core port land under the *Transport Infrastructure Act 1994*, and airport land under the *Airport Assets (Restructuring and Disposal) Act 2008.* For the purpose of assessing a development application relating to strategic port land and Brisbane core port land, any reference to a planning scheme is taken to mean a land use plan for the strategic port land, Brisbane port land use plan for Brisbane core port land, or a land use plan for airport land.

Note: *All terms used in this form have the meaning given under the Planning Act 2016, the Planning Regulation 2017, or the Development Assessment Rules (DA Rules).*

PART 1 – APPLICANT DETAILS

1) Applicant details	
Applicant name(s) (*individual or company full name*)	McGrath Devco Pty Ltd
Contact name *(only applicable for companies)*	C/- Lekker Urban Pty Ltd
Postal address *(P.O. Box or street address)*	PO Box 8
Suburb	Stratford
State	QLD
Postcode	4870
Country	Australia
Contact number	(07) 4253 7023
Email address *(non-mandatory)*	contact@lekkerurban.com.au
Mobile number *(non-mandatory)*	
Fax number *(non-mandatory)*	
Applicant's reference number(s) *(if applicable)*	LU23111

1.1) Home-based business
☐ Personal details to remain private in accordance with section 264(6) of *Planning Act 2016*

2) Owner's consent
2.1) Is written consent of the owner required for this development application?
☐ Yes – the written consent of the owner(s) is attached to this development application ☒ No – proceed to 3)

Queensland Government

PART 2 – LOCATION DETAILS

3) Location of the premises *(complete 3.1) or 3.2), and 3.3) as applicable)*

***Note**: Provide details below and attach a site plan for any or all premises part of the development application. For further information, see DA Forms Guide: Relevant plans.*

3.1) Street address and lot on plan

☒ Street address **AND** lot on plan (*all lots must be listed*), ***or***

☐ Street address **AND** lot on plan for an adjoining or adjacent property of the premises *(appropriate for development in water but adjoining or adjacent to land e.g. jetty, pontoon. All lots must be listed).*

a)	Unit No.	Street No.	Street Name and Type	Suburb
		28	McGrath Road	Mareeba
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
	4880	22	SP320486	Mareeba Shire Council
b)	Unit No.	Street No.	Street Name and Type	Suburb
		30	McGrath Road	Mareeba
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
	4880	21	SP320486	Mareeba Shire Council

3.2) Coordinates of premises *(appropriate for development in remote areas, over part of a lot or in water not adjoining or adjacent to land e.g. channel dredging in Moreton Bay)*

***Note**: Place each set of coordinates in a separate row.*

☐ Coordinates of premises by longitude and latitude

Longitude(s)	Latitude(s)	Datum	Local Government Area(s) *(if applicable)*
		☐ WGS84 ☐ GDA94 ☐ Other:	

☐ Coordinates of premises by easting and northing

Easting(s)	Northing(s)	Zone Ref.	Datum	Local Government Area(s) *(if applicable)*
		☐ 54 ☐ 55 ☐ 56	☐ WGS84 ☐ GDA94 ☐ Other:	

3.3) Additional premises

☐ Additional premises are relevant to this development application and the details of these premises have been attached in a schedule to this development application

☒ Not required

4) Identify any of the following that apply to the premises and provide any relevant details

☐ In or adjacent to a water body or watercourse or in or above an aquifer

Name of water body, watercourse or aquifer:

☐ On strategic port land under the *Transport Infrastructure Act 1994*

Lot on plan description of strategic port land:

Name of port authority for the lot:

☐ In a tidal area

Name of local government for the tidal area *(if applicable)*:

Name of port authority for tidal area *(if applicable)*

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☐ On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008*	
Name of airport:	
☐ Listed on the Environmental Management Register (EMR) under the *Environmental Protection Act 1994*	
EMR site identification:	
☐ Listed on the Contaminated Land Register (CLR) under the *Environmental Protection Act 1994*	
CLR site identification:	

5) Are there any existing easements over the premises?

Note: Easement uses vary throughout Queensland and are to be identified correctly and accurately. For further information on easements and how they may affect the proposed development, see DA Forms Guide.

☐ Yes – All easement locations, types and dimensions are included in plans submitted with this development application

☒ No

PART 3 – DEVELOPMENT DETAILS

Section 1 – Aspects of development

6.1) Provide details about the first development aspect

a) What is the type of development? *(tick only one box)*

☐ Material change of use ☐ Reconfiguring a lot ☒ Operational work ☐ Building work

b) What is the approval type? *(tick only one box)*

☐ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

☐ Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

Reconfiguring 2 lots into 12 lots and constructing a new road with associated services.

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms guide: Relevant plans.*

☒ Relevant plans of the proposed development are attached to the development application

6.2) Provide details about the second development aspect

a) What is the type of development? *(tick only one box)*

☐ Material change of use ☐ Reconfiguring a lot ☐ Operational work ☐ Building work

b) What is the approval type? *(tick only one box)*

☐ Development permit ☐ Preliminary approval ☐ Preliminary approval that includes a variation approval

c) What is the level of assessment?

☐ Code assessment ☐ Impact assessment *(requires public notification)*

d) Provide a brief description of the proposal *(e.g. 6 unit apartment building defined as multi-unit dwelling, reconfiguration of 1 lot into 3 lots)*:

e) Relevant plans

***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*

☐ Relevant plans of the proposed development are attached to the development application

6.3) Additional aspects of development
☐ Additional aspects of development are relevant to this development application and the details for these aspects that would be required under Part 3 Section 1 of this form have been attached to this development application
☒ Not required
6.4) Is the application for State facilitated development?
☐ Yes - Has a notice of declaration been given by the Minister?
☒ No

Section 2 – Further development details

7) Does the proposed development application involve any of the following?	
Material change of use	☐ Yes – complete division 1 if assessable against a local planning instrument
Reconfiguring a lot	☐ Yes – complete division 2
Operational work	☒ Yes – complete division 3
Building work	☐ Yes – complete *DA Form 2 – Building work details*

Division 1 – Material change of use

***Note**: This division is only required to be completed if any part of the development application involves a material change of use assessable against a local planning instrument.*

8.1) Describe the proposed material change of use			
Provide a general description of the proposed use	Provide the planning scheme definition *(include each definition in a new row)*	Number of dwelling units *(if applicable)*	Gross floor area (m^2) *(if applicable)*

8.2) Does the proposed use involve the use of existing buildings on the premises?
☐ Yes
☐ No

8.3) Does the proposed development relate to temporary accepted development under the Planning Regulation?	
☐ Yes – provide details below or include details in a schedule to this development application	
☐ No	
Provide a general description of the temporary accepted development	Specify the stated period dates under the Planning Regulation

Division 2 – Reconfiguring a lot

***Note**: This division is only required to be completed if any part of the development application involves reconfiguring a lot.*

9.1) What is the total number of existing lots making up the premises?

9.2) What is the nature of the lot reconfiguration? *(tick all applicable boxes)*	
☐ Subdivision *(complete 10)*	☐ Dividing land into parts by agreement *(complete 11)*
☐ Boundary realignment *(complete 12)*	☐ Creating or changing an easement giving access to a lot from a constructed road *(complete 13)*

10) Subdivision				
10.1) For this development, how many lots are being created and what is the intended use of those lots:				
Intended use of lots created	Residential	Commercial	Industrial	Other, please specify:
Number of lots created				

10.2) Will the subdivision be staged?	
☐ Yes – provide additional details below ☐ No	
How many stages will the works include?	
What stage(s) will this development application apply to?	

11) Dividing land into parts by agreement – how many parts are being created and what is the intended use of the parts?				
Intended use of parts created	Residential	Commercial	Industrial	Other, please specify:
Number of parts created				

12) Boundary realignment			
12.1) What are the current and proposed areas for each lot comprising the premises?			
Current lot		Proposed lot	
Lot on plan description	Area (m^2)	Lot on plan description	Area (m^2)
12.2) What is the reason for the boundary realignment?			

13) What are the dimensions and nature of any existing easements being changed and/or any proposed easement? *(attach schedule if there are more than two easements)*				
Existing or proposed?	Width (m)	Length (m)	Purpose of the easement? *(e.g. pedestrian access)*	Identify the land/lot(s) benefitted by the easement

Division 3 – Operational work

***Note**: This division is only required to be completed if any part of the development application involves operational work.*

14.1) What is the nature of the operational work?		
☒ Road work	☒ Stormwater	☒ Water infrastructure
☒ Drainage work	☒ Earthworks	☐ Sewage infrastructure
☒ Landscaping	☐ Signage	☒ Clearing vegetation
☐ Other – please specify:		

14.2) Is the operational work necessary to facilitate the creation of new lots? *(e.g. subdivision)*	
☒ Yes – specify number of new lots:	2 into 12 lots
☐ No	

Queensland Government

14.3) What is the monetary value of the proposed operational work? *(include GST, materials and labour)*

$650,000

PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application

Carl Ewin – Mareeba Shire Council

16) Has the local government agreed to apply a superseded planning scheme for this development application?

☒ Yes – a copy of the decision notice is attached to this development application

☐ The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached

☐ No

PART 5 – REFERRAL DETAILS

17) Does this development application include any aspects that have any referral requirements?

***Note**: A development application will require referral if prescribed by the* Planning Regulation 2017.

☒ No, there are no referral requirements relevant to any development aspects identified in this development application – proceed to Part 6

Matters requiring referral to the **Chief Executive of the *Planning Act 2016***:

☐ Clearing native vegetation
☐ Contaminated land *(unexploded ordnance)*
☐ Environmentally relevant activities (ERA) *(only if the ERA has not been devolved to a local government)*
☐ Fisheries – aquaculture
☐ Fisheries – declared fish habitat area
☐ Fisheries – marine plants
☐ Fisheries – waterway barrier works
☐ Hazardous chemical facilities
☐ Heritage places – Queensland heritage place *(on or near a Queensland heritage place)*
☐ Infrastructure-related referrals – designated premises
☐ Infrastructure-related referrals – state transport infrastructure
☐ Infrastructure-related referrals – State transport corridor and future State transport corridor
☐ Infrastructure-related referrals – State-controlled transport tunnels and future state-controlled transport tunnels
☐ Infrastructure-related referrals – near a state-controlled road intersection
☐ Koala habitat in SEQ region – interfering with koala habitat in koala habitat areas outside koala priority areas
☐ Koala habitat in SEQ region – key resource areas
☐ Ports – Brisbane core port land – near a State transport corridor or future State transport corridor
☐ Ports – Brisbane core port land – environmentally relevant activity (ERA)
☐ Ports – Brisbane core port land – tidal works or work in a coastal management district
☐ Ports – Brisbane core port land – hazardous chemical facility
☐ Ports – Brisbane core port land – taking or interfering with water
☐ Ports – Brisbane core port land – referable dams
☐ Ports – Brisbane core port land – fisheries
☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*
☐ SEQ development area
☐ SEQ regional landscape and rural production area or SEQ rural living area – tourist activity or sport and recreation activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – community activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – indoor recreation
☐ SEQ regional landscape and rural production area or SEQ rural living area – urban activity
☐ SEQ regional landscape and rural production area or SEQ rural living area – combined use
☐ SEQ northern inter-urban break – tourist activity or sport and recreation activity

☐ SEQ northern inter-urban break – community activity
☐ SEQ northern inter-urban break – indoor recreation
☐ SEQ northern inter-urban break – urban activity
☐ SEQ northern inter-urban break – combined use
☐ Tidal works or works in a coastal management district
☐ Reconfiguring a lot in a coastal management district or for a canal
☐ Erosion prone area in a coastal management district
☐ Urban design
☐ Water-related development – taking or interfering with water
☐ Water-related development – removing quarry material *(from a watercourse or lake)*
☐ Water-related development – referable dams
☐ Water-related development –levees *(category 3 levees only)*
☐ Wetland protection area

Matters requiring referral to the **local government:**

☐ Airport land
☐ Environmentally relevant activities (ERA) (*only if the ERA has been devolved to local government)*
☐ Heritage places – Local heritage places

Matters requiring referral to the **Chief Executive of the distribution entity or transmission entity:**

☐ Infrastructure-related referrals – Electricity infrastructure

Matters requiring referral to:

- The **Chief Executive of the holder of the licence**, if not an individual
- The **holder of the licence**, if the holder of the licence is an individual

☐ Infrastructure-related referrals – Oil and gas infrastructure

Matters requiring referral to the **Brisbane City Council:**

☐ Ports – Brisbane core port land

Matters requiring referral to the **Minister responsible for administering the *Transport Infrastructure Act 1994*:**

☐ Ports – Brisbane core port land *(where inconsistent with the Brisbane port LUP for transport reasons)*
☐ Ports – Strategic port land

Matters requiring referral to the **relevant port operator**, if applicant is not port operator**:**

☐ Ports – Land within Port of Brisbane's port limits *(below high-water mark)*

Matters requiring referral to the **Chief Executive of the relevant port authority:**

☐ Ports – Land within limits of another port *(below high-water mark)*

Matters requiring referral to the **Gold Coast Waterways Authority:**

☐ Tidal works or work in a coastal management district *(in Gold Coast waters)*

Matters requiring referral to the **Queensland Fire and Emergency Service:**

☐ Tidal works or work in a coastal management district *(involving a marina (more than six vessel berths))*

18) Has any referral agency provided a referral response for this development application?

☐ Yes – referral response(s) received and listed below are attached to this development application
☒ No

Referral requirement	Referral agency	Date of referral response

Identify and describe any changes made to the proposed development application that was the subject of the referral response and this development application, or include details in a schedule to this development application *(if applicable).*

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PART 6 – INFORMATION REQUEST

19) Information request under the DA Rules

☒ I agree to receive an information request if determined necessary for this development application

☐ I do not agree to accept an information request for this development application

***Note**: By not agreeing to accept an information request I, the applicant, acknowledge:*

- *that this development application will be assessed and decided based on the information provided when making this development application and the assessment manager and any referral agencies relevant to the development application are not obligated under the DA Rules to accept any additional information provided by the applicant for the development application unless agreed to by the relevant parties*
- *Part 3 under Chapter 1 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules or*
- *Part 2under Chapter 2 of the DA Rules will still apply if the application is for state facilitated development*

Further advice about information requests is contained in the DA Forms Guide.

PART 7 – FURTHER DETAILS

20) Are there any associated development applications or current approvals? *(e.g. a preliminary approval)*

☒ Yes – provide details below or include details in a schedule to this development application

☐ No

List of approval/development application references	Reference number	Date	Assessment manager
☒ Approval ☐ Development application	RAL/25/0017	17/12/2025	Carl Ewin
☐ Approval ☐ Development application			

21) Has the portable long service leave levy been paid? *(only applicable to development applications involving building work or operational work)*

☐ Yes – a copy of the receipted QLeave form is attached to this development application

☒ No – I, the applicant will provide evidence that the portable long service leave levy has been paid before the assessment manager decides the development application. I acknowledge that the assessment manager may give a development approval only if I provide evidence that the portable long service leave levy has been paid

☐ Not applicable *(e.g. building and construction work is less than $150,000 excluding GST)*

Amount paid	Date paid (dd/mm/yy)	QLeave levy number (A, B or E)
$		

22) Is this development application in response to a show cause notice or required as a result of an enforcement notice?

☐ Yes – show cause or enforcement notice is attached

☒ No

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23) Further legislative requirements

Environmentally relevant activities

23.1) Is this development application also taken to be an application for an environmental authority for an **Environmentally Relevant Activity (ERA)** under section 115 of the *Environmental Protection Act 1994*?

☐ Yes – the required attachment (form ESR/2015/1791) for an application for an environmental authority accompanies this development application, and details are provided in the table below

☒ No

***Note**: Application for an environmental authority can be found by searching "ESR/2015/1791" as a search term at www.qld.gov.au. An ERA requires an environmental authority to operate. See www.business.qld.gov.au for further information.*

Proposed ERA number:		Proposed ERA threshold:	
Proposed ERA name:			

☐ Multiple ERAs are applicable to this development application and the details have been attached in a schedule to this development application.

Hazardous chemical facilities

23.2) Is this development application for a **hazardous chemical facility**?

☐ Yes – *Form 536: Notification of a facility exceeding 10% of schedule 15 threshold* is attached to this development application

☒ No

***Note**: See www.business.qld.gov.au for further information about hazardous chemical notifications.*

Clearing native vegetation

23.3) Does this development application involve **clearing native vegetation** that requires written confirmation that the chief executive of the *Vegetation Management Act 1999* is satisfied the clearing is for a relevant purpose under section 22A of the *Vegetation Management Act 1999*?

☐ Yes – this development application includes written confirmation from the chief executive of the *Vegetation Management Act 1999* (s22A determination)

☒ No

***Note**: 1. Where a development application for operational work or material change of use requires a s22A determination and this is not included, the development application is prohibited development.*

2. See https://www.qld.gov.au/environment/land/vegetation/applying for further information on how to obtain a s22A determination.

Environmental offsets

23.4) Is this development application taken to be a prescribed activity that may have a significant residual impact on a **prescribed environmental matter** under the *Environmental Offsets Act 2014*?

☐ Yes – I acknowledge that an environmental offset must be provided for any prescribed activity assessed as having a significant residual impact on a prescribed environmental matter

☒ No

***Note**: The environmental offset section of the Queensland Government's website can be accessed at www.qld.gov.au for further information on environmental offsets.*

Koala habitat in SEQ Region

23.5) Does this development application involve a material change of use, reconfiguring a lot or operational work which is assessable development under Schedule 10, Part 10 of the Planning Regulation 2017?

☐ Yes – the development application involves premises in the koala habitat area in the koala priority area

☐ Yes – the development application involves premises in the koala habitat area outside the koala priority area

☒ No

***Note**: If a koala habitat area determination has been obtained for this premises and is current over the land, it should be provided as part of this development application. See koala habitat area guidance materials at www.desi.qld.gov.au for further information.*

Water resources

23.6) Does this development application involve **taking or interfering with underground water through an artesian or subartesian bore, taking or interfering with water in a watercourse, lake or spring, or taking overland flow water under the *Water Act 2000***?

☐ Yes – the relevant template is completed and attached to this development application and I acknowledge that a relevant authorisation or licence under the *Water Act 2000* may be required prior to commencing development

☒ No

***Note**: Contact the Department of Resources at www.resources.qld.gov.au for further information.*

DA templates are available from planning.statedevelopment.qld.gov.au. If the development application involves:

- *Taking or interfering with underground water through an artesian or subartesian bore: complete DA Form 1 Template 1*
- *Taking or interfering with water in a watercourse, lake or spring: complete DA Form1 Template 2*
- *Taking overland flow water: complete DA Form 1 Template 3.*

Waterway barrier works

23.7) Does this application involve **waterway barrier works?**

☐ Yes – the relevant template is completed and attached to this development application

☒ No

DA templates are available from planning.statedevelopment.qld.gov.au. For a development application involving waterway barrier works, complete DA Form 1 Template 4.

Marine activities

23.8) Does this development application involve **aquaculture, works within a declared fish habitat area or removal, disturbance or destruction of marine plants?**

☐ Yes – an associated *resource* allocation authority is attached to this development application, if required under the *Fisheries Act 1994*

☒ No

***Note**: See guidance materials at www.daf.qld.gov.au for further information.*

Quarry materials from a watercourse or lake

23.9) Does this development application involve the **removal of quarry materials from a watercourse or lake** under the *Water Act 2000?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

☒ No

***Note**: Contact the Department of Resources at www.resources.qld.gov.au and www.business.qld.gov.au for further information.*

Quarry materials from land under tidal waters

23.10) Does this development application involve the **removal of quarry materials from land under tidal water** under the *Coastal Protection and Management Act 1995?*

☐ Yes – I acknowledge that a quarry material allocation notice must be obtained prior to commencing development

☒ No

***Note**: Contact the Department of Environment, Science and Innovation at www.desi.qld.gov.au for further information.*

Referable dams

23.11) Does this development application involve a **referable dam** required to be failure impact assessed under section 343 of the *Water Supply (Safety and Reliability) Act 2008* (the Water Supply Act)?

☐ Yes – the 'Notice Accepting a Failure Impact Assessment' from the chief executive administering the Water Supply Act is attached to this development application

☒ No

***Note**: See guidance materials at www.resources.qld.gov.au for further information.*

Tidal work or development within a coastal management district

23.12) Does this development application involve **tidal work or development in a coastal management district**?

☐ Yes – the following is included with this development application:
- ☐ Evidence the proposal meets the code for assessable development that is prescribed tidal work *(only required if application involves prescribed tidal work)*
- ☐ A certificate of title

☒ No

***Note**: See guidance materials at www.desi.qld.gov.au for further information.*

Queensland and local heritage places

23.13) Does this development application propose development on or adjoining a place entered in the **Queensland heritage register** or on a place entered in a local government's **Local Heritage Register**?

☐ Yes – details of the heritage place are provided in the table below

☒ No

***Note**: See guidance materials at www.desi.qld.gov.au for information requirements regarding development of Queensland heritage places.*

For a heritage place that has cultural heritage significance as a local heritage place and a Queensland heritage place, provisions are in place under the Planning Act 2016 that limit a local categorising instrument from including an assessment benchmark about the effect or impact of, development on the stated cultural heritage significance of that place. See guidance materials at www.planning.statedevelopment.qldgov.au for information regarding assessment of Queensland heritage places.

Name of the heritage place:		Place ID:	

Decision under section 62 of the *Transport Infrastructure Act 1994*

23.14) Does this development application involve new or changed access to a state-controlled road?

☐ Yes – this application will be taken to be an application for a decision under section 62 of the *Transport Infrastructure Act 1994* (subject to the conditions in section 75 of the *Transport Infrastructure Act 1994* being satisfied)

☒ No

Walkable neighbourhoods assessment benchmarks under Schedule 12A of the Planning Regulation

23.15) Does this development application involve reconfiguring a lot into 2 or more lots in certain residential zones (except rural residential zones), where at least one road is created or extended?

☐ Yes – Schedule 12A is applicable to the development application and the assessment benchmarks contained in schedule 12A have been considered

☒ No

***Note**: See guidance materials at www.planning.statedevelopment.qld.gov.au for further information.*

PART 8 – CHECKLIST AND APPLICANT DECLARATION

24) Development application checklist	
I have identified the assessment manager in question 15 and all relevant referral requirement(s) in question 17 ***Note**: See the Planning Regulation 2017 for referral requirements*	☒ Yes
If building work is associated with the proposed development, Parts 4 to 6 of *DA Form 2 – Building work details* have been completed and attached to this development application	☐ Yes ☒ Not applicable
Supporting information addressing any applicable assessment benchmarks is with the development application ***Note**: This is a mandatory requirement and includes any relevant templates under question 23, a planning report and any technical reports required by the relevant categorising instruments (e.g. local government planning schemes, State Planning Policy, State Development Assessment Provisions). For further information, see DA Forms Guide: Planning Report Template.*	☒ Yes
Relevant plans of the development are attached to this development application ***Note**: Relevant plans are required to be submitted for all aspects of this development application. For further information, see DA Forms Guide: Relevant plans.*	☒ Yes
The portable long service leave levy for QLeave has been paid, or will be paid before a development permit is issued *(see 21)*	☒ Yes ☐ Not applicable

Queensland Government

25) Applicant declaration
☒ By making this development application, I declare that all information in this development application is true and correct ☒ Where an email address is provided in Part 1 of this form, I consent to receive future electronic communications from the assessment manager and any referral agency for the development application where written information is required or permitted pursuant to sections 11 and 12 of the *Electronic Transactions Act 2001* ***Note**: It is unlawful to intentionally provide false or misleading information.*
Privacy – Personal information collected in this form will be used by the assessment manager and/or chosen assessment manager, any relevant referral agency and/or building certifier (including any professional advisers which may be engaged by those entities) while processing, assessing and deciding the development application. All information relating to this development application may be available for inspection and purchase, and/or published on the assessment manager's and/or referral agency's website. Personal information will not be disclosed for a purpose unrelated to the *Planning Act 2016*, Planning Regulation 2017 and the DA Rules except where: • such disclosure is in accordance with the provisions about public access to documents contained in the *Planning Act 2016* and the Planning Regulation 2017, and the access rules made under the *Planning Act 2016* and Planning Regulation 2017; or • required by other legislation (including the *Right to Information Act 2009*); or • otherwise required by law. This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002.*

PART 9 – FOR COMPLETION OF THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY

Date received: | Reference number(s):

Notification of engagement of alternative assessment manager	
Prescribed assessment manager	
Name of chosen assessment manager	
Date chosen assessment manager engaged	
Contact number of chosen assessment manager	
Relevant licence number(s) of chosen assessment manager	

QLeave notification and payment *Note: For completion by assessment manager if applicable*			
Description of the work			
QLeave project number			
Amount paid ($)		Date paid (dd/mm/yy)	
Date receipted form sighted by assessment manager			
Name of officer who sighted the form			

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Attachment B

FNQROC Development Manual Statement of Compliance

Lekker Urban.

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FNQROC DEVELOPMENT MANUAL

Council Mareeba Shire Council
(INSERT COUNCIL NAME)

STATEMENT OF COMPLIANCE
OPERATIONAL WORKS DESIGN

This form duly completed and signed by an authorised agent of the Designer shall be submitted with the Operational Works Application for Council Approval.

Name of Development Proposed Rural Residential Subdivision

Location of Development 30 McGrath Road, Mareeba QLD 4880

Applicant McGrath Devco Pty Ltd

Designer Lekker Urban

It is hereby certified that the Calculations, Drawings, Specifications and related documents submitted herewith have been prepared, checked and amended in accordance with the requirements of the FNQROC Development Manual and that the completed works comply with the requirements therein, **except** as noted below.

Compliance with the requirements of the Operational Works Design Guidelines	Non-Compliance refer to non-compliance report / drawing number
Plan Presentation	Generally Complies
Geotechnical requirements	Generally Complies
Geometric Road Design	Generally Complies
Pavements	Generally Complies
Structures / Bridges	N/a
Subsurface Drainage	Generally Complies
Stormwater Drainage	Generally Complies
Site Re-grading	Generally Complies
Erosion Control and Stormwater Management	Generally Complies
Pest Plant Management	N/a

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Cycleway / Pathways	N/a
Landscaping	N/a
Water Source and Disinfection/Treatment Infrastructure (if applicable)	N/a
Water Reticulation, Pump Stations and water storages	Generally Complies
Sewer Reticulation and Pump Stations	N/a
Electrical Reticulation and Street Lighting	Generally Complies
Public Transport	N/a
Associated Documentation/ Specification	Generally Complies
Priced Schedule of Quantities	Generally Complies
Referral Agency Conditions	Generally Complies
Supporting Information (AP1.08)	Generally Complies
Other	

Conscientiously believing the above statements to be true and correct, signed on behalf of:

Designer ..... Lekker Urban ..... **RPEQ No** 24039

Name in Full Joshua L Affleck .....

Signature ..... **Date** 22/05/2026

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Attachment C

Decision Notice & Summary Response to Conditions

Lekker Urban.

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Mareeba SHIRE COUNCIL

65 Rankin Street
PO Box 154 MAREEBA QLD 4880

P: 1300 308 461
W: www.msc.qld.gov.au
E: info@msc.qld.gov.au

17 December 2025

Planning Officer:	Carl Ewin
Direct Phone:	07 4086 4656
Our Reference:	RAL/25/0017
Your Reference:	2536

A & S Grist
C/- Innovate Urban
PO Box 8170
CAIRNS QLD 4870

Dear Applicants,

Decision Notice
Planning Act 2016

I refer to your application and advise that on 17 December 2025, Council decided to approve the application in full subject to conditions.

Details of the decision are as follows:

APPLICATION DETAILS

Application No:	RAL/25/0017
Street Address:	30 McGrath Road, Mareeba
Real Property Description:	Lot 21 on SP320486 and Lot 22 on SP320486
Planning Scheme:	Mareeba Shire Council Planning Scheme 2016

DECISION DETAILS

Type of Decision:	Approval
Type of Approval:	Development Permit for Reconfiguration of a Lot - Subdivision (2 into 12 Lots)
Date of Decision:	17 December 2025

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CURRENCY PERIOD OF APPROVAL

The currency period for this development approval is **four (4) years** starting the day that this development approval takes effect. (Refer to Section 85 "Lapsing of approval at end of currency period" of the *Planning Act 2016*.)

INFRASTRUCTURE

Where conditions relate to the provision of infrastructure, these are non-trunk infrastructure conditions unless specifically nominated as a "***necessary infrastructure condition***" for the provision of trunk infrastructure as defined under Chapter 4 of the *Planning Act 2016*.

ASSESSMENT MANAGER'S CONDITIONS (COUNCIL)

(a) Development assessable against the Planning Scheme

1. Development must be carried out generally in accordance with the approved plans and the facts and circumstances of the use as submitted with the application, and subject to any alterations:

   - found necessary by the Council's delegated officer at the time of examination of the engineering plans or during construction of the development because of particular engineering requirements; and

   - to ensure compliance with the following conditions of approval.

2. Timing of Effect

   2.1 The conditions of the development permit must be complied with to the satisfaction of Council's delegated officer prior to the endorsement of a Form 18B, except where specified otherwise in these conditions of approval.

3. General

   3.1 The applicant/developer is responsible for the cost of necessary alterations to existing public utility mains, services or installations required by works in relation to the proposed development or any works required by condition(s) of this approval.

   3.2 All payments or bonds required to be made to the Council pursuant to any condition of this approval or the Adopted Infrastructure Charges Notice must be made prior to the endorsement of a Form 18B, except where specified otherwise in these conditions of approval.

   3.3 The developer must relocate (in accordance with FNQROC standards) any services such as water, sewer, drainage, telecommunications and

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electricity that are not wholly located within the lots that are being created/serviced where required by the relevant authority, unless approved by Council's delegated officer.

3.4 Where utilities (such as sewers on non-standard alignments) traverse lots to service another lot, easements must be created in favour of Council for access and maintenance purposes. The developer is to pay all costs (including Council's legal expenses) to prepare and register the easement documents.

3.5 All works must be designed, constructed and carried out in accordance with FNQROC Development Manual requirements (as amended) and to the satisfaction of Council's delegated officer.

3.6 Charges

All outstanding rates, charges, and expenses pertaining to the land are to be paid in full.

3.7 Bushfire Management
A Bushfire hazard management plan for Lots 5 – 8 only must be prepared by suitably qualified person to the satisfaction of Council's delegated officer.

The future use of each lot must comply with the requirements of the bushfire hazard management plan at all times.

3.8 Flood Immunity

(a) Habitable components of any future dwelling on Lots 1-5 and 8-12, including dwelling extensions must achieve a finished floor height of RL395.35m AHD.

Non habitable structures can be built at ground level.

(b) Habitable components of any future dwelling on Lots 6 and 7, including dwelling extensions must achieve a finished floor height of RL395.38m AHD.

Non habitable structures can be built at ground level.

This condition negates the need for individual flood referrals to Council at time of dwelling construction on each lot. At time of dwelling construction on each lot it will be the respective Building Certifier's responsibility to ensure that each dwelling achieves the flood immunity heights.

The applicant/developer is to place 4 evenly spaced, easily identifiable, and clearly labelled permanent AHD height pins in the new road kerbing.

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These height pins are required to aid in determining compliant finished floor heights.

3.9 All future dwellings on Lots 1 – 5 must be setback a minimum of 20 metres from the outermost projection of the high voltage electricity infrastructure located in each lot.

4. Infrastructure Services and Standards

4.1 Access

(a) Access to each allotment must be constructed (from the edge of the new road pavement to the property boundary of each lot) in accordance with the FNQROC Development Manual, to the satisfaction of Council's delegated officer.

The provision of layback/roll-over kerbing along the frontage of each allotment will satisfy this condition.

(b) An asphalt sealed, or concrete driveway shall be provided within the access handle of Lot 7 to the satisfaction of Council's delegated officer. The driveway will:

- have a minimum formation width of three (3) metres
- be constructed for the full length of the access handle
- be formed with one-way crossfall to cater for stormwater drainage such that any stormwater runoff is contained within the access handle
- service and utility conduits are to be provided for the full length of the concrete or sealed driveway constructed within the access handle.

4.2 Stormwater Drainage

(a) The applicant/developer must take all necessary steps to ensure a non-worsening effect on surrounding land as a consequence of the development.

(b) Prior to works commencing the applicant must submit a Stormwater Management Plan and Report prepared and certified by a suitably qualified design engineer (RPEQ) that meets or exceeds the standards of design and construction set out in the Queensland Urban Drainage Manual (QUDM) and the FNQROC Development Manual to the satisfaction of Council's delegated officer.

(c) Prior to works commencing the applicant must submit a Stormwater Quality Management Plan and Report prepared and certified by a suitably qualified design engineer (RPEQ) that meets

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or exceeds the standards of design and construction set out in the Urban Stormwater Quality Planning Guideline and the Queensland Water Quality Guideline to the satisfaction of Council's delegated officer.

(d) The Stormwater Quality Management Plan must include an Erosion and Sediment Control Plan that meets or exceeds the Soil Erosion and Sedimentation Control Guidelines (Institute of Engineers Australia) to the satisfaction of Council's delegated officer.

(e) The applicant/developer must construct the stormwater drainage infrastructure in accordance with the approved Stormwater Management Plan and/or Stormwater Quality Management Plan and Report.

(f) Temporary drainage is to be provided and maintained during the construction phase of the development, discharged to a lawful point and not onto the construction site.

(g) All stormwater channels through private property must be registered, with the easement for drainage purposes in favour of Council. All documentation leading to the registration of the easement must be completed at no cost to Council.

(h) The use of polypropylene stormwater piping is not permitted on-site.

(i) The applicant (at their cost) must video all stormwater lines and submit the video for inspection by Council's delegated officer prior to the development being taken "off maintenance" to ensure that no defects have occurred during the 12 month maintenance period.

(j) All drainage easements must be constructed to prevent erosion. Construction may be in the form of a concrete invert, with outlet protection.

4.3 Earthworks

All earthworks must be carried out in accordance with the requirements of the FNQROC Development Manual (as amended) to the satisfaction of Council's delegated officer.

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4.4 Roadworks – Internal/external

(a) The 'new road' must be constructed to an Access Street Standard in accordance with Table D1.1 of the FNQROC Development Manual (as amended) to the satisfaction of Council's delegated officer.

(b) The intersection of the 'new road' and McGrath Road must be constructed in accordance with the requirements of the FNQROC Development Manual (as amended) to the satisfaction of Council's delegated officer.

(c) Any temporary turn-around areas situated at the ends of any semi-constructed roads must include a sealed cul-de-sac head (no kerbing required) of a size capable of allowing a garbage truck to turn around on.

4.5 Water Supply

(a) A water service connection must be provided to each proposed lot in accordance with FNQROC Development Manual standards (as amended) to the satisfaction of Council's delegated officer

(b) Where the existing reticulated water supply does not currently service the site or is not at an adequate capacity, the developer is required to extend or upgrade the reticulated water supply infrastructure to connect the site to Council's existing infrastructure at a point that has sufficient capacity to service the development in accordance with FNQROC Development Manual standards (as amended).

4.6 Sewerage Connection

(a) At the time of construction of a future dwelling or outbuilding on proposed Lots 1, 5 and 7 – 11, any associated on-site effluent disposal system must be constructed in compliance with the latest version On-Site Domestic Wastewater Management Standard (ASNZ1547) to the satisfaction of the Council's delegated officer.

(b) At the time of construction of a future dwelling or outbuilding on proposed Lots 2 – 4, any associated on-site effluent disposal system must be an advanced secondary treatment system constructed in compliance with the latest version On-Site Domestic Wastewater Management Standard (ASNZ1547) to the satisfaction of the Council's delegated officer. Each advanced treatment system must be constructed at the front of each lot.

A notation will be placed on the rates record for lots 2 – 4 advising prospective landowners of this requirement.

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4.7 Electricity provision/supply

The applicant/developer must ensure that an appropriate level of electricity supply is provided to each allotment in accordance with FNQROC Development Manual standards (as amended) to the satisfaction of Council's delegated officer.

Written advice from an Electricity Service Provider is to be provided to Council indicating that an agreement has been made for the provision of **underground** power reticulation.

4.8 Telecommunications

The applicant/developer must enter into an agreement with a telecommunication carrier to provide telecommunication services to each allotment and arrange provision of necessary conduits and enveloping pipes. Alternatively, the applicant/developer must ensure that each lot is capable of being serviced by the NBN Fixed wireless network or equivalent wireless provider.

4.9 Lighting

Street lighting must be provided to all roads in accordance with FNQROC Development requirements (as amended) and to the satisfaction of Council's delegated officer.

Plans for the development works required under Conditions 4.1 – 4.5 and 4.7 – 4.9 must be submitted to Council for approval as part of a subsequent application for operational works.

REFERRAL AGENCIES

Not Applicable.

APPROVED PLANS

The following plans are Approved plans for the development:

Plan/Document Number	Plan/Document Title	Prepared by	Dated
9648 LL6 – Rev A	Development Plan Plan of Lots 1 – 12	Twine Surveys Pty Ltd	10/08/2025

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ASSESSMENT MANAGER'S ADVISORY NOTES

The following notes are included for guidance and information purposes only and do not form part of the assessment manager conditions:

(a) An Adopted Infrastructure Charges Notice has been issued with respect to the approved development. The Adopted Infrastructure Charges Notice details the type of infrastructure charge/s, the amount of the charge/s and when the charge/s are payable.

(b) The Adopted Infrastructure Charges Notice does not include all charges or payments that are payable with respect to the approved development. A number of other charges or payments may be payable as conditions of approval. The applicable fee is set out in Council's Fees & Charges Schedule for each respective financial year.

(c) Easement Documents

Council has developed standard easement documentation to assist in the drafting of formal easement documents for Council easements. Please contact the Planning Section for more information regarding the drafting of easement documents for Council easements.

(d) Endorsement Fees

Council charges a fee for the endorsement of a Survey Plan, Community Management Statements, easement documents, and covenants. The fee is set out in Council's Fees & Charges Schedule applicable for each respective financial year.

(e) Compliance with applicable codes/policies

The development must be carried out to ensure compliance with the provisions of Council's Local Laws, Planning Scheme Policies, Planning Scheme and Planning Scheme Codes to the extent they have not been varied by a condition of this approval.

(f) Notation on Rates Record

A notation will be placed on Council's Rate record with respect to each lot regarding the following conditions:

- an approved bushfire management plan (Lots 5 – 8 only)
- flood immunity
- dwelling setback from high voltage powerlines (Lots 1 – 5 only)
- On-site wastewater treatment system requirements

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(g) Transportation of Soil

All soil transported to or from the site must be covered to prevent dust or spillage during transport. If soil is tracked or spilt onto the road pavements as a result of works on the subject site, it must be removed prior to the end of the working day and within four (4) hours of a request from a Council Officer.

(h) Environmental Protection and Biodiversity Conservation Act 1999

The applicant is advised that referral may be required under the *Environmental Protection and Biodiversity Conservation Act 1999* if the proposed activities are likely to have a significant impact on a matter of national environmental significance. Further information on these matters can be obtained from www.environment.gov.au.

(i) Cultural Heritage

In carrying out the activity the applicant must take all reasonable and practicable measures to ensure that no harm is done to Aboriginal cultural heritage (the "cultural heritage duty of care"). The applicant will comply with the cultural heritage duty of care if the applicant acts in accordance with gazetted cultural heritage duty of care guidelines. An assessment of the proposed activity against the duty of care guidelines will determine whether or to what extent Aboriginal cultural heritage may be harmed by the activity. Further information on cultural heritage, together with a copy of the duty of care guidelines and cultural heritage search forms, may be obtained from www.datsip.qld.gov.au.

PROPERTY NOTES

A notation will be placed on Council's Rate record with respect to each lot regarding the following conditions:

- an approved bushfire management plan (Lots 5 – 8 only)
- flood immunity
- dwelling setback from high voltage powerlines (Lots 1 – 5 only)
- On-site wastewater treatment system requirements

FURTHER DEVELOPMENT PERMITS REQUIRED

- Development Permit for Operational Work

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SUBMISSIONS

There were two (2) properly made submissions about the application. In accordance with the *Planning Act 2016*, the name, residential or business address, and electronic address of the principal submitter for each properly made submission is provided below:

Name of Principal submitter	Address
1. Chris & Joanne Lea	jo@amaroomedical.com.au
2. Gregory Childs, Jason Childs, Deborah Childs & Kylie Childs	10 Ismahil Road, Mareeba QLD 4880

RIGHTS OF APPEAL

You are entitled to appeal against this decision. A copy of the relevant appeal provisions from the *Planning Act 2016* is attached.

During the appeal period, you as the applicant may suspend your appeal period and make written representations to council about the conditions contained within the development approval. If council agrees or agrees in part with the representations, a "negotiated decision notice" will be issued. Only one "negotiated decision notice" may be given. Taking this step will defer your appeal period, which will commence again from the start the day after you receive a "negotiated decision notice".

OTHER DETAILS

If you wish to obtain more information about Council's decision, electronic copies are available on line at www.msc.qld.gov.au, or at Council Offices.

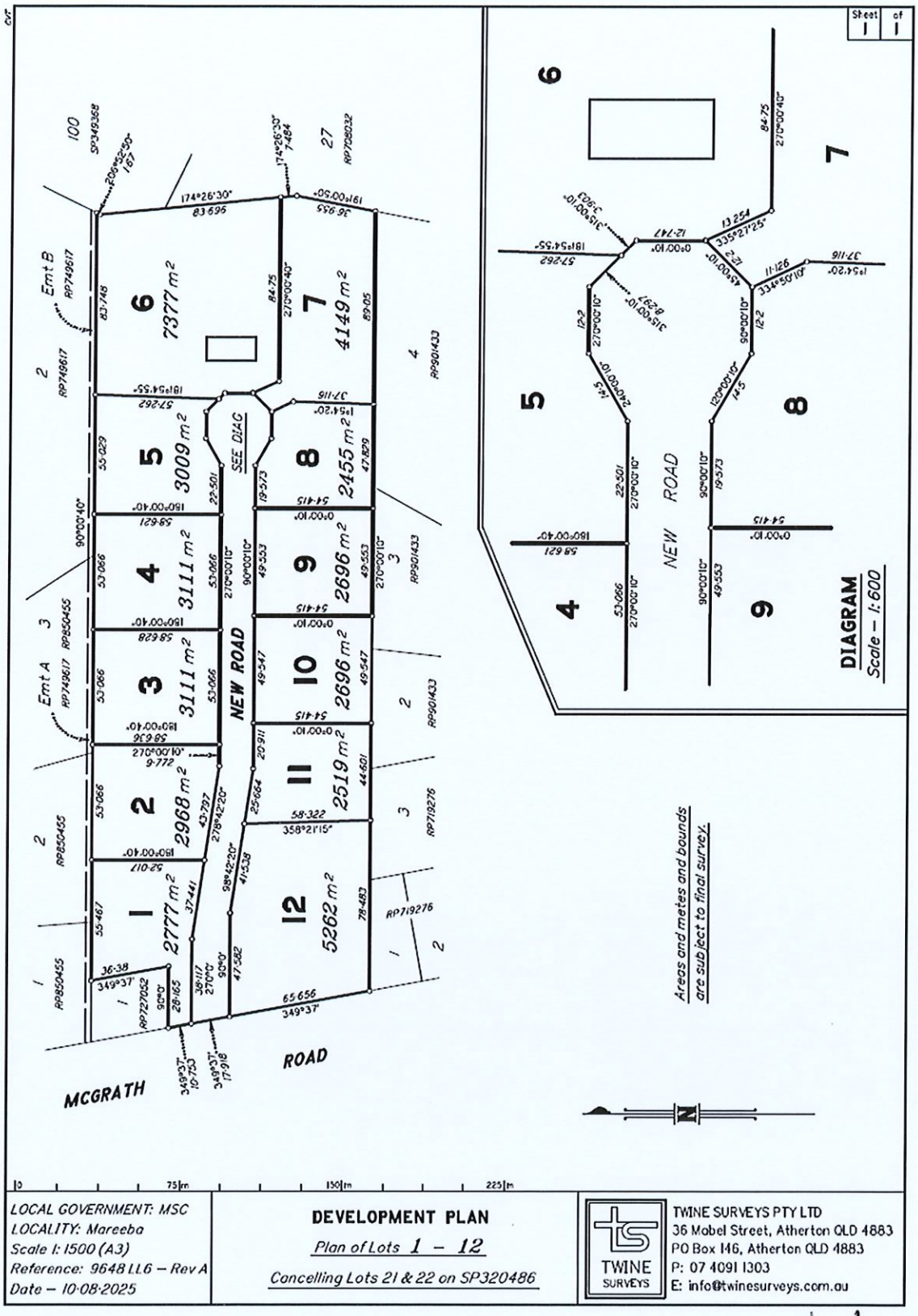
Yours faithfully

BRIAN MILLARD
COORDINATOR PLANNING & BUILDING

Enc: Approved Plans/Documents
Appeal Rights
Adopted Infrastructure Charge Notice

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Approved Plans / Documents



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Appeal Rights

PLANNING ACT 2016 & THE PLANNING REGULATION 2017

Chapter 6 Dispute resolution

Part 1 Appeal rights

229 Appeals to tribunal or P&E Court

(1) Schedule 1 of the *Planning Act 2016* states –
  (a) Matters that may be appealed to –
    (i) either a tribunal or the P&E Court; or
    (ii) only a tribunal; or
    (iii) only the P&E Court; and
  (b) The person-
    (i) who may appeal a matter (**the *appellant***); and
    (ii) who is a respondent in an appeal of the matter; and
    (iii) who is a co-respondent in an appeal of the matter; and
    (iv) who may elect to be a co-respondent in an appeal of the matter.

(Refer to Schedule 1 of the Planning Act 2016)

(2) An appellant may start an appeal within the appeal period.
(3) The ***appeal period*** is –
  (a) for an appeal by a building advisory agency – 10 business days after a decision notice for the decision is given to the agency; or
  (b) for an appeal against a deemed refusal – at any time after the deemed refusal happens; or
  (c) for an appeal against a decision of the Minister, under chapter 7, part 4, to register premises or to renew the registration of premises – 20 business days after a notice us published under section 269(3)(a) or (4); or
  (d) for an appeal against an infrastructure charges notice – 20 business days after the infrastructure charges notice is given to the person; or
  (e) for an appeal about a deemed approval of a development application for which a decision notice has not been given – 30 business days after the applicant gives the deemed approval notice to the assessment manager; or
  (f) for any other appeal – 20 business days after a notice of the decision for the matter, including an enforcement notice, is given to the person.

  Note –
  See the P&E Court Act for the court's power to extend the appeal period.

(4) Each respondent and co-respondent for an appeal may be heard in the appeal.
(5) If an appeal is only about a referral agency's response, the assessment manager may apply to the tribunal or P&E Court to withdraw from the appeal.
(6) To remove any doubt. It is declared that an appeal against an infrastructure charges notice must not be about-
  (a) the adopted charge itself; or
  (b) for a decision about an offset or refund-

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(i) the establishment cost of trunk infrastructure identified in a LGIP; or
(ii) the cost of infrastructure decided using the method included in the local government's charges resolution.

230 Notice of appeal

(1) An appellant starts an appeal by lodging, with the registrar of the tribunal or P&E Court, a notice of appeal that-
  (a) is in the approved form; and
  (b) succinctly states the grounds of the appeal.
(2) The notice of appeal must be accompanied by the required fee.
(3) The appellant or, for an appeal to a tribunal, the registrar must, within the service period, give a copy of the notice of appeal to –
  (a) the respondent for the appeal ; and
  (b) each co-respondent for the appeal; and
  (c) for an appeal about a development application under schedule 1, table 1, item 1 – each principal submitter for the development application; and
  (d) for and appeal about a change application under schedule 1, table 1, item 2 – each principal submitter for the change application; and
  (e) each person who may elect to become a co-respondent for the appeal, other than an eligible submitter who is not a principal submitter in an appeal under paragraph (c) or (d); and
  (f) for an appeal to the P&E Court – the chief executive; and
  (g) for an appeal to a tribunal under another Act – any other person who the registrar considers appropriate.
(4) The *service period* is –
  (a) if a submitter or advice agency started the appeal in the P&E Court – 2 business days after the appeal has started; or
  (b) otherwise – 10 business days after the appeal is started.
(5) A notice of appeal given to a person who may elect to be a co-respondent must state the effect of subsection (6).
(6) A person elects to be a co-respondent by filing a notice of election, in the approved form, within 10 business days after the notice of appeal is given to the person.

231 Other appeals

(1) Subject to this chapter, schedule 1 and the P&E Court Act, unless the Supreme Court decides a decision or other matter under this Act is affected by jurisdictional error, the decision or matter is non-appealable.
(2) The *Judicial Review Act 1991*, part 5 applies to the decision or matter to the extent it is affected by jurisdictional error.
(3) A person who, but for subsection (1) could have made an application under the Judicial Review Act 1991 in relation to the decision or matter, may apply under part 4 of that Act for a statement of reasons in relation to the decision or matter.
(4) In this section –
  decision includes-
  (a) conduct engaged in for the purpose of making a decision; and
  (b) other conduct that relates to the making of a decision; and
  (c) the making of a decision or failure to make a decision; and

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(d) a purported decision ; and
(e) a deemed refusal.

non-appealable, for a decision or matter, means the decision or matter-

(a) is final and conclusive; and
(b) may not be challenged, appealed against, reviewed, quashed, set aside or called into question in any other way under the Judicial Review Act 1991 or otherwise, whether by the Supreme Court, another court, a tribunal or another entity; and
(c) is not subject to any declaratory, injunctive or other order of the Supreme Court, another court, a tribunal or another entity on any ground.

232 Rules of the P&E Court

(1) A person who is appealing to the P&E Court must comply with the rules of the court that apply to the appeal.
(2) However, the P&E Court may hear and decide an appeal even if the person has not complied with the rules of the P&E Court.

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Decision Notice & Summary Response to Conditions

ASSESSMENT MANAGER'S CONDITIONS (COUNCIL) Summary of Response Items

Decision Notice Condition Number	General Requirements	Lekker Urban Response
Condition 1	Development must be carried out generally in accordance with the approved plans and the facts and circumstances of the use as submitted with the application, and subject to any alterations: • found necessary by the Council's delegated officer at the time of examination of the engineering plans or during construction of the development because of particular engineering requirements; and • to ensure compliance with the following conditions of approval.	Noted.
Condition 2.1	The conditions of the development permit must be complied with to the satisfaction of Councils delegated officer prior to the endorsement of a Form 18B, except where specified otherwise in these conditions of approval.	Noted.
Condition 3.1	The applicant/developer is responsible for the cost of necessary alterations to existing public utility mains, services or installations required by works in relation to the proposed	Noted.

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	development or any works required by condition(s) of this approval.	
Condition 3.2	All payments or bonds required to be made to the Council pursuant to any condition of this approval or the Adopted Infrastructure Charges Notice must be made prior to the endorsement of a Form 18B, except where specified otherwise in these conditions of approval.	Noted.
Condition 3.3	The developer must relocate (in accordance with FNQROC standards) any services such as water, sewer/ drainage, telecommunications and electricity that are not wholly located within the lots that are being created/serviced where required by the relevant authority, unless approved by Councils delegated officer.	Noted.
Condition 3.4	Where utilities (such as sewers on non-standard alignments) traverse lots to service another lot, easements must be created in favour of Council for access and maintenance purposes. The developer is to pay all costs (including Council's legal expenses) to prepare and register the easement documents.	Noted.
Condition 3.5	All works must be designed, constructed and carried out in accordance with FNQROC Development Manual requirements (as amended) and to the satisfaction of Councils delegated officer.	Noted.
Condition 3.6	Charges	Noted.

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	All outstanding rates, charges/ and expenses pertaining to the land are to be paid in full.	
Condition 3.7	Bushfire Management A Bushfire hazard management plan for Lots 5 -8 only must be prepared by suitably qualified person to the satisfaction of Council's delegated officer. The future use of each lot must comply with the requirements of the bushfire hazard management plan at all times.	Bushfire Management Plan to be provided by the client prior to commencement of use satisfying the requirements of Council.
Condition 3.8	Flood Immunity (a) Habitable components of any future dwelling on Lots 1-5 and 8-12, including dwelling extensions must achieve a finished floor height of RL395.35mAHD. Non habitable structures can be built at ground level. (b) Habitable components of any future dwelling on Lots 6 and 7, including dwelling extensions must achieve a finished floor height of RL395.38m AHD. Non habitable structures can be built at ground level. This condition negates the need for individual flood referrals to Council at time of dwelling construction on each lot. At time of dwelling construction on each lot it will be the respective	A Local Flood Study is currently being undertaken for the subject site, commissioned in the absence of broader flood level mapping provided by Council. The primary intent of the study is to establish site-specific flood levels, minimising the extent of filling required across the site compared to a conservative, generalised approach. The Local Flood Study will be submitted to Council upon completion for review and concurrence prior to any further works proceeding.

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	Building Certifier's responsibility to ensure that each dwelling achieves the flood immunity heights. The applicant/developer is to place 4 evenly spaced, easily identifiable/and clearly labelled permanent AHD height pins in the new road kerbing. These height pins are required to aid in determining compliant finished floor heights.	
Condition 3.9	All future dwellings on Lots 1-5 must be setback a minimum of 20 metres from the outermost projection of the high voltage electricity infrastructure located in each lot.	Noted – The 20m setback has been noted on all civil engineering documentation.
Condition 4.1	Infrastructure Services and Standards Access (a) Access to each allotment must be constructed (from the edge of the new road pavement to the property boundary of each lot) in accordance with the FNQROC Development Manual/ to the satisfaction of Council's delegated officer. The provision of layback/roll-over kerbing along the frontage of each allotment will satisfy this condition.	(a) Layback kerb and channel has been provided to the frontage of all lots, to FNQROC specification, satisfying the requirements. (b) A 3.5m wide concrete driveway has been provided to proposed Lot 7, satisfying the requirements. Refer to LU23111-CD502 for further information.

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	(b) An asphalt sealed, or concrete driveway shall be provided within the access handle of Lot 7 to the satisfaction of Council's delegated officer. The driveway will: • have a minimum formation width of three (3) metres • be constructed for the full length of the access handle • be formed with one-way crossfall to cater for stormwater drainage such that any stormwater runoff is contained within the access handle • service and utility conduits are to be provided for the full length of the concrete or sealed driveway constructed within the access handle.	
Condition 4.2	Stormwater Drainage (a) The applicant/developer must take all necessary steps to ensure a non-worsening effect on surrounding land as a consequence of the development. (b) Prior to works commencing the applicant must submit a Stormwater Management Plan and Report prepared and certified by a suitably qualified design engineer (RPEQ) that meets or exceeds the standards of design and construction set out in the Queensland Urban Drainage Manual (QUDM) and the FNQROC	(a) Refer to the Stormwater Management Plan prepared by Lekker Urban, satisfying the requirements. A concept erosion and sediment control plan has been provided.

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	Development Manual to the satisfaction of Councils delegated officer. (c) Prior to works commencing the applicant must submit a Stormwater Quality Management Plan and Report prepared and certified by a suitably qualified design engineer (RPEQ) that meets or exceeds the standards of design and construction set out in the Urban Stormwater Quality Planning Guideline and the Queensland Water Quality Guideline to the satisfaction of Council's delegated officer. (d) The Stormwater Quality Management Plan must include an Erosion and Sediment Control Plan that meets or exceeds the Soil Erosion and Sedimentation Control Guidelines (Institute of Engineers Australia) to the satisfaction of Council's delegated officer. (e) The applicant/developer must construct the stormwater drainage infrastructure in accordance with the approved Stormwater Management Plan and/or Stormwater Quality Management Plan and Report. (f) Temporary drainage is to be provided and maintained during the construction phase of the development/ discharged to a lawful point and not onto the construction site.	

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	(g) All stormwater channels through private property must be registered/ with the easement for drainage purposes in favour of Council. All documentation leading to the registration of the easement must be completed at no cost to Council. (h) The use of polypropylene stormwater piping is not permitted on-site. (i) The applicant (at their cost) must video all stormwater lines and submit the video for inspection by Council's delegated officer prior to the development being taken "off maintenance" to ensure that no defects have occurred during the 12 month maintenance period. (j) All drainage easements must be constructed to prevent erosion. Construction may be in the form of a concrete invert/ with outlet protection.	
Condition 4.3	Earthworks All earthworks must be carried out in accordance with the requirements of the FNQ.ROC Development Manual (as amended) to the satisfaction of Council's delegated officer.	Noted.
Condition 4.4	Roadworks – Internal/external (a) The 'new road' must be constructed to an Access Street Standard in accordance with Table D1.1 of the FNQROC Development Manual (as amended) to the satisfaction of Council's delegated officer.	(a) A new road to an Access Street formation has been provided to the development, to FNQROC specification, satisfying the requirements. (b) Noted.

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	(b) The intersection of the 'new road" and McGrath Road must be constructed in accordance with the requirements of the FNQROC Development Manual (as amended) to the satisfaction of Council's delegated officer. (c) Any temporary turn-around areas situated at the ends of any semi-constructed roads must include a sealed cul-de-sac head (no kerbing required) of a size capable of allowing a garbage truck to turn around on.	(c) The cul-de-sac has been designed to standard FNQROC dimensions, satisfying the requirements.
Condition 4.5	Water Supply (a) A water service connection must be provided to each proposed lot in accordance with FNQROC Development Manual standards (as amended) to the satisfaction of Council's delegated officer (b) Where the existing reticulated water supply does not currently service the site or is not at an adequate capacity/ the developer is required to extend or upgrade the reticulated water supply infrastructure to connect the site to Council's existing infrastructure at a point that has sufficient capacity to service the development in accordance with FNQROC Development Manual standards (as amended).	(a) Refer to Lekker Urban Civil Engineering Drawings, LU23111-WD-200, satisfying the requirements. (b) Lekker Urban have provided the required demand calculations as part of this development. MSC to confirm the capacity within the existing network with the addition the proposed development.

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Condition 4.6	Sewerage Connection (a) At the time of construction of a future dwelling or outstanding on proposed Lots 1, 5 and 7 - II/ any associated on-site effluent disposal system must be constructed in compliance with the latest version On-Site Domestic Wastewater Management Standard (ASNZ1547) to the satisfaction of the Council's delegated officer. (b) At the time of construction of a future dwelling or outbuilding on proposed Lots 2-4, any associated on-site effluent disposal system must be an advanced secondary treatment system constructed in compliance with the latest version On-Site Domestic Wastewater Management Standard (ASNZ1547) to the satisfaction of the Council's delegated officer. Each advanced treatment system must beconstructed at the front of each lot. A notation will be placed on the rates record for lots 2-4 advising prospective landowners of this requirement.	(a) Refer to Lekker Urban Civil Engineering Drawings, LU23111-SD-200, satisfying the requirements. (b) Refer to Lekker Urban Civil Engineering Drawings, LU23111-WD-200, satisfying the requirements.
	Electricity provision/supply The applicant/developer must ensure that an appropriate level of electricity supply is provided to each allotment in accordance	Letter of Supply to be provided by Ergon Energy.

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	with FNQROC Development Manual standards (as amended) to the satisfaction of Council's delegated officer. Written advice from an Electricity Service Provider is to be provided to Council indicating that an agreement has been made for the provision of underground power reticulation.	
	Telecommunications The applicant/developer must enter into an agreement with a telecommunication carrier to provide telecommunication services to each allotment and arrange provision of necessary conduits and enveloping pipes. Alternatively, the applicant/developer must ensure that each lot is capable of being serviced by the NBN Fixed wireless network or equivalent wireless provider.	Letter of Supply to be provided by NBN.
	Lighting Street lighting must be provided to all roads in accordance with FNQROC Development requirements (as amended) and to the satisfaction of Council's delegated officer.	Operational Works Application for street lighting to be provided in a separate application.

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Attachment D

RPEQ Certified Civil Engineering Drawing

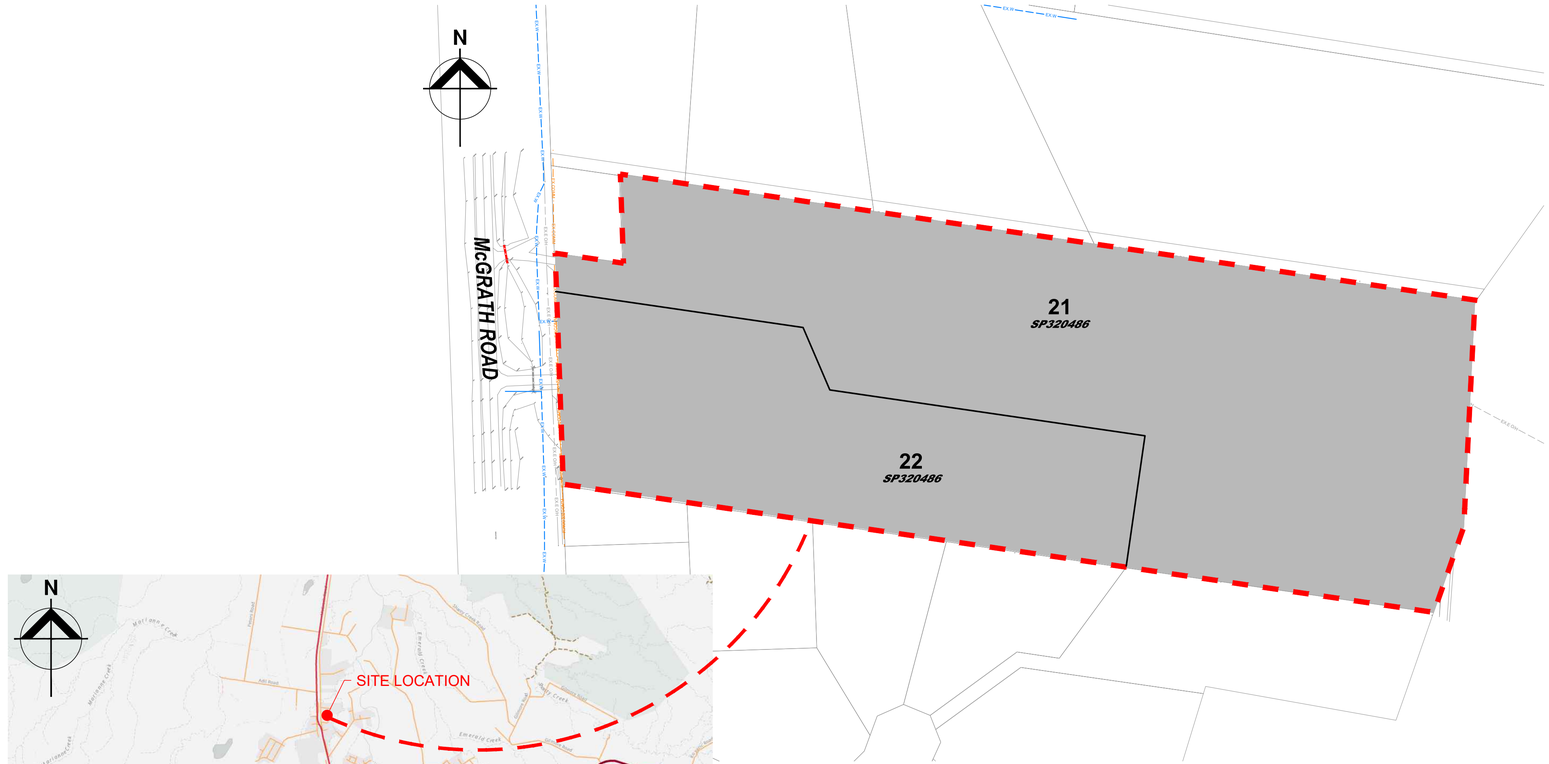
Lekker Urban.

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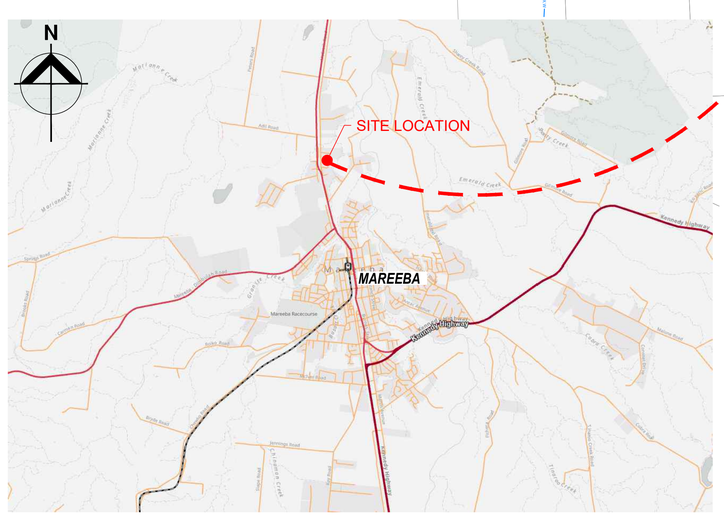
ON BEHALF OF MCGRATH DEVCO PTY LTD
30 McGRATH ROAD, MAREEBA QLD
LOT 21 & 22 ON SP320486
PROPOED RESIDENTIAL SUBDIVISION - CIVIL WORKS

DRAWING SCHEDULE - CIVIL

DRAWING NUMBER	SHEET TITLE	REVISION
LU23111-CD-100	COVER SHEET, LOCALITY & DRAWING SCHEDULES	A
LU23111-CD-101	CONSTRUCTION NOTES	A
LU23111-CD-102	EROSION & SEDIMENT CONTROL NOTES & DETAILS	A
LU23111-CD-200	CLEARING & DEMOLITION LAYOUT PLAN	A
LU23111-CD-201	CUT/FILL HEAT MAP LAYOUT PLAN	A
LU23111-CD-202	CIVIL WORKS LAYOUT PLAN	A
LU23111-CD-300	ROAD LONGITUDINAL SECTIONS - NEW ACCESS STREET	A
LU23111-CD-301	ROAD LONGITUDINAL SECTIONS - MCGRATH ROAD	A
LU23111-CD-400	ROAD CROSS SECTIONS - TYPICAL SECTION	A
LU23111-CD-401	ROAD CROSS SECTIONS - SHEET 1 OF 5	A
LU23111-CD-402	ROAD CROSS SECTIONS - SHEET 2 OF 5	A
LU23111-CD-403	ROAD CROSS SECTIONS - SHEET 3 OF 5	A
LU23111-CD-404	ROAD CROSS SECTIONS - SHEET 4 OF 5	A
LU23111-CD-405	ROAD CROSS SECTIONS - SHEET 5 OF 5	A
LU23111-CD-405	ROAD CROSS SECTIONS - SHEET 5 OF 5	A
LU23111-CD-500	INTERSECTION DETAIL PLAN - MCGRATH ROAD & NEW ACCESS STREET	A
LU23111-CD-501	INTERSECTION DETAIL PLAN - CUL-DE-SAC	A
LU23111-CD-502	IDETAIL PLAN - LOT 6 & 7 ACCESS DRIVEWAY	A
LU23111-CD-600	STORMWATER CATCHMENT PLAN - PRE DEVELOPMENT	A
LU23111-CD-601	STORMWATER CATCHMENT PLAN - POST DEVELOPMENT	A
LU23111-CD-602	DRAINAGE LONGITUDINAL SECTIONS	A
LU23111-CD-603	DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE	A
LU23111-CD-700	CONSTRUCTION DETAILS - SHEET 1 OF 2	A
LU23111-CD-701	CONSTRUCTION DETAILS - SHEET 2 OF 2	A
LU23111-SD-200	SEWER RETICULATION LAYOUT PLAN	A
LU23111-WD-200	WATER RETICULATION LAYOUT PLAN	A



OVERALL SITE PLAN
NOT TO SCALE



LOCALITY PLAN
NOT TO SCALE

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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DRAWING NOT TO SCALE

Designed:	Checked:
A.P.B.	J.L.A.
Authorised:	**Date:**
J.L.A.	22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
COVER SHEET, LOCALITY & DRAWING SCHEDULES

LOT 21 & 22 ON SP320486
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL

DRAWING NUMBER: LU23111-CD-100

REV: A

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1. GENERAL NOTES:

1.1. ALL WORKS SHALL BE CARRIED OUT IN ACCORDANCE WITH THE APPROVED CONDITIONS OF CONSENT — MAREEBA SHIRE COUNCIL DECISION NOTICE, APPLICATION NO. RAL/25/0017, DATED 17 DECEMBER 2025.

1.2. ALL DRAWINGS LISTED IN THE DRAWING SCHEDULE ARE TO BE READ AS A WHOLE AND NOT IN ISOLATION.

1.3. ALL DRAWINGS TO BE READ IN CONJUNCTION WITH THE PROJECT SPECIFICATION AND ALL RELEVANT STANDARD DRAWINGS.

1.4. PRIOR TO COMMENCEMENT OF WORK, FENCE OFF AND CLEARLY DELINEATE ALL AREAS WHERE WORK CANNOT BE CARRIED OUT.1

1.5. SHOULD SITE WORKS EXPOSE ANY ARCHAEOLOGICAL OR CULTURAL MATERIAL, ALL WORKS SHALL CEASE AND OFFICIALS OF THE NATIONAL PARKS AND WILDLIFE SERVICE, ABORIGINAL AND TORRES STRAIT ISLANDER CULTURAL HERITAGE BODY AND LOCAL AUTHORITY ARE TO BE NOTIFIED IMMEDIATELY.

1.6. PRIOR TO ANY VEGETATION CLEARING, AN INSPECTION TO DETERMINE THE POSSIBLE PRESENCE OF NATIVE WILDLIFE AND PARTICULAR ANIMAL BREEDING PLACES MUST BE UNDERTAKEN BY A SUITABLY QUALIFIED AND EXPERIENCED SPOTTER/CATCHER. THE ASSESSMENT MUST INCLUDE THE IDENTIFICATION OF ANY BREEDING PLACES FOR ANY ENDANGERED, VULNERABLE OR NEAR THREATENED ANIMAL SPECIES, SPECIAL LEAST CONCERN OR COLONIAL BREEDING SPECIES PRIOR TO REMOVAL OF ANY TREE AND/OR VEGETATION AS PER THE REQUIREMENTS OF THE NATURE CONSERVATION (WILDLIFE MANAGEMENT) REGULATION 2006. THE DEPARTMENT OF ENVIRONMENT, SCIENCE AND INNOVATION MUST BE CONTACTED WHERE ANY ENDANGERED, VULNERABLE OR NEAR THREATENED NATIVE WILDLIFE IS FOUND TO BE PRESENT IN ANY AREA SUBJECT TO WORK.

1.7. ALL WORKS ARE TO COMPLY WITH THE REQUIREMENTS OF THE ENVIRONMENTAL PROTECTION ACT 1994.

1.8. DISPOSAL AND MOVEMENT OF MATERIALS IN AREAS OF YELLOW CRAZY ANTS ARE TO COMPLY WITH THE WET TROPICS MANAGEMENT AUTHORITY (WTMA) AND BIOSECURITY QUEENSLAND REGULATIONS. REFER TO WWW.WETTROPICS.GOV.AU AND WWW.DAF.QLD.GOV.AU FOR CURRENT INFORMATION.

1.9. THE CONTRACTOR SHALL ADHERE TO ALL REQUIREMENTS OF THE DEPARTMENT OF ENVIRONMENT, SCIENCE AND INNOVATION.

1.10. WHERE IN THIS SET OF DRAWINGS REFERENCE IS MADE TO THE ENGINEER, CONSULTING ENGINEER AND/OR COUNCIL ENGINEER, IT SHALL MEAN THE SUPERINTENDENT UNDER THE CONTRACT FOR THE WORKS.

1.11. WHERE IN THIS SET OF DRAWINGS REFERENCE IS MADE TO THE LOCAL AUTHORITY IT SHALL MEAN MAREEBA SHIRE COUNCIL.

1.12. THE CONTRACTOR IS TO VERIFY THE LOCATION AND LEVELS OF ALL SERVICES AND TO LIAISE WITH THE LOCAL AND SERVICE AUTHORITIES PRIOR TO COMMENCING CONSTRUCTION.

1.13. THE CONTRACTOR IS TO INFORM THE LOCAL AUTHORITY AND THE ENGINEER PRIOR TO COMMENCEMENT OF WORK.

1.14. PRIOR TO COMMENCEMENT OF WORK, A SIGN DETAILING THE PROJECT AND CONTAINING THE NAMES AND CONTACT DETAILS OF THE DEVELOPER, CONTRACTOR AND PRINCIPAL CONSULTANT SHALL BE ERECTED AND MAINTAINED IN A PROMINENT POSITION AT THE SITE TO THE SATISFACTION OF THE LOCAL AUTHORITY. THE SIGN SHALL REMAIN IN PLACE UNTIL COMPLETION OF THE CONTRACT.

1.15. INFORMATION ON THESE DRAWINGS SHALL TAKE PRECEDENCE IF THERE IS ANY DISCREPANCY AND/OR CONFLICT BETWEEN THESE DRAWINGS AND STANDARD DRAWINGS. ADVISE THE SUPERINTENDENT IMMEDIATELY OF ANY AND ALL DISCREPANCIES.

1.16. LEVELS SHOWN AT ALL INTERFACES ARE TO BE CONFIRMED PRIOR TO COMMENCEMENT OF CONSTRUCTION.

1.17. ALL MATERIALS AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH THE RELEVANT AND CURRENT FNQROC, IPWEAQ, WSAA, NATSPEC/AUS-SPEC, THE NATIONAL CONSTRUCTION CODE AND WITH THE POLICIES, BY-LAWS, CODES AND SPECIFICATIONS OF THE RELEVANT LOCAL AUTHORITIES.

1.18. WHERE PROVIDED, THE ACCOMPANYING BILLS OF QUANTITIES SHALL ONLY SERVE AS A SUPPLEMENT FOR PRICING PURPOSES. THE CONTRACTOR SHALL ALLOW FOR ALL WORKS REQUIRED TO COMPLY WITH THE DRAWINGS. THIS INCLUDES ANY TEMPORARY, INTERMEDIATE OR PROTECTIVE WORKS REQUIRED TO FACILITATE FINAL CONSTRUCTION.

1.19. ELECTRONIC SETOUT DATA SUPPLIED TO ASSIST WITH CONSTRUCTION SHALL BE UTILISED IN CONJUNCTION WITH THE ENGINEERING DRAWINGS. ANY INCONSISTENCIES BETWEEN THE ELECTRONIC DATA AND ENGINEERING DRAWINGS SHALL BE REFERRED TO THE SUPERINTENDENT IMMEDIATELY FOR RESOLUTION.

2. EXISTING FEATURES

2.1. UNLESS OTHERWISE SPECIFIED, ALL EXISTING SERVICES AND STRUCTURES ARE TO BE MAINTAINED IN GOOD ORDER FOR THE DURATION OF THE CONTRACT AND WHERE RELOCATION IS REQUIRED REFER TO SPECIFICATION.

2.2. ALL WORK JOINING TO EXISTING CONSTRUCTION TO BE DONE NEATLY AND TO THE SATISFACTION OF THE SUPERINTENDENT.

2.3. ALL BENCHMARKS TO BE LEVEL CHECKED BY THE CONTRACTOR PRIOR TO COMMENCEMENT OF CONSTRUCTION.

2.4. THE LOCATION OF EXISTING SERVICES AS SHOWN ON THE PLAN IS INDICATIVE ONLY AND THE CONTRACTOR MUST ASCERTAIN THE POSITION OF ALL SERVICES (I.E. WATER, ELECTRICITY, TELECOMMUNICATIONS, GAS, ETC.) BEFORE COMMENCING CONSTRUCTION.

2.5. LEVELS AND GRADIENTS AT JUNCTIONS WITH EXISTING WORKS MAY BE VARIED AS REQUIRED TO ACHIEVE SATISFACTORY CONNECTIONS, WITH COSTS DEEMED INCLUDED IN THE RELEVANT SCHEDULE ITEM.

2.6. IF THE LOCATION, LINE AND/OR LEVEL OF ANY EXISTING SERVICE IS NOT AS DESCRIBED ON THE DRAWINGS, THE SUPERINTENDENT IS TO BE NOTIFIED IMMEDIATELY AND PRIOR TO PROCEEDING WITH FURTHER WORK.

2.7. IT IS THE CONTRACTOR'S RESPONSIBILITY TO REPAIR OR REPLACE EXISTING SERVICES DAMAGED DURING THE WORKS TO THE SATISFACTION OF THE SUPERINTENDENT.

2.8. EXISTING DRIVEWAYS AFFECTED BY WORKS SHALL BE RECONSTRUCTED IN THE SAME MATERIAL AS EXISTING OR AS DIRECTED BY THE LOCAL AUTHORITY.

2.9. CLEARING AND GRUBBING, INCLUDING REMOVAL AND DISPOSAL OF CLEARED VEGETATION, SHALL BE CARRIED OUT USING APPROVED METHODS.

2.10. SERVICES SHOWN ON THESE PLANS ARE ONLY THOSE EVIDENT AT THE TIME OF SURVEY, FROM AS-CONSTRUCTED RECORDS AND FROM 'DIAL BEFORE YOU DIG' SEARCHES. THERE MAY BE ADDITIONAL SERVICES NOT SHOWN ON THESE DRAWINGS.

2.11. IF EXISTING OR PROPOSED HYDRANTS OR VALVES ARE FOUND TO BE WITHIN AN AREA OF CONCRETE, THE SURROUND IS TO BE SET IN THE CONCRETE WITH A COMPRESSIBLE LAYER BETWEEN IT AND THE NEW CONCRETE TO ALLOW REMOVAL FOR MAINTENANCE. ALL COVER BOXES AND SURROUNDS ARE TO BE REPLACED AT NEW LEVELS IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL AND STD DWGS S2000 & S2005.

2.12. A FIRE HYDRANT LOCATION MARKER (PAINTED TEARDROP) AND BLUE RETRO-REFLECTIVE ROAD MARKER SHALL BE INSTALLED IN ACCORDANCE WITH FNQROC STD DWG S2005 AT EACH HYDRANT INSTALLATION LOCATION.

2.13. 80mm CONDUITS ARE TO BE SUPPLIED AND INSTALLED UNDER CONCRETE FOOTPATHS FOR THE PURPOSE OF FUTURE WATER SERVICE CONNECTIONS. THE CONDUIT SHALL BE LOCATED ON THE OPPOSITE BOUNDARY TO THE ELECTRICAL PILLAR BOX.

3. SAFETY IN DESIGN NOTES:

3.1. POTENTIAL SAFETY HAZARDS CONSIDERED BY THE DESIGNERS TO HAVE A HIGHER RISK THAN NORMAL CONSTRUCTION ACTIVITY ARE THAT IDENTIFIED WITH APPROPRIATE NOTES ON THESE DRAWINGS. IT SHOULD BE NOTED THAT DESIGNERS HAVE A LOWER LEVEL OF UNDERSTANDING OF THE RISKS INVOLVED IN CONSTRUCTION COMPARED TO THAT OF A COMPETENT CONTRACTOR. IT IS THEREFORE ESSENTIAL THAT AN ADEQUATE SAFETY PLAN IS PREPARED BY THE CONTRACTOR FOR THE WORKS. THE DESIGNERS MAY NOT BE AWARE OF ALL SAFETY RISKS AND HAZARDS INVOLVED IN THIS PROJECT AND THE ABSENCE OF COMMENT DOES NOT IMPLY THAT THERE ARE NO RISKS OR HAZARDS INVOLVED IN THIS PROJECT.

3.2. THE CONTRACTOR SHALL COMPLETE AND WILL SOLELY BE RESPONSIBLE FOR THE IMPLEMENTATION OF ANY NECESSARY SAFETY PLANS TO COMPLETE THE WORKS.

3.3. THE CONTRACTOR MUST COMPLY WITH ANY GUIDELINE ACTS OR CODE OF PRACTICE AND OTHER RELEVANT DOCUMENTS REGARDING SAFE WORK PRACTICES.

3.4. THE CONTRACTOR WILL HAVE A NOMINATED WH&S OFFICER FOR THE DURATION OF THE CONTRACT. THE WH&S OFFICER WILL BE RESPONSIBLE FOR ALL THE WH&S ISSUES ON THE SITE.

3.5. ALL PERSONS ENTERING THE SITE SHALL COMPLETE A SAFETY INDUCTION WITH THE NOMINATED WH&S OFFICER. THIS IS TO INCLUDE REFERENCE TO SAFETY IN DESIGN ISSUES RELEVANT TO THE PROJECT.

3.6. ALL CONSTRUCTION UNDERTAKEN BY THE CONTRACTOR IS TO COMPLY WITH THE REQUIREMENTS OF THE CURRENT EDITION OF THE WORKPLACE HEALTH AND SAFETY ACT.

3.7. ALL BUILDING SITE MANAGERS MUST TAKE ALL ACTION NECESSARY TO ENSURE BUILDING MATERIAL AND/OR MACHINERY ON CONSTRUCTION SITES ARE SECURED IMMEDIATELY FOLLOWING THE FIRST CYCLONE WATCH AND THAT RELEVANT EMERGENCY TELEPHONE CONTACTS ARE PROVIDED TO COUNCIL OFFICERS, PRIOR TO COMMENCEMENT OF WORKS.

3.8. EXCAVATIONS WORKS CARRIED OUT BY CONTRACTORS AT DEPTH OF 1.5m OR GREATER MUST PROVIDE A "SAFE WORK PLAN" AS PER WORKPLACE HEALTH AND SAFETY LEGISLATION PRIOR TO COMMENCING ANY WORK.

3.9. FLOOD IMMUNITY — AHD HEIGHT PINS
THE APPLICANT/DEVELOPER IS TO INSTALL FOUR (4) EVENLY SPACED, EASILY IDENTIFIABLE AND CLEARLY LABELLED PERMANENT AHD HEIGHT PINS IN THE NEW ROAD KERBING IN ACCORDANCE WITH CONDITION 3.8 OF THE DECISION NOTICE (RAL/25/0017). HEIGHT PINS ARE REQUIRED TO AID IN DETERMINING COMPLIANT FINISHED FLOOR HEIGHTS FOR FUTURE DWELLING CONSTRUCTION.
FLOOD IMMUNITY REQUIREMENTS ARE AS FOLLOWS:

LOTS 1–5 AND 8–12: MINIMUM HABITABLE FINISHED FLOOR LEVEL = RL 395.35m AHD
LOTS 6 AND 7: MINIMUM HABITABLE FINISHED FLOOR LEVEL = RL 395.38m AHD

NON-HABITABLE STRUCTURES MAY BE CONSTRUCTED AT GROUND LEVEL.
NOTE: THE ABOVE FLOOD IMMUNITY LEVELS SHALL BE NOTED ON THE ENGINEERING DRAWINGS FOR THE INFORMATION OF FUTURE BUILDING CERTIFIERS.

4. GENERAL SERVICES:

4.1. ELECTRICAL AND COMMUNICATIONS CONDUIT LOCATIONS ARE SHOWN FOR INFORMATION ONLY. FOR EXACT LOCATIONS REFER TO ELECTRICAL CONSULTANTS LAYOUT PLANS. FOR WATER CONDUIT LOCATIONS REFER WATER RETICULATION DRAWINGS.

4.2. ALL CONDUITS ARE TO HAVE BRASS CONDUIT MARKERS INSTALLED IN THE KERB AND CHANNEL FOR THE APPROPRIATE SERVICE.

4.3. SERVICE AUTHORITY INFRASTRUCTURE ADJUSTMENTS ARE TO BE PERFORMED BY AUTHORIZED CONTRACTORS APPROVED BY THE RELEVANT SERVICE AUTHORITY.

5. EARTHWORKS NOTES

5.1. GENERAL

5.1.1. BULK EARTHWORKS IS TO BE CARRIED OUT IN ACCORDANCE WITH THE FNQROC SPECIFICATION 'S1 EARTHWORKS' AND THE REQUIREMENTS OF AS3798-2007.

5.1.2. REFER TO PAVEMENT INVESTIGATION & DESIGN, 25018AA-D-R01, DATED 27 MARCH 2025, PROVIDED BY GEO DESIGN FOR ALL LABORATORY TEST RESULTS AND FURTHER INFORMATION.

5.1.3. NOT WITHSTANDING THE LIMITS OF EARTHWORKS SHOWN ON THE DRAWINGS, THE ACTUAL LIMIT SHALL BE DETERMINED ON SITE BY THE SUPERINTENDENT, THE ACTUAL LIMITS SHALL BE DETERMINED ON SITE BY THE SUPERINTENDENT DURING CONSTRUCTION.

5.1.4. FINISHED SURFACE LEVELS FOR ALLOTMENTS MAY BE ADJUSTED BY A WRITTEN DIRECTION OF THE SUPERINTENDENT DURING CONSTRUCTION WITH PRIOR APPROVAL FROM THE LOCAL AUTHORITY;

5.1.5. ALL EARTHWORKS QUANTITIES ARE NETT VOLUMES. CONTRACTOR TO MAKE ALLOWANCE FOR BULKING AND COMPACTION'

5.1.6. ADDITIONAL DETAILED TRIMMING WILL BE REQUIRED TO ACHIEVE FINISHED SURFACE LEVELS AND TO ACCOMMODATE LANDSCAPING WORKS.

5.1.7. GEOTECHNICAL SUPERVISION OF EARTHWORKS IS TO BE CARRIED OUT IN ACCORDANCE WITH THE EARTHWORKS SPECIFICATION BY A N.A.T.A. REGISTERED GEOTECHNICAL TESTING AUTHORITY AT THE CONTRACTORS COST.

5.1.8. THE CONTRACTOR SHALL PROVIDE DETAILS OF ALL TESTING TO THE ENGINEER PROGRESSIVELY THROUGH THE WORKS AND NOTIFY THE ENGINEER OF ANY NON-CONFORMANCES.

5.1.9. ALL NON CONFORMING WORK IS TO BE RECTIFIED AS DIRECTED BY THE ENGINEER.

5.1.10. CONTRACTOR SHALL (IF IN DOUBT) DURING EARTHWORK OPERATION DIRECT CONCERN TO THE SUPERINTENDENT WHO SHALL SEEK ADVICE FROM THE GEOTECHNICAL CONSULTANT.

5.1.11. EARTHWORKS SHALL BE CARRIED OUT TO THE FINISHED SURFACE LEVELS SHOWN. CUT AND FILL BATTERS ARE NOT TO EXCEED 1 IN 4 SLOPE UNLESS INDICATED OTHERWISE, TRANSFORMER SITE CROSSFALL MAXIMUM OF 300mm. WHERE REQUIRED, BATTERS OF 1 IN 4 TO BE USED TO TIE BACK TO FSL.

5.1.12. THE CONTRACTOR SHALL INFORM THE LOCAL AUTHORITY, AND ALL RELEVANT SERVICE PROVIDERS AND THE SUPERINTENDENT OF THE START DATE PRIOR TO COMMENCEMENT OF WORKS;

5.1.13. ALL EARTHWORKS TESTING TO BE SUPERVISED TO LEVEL 1. FREQUENCY OF FIELD DENSITY TESTING TO BE TYPE 1 IN ACCORDANCE WITH TABLE 8.1 OF AS 3798-2017;

5.2. FILLING AND COMPACTION

5.2.1. FILLING IS TO BE CARRIED OUT IN STRICT ACCORDANCE WITH THE SPECIFICATIONS AND AS3798-2017, APPENDIX B, LEVEL 1 & AS DIRECTED BY COFFEY TESTING GEOTECHNICAL INVESTIGATION REPORT.

5.2.2. ALL FILL UNDER ROADS SHALL BE COMPACTED TO 100% STANDARD COMPACTION;

5.2.3. FILLING ON ROAD EMBANKMENT TO BE COMPACTED TO 95% STANDARD DRY DENSITY AS1289 5.1.1 - 2017 AND TRIMMED TO BE FREE DRAINING. ALL ROAD EMBANKMENT FILL SHALL BE SUPERVISED BY A QUALIFIED GEOTECHNICAL ENGINEER TO LEVEL 1 REQUIREMENTS IN ACCORDANCE WITH THE AS.3798-2007.

5.2.4. PLACE FILL IN LAYERS OF LOOSE AGGREGATES OR GRANULAR MATERIAL THICKNESS APPROPRIATE TO THE TYPE OF COMPACTION EQUIPMENT BEING USED AND NOT GREATER THAN 200mm. COMPACT EACH FILLING LAYER TO THE MINIMUM DRY DENSITY SPECIFIED. THE MOISTURE CONTENT OF FILL MATERIAL SHOULD BE MAINTAINED WITHIN THE RANGE OF -1% TO +2% OF THE OPTIMUM MOISTURE CONTENT.

5.2.5. FILLING MATERIAL AS REQUIRED TO COMPLETE THE WORKS SHALL BE SOURCED FROM MATERIAL EXCAVATED FROM SITE OR IMPORTED FROM A SUITABLY APPROVED SUPPLIER. ALL FILLING MATERIAL MUST BE APPROVED BY THE GEOTECHNICAL ENGINEER PRIOR TO ITS INCORPORATION INTO THE WORKS.

5.2.6. FILL SHALL BE PLACED AND COMPACTED TO THE FOLLOWING STANDARDS:

a. COHESIVE MATERIALS: ALLOTMENT FILL SHALL ACHIEVE A MINIMUM DRY DENSITY RATIO (M.D.D.R.) OF 98% STANDARD. COMMERCIAL ALLOTMENT FILL SHALL ACHIEVE A 98% STANDARD.ROAD EMBANKMENTS SHALL ACHIEVE THE FOLLOWING MINIMUM STANDARDS.

-- GREATER THAN OR EQUAL TO 0.3m BELOW PAVEMENT SUBGRADE: 95% STD. M.D.D.R.

-- LESS THAN 0.3m BELOW PAVEMENT SUBGRADE: 100% STD. M.D.D.R.

-- NON COHESIVE MATERIALS:- FILL SHALL ACHIEVE A MINIMUM DENSITY INDEX RATIO OF 75%.

5.1. STRIPPING, STOCKPILE AND TOPSOIL

5.1.1. PRIOR TO THE COMMENCEMENT OF FILLING THE SITE IS TO BE STRIPPED - DEPTH TO BE NOTED & CONFIRMED BY CONTRACTOR. PLACEMENT OF FILL ON PREPARED AREAS SHALL NOT COMMENCE UNTIL AUTHORISED BY A LEVEL 1 GEOTECHNICAL ENGINEER. EARTHWORKS SPOIL IS TO BE STOCKPILED AS DIRECTED BY THE SUPERINTENDENT;

5.1.2. ALL VERGES AND PUBLIC OPEN SPACES AREAS CLEARED OF VEGETATION MUST BE COVERED FOR THE FULL WIDTH WITH TOPSOIL IN ACCORDANCE WITH AS 4419:2018 SOIL FOR LANDSCAPING AND GARDEN USE, TO A DEPTH OF NOT LESS THAN 40mm, LIGHTLY COMPACTED AND GRASSED IN ACCORDANCE WITH THE FNQROC DEVELOPMENT MANUAL AT THE WORK ACCEPTANCE AND MAINTAINED BY THE CONTRACTOR UNTIL FINAL WORK ACCEPTANCE.

5.1.3. SILT FENCING IS TO BE PLACED ON THE DOWNSTREAM SIDE OF ALL STOCKPILE SITES AND AN ADEQUATE CUTOFF DRAINS ARE TO BE PLACED ON THE UPSTREAM SIDE OF ALL STOCKPILE SITES;

5.2. PROTECTION DURING WORKS

5.2.1. ALL EXPOSED SURFACES APART FROM SWALE DRAINS ARE TO BE GRASS SEEDED AS A SEDIMENT AND EROSION CONTROL MEASURE.

5.2.2. ALL OPEN DRAINS ARE TO BE TURFED AS SOON AS PRACTICAL, AFTER THE OPEN DRAIN IS COMPLETED.

5.2.3. IT IS THE CONTRACTORS RESPONSIBILITY TO PROTECT THE SITE AND SURROUNDING AREAS FROM DAMAGE RESULTING FROM STORMWATER RUNOFF. TEMPORARY DIVERSION DRAINS AND OR OTHER DRAINAGE CONTROL DEVICES ARE TO BE IMPLEMENTED BY THE CONTRACTOR DURING CONSTRUCTION TO MINIMISE THE EFFECTS OF WEATHER. NO EXTENSIONS OF TIME WILL BE GRANTED SHOULD DAMAGE TO THE WORKS AND SURROUNDING AREAS RESULT FROM THE CONTRACTOR'S NEGLIGENCE IN NOT PROVIDING ADEQUATE PROTECTION.

5.2.4. ALL AREAS ARE TO BE FREE DRAINING.

5.2.5. BATTER SLOPES TO BE 1 IN 4 MAX UNLESS SPECIFIED OTHERWISE;

5.2.6. SETOUT OF EARTHWORKS IS TO THE CORNER OF LOTS, DRIVEWAY AND BATTERS AS SHOWN;

5.2.7. ALL ALLOTMENTS DISTURBED DURING EARTHWORKS ARE TO BE HYDROMULCHED

5.3. GRASSING

5.3.1. TURF STRIPS TO BE PROVIDED TO BACK OF KERB ON EACH SIDE OF FOOTPATHS.

6. ROADWORKS

6.1. GENERAL:

6.1.1. FOR DETAILS OF CONCRETE PATHWAYS, REFER LOCAL AUTHORITY STANDARD DRAWING.

6.1.2. WARNING AND DIRECTIONAL TACTILE GROUND SURFACE INDICATORS (TGSI'S) SHALL CONFORM WITH AS/NZS 1428.4

6.2. KERB \ KERB AND CHANNEL NOTES AND SET-OUT

6.2.1. ALL KERB RADII SHOWN ARE TO LIP LINE.

6.2.2. ALL LEVELS SHOWN REFER TO: LIP OF KERB AND CHANNEL - EDGE OF BITUMEN

6.2.3. SUBSOIL DRAINS TO BE PROVIDED UNDER ALL KERB AND CHANNEL AND KERB ONLY.

6.2.4. WHERE DIFFERENT KERB TYPES MEET, TRANSITION TO BE TAKEN OUT OVER 1.0m (MIN).

6.2.5. FOR RESIDENTIAL AND COMMERCIAL DRIVEWAY CROSSOVERS, REFER TO FNQROC STANDARD DRAWINGS S1015.

6.2.6. FOR DETAILS OF KERBS AND CHANNELS REFER TO FNQROC STANDARD DRAWING S1000.

6.2.7. ALL ALLOTMENTS TO BE PROVIDED TWO POWDER COATED ALUMINIUM KERB ADAPTORS, ONE ON EACH COMMON BOUNDARY OFFSET 0.5m AND IN ACCORDANCE WITH IPWEAQ STANDARD DRAWING. RS-081.

6.2.8. ALL KERBS TO BE CONSTRUCTED IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS.

6.2.9. THE CONTRACTOR SHALL ENSURE THAT ALL KERB AND CHANNEL GRADES SHALL NOT FALL BELOW 0.5% AT ANY POINT IRRESPECTIVE OF ROAD CENTRE LINE GRADING SHOWN ON LONGITUDINAL SECTIONS.

6.2.10. WHERE NEW KERB AND CHANNEL AND/OR AC MEET EXISTING SURFACES THE CONTRACTOR SHALL VERIFY THE LEVELS WITH THE SUPERINTENDENT.

6.2.11. SUBSOIL DRAINAGE SHALL BE CONTINUOUS WITH ADJOINING KERB AND CHANNEL WHERE CONCRETE INVERT IS CONSTRUCTED. REFER FNQROC STANDARD DRAWING S1095. FOR KERB / KERB AND CHANNEL SETOUT REFER BELOW.

6.3. THE NEW INTERNAL ROAD SHALL BE DESIGNED AND CONSTRUCTED TO ACCESS STREET STANDARD IN ACCORDANCE WITH TABLE D1.1 OF THE FNQROC DEVELOPMENT MANUAL (AS AMENDED) TO THE SATISFACTION OF COUNCIL'S DELEGATED OFFICER.

6.4. THE INTERSECTION OF THE NEW INTERNAL ROAD WITH MCGRATH ROAD SHALL BE DESIGNED AND CONSTRUCTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE FNQROC DEVELOPMENT MANUAL (AS AMENDED) TO THE SATISFACTION OF COUNCIL'S DELEGATED OFFICER.

6.5. ANY TEMPORARY TURN-AROUND AREAS AT THE ENDS OF SEMI-CONSTRUCTED ROADS SHALL INCLUDE A SEALED CUL-DE-SAC HEAD (KERBING NOT REQUIRED) OF SUFFICIENT SIZE TO ALLOW A STANDARD GARBAGE TRUCK TO COMPLETE A TURN-AROUND MANOEUVRE.

6.6. LOT 7 ACCESS HANDLE — A SEALED (ASPHALT OR CONCRETE) DRIVEWAY SHALL BE CONSTRUCTED WITHIN THE ACCESS HANDLE OF LOT 7 FOR ITS FULL LENGTH WITH A MINIMUM FORMATION WIDTH OF 3.0m. THE DRIVEWAY SHALL BE FORMED WITH ONE-WAY CROSSFALL TO CONTAIN STORMWATER RUNOFF WITHIN THE ACCESS HANDLE. SERVICE AND UTILITY CONDUITS SHALL BE PROVIDED FOR THE FULL LENGTH OF THE SEALED DRIVEWAY WITHIN THE ACCESS HANDLE IN ACCORDANCE WITH CONDITION 4.1(B) OF THE DECISION NOTICE (RAL/25/0017).

7. PAVEMENT

7.1. THE CONTRACTOR SHALL INITIALLY EXCAVATE THE PAVEMENT BOX TO THE FOLLOWING DEPTHS:

- IN CUT AREAS - FNQROC MINIMUM BOX PAVEMENT BOX DEPTH
- IN FILL AREAS - PROPOSED PAVEMENT DESIGN BOX DEPTH

7.1. FOLLOWING THE COMPLETION OF EXCAVATION THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT WHO SHALL CONFIRM THE PAVEMENT THICKNESS TO BE CONSTRUCTED FOLLOWING JOINT INSPECTION AND APPROVAL FROM LOCAL AUTHORITY INSPECTOR.

7.2. REFER PAVEMENT DRAWING FOR TYPES. FINAL MAKE UP TO BE DETERMINED BY THE SUPERINTENDENT

7.3. FINAL PAVEMENT DEPTHS AND MATERIAL TYPES SHALL BE DETERMINED BY THE SUPERINTENDENT AFTER EXISTING SUB-GRADE TESTING IS COMPLETED BY THE CONTRACTOR.

7.4. PAVEMENT MATERIALS SHALL BE PER FNQROC SPECIFICATION 'S2 ROAD PAVEMENTS'.

7.5. ALL NEW LINE MARKING WORK MUST BE A TWO-COAT APPLICATION OF WATERBORNE PAINT/REFLECTIVE LINE MARKING,

8. STORMWATER NOTES

8.1. GENERAL

8.1.1. STORMWATER STRUCTURES AND CONNECTIONS ARE TO BE LOCATED AS INDICATED ON THE PLAN. ADJUSTMENTS TO THE DESIGN LAYOUT WHERE REQUIRED TO SUIT ACTUAL AS-CONSTRUCTED GEOMETRY SHALL REQUIRE THE ENGINEERS APPROVAL.

8.2. STRUCTURES

8.2.1. ALL DRAINAGE STRUCTURES SHALL BE IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL STANDARDS.

8.2.2. ALL GULLIES ARE TO BE LIP IN LINE GRATED GULLY UNLESS SHOWN OTHERWISE. REFER FNQROC STANDARD DRAWINGS FOR DETAILS.

8.2.3. ALL DRAINAGE STRUCTURES WITHIN ROAD RESERVE AND FRONT OF LOTS TO HAVE AS3996-2019, CLASS D (TRAFFICABLE) COVERS / GRATES & FRAMES UNLESS NOTED OTHERWISE.

8.2.4. FOR STORMWATER PIT SETOUT LOCATIONS REFER BELOW.

8.2.5. FINAL PIT LOCATION AND ORIENTATION TO BE CONFIRMED ON SITE BY THE SUPERINTENDENT.

8.3. PIPES

8.3.1. ALL REINFORCED CONCRETE PIPES TO COMPLY WITH AS 4058-2007 AND AS 4139-2003.

8.3.2. ALL REINFORCED CONCRETE BOX CULVERTS AND LINK SLABS TO COMPLY WITH AS 1597.1-2010 AND AS 1597.2.2-2013.

8.3.3. ALL REINFORCED CONCRETE PIPES UP TO 600mm NOMINAL DIAMETER ARE TO BE RCP CLASS 3 - OVER 600mm NOMINAL DIAMETER ARE TO BE RCP CLASS 2 UNLESS NOTED OTHERWISE.

8.3.4. PIPES SHALL BE BEDDED IN ACCORDANCE WITH AS3725 - 2007, THE MINIMUM PIPE SUPPORT TYPE SHALL BE HS2 WITHIN ROAD RESERVES AND H1 ELSEWHERE.

8.3.5. uPVC PIPES SHALL BE CLASS SN8 UNLESS NOTED OTHERWISE.

8.3.6. WHERE ROOFWATER DRAINS AND SEWER MAINS ARE TO BE CONSTRUCTED PARALLEL TO EACH OTHER, THE ROOFWATER DRAINAGE CONNECTION SHALL EXTEND 1.00 BEYOND THE SEWER MAIN.

8.3.7. MINIMUM COVER TO ROOFWATER PIPES TO BE 450mm EXCEPT WHERE LESS COVER IS NECESSARY TO DISCHARGE TO STREET KERB AND CHANNEL.

8.3.8. ROOFWATER DRAINAGE SYSTEMS SHALL DISCHARGED INTO A GULLY OR STORMWATER MANHOLE WHEREVER POSSIBLE.

8.4. TRENCHES

8.4.1. THE WIDTH OF TRENCHING EXCAVATION SHALL BE IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1045 AND S1046 AT THE TRENCH BASE AND COMPLY WITH ALL REGULATIONS OF WORKPLACE HEALTH AND SAFETY ACT.

8.4.2. ALL TRENCHES SHALL BE BACKFILLED IN LAYERS OF LOOSE THICKNESS APPROPRIATE TO THE TYPE OF COMPACTION EQUIPMENT BEING USED AND NOT GREATER THAN 150mm.

8.5. SCOUR PROTECTION

8.5.1. ROCK PROTECTION TO BE PROVIDED AROUND THE HEADWALL, WINGWALLS AND APRON AND WHERE APPLICABLE ABOVE THE HEADWALL WHERE THE HEADWALL IS LOCATED WITHIN AN OVERLAND FLOW PATH.

8.5.2. GEOTEXTILE TO BE CONSTRUCTED OUT OF WATER PERMEABLE MATERIAL USUALLY SYNTHETIC MATERIAL SUCH AS POLYPROPYLENE. TO BE USED AS PART OF EROSION AND SEDIMENT CONTROL METHOD IN CONSTRUCTION AND STORMWATER MANAGEMENT SITUATIONS TO TRAP OR PREVENT CLOGGING OF AGGREGATES BY SOIL/CLAY/SILT PARTICLES.

8.5.3. GEOTEXTILE MUST BE OF SUFFICIENT STRENGTH/DURABILITY TO WITHSTAND BREAKAGE FROM WATER FLOW, SEDIMENT BUILDUP, AND EXPOSURE TO SUNLIGHT.

8.5.4. CONSULT WITH MANUFACTURER OF GEOTEXTILE TO VERIFY THAT IT CAN PERFORM THE FUNCTION THAT IS REQUIRED OF IT.

8.5.5. IF SLOPE OF CHANNEL / TABLE DRAIN IS BETWEEN 1:1 AND 1:10 , EXCAVATE OUT TO A DEPTH OF 300mm WHERE THE ROCK CHECK DAMS ARE GOING TO BE EMBEDDED.

8.5.6. LAY DOWN GEOTEXTILE OVER THE WHOLE AREA THE ROCK CHECK DAMS IS TO BE CONSTRUCTED UPON.

8.6. POLYPROPYLENE STORMWATER PIPING IS NOT PERMITTED ON SITE IN ACCORDANCE WITH CONDITION 4.2(H) OF THE DECISION NOTICE (RAL/25/0017).

8.7. PRIOR TO THE DEVELOPMENT BEING TAKEN OFF MAINTENANCE, ALL STORMWATER LINES AND SUBMIT THE RECORDING TO COUNCIL'S DELEGATED OFFICER FOR INSPECTION TO CONFIRM NO DEFECTS HAVE OCCURRED DURING THE 12-MONTH MAINTENANCE PERIOD. REFER CONDITION 4.2(I) OF THE DECISION NOTICE (RAL/25/0017).

8.8. ALL STORMWATER CHANNELS TRAVERSING PRIVATE PROPERTY SHALL BE REGISTERED WITH AN EASEMENT FOR DRAINAGE PURPOSES IN FAVOUR OF COUNCIL. ALL EASEMENT DOCUMENTATION SHALL BE COMPLETED AT NO COST TO COUNCIL. ALL DRAINAGE EASEMENTS SHALL BE CONSTRUCTED TO PREVENT EROSION, WITH CONSTRUCTION IN THE FORM OF A CONCRETE INVERT WITH OUTLET PROTECTION WHERE REQUIRED. REFER CONDITION 4.2(G) AND 4.2(J) OF THE DECISION NOTICE (RAL/25/0017).

8.9. TEMPORARY DRAINAGE SHALL BE PROVIDED AND MAINTAINED THROUGHOUT THE CONSTRUCTION PHASE, DISCHARGED TO A LAWFUL POINT AND NOT ONTO THE CONSTRUCTION SITE. REFER CONDITION 4.2(F) OF THE DECISION NOTICE (RAL/25/0017).

9. OPEN DRAINS

9.1. SWALE DRAINS ARE TO BE GRADED EVENLY BETWEEN INVERT LEVELS PROVIDED

9.2. UNLESS NOTED OTHERWISE, DRAINS SHALL BE TURFED.

10. COMPACTION

10.1. THE CONTRACTOR IS RESPONSIBLE FOR COMPACTION TECHNIQUES OVER ALL STORMWATER PIPES TO BE

EROSION AND SEDIMENT CONTROL PLANS

PROGRESSIVE EROSION AND SEDIMENT CONTROL PLANS (ERSED) PLANS SHALL BE DEVELOPED AND IMPLEMENTED AS REQUIRED BY THE SITE SUPERVISOR BASED ON THIS PLAN AND FOLLOWING PRINCIPLES AND STANDARD SITE CONTROL MEASURES.

1. MINIMISE EXTENT AND DURATION OF DISTURBANCE

1.1. CONSTRUCTION WORKS TO BE MANAGED SUCH THAT AREAS OUTSIDE SCOPE OF WORKS REMAIN UNDISTURBED WHERE POSSIBLE.
1.2. MINIMISE EXTENT OF DISTURBANCE WITHIN CONSTRUCTION SITE AT ANY ONE TIME BY STAGING THE WORKS (EG. RIP EXISTING BITUMEN IN SECTIONS, MOVING ON TO NEW SECTIONS FOLLOWING COMPLETION OF PREVIOUS STAGE).
1.3. MINIMISE DISTURBANCE OF VEGETATION ALONG THE ROAD VERGE WITH SPECIAL EMPHASIS ON MANAGEMENT OF CONSTRUCTION ACTIVITIES ADJACENT TO TO WATERCOURSES (E.G. MAINTAIN GRASSY BUFFER WHERE POSSIBLE).

2. CONTROL STORMWATER FLOWS ONTO, THROUGH AND FROM THE SITE

2.1. SEPARATE 'CLEAN' RUN-ON WATER FROM 'DIRTY' (E.G. TURBID) CONSTRUCTION AREA RUNOFF (MAINTAIN CLEAN WATER PASSAGE THROUGH CULVERT CROSSING THROUGHOUT CONSTRUCTION WORKS).
2.2. CONSTRUCT PERMANENT DRAINAGE STRUCTURES EARLY IN THE PROJECT INCLUDING:
2.2.1. KERB ON DOWN SLOPE SIDE OF ROAD
2.2.2. CULVERTS, HEADWALLS AND ASSOCIATED INLET AND OUTLET PROTECTION (E.G. DISSIPATERS)
2.3. MAXIMISE THE SHEET FLOW OF TURBID CONSTRUCTION RUNOFF INTO EXISTING SPOON DRAIN (ON UP SLOPE SIDE OF ROAD) BY MAINTAINING IN-FALL DRAINAGE WHERE POSSIBLE AND INTO NEW GUTTERS AS CONSTRUCTED.

3. USE EROSION CONTROL MEASURES TO PREVENT ON-SITE DAMAGE

3.1. THE INSTALLATION OF ALL EROSION AND SEDIMENT CONTROLS TO OCCUR IMMEDIATELY POST CLEARING AND STRIPPING.
3.2. SITE STOCKPILES OF SOIL MATERIAL IN LOW-HAZARD AREAS CLEAR OF WATERCOURSES. ADDITIONAL PROTECTION TO BE AFFORDED WITH TEMPORARY VEGETATION, DIVERSION BANKS AND SEDIMENT CONTROL MEASURES, IF REQUIRED. SEED STOCKPILES WITH ANNUAL GRASS IF THEY ARE TO BE STORED LONGER THAN 10 DAYS.
3.3. CONSTRUCT A RANGE OF EROSION CONTROLS WITHIN THE VARIOUS ROAD SUB-CATCHMENTS TO COMPLEMENT AND INCREASE THE EFFECTIVENESS AND EFFICIENCY OF SEDIMENT CONTROLS IN THE LOWER AREAS.

4. USE SEDIMENT CONTROL MEASURES TO PREVENT OFF-SITE DAMAGE

4.1. THE INSTALLATION OF ALL EROSION AND SEDIMENT CONTROLS TO OCCUR IMMEDIATELY POST CLEARING AND STRIPPING.
4.2. CONSTRUCT CONTROL MEASURES AS CLOSE TO THE POTENTIAL SOURCE OF SEDIMENT AS POSSIBLE.
4.3. CONTROL THE DEPOSITION OF MUD AND SOIL MATERIAL ONTO LOCAL ROADS.

5. STABILISE DISTURBED AREAS QUICKLY

5.1. ALL BATTER STABILISATION AND REINSTATEMENT WORKS ADJACENT TO NEW CONSTRUCTION SHALL BE CARRIED OUT AS SOON AS POSSIBLE AFTER COMPLETION OF CONSTRUCTION WORKS.
5.2. ALL DISTURBED VERGES AND FILL BATTERS TO BE STABILISED BY REVEGETATING WITH APPROPRIATE SPECIES (E.G. ANNUAL GRASS SEED SUCH AS ANNUAL RYEGRASSS OR JAPANESE MILLET, OR TURF) AS SOON AS PRACTICAL AFTER REINSTATEMENT.
5.3. THE USE OF IMPORTED QUALITY TOPSOIL TO A.S.4419 TO BE OF A SANDY LOAM, FREE FROM NUT GRASS
5.4. ENSURE THE SUCCESS OF THE LATER REVEGETATION PROGRAM BY UTILISING A GOOD TOPSOIL MANAGEMENT PROGRAM.
5.5. CONTROL DUST THROUGH PROGRESSIVE REVEGETATION TECHNIQUES, WATER TANKERS ETC.

6. INSPECT AND MAINTAIN CONTROL MEASURES

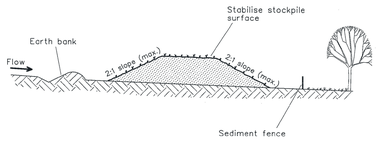
6.1. ENSURE THE PROGRESSIVE AND CONTINUAL IMPLEMENTATION AND MAINTENANCE OF TEMPORARY EROSION AND SEDIMENT CONTROLS (E.G. SEDIMENT FENCES, DIVERSION BANKS, DIVERSION DRAINS, SEDIMENT TRAPS).
6.2. INITIATE A PROGRAM TO ENSURE REGULAR MAINTENANCE OF ALL EROSION AND SEDIMENT CONTROL MEASURES. SEDIMENT CLEANED FROM STRUCTURES (E.G. SCRAPE AWAY ACCUMULATED SEDIMENT UPSTREAM OF CHECK DAMS AND REPLACE/REPAIR AS NECESSARY) TO MAINTAIN FUNCTIONALITY.
6.3. ARRANGE REGULAR INSPECTIONS BY AN ENVIRONMENTAL SCIENTIST TO REVIEW AND UPDATE CONTROL MEASURES. ADDITIONAL INSPECTIONS WILL BE CONDUCTED DURING AND/OR IMMEDIATELY FOLLOWING SIGNIFICANT RAINFALL EVENTS TO MONITOR THE FUNCTIONING OF CONTROLS.
6.4. ALL EROSION AND SEDIMENT CONTROLS TO BE MAINTAINED IN PLACE UNTIL ALL WORKS ARE COMPLETED AND DISTURBED AREAS HAVE STABILISED.

EXTRACT FROM LANDCOM (2004). MANAGING URBAN STORMWATER: SOIL AND CONSTRUCTION. VOLUME 2D MAIN ROADS CONSTRUCTION 2008

THIS SEDIMENT AND EROSION CONTROL PLAN CONTAINS COUNCIL'S MINIMUM REQUIREMENTS FOR ENVIRONMENTAL PROTECTION; HOWEVER, IT IS STILL THE PRINCIPAL CONTRACTOR'S RESPONSIBILITY TO ENSURE THAT THE WORKS AND MITIGATION STRATEGIES ARE PERFORMED IN A MANNER THAT COMPLIES WITH ALL RELEVANT ENVIRONMENTAL LEGISLATION, INCLUDING ANY DEVELOPMENT APPROVAL REQUIREMENTS.

7. EROSION AND SEDIMENT CONTROL COMMENTARY

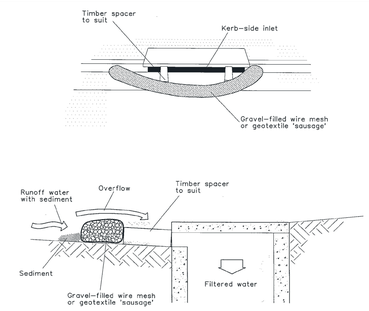
7.1. MONITOR THE 7 DAYS RAIN FORECAST TO DETERMINE TIMING OF WORKS, AND 24 HOUR FORECAST FOR PREPARATION OF EROSION & SEDIMENT CONTROL (ESC) MEASURES.
7.2. LIMIT AREAS OF DISTURBANCE AT ANY ONE TIME WHERE POSSIBLE, AND IDENTIFY VEGETATION NO GO AREAS. ENSURE THAT GUTTERS, PATHWAYS, ROADS ARE SWEPT CLEAN PRIOR TO RAIN OR BEFORE THE END OF THE DAYS SHIFT. HARD SURFACES CLEAN OF SOIL WILL REDUCE THE NEED FOR CONTROLS AND ELIMINATE POTENTIAL TRIP HAZARDS TO PEDESTRIANS AND ROAD HAZARDS FOR DRIVERS.
7.3. DIVERT CLEAN WATER AROUND EXCAVATIONS (WHERE POSSIBLE) TO LIMIT MANAGEMENT OF CONSTRUCTION WATER EG DEWATERING OF OPEN TRENCH OR EXCAVATIONS.
7.4. INSTALL SANDBAGS, COIR LOGS OR SEDIMENT FENCES AS REQUIRED
7.5. STOCKPILES, IF ANY, WILL BE MANAGED AS PER SD4-1.
7.6. AS WORKS ARE COMPLETED ADJACENT TO KERBS, INSTALL TURF TO STABILISE AREAS AS PER SD6-13.
7.7. PROGRESSIVELY INSTALL AND REMOVE CONTROLS AS WORK PROGRESSES ALONG THE ALIGNMENT.



Construction Notes

1. Place stockpiles more than 2 (preferably 5) metres from existing vegetation, concentrated water flow, roads and hazard areas.
2. Construct on the contour as low, flat, elongated mounds.
3. Where there is sufficient area, topsoil stockpiles shall be less than 2 metres in height.
4. Where they are to be in place for more than 10 days, stabilise following the approved ESCP or SWMP to reduce the C-factor to less than 0.10.
5. Construct earth banks (Standard Drawing 5-5) on the upslope side to divert water around stockpiles and sediment fences (Standard Drawing 6-8) 1 to 2 metres downslope.

STOCKPILES **SD 4-1**

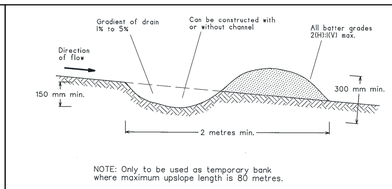


NOTE: This practice only to be used where specified in an approved SWMP/ESCP.

Construction Notes

1. Install filters to kerb inlets only at sag points.
2. Fabricate a sleeve made from geotextile or wire mesh longer than the length of the inlet pit and fill it with 25 mm to 50 mm gravel.
3. Form an elliptical cross-section about 150 mm high x 400 mm wide.
4. Place the filter at the opening leaving at least a 100-mm space between it and the kerb inlet. Maintain the opening with spacer blocks.
5. Form a seal with the kerb to prevent sediment bypassing the filter.
6. Sandbags filled with gravel can substitute for the mesh or geotextile providing they are placed so that they firmly abut each other and sediment-laden waters cannot pass between.

MESH AND GRAVEL INLET FILTER **SD 6-11**

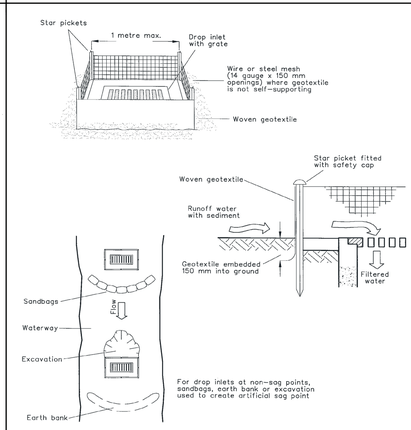


NOTE: Only to be used as temporary bank where maximum upslope length is 80 metres.

Construction Notes

1. Build with gradients between 1 percent and 5 percent.
2. Avoid removing trees and shrubs if possible - work around them.
3. Ensure the structures are free of projections or other irregularities that could impede water flow.
4. Build the drains with circular, parabolic or trapezoidal cross sections, not V shaped.
5. Ensure the banks are properly compacted to prevent failure.
6. Complete permanent or temporary stabilisation within 10 days of construction.

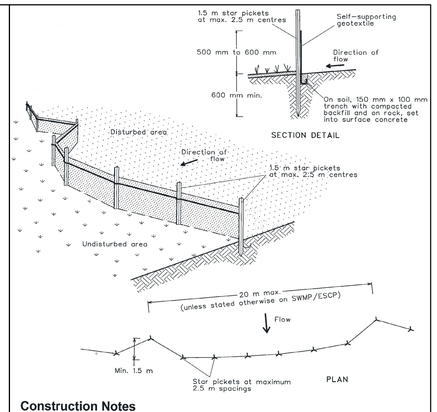
EARTH BANK (LOW FLOW) **SD 5-5**



Construction Notes

1. Fabricate a sediment barrier made from geotextile or straw bales.
2. Follow Standard Drawing 6-7 and Standard Drawing 6-8 for installation procedures for the straw bales or geofabric. Reduce the picket spacing to 1 metre centres.
3. In waterways, artificial sag points can be created with sandbags or earth banks as shown in the drawing.
4. Do not cover the inlet with geotextile unless the design is adequate to allow for all waters to bypass it.

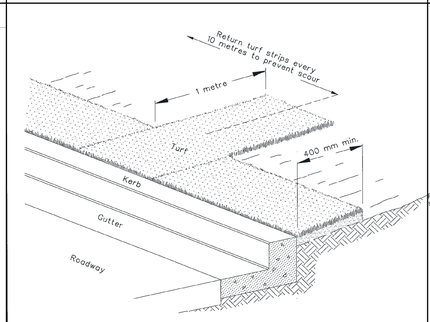
GEOTEXTILE INLET FILTER **SD 6-12**



Construction Notes

1. Construct sediment fences as close as possible to being parallel to the contours of the site, but with small returns as shown in the drawing to limit the catchment area of any one section. The catchment area should be small enough to limit water flow if concentrated at one point to 50 litres per second in the design storm event, usually the 10-year event.
2. Cut a 150-mm deep trench along the upslope line of the fence for the bottom of the fabric to be entrenched.
3. Drive 1.5 metre long star pickets into ground at 2.5 metre intervals (max) at the downslope edge of the trench. Ensure any star pickets are fitted with safety caps.
4. Fix self-supporting geotextile to the upslope side of the posts ensuring it goes to the base of the trench. Fix the geotextile with wire ties or as recommended by the manufacturer. Only use geotextile specifically produced for sediment fencing. The use of shade cloth for this purpose is not satisfactory.
5. Join sections of fabric at a support post with a 150-mm overlap.
6. Backfill the trench over the base of the fabric and compact it thoroughly over the geotextile.

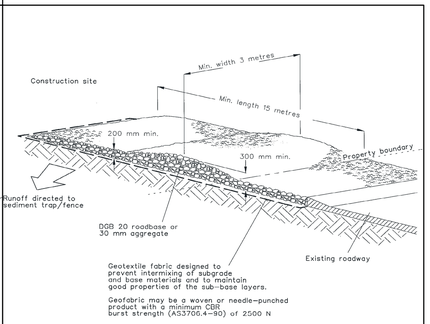
SEDIMENT FENCE **SD 6-8**



Construction Notes

1. Install a 400-mm minimum wide roll of turf on the footpath next to the kerb and at the same level as the top of the kerb.
2. Lay 1.4 metre long turf strips normal to the kerb every 10 metres.
3. Rehabilitate disturbed soil behind the

KERBSIDE TURF STRIP **SD 6-13**



Construction Notes

1. Strip the topsoil, level the site and compact the subgrade.
2. Cover the area with needle-punched geotextile.
3. Construct a 200-mm thick pad over the geotextile using road base or 30-mm aggregate.
4. Ensure the structure is at least 15 metres long or to building alignment and at least 3 metres wide.
5. Where a sediment fence joins onto the stabilised access, construct a hump in the stabilised access to divert water to the sediment fence

STABILISED SITE ACCESS **SD 6-14**

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
EROSION & SEDIMENT CONTROL NOTES & DETAILS

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-102
REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026

N

NOTE:

1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30TH JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
2. REFER TO LU23111-CD-102 FOR EROSION & SEDIMENT CONTROL NOTES.
3. THE LAYOUT PROVIDED IN THIS CONCEPTUAL EROSION AND SEDIMENT CONTROL PLAN IS INDICATIVE AND SERVES AS A PRELIMINARY GUIDE ONLY. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO PREPARE AND SUBMIT THEIR OWN DETAILED EROSION AND SEDIMENT CONTROL PLAN, TAILORED TO THE SPECIFIC SITE CONDITIONS AND PROJECT REQUIREMENTS. THE CONTRACTOR'S PLAN MUST COMPLY WITH ALL RELEVANT REGULATIONS AND STANDARDS, AND SHOULD BE APPROVED BY THE SUPERINTENDENT BEFORE IMPLEMENTATION.

LEGEND:

- NEW SEDIMENT FENCING AS PER SD 6-8
- NEW TEMPORARY SITE SECURITY FENCE
- NEW MESH AND GRAVEL INLET FILTER AS PER SD 6-11 AND 6-12
- NEW LOW FLOW CHANNEL
- NEW COIR LOG

MCGRATH ROAD (44m WIDE ROAD RESERVE)

EXISTING ACCESS DRIVEWAY TO ADJOINING LOT 1 ON RP727052 & PROPOSED LOT 1 TO REMAIN FROM MCGRATH ROAD

PROVIDE TEMPORARY SITE SECURITY FENCE (WITH GATE ACCESS) TO THE EXTERNAL SITE PERIMETER

EXISTING ACCESS DRIVEWAY TO A PROPOSED LOT 12 TO REMAIN FROM MCGRATH ROAD

EXISTING SWALE DRAIN LOCATED WITHIN PROPOSED LOT 11 TO BE MAINTAINED & CONTROL UPSTREAM FLOWS

NEW ACCESS STREET (15.5m WIDE ROAD RESERVE)

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 12

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 11

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 6

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 6

PROVIDE NEW MESH AND GRAVEL INLET FILTERS TO NEW KERB PITS PER PER SD 6-11 & 6-12 ON SHEET CD-102

PROVIDE SEDIMENT FENCING AS PER SD6-8 ON SHEET CD-102

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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Designed: A.P.B. | Checked: J.L.A.
Authorised: J.L.A. | Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CONCEPT EROSION & SEDIMENT CONTROL LAYOUT PLAN

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL | DRAWING NUMBER: LU23111-CD-200 | REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026

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NOTE:

1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30th JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
2. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
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4. ALL PROPOSED WORKS ARE SUBJECT TO: DISCUSSIONS AND MEETINGS WITH AUTHORITIES, APPROVAL FROM AUTHORITIES, RELEVANT CONSULTANT INFORMATION AS PER COUNCIL REQUIREMENTS. FEASIBILITY COMPLETED BASED ON INFORMATION PROVIDED BY CLIENT.
5. UTILITIES SHOWN ARE FROM RECORDS AND SHALL BE CONFIRMED PRIOR TO COMMENCEMENTS OF WORKS.

LEGEND:

- 444.50 — EXISTING CONTOURS (0.5m INTERVAL)
- 444.50 — DESIGN CONTOURS (0.2m INTERVAL)
- × LEVEL — EXISTING LEVEL
- NEW DRAINAGE PIPE & PIT
- EXISTING DRAINAGE
- EX.W — EXISTING WATER
- EX.E O/H — EXISTING ELECTRICAL OVERHEAD
- EX.E U/G — EXISTING ELECTRICAL UNDERGROUND
- EX.COMM — EXISTING COMMUNICATIONS
- EX.S — EXISTING SEWER (GRAVITY/RISING MAIN)
- TITLE BOUNDARY
- PROPOSED SITE BOUNDARY
- DENOTES EXTENT OF EXISTING STRUCTURE/PAVEMENT TO BE REMOVE & DISPOSED OF AT AN APPROVED SITE
- DENOTES PROPOSED EXTENT OF VEGETATION TO BE CLEARED FOR CIVIL WORKS

MCGRATH ROAD (44m WIDE ROAD RESERVE)

EX. EDGE OF PAVEMENT

EX. TABLE DRAIN

EXISTING 600Ø SW PIPE TO BE REMOVED & REINSTATED WITH NEW RCBC REINSTATE DRIVEWAY

EXISTING ACCESS DRIVEWAY TO ADJOINING LOT 1 ON RP727052

EXISTING ELECTRICAL CONNECTION TO LOT TO BE REMOVED BACK TO POLE

EXISTING FENCE TO BE REMOVED

EXISTING WATER PROPERTY CONNECTION TO BE REMOVED & REINSTATED

EXISTING EXTENT OF VEGETATION TO BE REMOVED

EXISTING ACCESS DRIVEWAY TO A PROPOSED LOT 12 TO REMAIN FROM MCGRATH ROAD

EXISTING SWALE DRAIN LOCATED WITHIN PROPOSED LOT 11 TO BE MAINTAINED & CONTROL UPSTREAM FLOWS

EXISTING RESIDENCE

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 12

EXISTING SHED

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 11

FILL EXISTING TABLE DRAIN

DEMOLISH EXISTING STRUCTURE & DISPOSE OF OFFSITE

REMOVE EXISTING MOUND EXISTING EXTENT OF VEGETATION TO BE REMOVED

EXISTING ACCESS DRIVEWAY TO BE REMOVED

EXISTING EXTENT OF VEGETATION TO BE REMOVED

DEMOLISH EXISTING STRUCTURE & DISPOSE OF OFFSITE

EXISTING SHED

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 6

EXISTING RESIDENCE

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 6

EXISTING FENCE TO BE REMOVED

EXISTING EXTENT OF VEGETATION TO BE REMOVED

1 RP850455
2 RP850455
3 RP850455
2 RP749617
1 RP727052
1 RP719276
2 RP719276
3 RP719276
2 RP901433
3 RP901433
4 RP901433

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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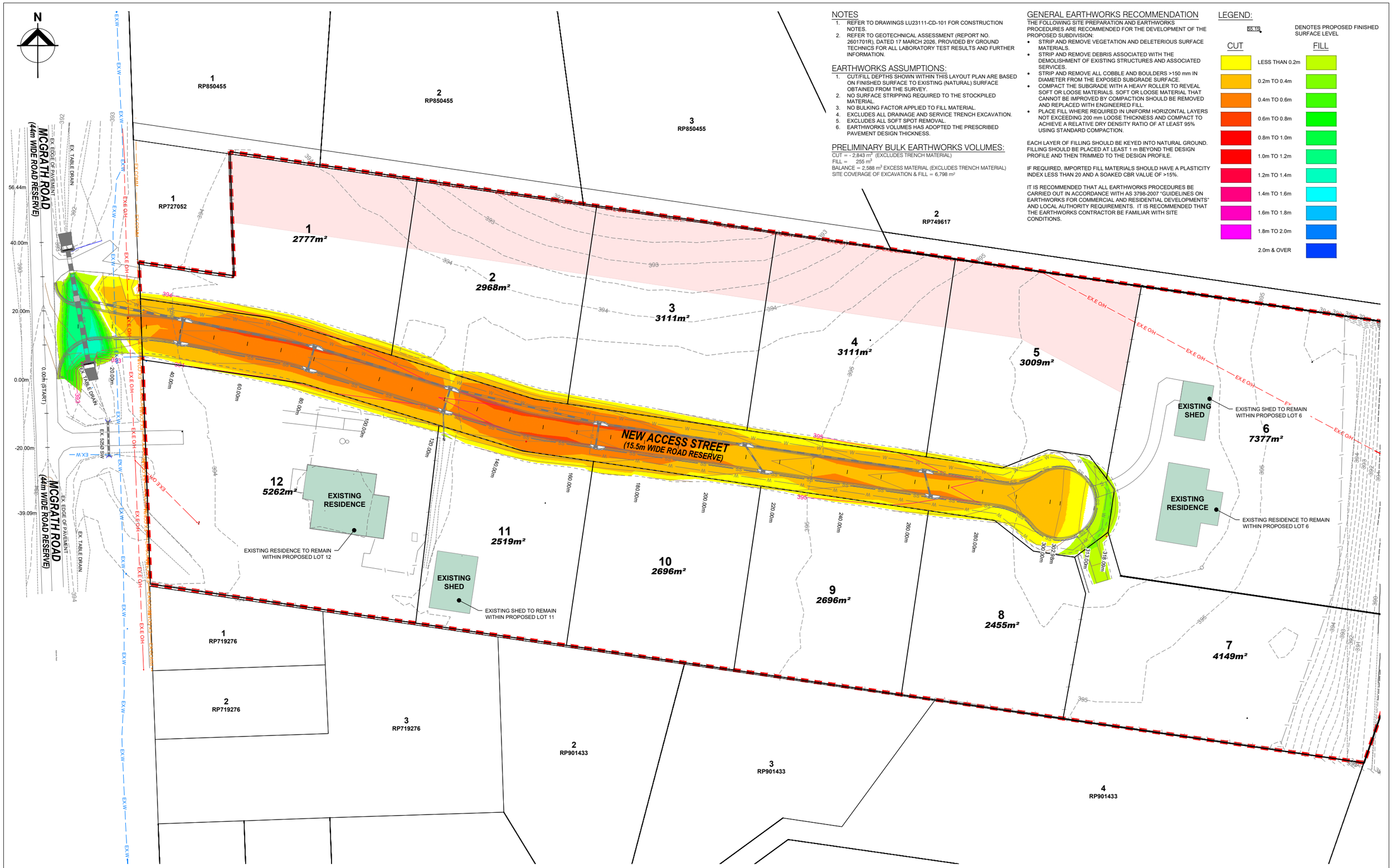
Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CLEARING & DEMOLITION LAYOUT PLAN

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-201
REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026



Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CUT/FILL HEAT MAP LAYOUT PLAN

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-202
REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026

N

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1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30th JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
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LEGEND:

- 444.50 — EXISTING CONTOURS (0.5m INTERVAL)
- 444.50 — DESIGN CONTOURS (0.2m INTERVAL)
- × LEVEL — EXISTING LEVEL
- NEW DRAINAGE PIPE & PIT
- EXISTING DRAINAGE
- EX.W — EXISTING WATER
- EX.E O/H — EXISTING ELECTRICAL OVERHEAD
- EX.E U/G — EXISTING ELECTRICAL UNDERGROUND
- EX.COMM — EXISTING COMMUNICATIONS
- EX.S — EXISTING SEWER (GRAVITY/RISING MAIN)
- TITLE BOUNDARY
- PROPOSED SITE BOUNDARY
- DENOTES PROPOSED NEW SEALED ROAD REFER TO LU23111-CD-700 FOR PAVEMENT DETAILS
- DENOTES PROPOSED CONCRETE ACCESS DRIVEWAY IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1015 & S1110
- DENOTES EXISTING STRUCTURES TO REMAIN
- DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5
- LKC — DENOTES LAYBACK KERB & CHANNEL IN ACCORDANCE WITH FNQROC STANDARD DRAWING S1000

MCGRATH ROAD (44m WIDE ROAD RESERVE)

REINSTATE EXISTING EXISTING DRIVEWAY WHERE REQUIRED FOR THE NEW CULVERT

EXISTING ACCESS DRIVEWAY TO ADJOINING LOT 1 ON RP727052 & PROPOSED LOT 1 TO REMAIN FROM MCGRATH ROAD

POINT OF CONNECTION FOR PROPOSED WORKS REFER TO ELECTRICAL & TELECOMMUNICATIONS DOCUMENTATION

POINT OF CONNECTION FOR NEW WATER RETICULATION REFER TO WATER DOCUMENTATION FOR FURTHER INFORMATION

CONTROL LINE NEW ACCESS STREET

NEW ACCESS STREET (15.5m WIDE ROAD RESERVE)

REFER TO LU23111-CD-500 FOR INTERSECTION DETAILS

EXISTING ACCESS DRIVEWAY TO A PROPOSED LOT 12 TO REMAIN FROM MCGRATH ROAD

EXISTING SWALE DRAIN LOCATED WITHIN PROPOSED LOT 11 TO BE MAINTAINED & CONTROL UPSTREAM FLOWS RESHAPE OUTLET LOCALLY TO NEW STORMWATER PIT 5.B

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 12

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 11

NOTE: LOT 6 DRIVEWAY IS TO BE TO STANDARD FNQROC REQUIREMENTS & DOES NOT FORM PART OF THE DECISION NOTICE CONDITIONS DRIVEWAY TO LOT 6 IS TO BE CONSTRUCTED AS PART OF THESE WORKS ALTHOUGH IS ONLY SHOWN AS INDICATIVE ONLY AND IS NOT SUBJECT TO THIS APPROVAL

NEW ACCESS DRIVEWAY 3.5m WIDE WITH RESIDENTIAL ACCESS CROSSOVER TO LOT 8 REFER TO LU23111-CD-502

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 6

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 6

REFER TO LU23111-CD-501 FOR CUL-DE-SAC DETAILS

NEW ACCESS DRIVEWAY 3.5m WIDE WITH RESIDENTIAL ACCESS CROSSOVER TO LOT 7 REFER TO LU23111-CD-502

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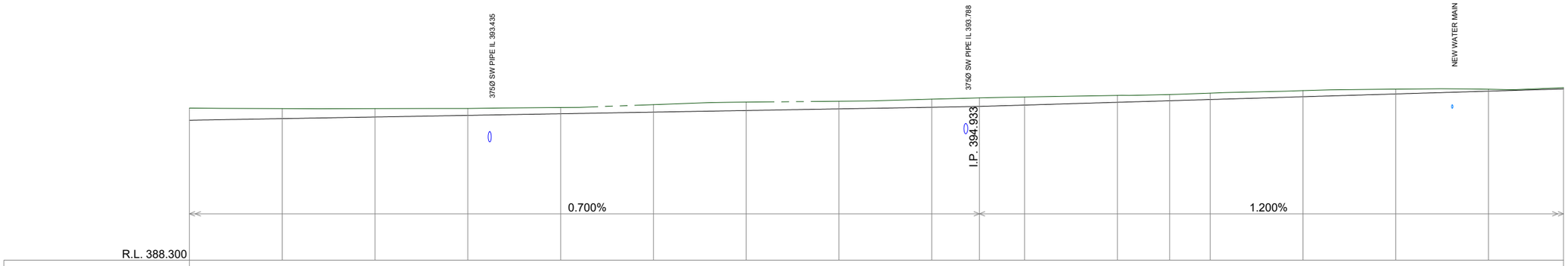
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Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CIVIL WORKS LAYOUT PLAN

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-203
REV: A

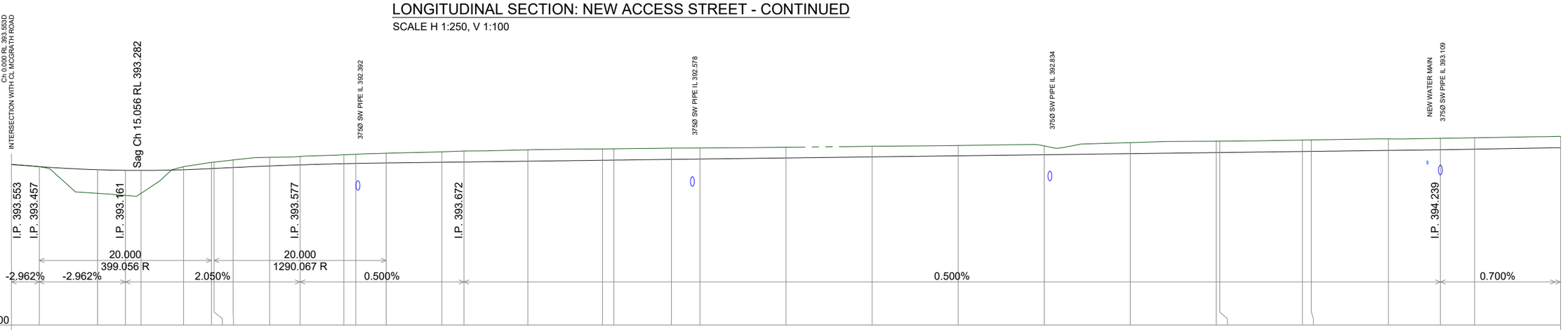
Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026



R.L. 388.300																							
HORIZONTAL GEOMETRY AT ROAD CENTRELINE	L=177 B=98°22'24"																						
HEIGHT DIFFERENCE (m)	-0.52	-0.43	-0.36	-0.29	-0.27	-0.32	-0.36	-0.33	-0.34	-0.37	-0.35	-0.30	-0.27	-0.28	-0.26	-0.21	-0.08	-0.05					
DESIGN LEVELS AT ROAD CENTRELINE	394.337	394.407	394.477	394.547	394.617	394.687	394.757	394.827	394.897	394.933	394.991	395.111	395.179	395.231	395.351	395.471	395.591	395.688					
EXISTING LEVELS AT ROAD CENTRELINE	394.86	394.84	394.84	394.84	394.89	395.01	395.12	395.16	395.24	395.30	395.34	395.41	395.45	395.51	395.61	395.68	395.67	**395.74**					
CONTROL LINE CHAINAGE AT ROAD CENTRELINE	180.000	190.000	200.000	210.000	220.000	230.000	240.000	250.000	260.000	265.132	270.000	280.000	285.631	290.000	300.000	310.000	320.000	328.089					

LONGITUDINAL SECTION: NEW ACCESS STREET - CONTINUED

SCALE H 1:250, V 1:100



R.L. 386.100																							
HORIZONTAL GEOMETRY AT ROAD CENTRELINE	L=26 B=90°00'00"					L=13 R=70				L=30 B=100°31'08"				L=8 R=70				L=64 B=107°04'33"					L=11 R=70	L=177 B=98°22'24"				
HEIGHT DIFFERENCE (m)	-0.02	+0.00	+1.09	+1.17	+1.06	-0.14	-0.28	-0.30	-0.34	-0.40	-0.39	-0.42	-0.43	-0.45	-0.48	-0.51	-0.52	-0.53	-0.52	-0.53	-0.51	-0.49	-0.49	-0.48	-0.41	-0.51	-0.53	-0.53	-0.54	-0.53	-0.53	-0.53	-0.52
DESIGN LEVELS AT ROAD CENTRELINE	393.553	393.457	393.314	393.286	393.282	393.312	393.366	393.372	393.415	393.488	393.538	393.593	393.604	393.627	393.659	393.672	393.709	393.752	393.759	393.793	393.809	393.859	393.909	393.959	394.009	394.059	394.109	394.111	394.159	394.164	394.209	394.239	394.267	394.337
EXISTING LEVELS AT ROAD CENTRELINE	**393.57**	393.46	392.22	392.12	392.22	393.45	393.65	393.67	**393.76**	393.89	393.93	**394.01**	394.03	394.08	394.14	394.18	394.23	**394.28**	394.28	**394.32**	394.32	394.35	394.40	394.44	394.42	394.57	394.64	**394.64**	394.69	**394.70**	394.74	394.77	394.80	394.86
CONTROL LINE CHAINAGE AT ROAD CENTRELINE	0.000	3.236	10.000	13.237	15.056	20.000	23.237	23.540	25.761	30.000	33.540	38.612	40.000	43.540	50.000	52.577	60.000	68.672	70.000	76.683	80.000	90.000	100.000	110.000	120.000	130.000	140.000	140.405	150.000	151.037	160.000	166.032	170.000	180.000

LONGITUDINAL SECTION: NEW ACCESS STREET

SCALE H 1:250, V 1:100

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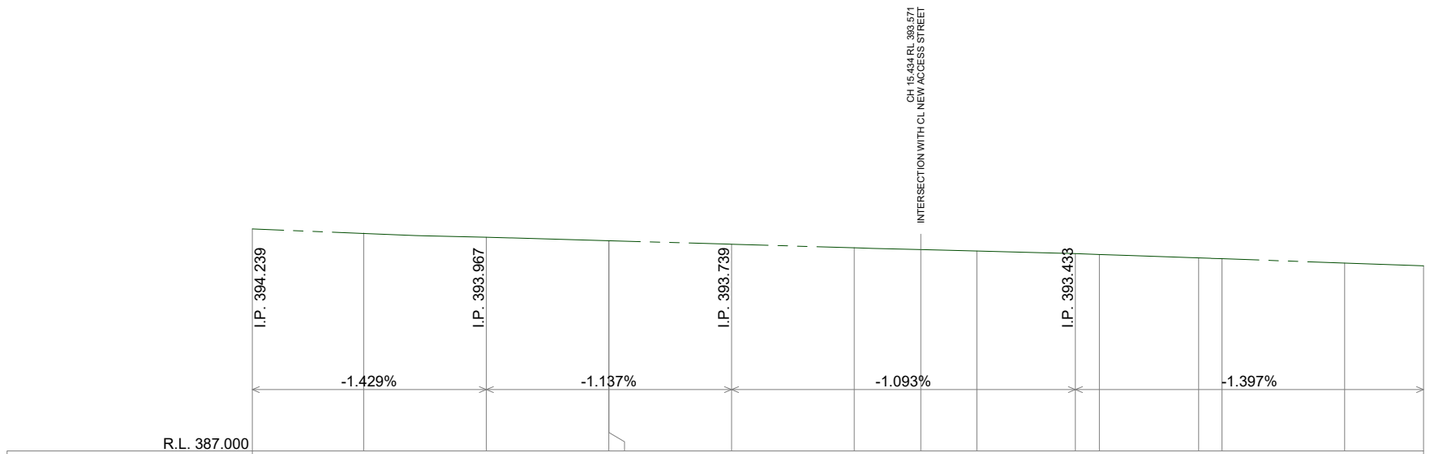
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Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD LONGITUDINAL SECTIONS
NEW ACCESS STREET

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-300
REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026


INTERSECTION WITH CL NEW ACCESS STREET
CH 15.434 RL 393.571
I.P. 394.239
I.P. 393.967
I.P. 393.739
I.P. 393.433
-1.429%
-1.137%
-1.093%
-1.397%
R.L. 387.000

| | | |

NOTE:
1. REFER TO DRAWINGS LU23111-CD-101 FOR CONSTRUCTION NOTES.
2. REFER TO DRAWINGS LU23111-CD-700 FOR ADDITIONAL CONSTRUCTION DETAILS.
3. SAMPLING AND TESTING OF EXISTING SUBGRADE AS REQUIRED BY APPENDIX B OF TECHNICAL SPECIFICATION MRTS04 GENERAL EARTHWORKS, THE CONTRACTOR SHALL COMPLETE A MINIMUM OF TWO (2) TESTS.

SUBGRADE PREPARATION

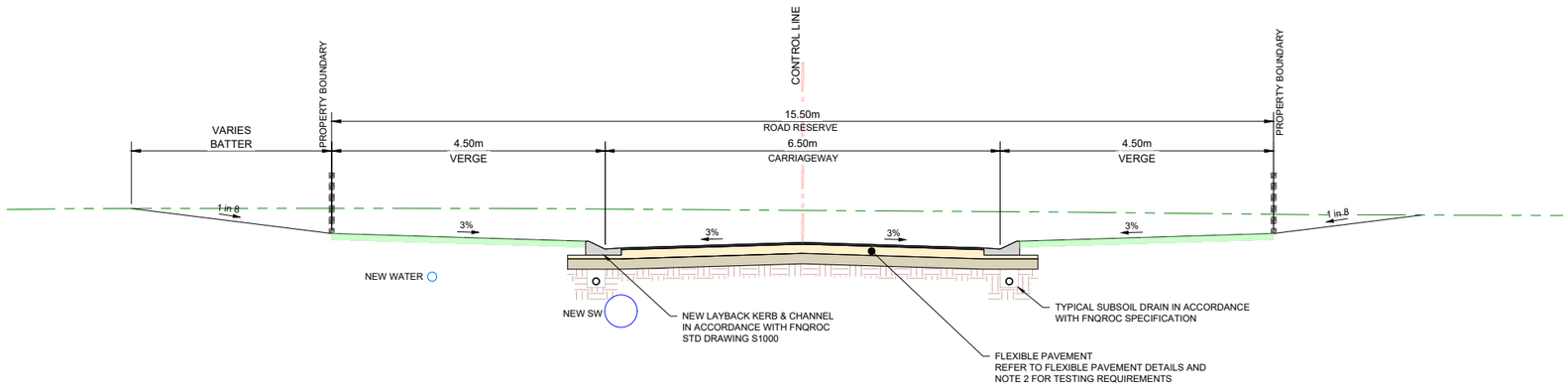
WHERE REQUIRED, SITE PREPARATION AND EARTHWORKS PROCEDURES SHOULD INVOLVE THE FOLLOWING:

- STRIP AND REMOVE VEGETATION, TOPSOIL AND SOILS CONTAINING SIGNIFICANT ORGANIC MATTER.
- COMPACT THE SUBGRADE WITH A HEAVY ROLLER TO REVEAL SOFT OR LOOSE MATERIALS. SOFT OR LOOSE MATERIAL THAT CANNOT BE IMPROVED BY COMPACTION SHOULD BE REMOVED AND REPLACED WITH ENGINEERED FILL.
- PLACE FILL WHERE REQUIRED IN UNIFORM HORIZONTAL LAYERS NOT EXCEEDING 200 mm LOOSE THICKNESS AND COMPACT TO ACHIEVE A RELATIVE DRY DENSITY RATIO OF AT LEAST 95% USING STANDARD COMPACTION.

IT IS CONSIDERED THAT THE EXISTING SILT SOILS AT THE SITE COULD BE RE-USED AS GENERAL FILL AT THE SITE. ENGINEERED FILL FOR PAVEMENTS AND OTHER STRUCTURES SHOULD COMPRISE IMPORTED MATERIALS. IMPORTED FILL MATERIALS FOR GENERAL FILL AND ENGINEERED FILL SHOULD HAVE A PLASTICITY INDEX LESS THAN 20 AND A SOAKED CBR VALUE OF >15%. PAVEMENT FILL SHOULD COMPRISE A CRUSHED QUARRY PRODUCT IN ACCORDANCE WITH THE PROPOSED PAVEMENT DESIGN AND IN ACCORDANCE WITH FNQROC GUIDELINES.

IT IS RECOMMENDED THAT ALL EARTHWORKS PROCEDURES BE CARRIED OUT IN ACCORDANCE WITH AS 3798-2007 "GUIDELINES ON EARTHWORKS FOR COMMERCIAL AND RESIDENTIAL DEVELOPMENTS" AND LOCAL AUTHORITY REQUIREMENTS. IT IS RECOMMENDED THAT THE EARTHWORKS CONTRACTOR BE FAMILIAR WITH SITE CONDITIONS.

IT IS ENVISAGED THAT LIMITED CUT AND FILL EARTHWORKS WILL BE REQUIRED AS PART OF THE DEVELOPMENT. IF REQUIRED, NEW CUT BATTERS SHOULD BE LIMITED TO A MAXIMUM 2m IN HEIGHT AND FORMED AT 1V:1H. NEW FILL BATTERS SHOULD BE LIMITED TO 1.5m IN HEIGHT AND FORMED AT 1 V:2 H. HIGHER OR STEEPER BATTERS SHOULD BE SUPPORTED BY ENGINEERED RETAINING WALLS.



TYPICAL SECTION - NEW ACCESS STREET
FNQROC TYPE 2 - ACCESS STREET
SCALE 1:50

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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SCALE 1:50@A1
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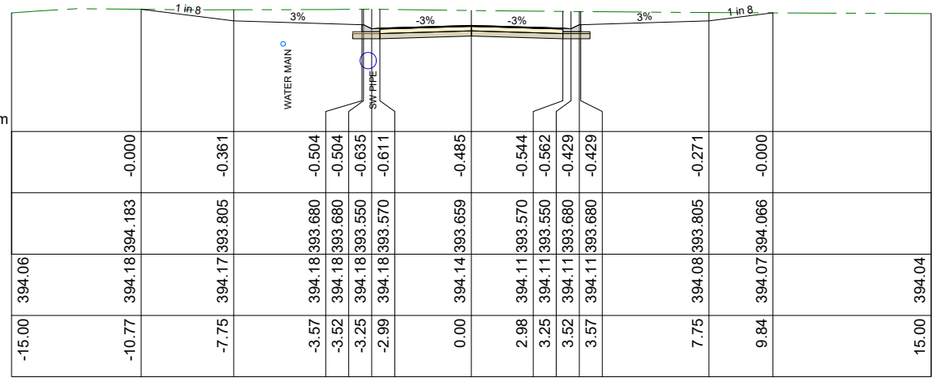
Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD CROSS SECTIONS
TYPICAL SECTIONS & DETAILS

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

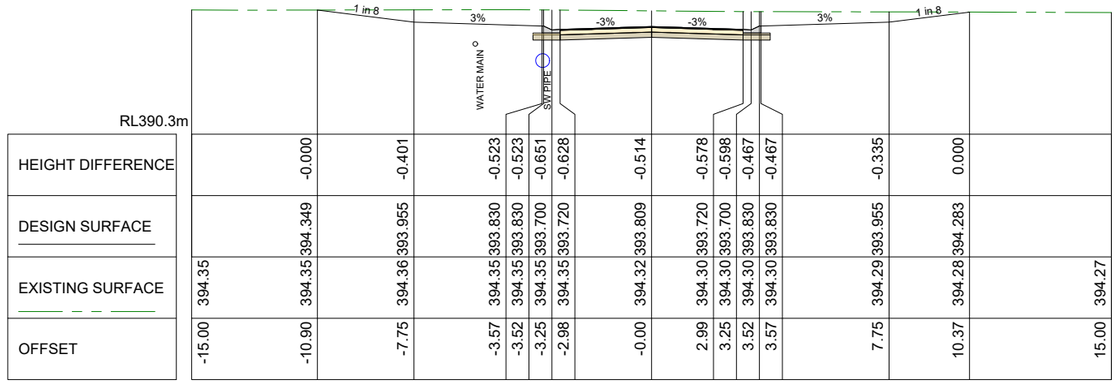
FOR APPROVAL
DRAWING NUMBER: LU23111-CD-400
REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026



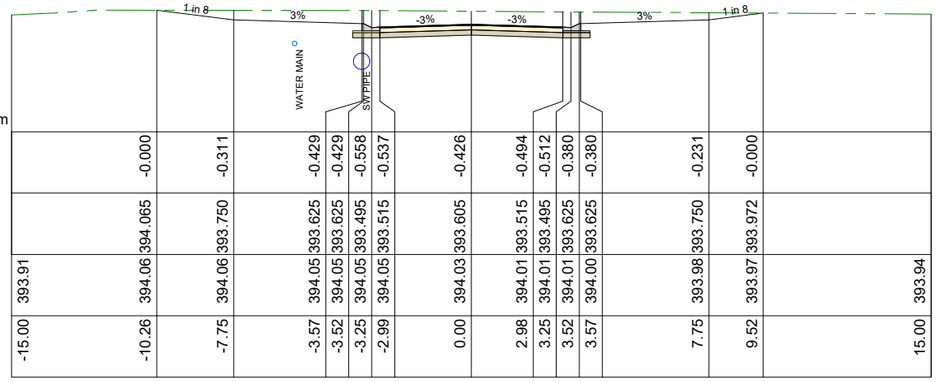
RL390.2m																							
HEIGHT DIFFERENCE		-0.000		-0.361		-0.504	-0.504	-0.635	-0.611		-0.485		-0.544	-0.562	-0.429	-0.429		-0.271		-0.000			
DESIGN SURFACE		394.183		393.805		393.680	393.680	393.550	393.570		393.659		393.570	393.550	393.680	393.680		393.805		394.066			
EXISTING SURFACE	394.06	394.18		394.17		394.18	394.18	394.18	394.18		394.14		394.11	394.11	394.11	394.11		394.08		394.07			394.04
OFFSET	-15.00	-10.77		-7.75		-3.57	-3.52	-3.25	-2.99		0.00		2.98	3.25	3.52	3.57		7.75		9.84			15.00

Ch 50.00 m
CL NEW ACCESS STREET



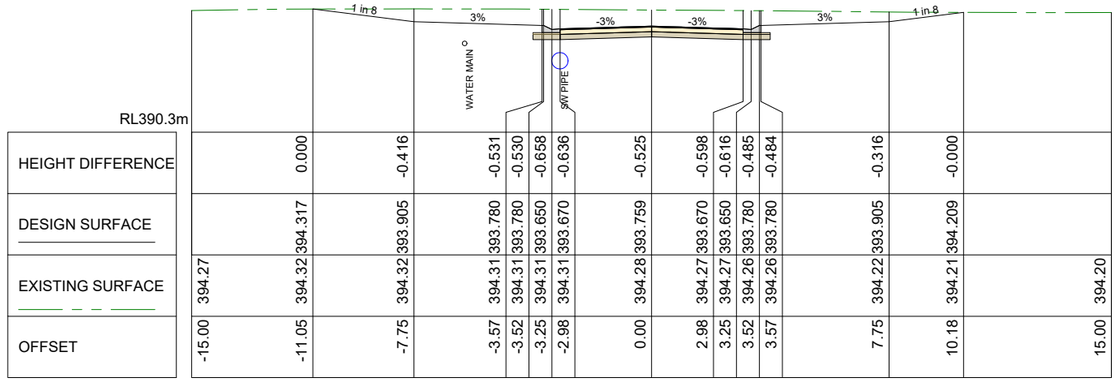
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HEIGHT DIFFERENCE		-0.000		-0.401		-0.523	-0.523	-0.651	-0.628		-0.514		-0.578	-0.598	-0.467	-0.467		-0.335		0.000			
DESIGN SURFACE		394.349		393.955		393.830	393.830	393.700	393.720		393.809		393.720	393.700	393.830	393.830		393.955		394.283			
EXISTING SURFACE	394.35	394.35		394.36		394.35	394.35	394.35	394.35		394.32		394.30	394.30	394.30	394.30		394.29		394.28			394.27
OFFSET	-15.00	-10.90		-7.75		-3.57	-3.52	-3.25	-2.98		-0.00		2.99	3.25	3.52	3.57		7.75		10.37			15.00

Ch 80.00 m
CL NEW ACCESS STREET



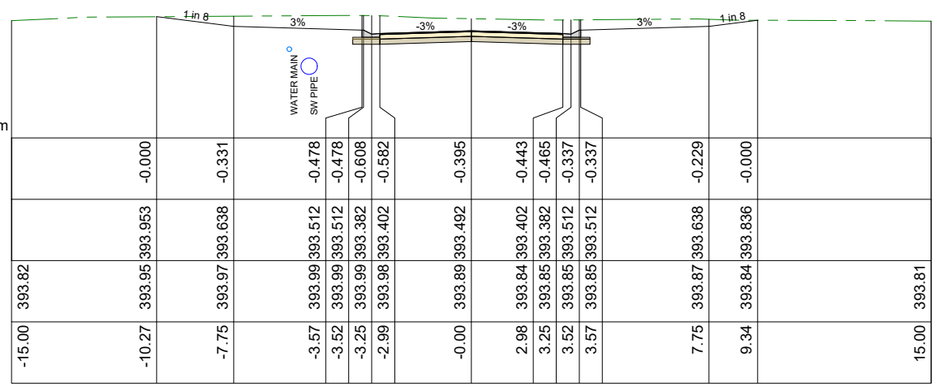
RL390.1m																							
HEIGHT DIFFERENCE		-0.000		-0.311		-0.429	-0.429	-0.558	-0.537		-0.426		-0.494	-0.512	-0.380	-0.380		-0.231		-0.000			
DESIGN SURFACE		394.065		393.750		393.625	393.625	393.495	393.515		393.605		393.515	393.495	393.625	393.625		393.750		393.972			
EXISTING SURFACE	393.91	394.06		394.06		394.05	394.05	394.05	394.05		394.03		394.01	394.01	394.01	394.00		393.98		393.97			393.94
OFFSET	-15.00	-10.26		-7.75		-3.57	-3.52	-3.25	-2.99		0.00		2.98	3.25	3.52	3.57		7.75		9.52			15.00

Ch 40.00 m
CL NEW ACCESS STREET



RL390.3m																							
HEIGHT DIFFERENCE		0.000		-0.416		-0.531	-0.530	-0.658	-0.636		-0.525		-0.598	-0.616	-0.485	-0.484		-0.316		-0.000			
DESIGN SURFACE		394.317		393.905		393.780	393.780	393.650	393.670		393.759		393.670	393.650	393.780	393.780		393.905		394.209			
EXISTING SURFACE	394.27	394.32		394.32		394.31	394.31	394.31	394.31		394.28		394.27	394.27	394.26	394.26		394.22		394.21			394.20
OFFSET	-15.00	-11.05		-7.75		-3.57	-3.52	-3.25	-2.98		0.00		2.98	3.25	3.52	3.57		7.75		10.18			15.00

Ch 70.00 m
CL NEW ACCESS STREET



RL390m																							
HEIGHT DIFFERENCE		-0.000		-0.331		-0.478	-0.478	-0.608	-0.582		-0.395		-0.443	-0.465	-0.337	-0.337		-0.229		-0.000			
DESIGN SURFACE		393.953		393.638		393.512	393.512	393.382	393.402		393.492		393.402	393.382	393.512	393.512		393.638		393.836			
EXISTING SURFACE	393.82	393.95		393.97		393.99	393.99	393.99	393.98		393.89		393.84	393.85	393.85	393.85		393.87		393.84			393.81
OFFSET	-15.00	-10.27		-7.75		-3.57	-3.52	-3.25	-2.99		-0.00		2.98	3.25	3.52	3.57		7.75		9.34			15.00

Ch 30.00 m
CL NEW ACCESS STREET



RL390.2m																							
HEIGHT DIFFERENCE		-0.000		-0.407		-0.522	-0.522	-0.651	-0.631		-0.525		-0.587	-0.604	-0.471	-0.470		-0.300		-0.000			
DESIGN SURFACE		394.273		393.855		393.730	393.730	393.600	393.620		393.709		393.620	393.600	393.730	393.730		393.855		394.135			
EXISTING SURFACE	394.18	394.27		394.26		394.25	394.25	394.25	394.25		394.23		394.21	394.20	394.20	394.20		394.16		394.14			394.12
OFFSET	-15.00	-11.10		-7.75		-3.57	-3.52	-3.25	-2.99		0.00		2.98	3.25	3.52	3.57		7.75		9.99			15.00

Ch 60.00 m
CL NEW ACCESS STREET

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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SCALE 1:100@A1
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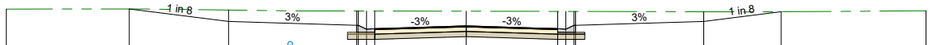
Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD CROSS SECTIONS
NEW ACCESS STREET - SHEET 1 OF 5

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

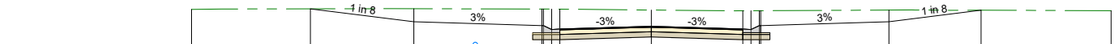
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DRAWING NUMBER: LU23111-CD-401
REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026



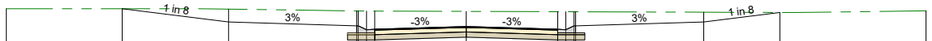
RL390.5m														
HEIGHT DIFFERENCE	0.000	-0.372	-0.467	-0.466	-0.596	-0.575	-0.479	-0.563	-0.582	-0.452	-0.452	-0.316	-0.000	
DESIGN SURFACE	394.510	394.105	393.980	393.980	393.850	393.870	393.959	393.870	393.850	393.980	393.980	394.105	394.421	
EXISTING SURFACE	394.51	394.48	394.45	394.45	394.45	394.44	394.44	394.43	394.43	394.43	394.43	394.42	394.42	394.45
OFFSET	-10.99	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.28	15.00

Ch 110.00 m
CL NEW ACCESS STREET



RL390.6m														
HEIGHT DIFFERENCE	0.000	-0.425	-0.539	-0.539	-0.668	-0.647	-0.527	-0.594	-0.615	-0.486	-0.487	-0.381	0.000	
DESIGN SURFACE	394.676	394.255	394.130	394.130	394.000	394.020	394.109	394.020	394.000	394.130	394.130	394.255	394.631	
EXISTING SURFACE	394.66	394.68	394.68	394.67	394.67	394.67	394.67	394.64	394.61	394.61	394.62	394.62	394.64	394.63	394.62
OFFSET	-11.12	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.76	15.00

Ch 140.00 m
CL NEW ACCESS STREET



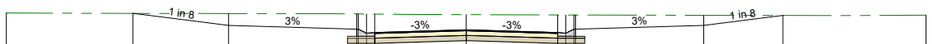
RL390.4m														
HEIGHT DIFFERENCE	0.000	-0.418	-0.486	-0.485	-0.611	-0.590	-0.491	-0.571	-0.590	-0.459	-0.459	-0.319	-0.000	
DESIGN SURFACE	394.489	394.055	393.930	393.930	393.800	393.820	393.909	393.820	393.800	393.930	393.930	394.055	394.365	
EXISTING SURFACE	394.49	394.47	394.42	394.41	394.41	394.41	394.40	394.39	394.39	394.39	394.39	394.37	394.37	394.42
OFFSET	-11.22	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.23	15.00

Ch 100.00 m
CL NEW ACCESS STREET



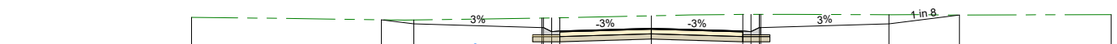
RL390.6m														
HEIGHT DIFFERENCE	0.000	-0.400	-0.514	-0.514	-0.642	-0.621	-0.513	-0.584	-0.603	-0.471	-0.471	-0.350	0.000	
DESIGN SURFACE	394.624	394.205	394.080	394.080	393.950	393.970	394.059	393.970	393.950	394.080	394.080	394.205	394.589	
EXISTING SURFACE	394.63	394.61	394.59	394.59	394.59	394.59	394.57	394.55	394.55	394.55	394.55	394.56	394.59	394.56
OFFSET	-11.10	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.82	15.00

Ch 130.00 m
CL NEW ACCESS STREET



RL390.4m														
HEIGHT DIFFERENCE	0.000	-0.385	-0.498	-0.498	-0.625	-0.603	-0.496	-0.574	-0.594	-0.463	-0.463	-0.328	0.000	
DESIGN SURFACE	394.395	394.005	393.880	393.880	393.750	393.770	393.859	393.770	393.750	393.880	393.880	394.005	394.328	
EXISTING SURFACE	394.40	394.39	394.38	394.38	394.37	394.37	394.35	394.34	394.34	394.34	394.34	394.33	394.33	394.34
OFFSET	-10.87	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.33	15.00

Ch 90.00 m
CL NEW ACCESS STREET



RL390.5m														
HEIGHT DIFFERENCE	0.000	-0.126	-0.313	-0.314	-0.448	-0.433	-0.408	-0.542	-0.562	-0.433	-0.433	-0.295	-0.000	
DESIGN SURFACE	394.287	394.155	394.030	394.030	393.900	393.920	394.009	393.920	393.900	394.030	394.030	394.155	394.443	
EXISTING SURFACE	394.29	394.28	394.34	394.34	394.35	394.35	394.42	394.46	394.46	394.46	394.46	394.45	394.44	394.45
OFFSET	-8.81	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.99	3.25	3.52	3.57	7.75	10.05	15.00

Ch 120.00 m
CL NEW ACCESS STREET

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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ABN 32 669 311 479

SCALE 1:100@A1
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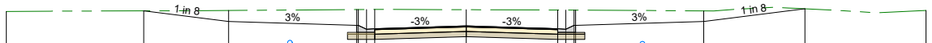
Designed: A.P.B.
Checked: J.L.A.
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Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD CROSS SECTIONS
NEW ACCESS STREET - SHEET 2 OF 5

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

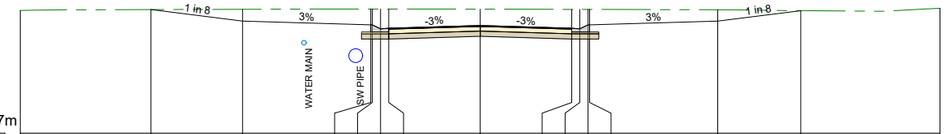
FOR APPROVAL
DRAWING NUMBER: LU23111-CD-402
REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026



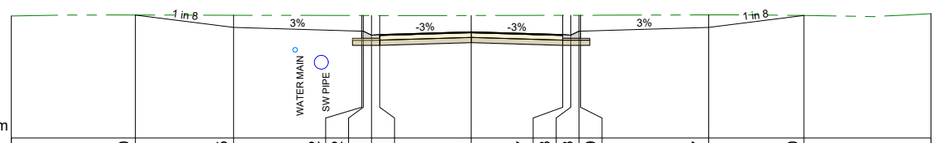
RL390.8m														
HEIGHT DIFFERENCE		0.000	-0.359	-0.514	-0.514	-0.646	-0.628	-0.530	-0.608	-0.627	-0.496	-0.496	-0.344	-0.000	
DESIGN SURFACE		394.759	394.413	394.287	394.287	394.157	394.177	394.267	394.177	394.157	394.287	394.287	394.413	394.826	
EXISTING SURFACE	394.74	394.76	394.77	394.80	394.80	394.80	394.81	394.80	394.79	394.78	394.78	394.78	394.76	394.83	394.77
OFFSET	-15.00	-10.52	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	11.05	15.00

Ch 170.00 m
CL NEW ACCESS STREET



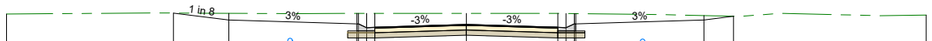
RL390.7m														
HEIGHT DIFFERENCE		0.000	-0.383	-0.517	-0.517	-0.647	-0.628	-0.534	-0.615	-0.635	-0.504	-0.504	-0.367	-0.000	
DESIGN SURFACE		394.729	394.355	394.230	394.230	394.100	394.120	394.209	394.120	394.100	394.230	394.230	394.355	394.693	
EXISTING SURFACE	394.70	394.73	394.74	394.75	394.75	394.75	394.75	394.74	394.73	394.73	394.73	394.73	394.72	394.69	394.77
OFFSET	-15.00	-10.74	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	10.46	15.00

Ch 160.00 m
CL NEW ACCESS STREET



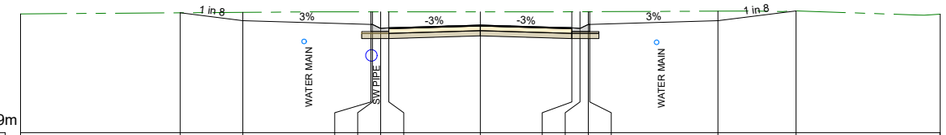
RL390.7m														
HEIGHT DIFFERENCE		0.000	-0.395	-0.512	-0.512	-0.641	-0.621	-0.531	-0.627	-0.648	-0.518	-0.519	-0.407	0.000	
DESIGN SURFACE		394.706	394.305	394.180	394.180	394.050	394.070	394.159	394.070	394.050	394.180	394.180	394.305	394.693	
EXISTING SURFACE	394.68	394.71	394.70	394.69	394.69	394.69	394.69	394.69	394.70	394.70	394.70	394.70	394.71	394.69	394.75
OFFSET	-15.00	-10.96	-7.75	-3.57	-3.52	-3.25	-2.98	-0.00	2.98	3.25	3.52	3.57	7.75	10.86	15.00

Ch 150.00 m
CL NEW ACCESS STREET



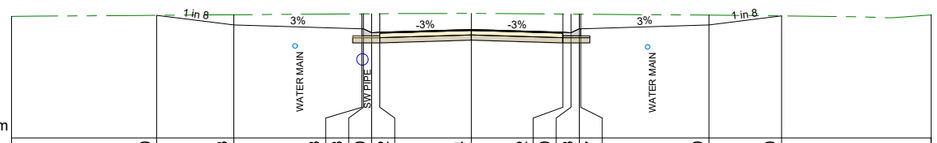
RL391m														
HEIGHT DIFFERENCE		-0.000	-0.217	-0.341	-0.341	-0.471	-0.451	-0.362	-0.450	-0.467	-0.334	-0.333	-0.144	-0.000	
DESIGN SURFACE		394.849	394.623	394.497	394.497	394.367	394.387	394.477	394.387	394.367	394.497	394.497	394.623	394.744	
EXISTING SURFACE	394.82	394.85	394.84	394.84	394.84	394.84	394.84	394.84	394.84	394.83	394.83	394.83	394.77	394.74	394.78
OFFSET	-15.00	-9.56	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	8.72	15.00

Ch 200.00 m
CL NEW ACCESS STREET



RL390.9m														
HEIGHT DIFFERENCE		0.000	-0.269	-0.411	-0.411	-0.541	-0.521	-0.432	-0.525	-0.546	-0.417	-0.418	-0.309	-0.000	
DESIGN SURFACE		394.808	394.553	394.427	394.427	394.297	394.317	394.407	394.317	394.297	394.427	394.427	394.553	394.872	
EXISTING SURFACE	394.77	394.81	394.82	394.84	394.84	394.84	394.84	394.84	394.84	394.84	394.84	394.85	394.86	394.87	394.76
OFFSET	-15.00	-9.79	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	10.30	15.00

Ch 190.00 m
CL NEW ACCESS STREET



RL390.8m														
HEIGHT DIFFERENCE		0.000	-0.333	-0.488	-0.488	-0.620	-0.602	-0.524	-0.592	-0.610	-0.478	-0.477	-0.320	-0.000	
DESIGN SURFACE		394.797	394.483	394.357	394.357	394.227	394.247	394.337	394.247	394.227	394.357	394.357	394.483	394.779	
EXISTING SURFACE	394.76	394.80	394.82	394.85	394.85	394.85	394.85	394.86	394.84	394.84	394.84	394.83	394.80	394.78	394.81
OFFSET	-15.00	-10.27	-7.75	-3.57	-3.52	-3.25	-2.99	0.00	2.98	3.25	3.52	3.57	7.75	10.12	15.00

Ch 180.00 m
CL NEW ACCESS STREET

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

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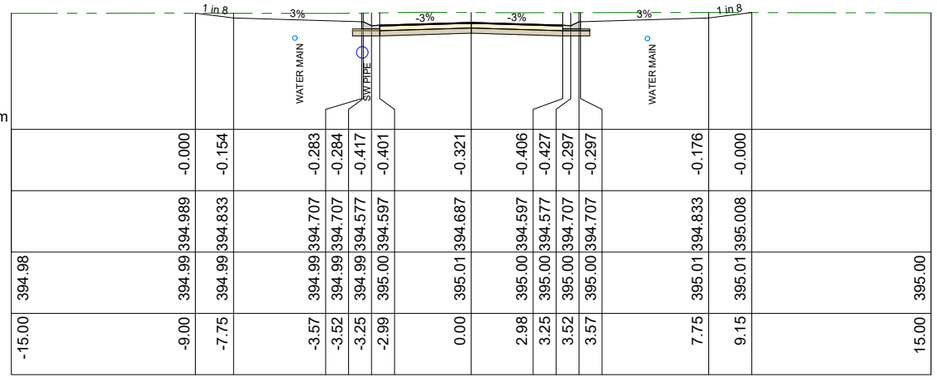
Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
ROAD CROSS SECTIONS
NEW ACCESS STREET - SHEET 3 OF 5

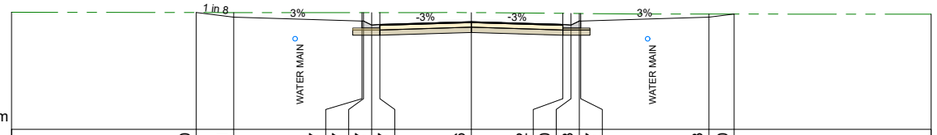
LOT 21 & 22 ON SP320489
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-403
REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026

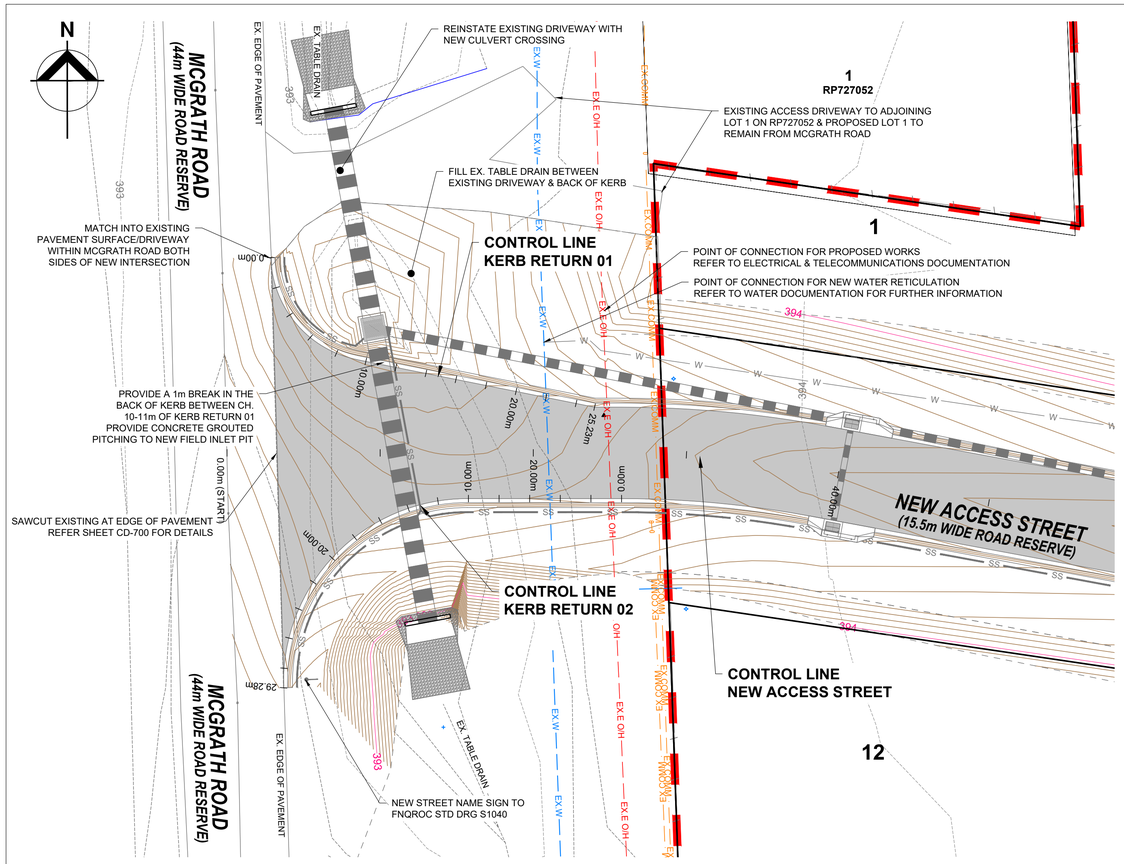

1 in 8
-3%
-3%
-3%
3%
1 in 8
WATER MAIN
SW PIPE
WATER MAIN

| | | |



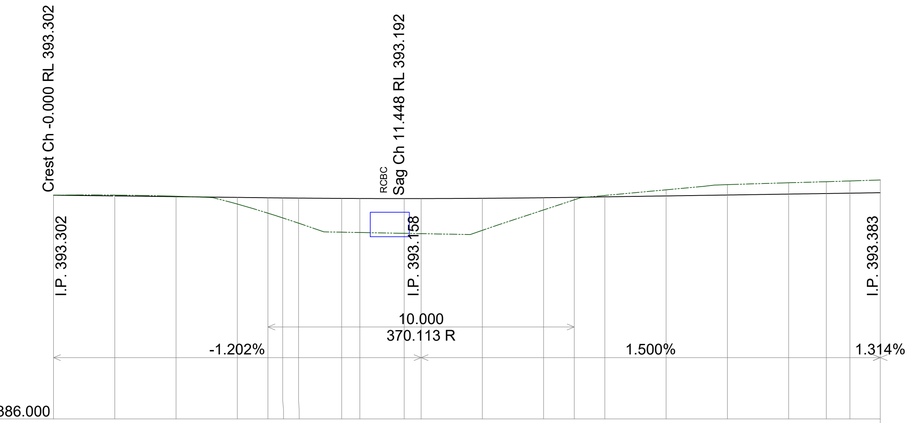
RL391.6m

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INTERSECTION DETAIL - MCGRATH ROAD & NEW ACCESS STREET

SCALE 1:200

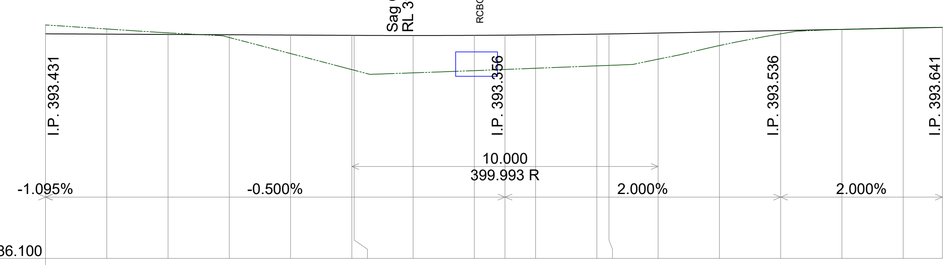


HORIZONTAL GEOMETRY AT LIP OF KERB	L=9 R=7													L=16 B=101°18'36"										L=2 B=90°00'00"	
HEIGHT DIFFERENCE (m)	+0.00	-0.03	-0.02	+0.22	+0.50	+0.65	+0.82	+1.10	+1.11	+1.13	+1.14	+1.05	+0.40	+0.08	-0.04	-0.20	-0.34	-0.37	-0.38	-0.40	-0.42				
DESIGN LEVELS AT LIP OF KERB	393.302	393.278	393.254	393.230	393.218	393.213	393.208	393.197	393.194	393.192	393.192	393.200	393.220	393.233	393.248	393.278	393.308	393.338	393.357	393.368	393.383				
EXISTING LEVELS AT LIP OF KERB	393.30	393.31	393.27	393.01	392.72	392.56	392.39	392.10	392.08	392.06	392.05	392.15	392.82	393.15	393.29	393.48	393.65	393.71	393.74	393.77	393.80				
CONTROL LINE CHAINAGE AT LIP OF KERB	0.000	2.000	4.000	6.000	7.000	7.481	8.000	9.407	10.000	11.448	12.000	14.000	16.000	17.000	18.000	20.000	22.000	24.000	25.230	26.000	26.991				

Ch -10.000 to Ch 26.991

LONGITUDINAL SECTION - KERB RETURN 01 (LIP OF KERB)

SCALE H 1:100, V 1:100



HORIZONTAL GEOMETRY AT LIP OF KERB	L=10 B=270°00'00"																		L=19 R=12						
HEIGHT DIFFERENCE (m)	-0.29	-0.17	-0.05	+0.09	+0.60	+1.12	+1.14	+1.22	+1.15	+1.12	+1.09	+1.03	+1.03	+0.86	+0.45	+0.11	+0.01	+0.00	+0.00						
DESIGN LEVELS AT LIP OF KERB	393.431	393.421	393.411	393.401	393.391	393.381	393.380	393.376	393.381	393.387	393.396	393.421	393.427	393.456	393.496	393.536	393.576	393.616	393.641						
EXISTING LEVELS AT LIP OF KERB	393.72	393.59	393.46	393.31	392.79	392.26	392.24	392.16	392.23	392.27	392.31	392.39	392.40	392.60	393.05	393.43	393.57	393.62	393.64						
CONTROL LINE CHAINAGE AT LIP OF KERB	0.000	2.000	4.000	6.000	8.000	10.000	10.077	12.000	14.000	15.000	16.000	18.000	18.395	20.000	22.000	24.000	26.000	28.000	29.281						

Ch 0.000 to Ch 39.281

LONGITUDINAL SECTION - KERB RETURN 02 (LIP OF KERB)

SCALE H 1:100, V 1:100

LEGEND:

- 444.50 — EXISTING CONTOURS (0.5m INTERVAL)
- 444.50 — DESIGN CONTOURS (0.2m INTERVAL)
- × LEVEL — EXISTING LEVEL
- NEW DRAINAGE PIPE & PIT
- EXISTING DRAINAGE
- EX.W — EXISTING WATER
- EX.E O/H — EXISTING ELECTRICAL OVERHEAD
- EX.E U/G — EXISTING ELECTRICAL UNDERGROUND
- EX.COMM — EXISTING COMMUNICATIONS
- EX.S — EXISTING SEWER (GRAVITY/RISING MAIN)
- TITLE BOUNDARY
- PROPOSED SITE BOUNDARY
- DENOTES PROPOSED NEW SEALED ROAD REFER TO LU23111-CD-700 FOR PAVEMENT DETAILS
- DENOTES PROPOSED CONCRETE ACCESS DRIVEWAY IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1015 & S1110
- DENOTES EXISTING STRUCTURES TO REMAIN
- DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5
- LKC — DENOTES LAYBACK KERB & CHANNEL IN ACCORDANCE WITH FNQROC STANDARD DRAWING S1000

NOTE:

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2. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
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5. UTILITIES SHOWN ARE FROM RECORDS AND SHALL BE CONFIRMED PRIOR TO COMMENCEMENTS OF WORKS.

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A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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WWW.LEKKERURBAN.COM.AU ABN 32 669 311 479

SCALE 1:200@A1
0 4 8 12 16 20 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

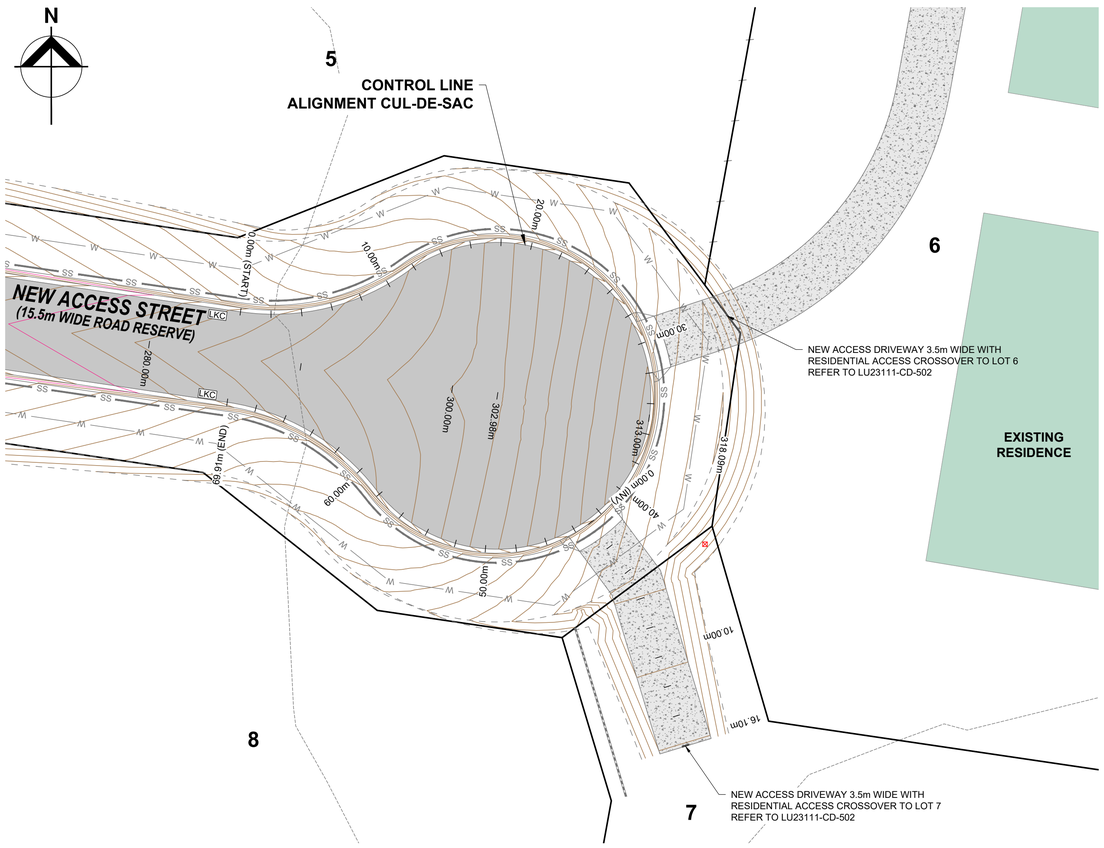
RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
INTERSECTION DETAIL PLAN
MCGRATH ROAD & NEW ACCESS STREET

LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL

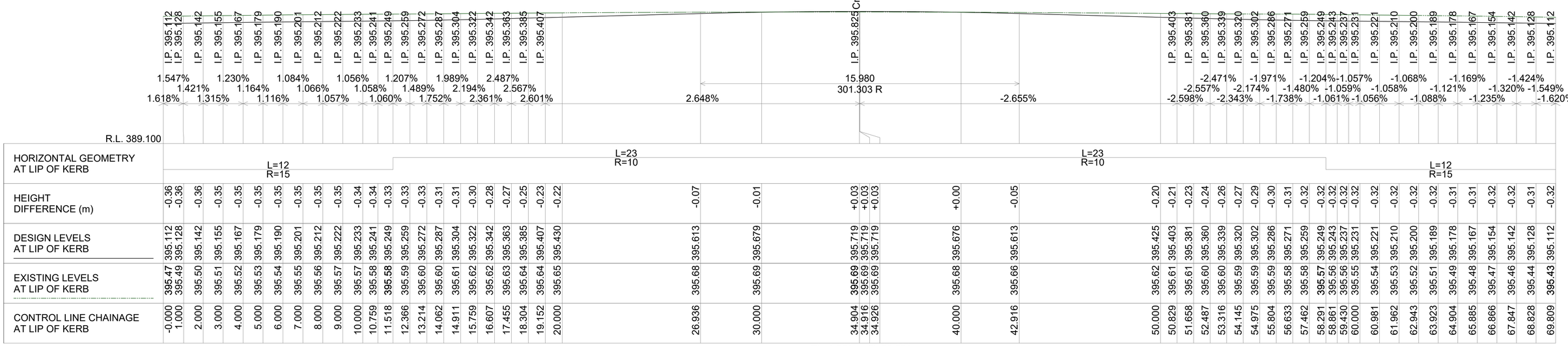
DRAWING NUMBER: LU23111-CD-500
REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026



INTERSECTION DETAIL - NEW ACCESS STREET CUL-DE-SAC

SCALE 1:200



CONTROL LINE CHAINAGE AT LIP OF KERB	HEIGHT DIFFERENCE (m)	DESIGN LEVELS AT LIP OF KERB	EXISTING LEVELS AT LIP OF KERB
-0.000	-0.36	395.112	395.47
1.000	-0.36	395.128	395.49
2.000	-0.36	395.142	395.50
3.000	-0.35	395.155	395.51
4.000	-0.35	395.167	395.52
5.000	-0.35	395.179	395.53
6.000	-0.35	395.190	395.54
7.000	-0.35	395.201	395.55
8.000	-0.35	395.212	395.56
9.000	-0.35	395.222	395.57
10.000	-0.34	395.233	395.57
10.759	-0.34	395.241	395.58
11.518	-0.33	395.249	395.58
12.366	-0.33	395.259	395.59
13.214	-0.33	395.272	395.60
14.062	-0.31	395.287	395.60
14.911	-0.31	395.304	395.61
15.759	-0.30	395.322	395.62
16.607	-0.28	395.342	395.62
17.455	-0.27	395.363	395.63
18.304	-0.25	395.385	395.64
19.152	-0.23	395.407	395.64
20.000	-0.22	395.430	395.65
26.936	-0.07	395.613	395.68
30.000	-0.01	395.679	395.69
34.904	+0.03	395.719	395.69
34.916	+0.03	395.719	395.69
34.926	+0.03	395.719	395.69
40.000	+0.00	395.676	395.68
42.916	-0.05	395.613	395.66
50.000	-0.20	395.425	395.62
50.829	-0.21	395.403	395.61
51.658	-0.23	395.381	395.61
52.487	-0.24	395.360	395.60
53.316	-0.26	395.339	395.60
54.145	-0.27	395.320	395.59
54.975	-0.29	395.302	395.59
55.804	-0.30	395.286	395.59
56.633	-0.31	395.271	395.58
57.462	-0.32	395.259	395.58
58.291	-0.32	395.249	395.57
58.861	-0.32	395.243	395.56
59.430	-0.32	395.237	395.56
60.000	-0.32	395.231	395.55
60.981	-0.32	395.221	395.54
61.962	-0.32	395.210	395.53
62.943	-0.32	395.200	395.52
63.923	-0.32	395.189	395.51
64.904	-0.31	395.178	395.49
65.885	-0.31	395.167	395.48
66.866	-0.32	395.154	395.47
67.847	-0.32	395.142	395.46
68.828	-0.31	395.128	395.44
69.809	-0.32	395.112	395.43

LONGITUDINAL SECTION - CUL-DE-SAC (LIP OF KERB)

SCALE H 1:100, V 1:100

NOTE:

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LEGEND:

- 444.50 — EXISTING CONTOURS (0.5m INTERVAL)
- 444.50 — DESIGN CONTOURS (0.2m INTERVAL)
- × LEVEL — EXISTING LEVEL
- NEW DRAINAGE PIPE & PIT
- EXISTING DRAINAGE
- EX.W — EXISTING WATER
- EX.E O/H — EXISTING ELECTRICAL OVERHEAD
- EX.E U/G — EXISTING ELECTRICAL UNDERGROUND
- EX.COMM — EXISTING COMMUNICATIONS
- EX.S — EXISTING SEWER (GRAVITY/RISING MAIN)
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- DENOTES PROPOSED CONCRETE ACCESS DRIVEWAY IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1015 & S1110
- DENOTES EXISTING STRUCTURES TO REMAIN
- DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5
- LKC — DENOTES LAYBACK KERB & CHANNEL IN ACCORDANCE WITH FNQROC STANDARD DRAWING S1000

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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SCALE 1:200@A1
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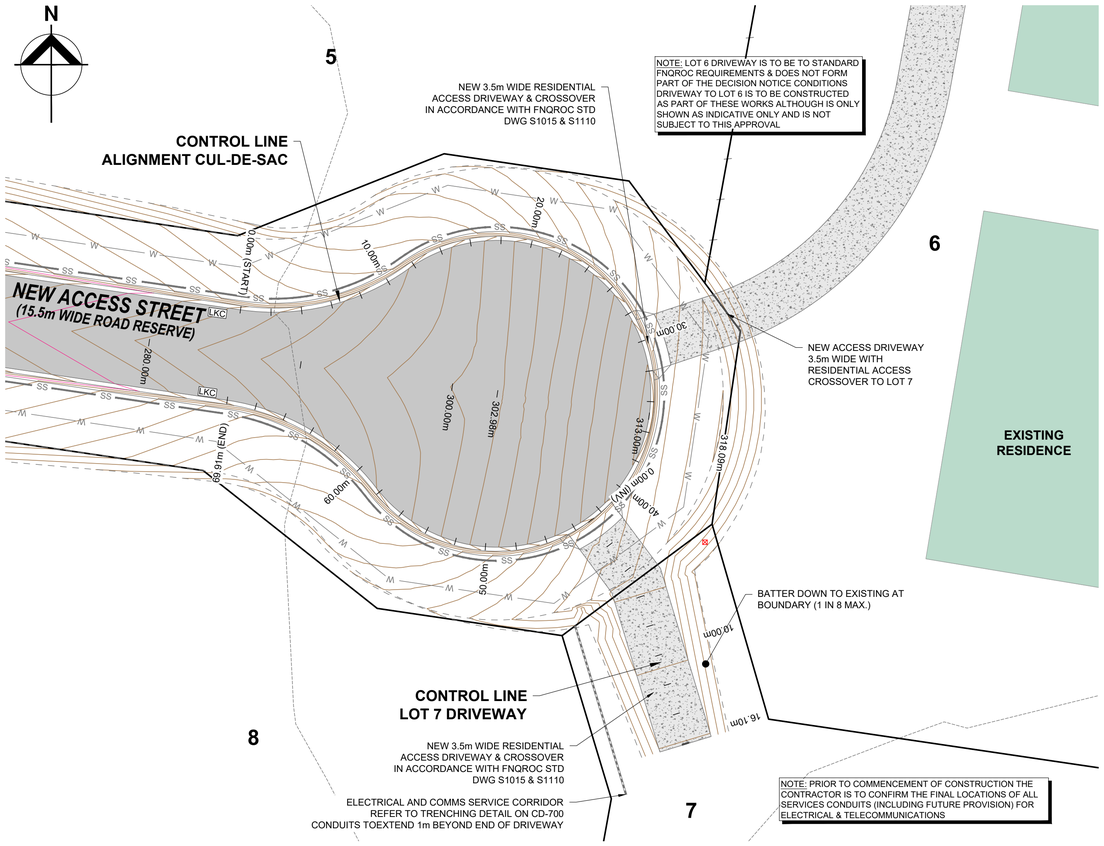
Designed: A.P.B. | Checked: J.L.A.
Authorised: J.L.A. | Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
INTERSECTION DETAIL PLAN
NEW ACCESS STREET CUL-DE-SAC

LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL | DRAWING NUMBER: LU23111-CD-501 | REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026



ACCESS DRIVEWAY DETAILS - LOTS 6 & 7

SCALE 1:200

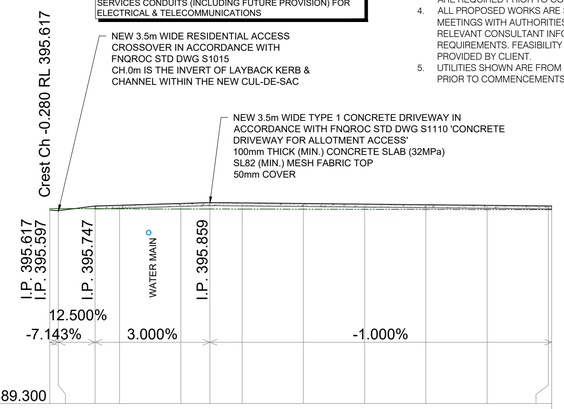
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- 444.50 — DESIGN CONTOURS (0.2m INTERVAL)
- × LEVEL — EXISTING LEVEL
- NEW DRAINAGE PIPE & PIT
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- DENOTES EXISTING STRUCTURES TO REMAIN
- DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5
- LKC — DENOTES LAYBACK KERB & CHANNEL IN ACCORDANCE WITH FNQROC STANDARD DRAWING S1000

NOTE: PRIOR TO COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR IS TO CONFIRM THE FINAL LOCATIONS OF ALL SERVICES CONDUITS (INCLUDING FUTURE PROVISION) FOR ELECTRICAL & TELECOMMUNICATIONS



| | | |

N

Pre-development catchment breakdown (m²)				
	Catchment A Overland flow to McGrath Road to the west of the subject site	Catchment B Overland flow to the existing watercourse to the east of the subject site	Catchment C Overland flow to adjoining properties to the north of the subject site	Total
Pervious area (m²)	19175	10725	14680	44580
Impervious area (m²)	1625	475	390	2490
Total area (m²)	**20800**	**11200**	**15070**	**47070**
% of Site area	**44%**	**24%**	**32%**	**100%**
% Pervious	92%	96%	97%	95%
% Impervious	8%	4%	3%	5%

NOTE:
1. REFER TO LEKKER URBAN DRAWING LU23111-CD-101 FOR ALL RELEVANT CONSTRUCTION NOTES.

LEGEND

- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO MCGRATH ROAD TO THE WEST OF THE SUBJECT SITE
- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO EXISTING WATERCOURSE TO THE EAST OF THE SUBJECT SITE
- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO ADJOINING PROPERTIES TO THE NORTH OF THE SUBJECT SITE
- DRAINAGE CATCHMENT EXTENT
- OVERLAND FLOW PATH

MCGRATH ROAD (44m WIDE ROAD RESERVE)

EX. EDGE OF PAVEMENT
EX. TABLE DRAIN
EX. 600Ø SW
EX. 525Ø SW
EX. W
EX. OH
EX. COM

1 RP850455
2 RP850455
3 RP850455
2 RP749617
1 RP727052
1 RP719276
2 RP719276
3 RP719276
2 RP901433
3 RP901433
4 RP901433

EXISTING ACCESS DRIVEWAY TO ADJOINING LOT 1 ON RP727052

FORMAL POINT OF DISCHARGE TO EXISTING GRASS LINED OPEN CHANNEL

EXISTING ACCESS DRIVEWAY TO A PROPOSED LOT 12 TO REMAIN FROM MCGRATH ROAD

EXISTING RESIDENCE
EXISTING SHED
EXISTING RESIDENCE
EXISTING SHED

CATCHMENT C: 1.51 Ha CATCHMENT AREA AS OVERLAND FLOW TO ADJOINING PROPERTIES TO THE NORTH OF THE SUBJECT SITE

CATCHMENT A: 2.08 Ha CATCHMENT AREA AS OVERLAND FLOW TO McGRATH ROAD TO THE WEST OF THE SUBJECT SITE

CATCHMENT B: 1.12 Ha CATCHMENT AREA AS OVERLAND FLOW TO EXISTING WATERCOURSE TO THE EAST OF THE SUBJECT SITE

NOTE: EXISTING ACCESS ROAD NOT SHOWN ON SURVEY

Revision	Amendments	Approved	Date
A	ISSUED FOR APPROVAL - OPERATIONAL WORKS	J.L.A.	22/05/2026

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SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
DRAINAGE CATCHMENT LAYOUT PLAN
PRE-DEVELOPMENT CONDITIONS (MINOR)

LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-600
REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026

Post-development catchment breakdown (m²)				
	Catchment A Discharge to McGrath Road to the west of the subject site via new underground piped network	Catchment B Overland flow to the existing watercourse to the east of the subject site	Catchment C Overland flow to adjoining properties to the north of the subject site	Total
Pervious area (m²)	17218	10275	11750	39243
Impervious area (m²)	4652	925	2250	7827
Total area (m²)	**21870**	**11200**	**14000**	**47070**
% of Site area	**46%**	**24%**	**30%**	
% Pervious	79%	92%	84%	83%
% Impervious	21%	8%	16%	17%

NOTE:
1. REFER TO LEKKER URBAN DRAWING LU23111-CD-101 FOR ALL RELEVANT CONSTRUCTION NOTES.

LEGEND

- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO MCGRATH ROAD TO THE WEST OF THE SUBJECT SITE
- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO EXISTING WATERCOURSE TO THE EAST OF THE SUBJECT SITE
- DENOTES SUBJECT SITE CATCHMENT AREA AS OVERLAND FLOW TO ADJOINING PROPERTIES TO THE NORTH OF THE SUBJECT SITE
- DRAINAGE CATCHMENT EXTENT
- OVERLAND FLOW PATH

N

MCGRATH ROAD (44m WIDE ROAD RESERVE)

NEW ACCESS STREET (15.5m WIDE ROAD RESERVE)

1 RP850455 | 2 RP850455 | 3 RP850455 | 2 RP749617

1 RP727052

1 2777m² | 2 2968m² | 3 3111m² | 4 3111m² | 5 3009m² | 6 7377m² | 7 4149m² | 8 2455m² | 9 2696m² | 10 2696m² | 11 2519m² | 12 5262m²

NOTE: AN ALLOWANCE FOR LOTS 1 TO 5 TO CONTINUE TO DISCHARGE TO THE ADJOINING PROPERTIES TO THE NORTH, SIMILAR TO PRE-DEVELOPMENT CONDITIONS
450m² HAS BEEN ASSUMED AS THE IMPERVIOUS AREA PER LOT

CATCHMENT C: 1.40 Ha CATCHMENT AREA AS OVERLAND FLOW TO ADJOINING PROPERTIES TO THE NORTH OF THE SUBJECT SITE

CATCHMENT A: 2.19 Ha CATCHMENT AREA AS OVERLAND FLOW & NEW PIPED NETWORK TO McGRATH ROAD TO THE WEST OF THE SUBJECT SITE

NOTE: AN ALLOWANCE FOR LOTS 8 TO 12 TO CONTINUE TO DISCHARGE TO MCGRATH ROAD TO THE WEST, SIMILAR TO PRE-DEVELOPMENT CONDITIONS
450m² HAS BEEN ASSUMED AS THE IMPERVIOUS AREA PER LOT FOR LOTS 8 TO 11, WITH LOT 12 EXISTING DWELLING REMAINING

NOTE: EXISTING ACCESS ROAD NOT SHOWN ON SURVEY

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 12

EXISTING SHED

EXISTING SHED TO REMAIN WITHIN PROPOSED LOT 6

EXISTING RESIDENCE

EXISTING RESIDENCE TO REMAIN WITHIN PROPOSED LOT 6

CATCHMENT B: 1.12 Ha CATCHMENT AREA AS OVERLAND FLOW TO EXISTING WATERCOURSE TO THE EAST OF THE SUBJECT SITE

NOTE: AN ALLOWANCE FOR LOTS 1 TO 5 TO CONTINUE TO DISCHARGE TO THE EXISTING WATERCOURSE TO THE EAST, SIMILAR TO PRE-DEVELOPMENT CONDITIONS
450m² HAS BEEN ASSUMED AS THE IMPERVIOUS AREA FOR LOT 7

1 RP719276 | 2 RP719276 | 3 RP719276 | 2 RP901433 | 3 RP901433 | 4 RP901433

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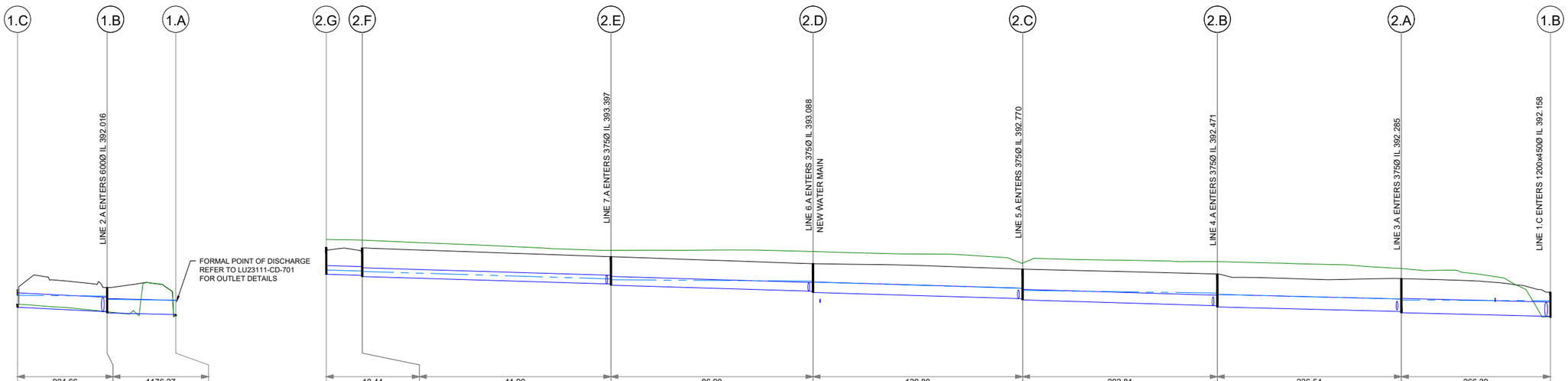
Designed: A.P.B. | Checked: J.L.A.
Authorised: J.L.A. | Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
DRAINAGE CATCHMENT LAYOUT PLAN
POST-DEVELOPMENT CONDITIONS (MINOR)

LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL | DRAWING NUMBER: LU23111-CD-601 | REV: A

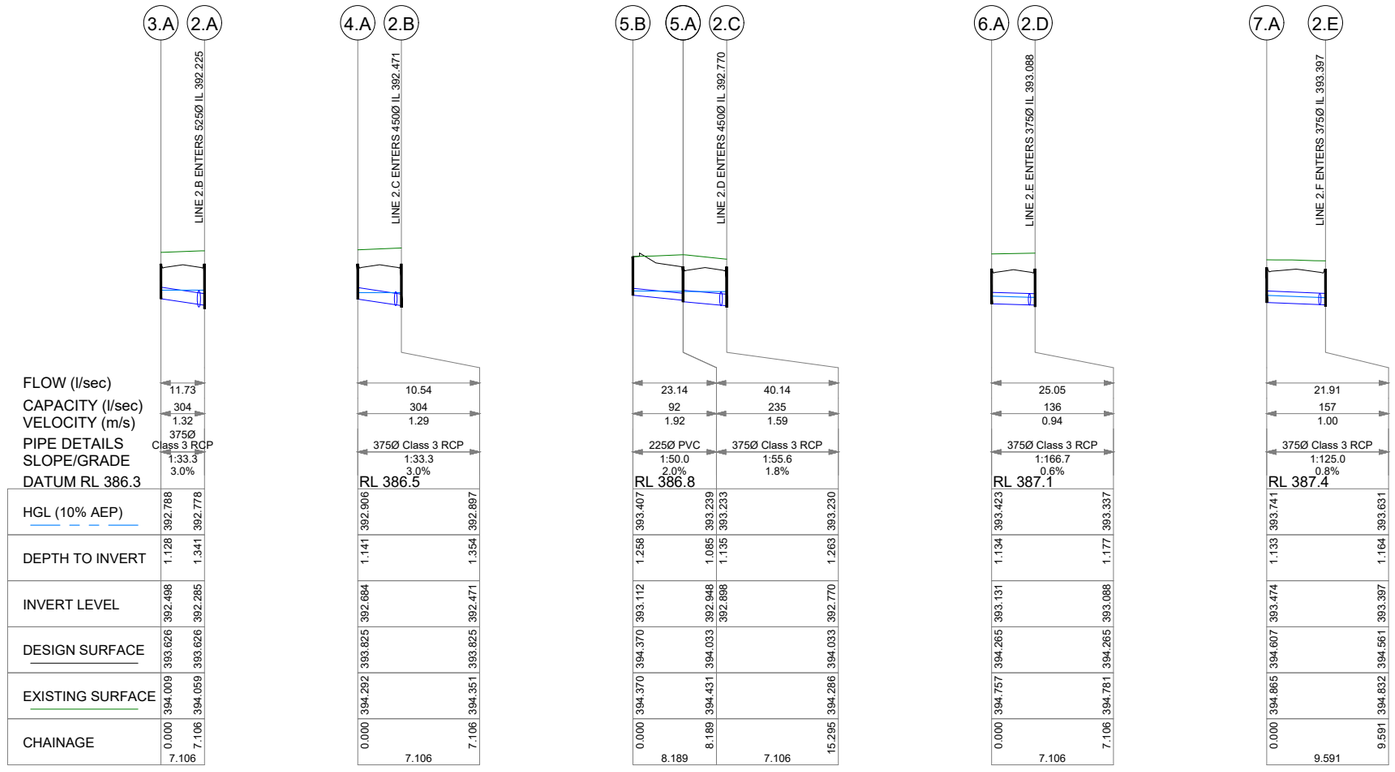
Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026


1.C
1.B
1.A
2.G
2.F
2.E
2.D
2.C
2.B
2.A
1.B
LINE 2.A ENTERS 600Ø IL 392.016
FORMAL POINT OF DISCHARGE
REFER TO LU23111-CD-701
FOR OUTLET DETAILS
LINE 7.A ENTERS 375Ø IL 393.397
LINE 6.A ENTERS 375Ø IL 393.088
NEW WATER MAIN
LINE 5.A ENTERS 375Ø IL 392.770
LINE 4.A ENTERS 375Ø IL 392.471
LINE 3.A ENTERS 375Ø IL 392.285
LINE 1.C ENTERS 1200x450Ø IL 392.158

| | | |

DRAINAGE PIT SCHEDULE

Pit No.	Pit Type	Pit Width	Pit Length	Outlet Diameter	Outlet Invert RL	Inlet Diameter	Inlet Invert RL	Pit Depth	Pit Lid Level	Easting	Northing	Comment
		(mm)	(mm)	(mm)	(m)	(mm)	(m)	(m)	(m)	(m)	(m)	
1.A	HEADWALL (OUTLET)	1200	-			1200x600	391.893	0.750	391.850	331264.11	8123113.195	REFER TO LU23111-CD-701 FOR HEADWALL OUTLET DETAILS & ASSOCIATED ROCK SCOUR PROTECTION
1.B	FIELD INLET PIT (GRATED)	1500	1500	1200x600	391.966	600	392.016	1.084	393.050	331266.76	8123098.803	REFER TO FNQROC STANDARD DRAWING "FIELD INLET PIT" S1070 FOR FURTHER DETAILS - TYPE B - STEP IRONS REQUIRED
						1200x600	392.016					
1.C	HEADWALL (INLET)	1200	-	1200x600	392.207			0.750	392.328	331270.23	8123079.996	REFER TO LU23111-CD-701 FOR HEADWALL OUTLET DETAILS & ASSOCIATED ROCK SCOUR PROTECTION
2.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	600	392.175	525	392.225	1.451	393.626	331297.98	8123092.663	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
						375	392.285					
2.B	GRATED KERB INLET PIT (ON-GRADE)	835	930	525	392.421	450	392.471	1.404	393.825	331336.42	8123084.754	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
						375	392.471					
2.C	GRATED KERB INLET PIT (ON-GRADE)	835	930	450	392.720	450	392.770	1.313	394.033	331376.13	8123072.557	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
						375	392.770					
2.D	GRATED KERB INLET PIT (ON-GRADE)	835	930	450	393.038	375	393.088	1.227	394.265	331419.67	8123062.354	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
						375	393.088					
2.E	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	393.347	375	393.397	1.215	394.561	331462.32	8123056.076	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
						375	393.397					
2.F	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	393.715	375	393.765	1.223	394.938	331514.82	8123048.349	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - STEP IRONS REQUIRED
2.G	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	393.811			1.155	394.966	331516.68	8123040.892	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED
3.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	392.498			1.128	393.626	331296.69	8123085.677	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED
4.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	392.684			1.141	393.825	331334.33	8123077.961	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED
5.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	392.898	225	392.948	1.135	394.033	331374.04	8123065.764	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED
5.B	FIELD INLET PIT (GRATED)	600	600	225	393.112			1.258	394.370	331374.28	8123057.578	NEW EVERHARD (OR APPROVED EQUIVALENT) PRECAST STORMWATER PIT PROVIDE CLASS D (TRAFFICABLE) GRATE - WITH NO STEP IRONS
6.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	393.131			1.134	394.265	331418.64	8123055.323	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED
7.A	GRATED KERB INLET PIT (ON-GRADE)	835	930	375	393.474			1.133	394.607	331467.66	8123048.108	REFER TO FNQROC STANDARD DRAWING "GRATED KERB INLET PIT" S1050 FOR FURTHER DETAILS - INLET ON GRADE (SIZE SMALL LINTEL) - NO STEP IRONS REQUIRED



LINE 3
SCALES: H 1:500 V 1:100

LINE 4
SCALES: H 1:500 V 1:100

LINE 5
SCALES: H 1:500 V 1:100

LINE 6
SCALES: H 1:500 V 1:100

LINE 7
SCALES: H 1:500 V 1:100

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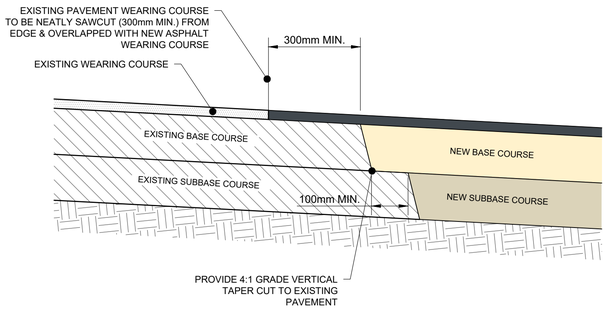
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Checked: J.L.A.
Authorised: J.L.A.
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RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
DRAINAGE LONGITUDINAL SECTIONS & PIT SCHEDULE

LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

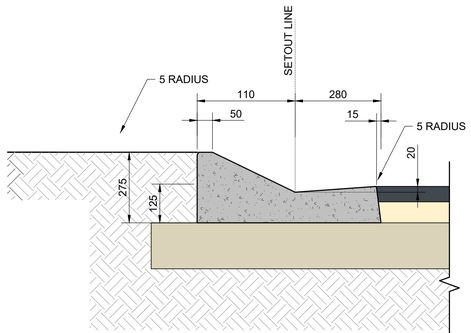
FOR APPROVAL
DRAWING NUMBER: LU23111-CD-603
REV: A

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026



TYPICAL PAVEMENT JOINT DETAIL

NOT TO SCALE

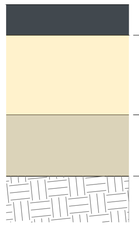


TYPICAL LAYBACK KERB & CHANNEL DETAIL

SCALE 1:10

PARAMETER	DESIGN VALUES
AADT	< 250
STREET TYPE (FNQROC)	ACCESS PLACE ADOPTED (ACCESS STREET FORMATION IS TO BE USED)
MINIMUM ESA's	5.0 x 10^4
DESIGN SUBGRADE CBR	4.5%

PAVEMENT PROFILE - NEW PAVEMENT (TYPICAL)



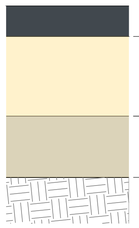
WEARING COURSE:
30mm ASPHALT (AC10)
WITH AMC 7 PRIMER SEAL

BASE COURSE:
TYPE 2.2 PER MRTS05/FNQROC (MIN. CBR 60%)
(100% STANDARD COMPACTION)
150mm THICK THROUGHOUT

SUB-BASE COURSE:
TYPE 2.3 PER MRTS05/FNQROC (MIN. CBR 45%)
(100% STANDARD COMPACTION)
170mm THICK THROUGHOUT

DESIGN SUBGRADE: CBR 4.5%
GROUND TREATMENT REQUIRED IF CBR <4.5%

PAVEMENT PROFILE - NEW PAVEMENT (INTERSECTION & CUL-DE-SAC)



WEARING COURSE:
50mm ASPHALT (AC10)
WITH AMC 7 PRIMER SEAL

BASE COURSE:
TYPE 2.2 PER MRTS05/FNQROC (MIN. CBR 60%)
(100% STANDARD COMPACTION)
150mm THICK THROUGHOUT

SUB-BASE COURSE:
TYPE 2.3 PER MRTS05/FNQROC (MIN. CBR 45%)
(100% STANDARD COMPACTION)
170mm THICK THROUGHOUT

DESIGN SUBGRADE: CBR 4.5%
GROUND TREATMENT REQUIRED IF CBR <4.5%

GENERAL EARTHWORKS RECOMMENDATION

WHERE REQUIRED, SITE PREPARATION AND EARTHWORKS PROCEDURES SHOULD INVOLVE THE FOLLOWING;

- STRIP & REMOVE TOPSOIL, SOIL CONTAINING SIGNIFICANT AMOUNTS OF ORGANIC MATERIALS, 'UNCONTROLLED' FILLING AND ALSO ANY DELETERIOUS SOFT, WET OF HIGHLY COMPRESSIBLE MATERIALS IF ENCOUNTERED AT FOOTING OR PAVEMENT FORMATION LEVELS;
- UNDERTAKE 'PROOF' ROLLING OF THE EXPOSED SURFACE LEVELS ACROSS THE SITE WITH A MINIMUM 12 TONNE STATIC WEIGHT SMOOTH DRUM OR SIMILAR. ANY SOFT OR LOOSE MATERIAL THAT CANNOT BE IMPROVED BY COMPACTION SHOULD BE REMOVED AND REPLACED WITH APPROVED SELECT FILL (LOADING AROUND THE CREST SHOULD BE NOT TAKE PLACE);
- ANY EXPOSED NATURAL FOUNDATION SOILS SHOULD BE COMPACTED TO A MINIMUM DRY DENSITY RATIO OF 98% USING STANDARD COMPACTION AND MOISTURE TREATED TO A MOISTURE RANGE OF -2% (DRY) TO +2% (WET) OF OPTIMUM MOISTURE CONTENT (OMC);
- WHERE THE FOUNDATION LEVELS ARE TO BE RAISED OR SUBGRADE MATERIALS ARE TO BE EXCAVATED (I.E. REMOVE & REPLACE), THE FOUNDATION SOILS SHOULD BE PREPARED AS DETAILED BELOW:
  - APPROVED FILLING SHOULD BE UNDERTAKEN BY PLACING FILL IN UNIFORM HORIZONTAL LAYERS NOT EXCEEDING 200mm LOOSE THICKNESS AND COMPACTED TO ACHIEVE A DRY DENSITY RATIO OF AT LEAST 98% USING STANDARD COMPACTION FOR COHESIVE SOIL OR TO AT LEAST 75% DENSITY INDEX FOR SAND. THE MOISTURE CONTENT OF ANY COHESIVE SOIL FILL MATERIALS SHOULD BE MAINTAINED AT -2% AND +2% OF OMC, DURING & AFTER COMPACTION;
  - WHERE UNSUITABLE MATERIALS ARE TO BE EXCAVATED IT IS RECOMMENDED THAT ALL EXCAVATED IN-SITU SOILS ARE REMOVED FROM THE SITE AND APPROVED SELECT FILL IS PLACED AND COMPACTED IN THE EXCAVATION. THE EXCAVATION SHOULD BE BENCH TO 'KEY IN' THE SELECT FILL MATERIAL AND OPTIMISE COMPACTION. THE BENCHES SHOULD SLOPE BACK AT 1V:5H AND BE AT LEAST 0.5m WIDE (REFER TO FIGURE 1 FROM ETS GEOTECHNICAL REPORT FOR DETAIL);
  - APPROVED FILLING (GENERAL FILL) SHOULD BE A WELL GRADED MATERIAL FREE FROM ORGANIC MATERIAL, HAVE A PLASTICITY INDEX OF LESS THAN OR EQUAL TO 15%, SHOULD NOT CONTAIN ANY INDIVIDUAL PARTICLES GREATER THAN 75mm IN SIZE;
  - IN ORDER FOR FILLING TO BE CONSIDERED 'CONTROLLED' ANY EARTHWORKS THAT ARE UNDERTAKEN BENEATH ANY OF THE PROPOSED STRUCTURES OR PAVEMENTS ARE TO BE PERFORMED UNDER FULLTIME 'LEVEL 1' INSPECTION AND TESTING AS DESCRIBED AND IN ACCORDANCE WITH AS3798.

IT SHOULD BE NOTED THAT THERE MAY BE TRAFFICABILITY ISSUES FOR RUBBER WHEELED EARTHMOVING EQUIPMENT IF CONSTRUCTION ACTIVITES ARE UNDERTAKEN DURING, OR SOON AFTER WET WEATHER, DUE TO THE MOISTENING AND SOFTENING OF THE CLAY SOILS. IN ORDER TO MINIMISE THESE ISSUES, THE USE OF TRACKED EQUIPMENT IS SUGGESTED. IN ADDITION TO THIS, ACHIEVING A SATISFACTORY 'PROOF' ROLL UNDER WET WEATHER CONDITIONS MAY ALSO BE DIFFICULT. SHOULD THIS SITUATION ARISE, ADDITIONAL GEOTECHNICAL ADVICE SHOULD BE SOUGHT.

PAVEMENT NOTES

1. REFER TO DRAWINGS LU23111-CD-101 FOR CONSTRUCTION NOTES.
2. REFER TO GEOTECHNICAL ASSESSMENT (REPORT NO. 2601701R), DATED 17 MARCH 2026, PROVIDED BY GROUND TECHNICS FOR ALL LABORATORY TEST RESULTS AND FURTHER INFORMATION.
3. REFER TO PAVEMENT DESIGN PROJECT MEMORANDUM (B-0749.00 M1), DATED 25 MARCH 2026, PROVIDED BY D&N GEOTECHNICAL FOR FULL PAVEMENT DESIGN.
4. SAMPLING AND TESTING OF EXISTING SUBGRADE AS REQUIRED FNQROC SPECIFICATIONS.
5. REFER TO FNQROC - STANDARD DRAWING - S1000 - CONCRETE KERB & CHANNEL PROFILES, FOR KERB DIMENSIONS, ADDITIONAL NOTES & DETAILS.
6. REFER TO FNQROC - STANDARD DRAWING - S1095 - SUBSURFACE DRAINAGE FLUSHING POINT OUTLET, FOR SUB SOIL DIMENSIONS, ADDITIONAL NOTES & DETAIL

ASPHALT WEARING COURSE

THE PROPOSED WEARING SURFACE FOR THE NEW ACCESS STREET PAVEMENT SHALL COMPRISE 30mm ASPHALTIC CONCRETE (AC), CONSISTENT WITH THE FNQROC DEVELOPMENT MANUAL REQUIREMENTS FOR URBAN RESIDENTIAL STREETS. BASED ON FNQROC GUIDANCE, THE 30mm AC IS CONSIDERED TO FUNCTION AS A WEARING SURFACE ONLY AND IS NOT RELIED UPON FOR STRUCTURAL CONTRIBUTION TO THE PAVEMENT.

THE ASPHALT SHALL BE A NOMINAL SIZE 10mm DENSE GRADED ASPHALT IN GENERAL ACCORDANCE WITH THE DTMR MRTS30 – ASPHALT PAVEMENTS, SUITABLE FOR LOW TRAFFIC RESIDENTIAL APPLICATIONS.

A LIGHT PRIME COAT (E.G. EMULSION PRIME SUCH AS A CATIONIC RAPID SET (CRS) EMULSION) SHALL BE APPLIED TO THE PREPARED GRANULAR BASE PRIOR TO PLACEMENT OF THE ASPHALT LAYER TO PROMOTE ADHESION AND REDUCE PERMEABILITY AT THE INTERFACE.

IT IS NOT ANTICIPATED THAT THE PAVEMENT WILL BE IMMEDIATELY TRAFFICKED FOLLOWING CONSTRUCTION OF THE GRANULAR HOWEVER, IF THERE IS A NEED TO TRAFFIC THE PAVEMENT PRIOR TO AC PLACEMENT, THE FOLLOWING CONSTRUCTION APPROACH IS RECOMMENDED:

- THE GRANULAR PAVEMENT SHOULD BE PROVIDED WITH A LOW CUTTER OR EMULSION PRIMER SEAL TO PROVIDE TEMPORARY WATERPROOFING AND TRAFFICKING CAPABILITY DURING THE CONSTRUCTION PHASE.
- THE FINAL ASPHALT WEARING COURSE SHOULD BE PLACED FOLLOWING COMPLETION OF SUBDIVISION WORKS AND CURING OF THE PRIMER SEAL TO ENSURE ALL VOLATILES HAVE ESCAPED; AND PRIOR TO PRACTICAL COMPLETION, TO MINIMISE DAMAGE FROM CONSTRUCTION TRAFFIC AND TO ENSURE SURFACE INTEGRITY.
- WHERE THE PAVEMENT IS REQUIRED TO CARRY CONSTRUCTION TRAFFIC PRIOR TO PLACEMENT OF THE ASPHALT LAYER, THE CONTRACTOR SHALL ENSURE THAT THE TEMPORARY SURFACE TREATMENT IS ADEQUATE TO PREVENT DEGRADATION OF THE BASE COURSE AND INGRESS OF MOISTURE.

SUBGRADE CONSIDERATIONS

1. A SUBGRADE DESIGN CBR VALUE OF 4.5% HAS BEEN ADOPTED TO DEVELOP PAVEMENT DESIGN CONSIDERING THE LABORATORY SOAKED CBR AND DCP VALUES FROM THE GROUND TECHNICS REPORT USING EMPIRICAL RELATIONSHIPS IN ACCORDANCE WITH AUSTROADS AGPT02-2024.
2. THE ADOPTED DESIGN CBR WAS BASED ON THE FOLLOWING:
   - 2.1. SUBGRADE CONDITIONS AND IN-SITU CBR BE VERIFIED BY THE PROJECT GEOTECHNICAL ENGINEER AT THE TIME OF EXPOSURE.
   - 2.2. PROVISION BE MADE FOR BRIDGING OF SUBGRADE WHERE THE SUBGRADE IS FOUND TO BE LESS THAN THE ADOPTED CBRs (FOR EXAMPLE, WHERE INCREASED SOIL MOISTURE OCCURS, OR PROOF ROLLS FAIL).
   - 2.3. SUBSOIL DRAINS BE PROVIDED ALONG THE LENGTH OF THE ALIGNMENT TO CONTROL SUBGRADE MOISTURE.
   - 2.4. CROSSFALL ON THE TRAFFICABLE LANES SHALL BE MINIMUM 3% TO ENCOURAGE WATER SHEDDING.
   - 2.5. VEGETATION SHALL NOT BE ALLOWED TO ESTABLISH AT THE EDGE OF THE SEAL, AS SUCH GROWTH CAN IMPEDE DRAINAGE FROM THE PAVEMENT AND LEAD TO WATER INGRESS AND SOFTENING OF ALL PAVEMENT AND SUBGRADE LAYERS.

SUBGRADE PREPARATION

1. THE SUBGRADE LEVEL SHOULD BE EXPOSED OR BOXED OUT TO THE DESIGN LEVEL.
2. THE SUBGRADE SHALL BE MADE TO CROSSFALL TO SITE DRAINAGE AT MINIMUM 3%.
3. THE TOP 300 mm OF THE NATURAL MATERIALS WITHIN THE SUBGRADE SHALL BE RIPPED AND RECOMPACTED TO 100% SMDD AND TO WITHIN 2% OF OPTIMUM MOISTURE (OMC).
4. THE EXPOSED SUBGRADE SHALL BE PROOF-ROLLED IN THE PRESENCE OF AN EXPERIENCED PROFESSIONAL ENGINEER, USING A MINIMUM 12 TONNE SMOOTH DRUM ROLLER OR SIMILAR.
5. ANY DEFLECTING OR POORLY PERFORMING AREAS SHALL BE INVESTIGATED FURTHER, AND DELETERIOUS MATERIALS SUCH AS ORGANICS, HIGH PLASTICITY CLAYS, MOISTURE-AFFECTED ZONES, OR WEAK ZONES SHALL BE REPLACED WITH A BRIDGING LAYER IN ACCORDANCE WITH DTMR MRTS04 GENERAL EARTHWORKS.
   - 5.1. BRIDGING LAYERS SHALL COMPRISE CLEAN GRANULAR MATERIAL (<5% FINES, MAXIMUM PARTICLE SIZE 75 mm), ENCAPSULATED IN A NON-WOVEN GEOTEXTILE COMPLYING WITH DTMR MRTS27 GEOTEXTILES (SEPARATION AND FILTRATION), STRENGTH CLASS C AND FILTRATION CLASS 4.
   - 5.2. THE THICKNESS OF THE BRIDGING LAYER WILL DEPEND ON SITE CONDITIONS. A MINIMUM THICKNESS OF 300 mm IS REQUIRED, WITH GREATER THICKNESSES POTENTIALLY NECESSARY IN WEAKER AREAS.
   - 5.3. BRIDGING LAYERS MUST REMAIN WELL-DRAINED AND BE CONNECTED TO SUBSOIL DRAINS IN ACCORDANCE WITH DTMR MRTS03 DRAINAGE, RETAINING STRUCTURES AND PROTECTIVE TREATMENTS.
   - 5.4. ADDITIONAL SUBGRADE DRAINS MAY BE REQUIRED TO CONTROL MOISTURE INGRESS AND MITIGATE CONDITIONS THAT COULD LEAD TO FUTURE DEFLECTION OVER THE LIFE OF THE PAVEMENT.
   - 5.5. BRIDGED ZONES SHALL BE PROOF ROLLED FOLLOWING PLACEMENT TO CONFIRM ADEQUATE SUBGRADE PERFORMANCE.

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DRAWING NOT TO SCALE

Designed:	Checked:
A.P.B.	J.L.A.
Authorised:	**Date:**
J.L.A.	22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CONSTRUCTION DETAILS
SHEET 1 OF 2

LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

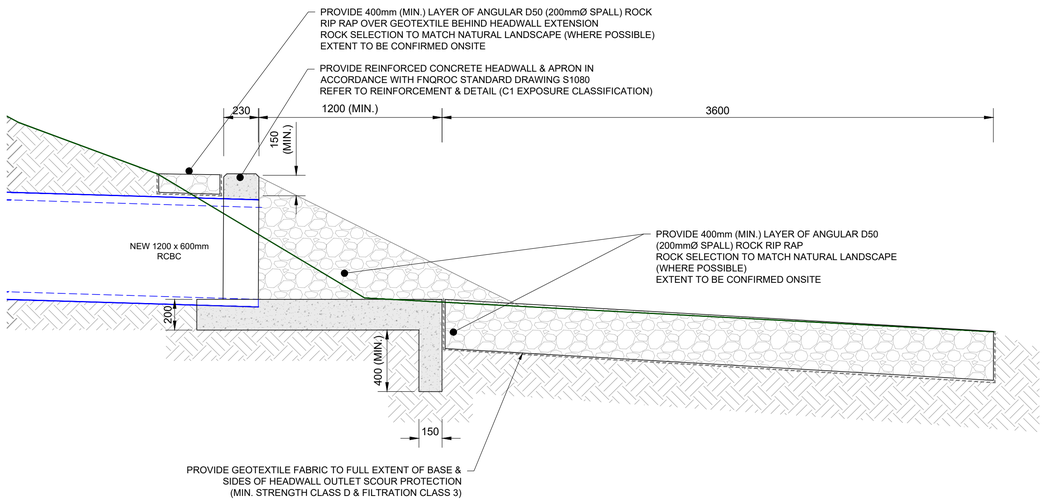
FOR APPROVAL

DRAWING NUMBER: **LU23111-CD-700**

REV: **A**

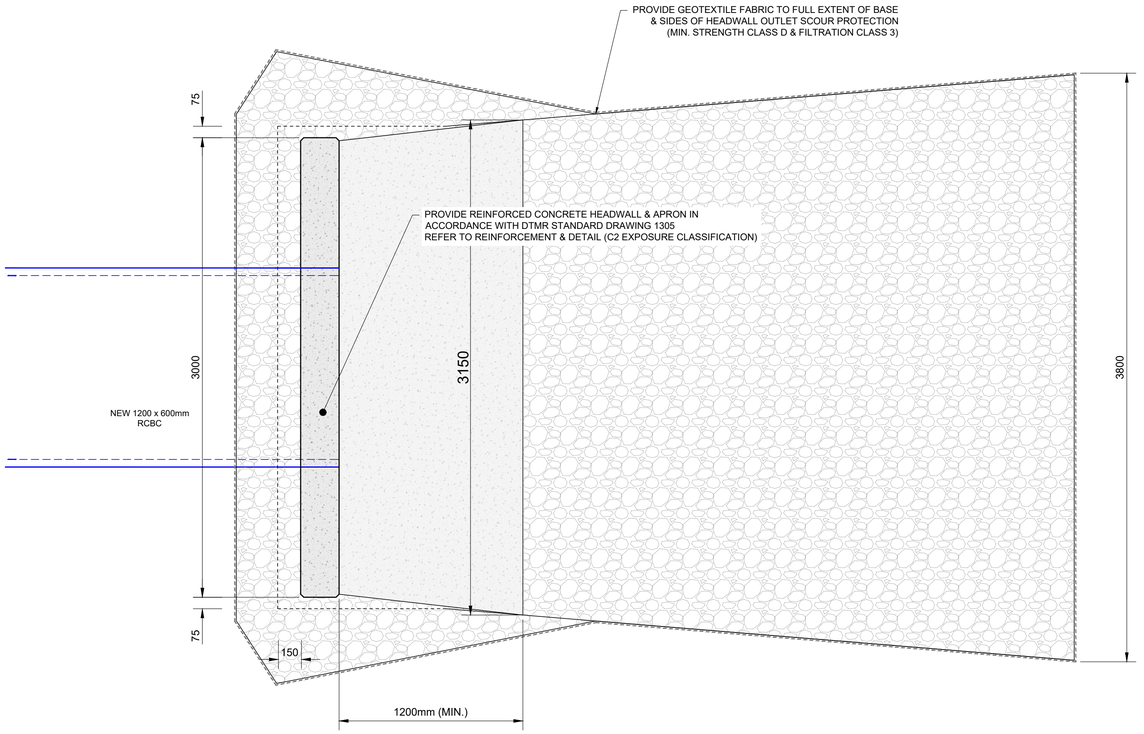
Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026

NOTES
1. REFER TO DRAWINGS LU23111-CD-101 FOR CONSTRUCTION NOTES.
2. REFER TO FNQROC STANDARD DRAWING S1080
3. FOR REINFORCEMENT, CONCRETE & DETAILS FOR THE HEADWALL.
4. ALL DIMENSIONS SHOWN ON THIS DRAWING SHEET ARE IN MILLIMETRES.



TYPICAL HEADWALL INLET/OUTLET (SIDE SECTION) - PIT 1.A & 1.C

SCALE 1:20



TYPICAL HEADWALL INLET/OUTLET (PLAN VIEW) - PIT 1.A & 1.C

SCALE 1:20

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SCALE 1:20@A1
0 0.4 0.8 1.2 1.6 2.0 m

Designed: A.P.B. | Checked: J.L.A.
Authorised: J.L.A. | Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CONSTRUCTION DETAILS
SHEET 2 OF 2
LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-701
REV: A

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5. UTILITIES SHOWN ARE FROM RECORDS AND SHALL BE CONFIRMED PRIOR TO COMMENCEMENTS OF WORKS.

LEGEND:
- 444.50 — EXISTING CONTOURS (0.5m INTERVAL)
- 444.50 — DESIGN CONTOURS (0.2m INTERVAL)
- × LEVEL — EXISTING LEVEL
- NEW DRAINAGE PIPE & PIT
- EXISTING DRAINAGE
- EX.W — EXISTING WATER
- EX.E O/H — EXISTING ELECTRICAL OVERHEAD
- EX.E U/G — EXISTING ELECTRICAL UNDERGROUND
- EX.COMM — EXISTING COMMUNICATIONS
- EX.S — EXISTING SEWER (GRAVITY/RISING MAIN)
- TITLE BOUNDARY
- PROPOSED SITE BOUNDARY
- DENOTES PROPOSED NEW SEALED ROAD REFER TO LU23111-CD-700 FOR PAVEMENT DETAILS
- DENOTES PROPOSED CONCRETE ACCESS DRIVEWAY IN ACCORDANCE WITH FNQROC STANDARD DRAWINGS S1015 & S1110
- DENOTES EXISTING STRUCTURES TO REMAIN
- DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5

MCGRATH ROAD (44m WIDE ROAD RESERVE)

NEW ACCESS STREET (15.5m WIDE ROAD RESERVE)

1 RP850455 | 2 RP850455 | 3 RP850455 | 2 RP749617

1 RP727052

1 RP719276 | 2 RP719276 | 3 RP719276

2 RP901433 | 3 RP901433 | 4 RP901433

1 2777m²

NOTE:
LOT 1 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

2 2968m²

NOTE:
LOT 2 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE) UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM
MUST BE AN ADVANCED SECONDARY TREATMENT SYSTEM CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATERMANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER. EACH ADVANCED TREATMENT SYSTEM MUST BECONSTRUCTED AT THE FRONT OF EACH LOT.

3 3111m²

NOTE:
LOT 3 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE) UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM
MUST BE AN ADVANCED SECONDARY TREATMENT SYSTEM CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATERMANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER. EACH ADVANCED TREATMENT SYSTEM MUST BECONSTRUCTED AT THE FRONT OF EACH LOT.

4 3111m²

NOTE:
LOT 4 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE) UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM
MUST BE AN ADVANCED SECONDARY TREATMENT SYSTEM CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATERMANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER. EACH ADVANCED TREATMENT SYSTEM MUST BECONSTRUCTED AT THE FRONT OF EACH LOT.

5 3009m²

NOTE:
LOT 5 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

6 7377m²

NOTE: EXISTING ON-SITE EFFLUENT SYSTEM SERVICING THE STRUCTURES WITHIN PROPOSED LOT 6 ARE TO BE LOCATED & RELOCATED WITHIN THE PROPOSED PROPERTY BOUNDARY AS REQUIRED
ALL INTERNAL SANITARY SERVICES ARE TO BE WHOLLY CONTAINED WITHIN THE SUBJECT LOT

7 4149m²

NOTE:
LOT 7 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

8 2455m²

NOTE:
LOT 8 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

9 2696m²

NOTE:
LOT 9 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

10 2696m²

NOTE:
LOT 10 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

11 2519m²

NOTE:
LOT 11 WILL BE REQUIRED TO INSTALL AN ON-SITE SEWER TREATMENT SYSTEM (AT INDIVIDUAL LOT OWNERS EXPENSE)
UPON BUILDING APPROVAL APPLICATION STAGE.

ON-SITE EFFLUENT DISPOSAL SYSTEM MUST BE CONSTRUCTED IN COMPLIANCE WITH THE LATEST VERSION ON-SITE DOMESTIC WASTEWATER MANAGEMENT STANDARD (AS/NZ1547) TO THE SATISFACTION OF THE COUNCIL'S DELEGATED OFFICER.

12 5262m²

NOTE: EXISTING ON-SITE EFFLUENT SYSTEM SERVICING THE STRUCTURES WITHIN PROPOSED LOT 12 ARE TO BE LOCATED & RELOCATED WITHIN THE PROPOSED PROPERTY BOUNDARY AS REQUIRED
ALL INTERNAL SANITARY SERVICES ARE TO BE WHOLLY CONTAINED WITHIN THE SUBJECT LOT

EXISTING RESIDENCE | EXISTING SHED | EXISTING SHED | EXISTING RESIDENCE

EX. EDGE OF PAVEMENT | EX. TABLE DRAIN | EX.E O/H | EX.COMM | EX.W | EX 9260 SW | 0.00m (START) | 20.00m | 40.00m | 60.00m | 80.00m | 100.00m | 120.00m | 140.00m | 160.00m | 180.00m | 200.00m | 220.00m | 240.00m | 260.00m | 280.00m | 300.00m | 302.38m | 313.00m | 318.00m

56.44m | 40.00m | 20.00m | 0.00m | -20.00m | -39.09m

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026

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SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B. | Checked: J.L.A.
Authorised: J.L.A. | Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
SEWER RETICULATION LAYOUT PLAN

LOT 21 & 22 ON SP320495
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL

DRAWING NUMBER: LU23111-SD-200 REV: A

N

NOTE:
1. TOPOGRAPHIC SURVEY HAS BEEN UNDERTAKEN BY TWINE SURVEYS AT THE SUBJECT SITE FOR THE PURPOSE OF THIS CIVIL ENGINEERING DESIGN. REFER TO TWINE SURVEYS (DWG NO. 9648-DETAIL) UNDERTAKEN ON 30th JULY 2025. LEKKER URBAN TAKE NO RESPONSIBILITY FOR THE ACCURACY OF EXISTING FEATURES WITHIN THE SURVEY INFORMATION PROVIDED.
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5. UTILITIES SHOWN ARE FROM RECORDS AND SHALL BE CONFIRMED PRIOR TO COMMENCEMENTS OF WORKS.

NEW DN100 PVC MAIN PN16
NEW WATER SERVICE CONNECTION (INSTALLATION BY COUNCIL)
NEW FIRE HYDRANT
NEW VALVE

LEGEND:
EXISTING CONTOURS (0.5m INTERVAL)
DESIGN CONTOURS (0.2m INTERVAL)
EXISTING LEVEL
NEW DRAINAGE PIPE & PIT
EXISTING DRAINAGE
EXISTING WATER
EXISTING ELECTRICAL OVERHEAD
EXISTING ELECTRICAL UNDERGROUND
EXISTING COMMUNICATIONS
EXISTING SEWER (GRAVITY/RISING MAIN)
TITLE BOUNDARY
PROPOSED SITE BOUNDARY
DENOTES PROPOSED NEW SEALED ROAD REFER TO LU23111-CD-700 FOR PAVEMENT DETAILS
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DENOTES EXISTING STRUCTURES TO REMAIN
DENOTES 20m BUFFER FROM EXISTING HIGH VOLTAGE POWER LINE WITHIN LOTS 1 TO 5

MCGRATH ROAD (44m WIDE ROAD RESERVE)
NEW ACCESS STREET (15.5m WIDE ROAD RESERVE)

CONNECT TO EXISTING WATER MAIN
Ø100 TEE
CONTRACTOR IS TO LIAISE WITH MAREEBA SHIRE COUNCIL FOR CONNECTION
Ø100 VALVES
Ø100 x 45° BENDS
EXISTING WATER METER TO SERVICE TO BE REMOVED & REINSTATE WITH NEW METER
LOT 1 & 2 WATER METER
Ø100 HYDRANT
NEW DN100 DICL CROSSING
LOT 11 WATER METER
LOT 3 & 4 WATER METER
LOT 9 & 10 WATER METER
LOT 5 & 6 WATER METER
LOT 7 & 8 WATER METER
Ø100 HYDRANT (HIGH POINT)

NOTE: EXISTING INTERNAL PLUMBING SERVICING THE STRUCTURES WITHIN PROPOSED LOT 12 ARE TO BE LOCATED & RECONNECTED TO THE NEW WATER METER ALL INTERNAL WATER SERVICES ARE TO BE WHOLLY CONTAINED WITHIN THE SUBJECT LOT

NOTE: EXISTING INTERNAL PLUMBING SERVICING THE STRUCTURES WITHIN PROPOSED LOT 6 ARE TO BE LOCATED & RECONNECTED TO THE NEW WATER METER ALL INTERNAL WATER SERVICES ARE TO BE WHOLLY CONTAINED WITHIN THE SUBJECT LOT

EXISTING RESIDENCE
EXISTING SHED

Revision	Amendments	Approved	Date
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SCALE 1:500@A1
0 10 20 30 40 50 m

Designed: A.P.B. Checked: J.L.A.
Authorised: J.L.A. Date: 22/05/2026

RESIDENTIAL SUBDIVISION - CIVIL WORKS
MCGRATH ROAD, MAREEBA QLD
CIVIL WORKS LAYOUT PLAN

LOT 21 & 22 ON SP320488
ON BEHALF OF MCGRATH DEVCO PTY LTD

FOR APPROVAL
DRAWING NUMBER: LU23111-CD-203
REV: A

Document Set ID: 4651882
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Attachment E

Stormwater Management Plan

(Provided by Lekker Urban)

Lekker Urban.

Document Set ID: 4651882
Version: 1, Version Date: 29/05/2026

Stormwater Management Plan
Proposed Residential Development

On behalf of McGrath Devco Pty Ltd

Lot 21 & 22 on SP320486

30 McGrath Road, Mareeba QLD

Lekker Urban.

22 May 2026 (Revision A)

Lekker Urban
3A Scott Street
Parramatta Park QLD 4870

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Document Set ID: 4651882
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Telephone: (07) 4253 7023

Revision

Report Title:	Stormwater Management Plan
Street Address	30 McGrath Road, Mareeba QLD
RP Description	Lot 21 & 22 on SP320486
Prepared For:	McGrath Devco Pty Ltd
Date:	22 May 202625 May 2026
Revision No.	A
Report Status:	Issued for Approval
Prepared By:	
Name	Joshua Affleck
Qualifications	Master of Engineering Practice/Bachelor of Engineering
Company	Lekker Urban
Phone No.	(07) 4253 7023
Certified By:	
Name	Joshua Affleck
Qualifications	Master of Engineering Practice/Bachelor of Engineering
Company	Lekker Urban
Phone No.	(07) 4253 7023
Industry Accreditation	RPEQ No. 24039
Signature	

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APPENDIX A A.1

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1 Introduction:

1.1 Background

Lekker Urban has been commissioned by McGrath Devco Pty Ltd to prepare this Stormwater Management Plan (SWMP) in support of a proposed residential subdivision at Lots 21 and 22 on SP320486, 30 McGrath Road, Mareeba, Queensland. The site has an existing development approval in place with Mareeba Shire Council, referenced as Application No. RAL/25/0017.

This SWMP has been prepared to satisfy the stormwater management requirements of Mareeba Shire Council (MSC) and to demonstrate compliance with applicable engineering standards and State planning policies.

1.2 Property Details

The details of the subject property for the proposed development are shown in Table 1:

Title:	Lots 21 & 22 on SP320486
Street Address:	30 McGrath Road, Mareeba QLD 4880
Local Government Area:	Mareeba Shire Council
Site Area:	4.704 ha (47,040 m²)
Planning Zone:	Emerging Communities
Existing Use:	Rural residential (two existing dwellings)
Title:	Lots 21 & 22 on SP320486
Street Address:	30 McGrath Road, Mareeba QLD 4880

Table 1 –Property Details

1.3 Scope and Objective

This SWMP addresses the stormwater management requirements for the proposed development in accordance with the following standards and guidelines:

- FNQROC Development Manual – Design Manual D4: Stormwater Drainage;
- FNQROC Development Manual – Design Manual D5: Stormwater Quality Management;
- Queensland Urban Drainage Manual (QUDM), Fourth Edition (2017);
- Australian Rainfall and Runoff (ARR 2019); and

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- Queensland State Planning Policy 2017 – Part E: Assessment Benchmarks – Water Quality.

The objectives of this SWMP are to:

- Quantify the pre-development and post-development stormwater peak flow rates for the 5-year, 20-year, and 100-year ARI storm events;
- Demonstrate that post-development peak flows will not exceed pre-development levels at the Lawful Point of Discharge, through the provision of On-Site Detention (OSD);
- Identify and confirm the Lawful Point of Discharge in accordance with QUDM Section 3.9.1;
- Address stormwater quality management requirements in accordance with the Queensland State Planning Policy 2017 and FNQROC D5; and
- Provide the technical basis for subsequent detailed design at the Operational Works stage.

The proposed residential development includes:

- Two (2) lots retaining existing dwelling houses (proposed Lots 6 and 12);
- Ten (10) vacant lots ranging in area from approximately 2,500 m² to 4,200 m²;
- New internal road access including kerb and channel, with connectivity to McGrath Road; and
- New services including stormwater, sewer (on-site treatment), water, and utilities.

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2 Existing Conditions:

2.1 Property Detail

As can be seen in the aerial photo below, the Site (total site area is 4.704 Ha) is bounded by the following:

- North boundary – Existing rural residential development;
- East boundary – Existing rural land and an existing watercourse running parallel to the eastern boundary;
- South boundary – Existing rural residential development; and
- West boundary – McGrath Road (Local Government controlled road)

The surrounding land uses are predominantly rural residential in character, consistent with the site's Emerging Communities zoning under the Mareeba Shire Council Planning Scheme.

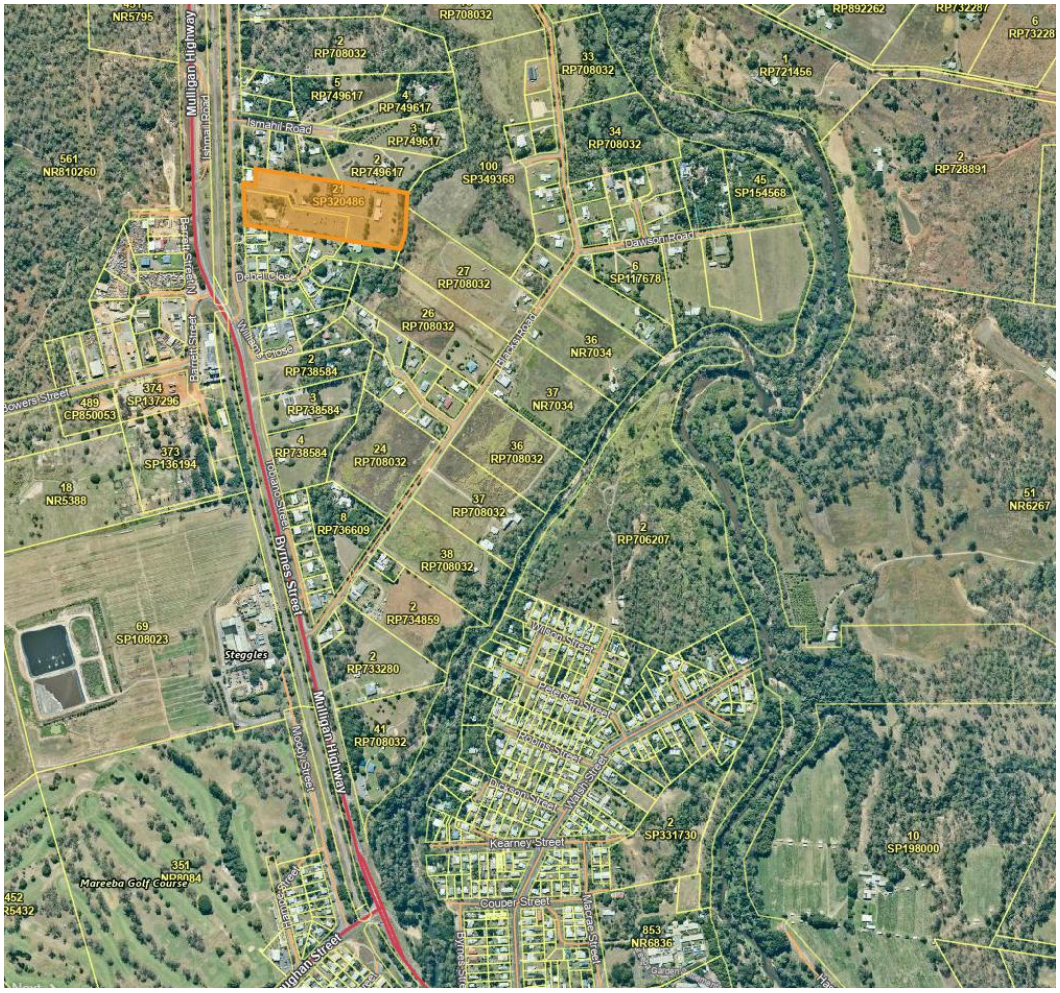


Figure 1 – Location of Site (Source: Queensland Globe)

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2.2 Topography

A detail and contour survey was undertaken by Twine Surveys on 30 July 2025. Broader topographical information from ELVIS and Queensland Globe has also been reviewed to identify site constraints.

The site generally drains in a west-direction at an average grade of approximately 1%, which is relatively flat for the most part, with a steeper batter located along both the northern and eastern boundary. Elevation changes from the high point at the east of the site at RL 395.8m down to the lowest point of the site along the northern boundary at 391.8m. The invert of the channel with McGrath Road to the west of the site is down to approximately RL 391.6m, representing a total fall of approximately 4.2 m across the site.

The site adjoins McGrath Road to the west, with a grass-lined open channel located between the road pavement and the site boundary. There are no notable external topographical features influencing the subject site beyond the local stormwater catchment.

2.3 Existing Site Conditions & Improvements

The site is partially developed, with two existing dwelling houses located within the development footprint. The remainder of the site consists of vegetated open land with scattered rural improvements. There is no formal underground stormwater infrastructure across the site.

2.4 Known Existing Flooding

Mareeba Shire Council (MSC) flood hazard overlay mapping (Overlay Map OM600m in Figure 2) indicates that the subject site is predominantly located within a Low Hazard Flood Zone. A small portion of the northern boundary in proposed Lots 1 to 5 is impacted by a High Hazard Flood Zone, which also coincides with the 20m high voltage power line buffer, preventing any future dwellings being constructed within this area. This area typical decreases significantly in elevation by over 2 metres.

Flood levels relevant to the development have been identified in the Decision Notice for Application No. RAL/25/0017. The adopted Finished Floor Levels (FFLs) are as follows:

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- Proposed Lots 1–5 and 8–12: minimum FFL of RL 395.35 m AHD; and
- Proposed Lots 6 and 7: minimum FFL of RL 395.38 m AHD.

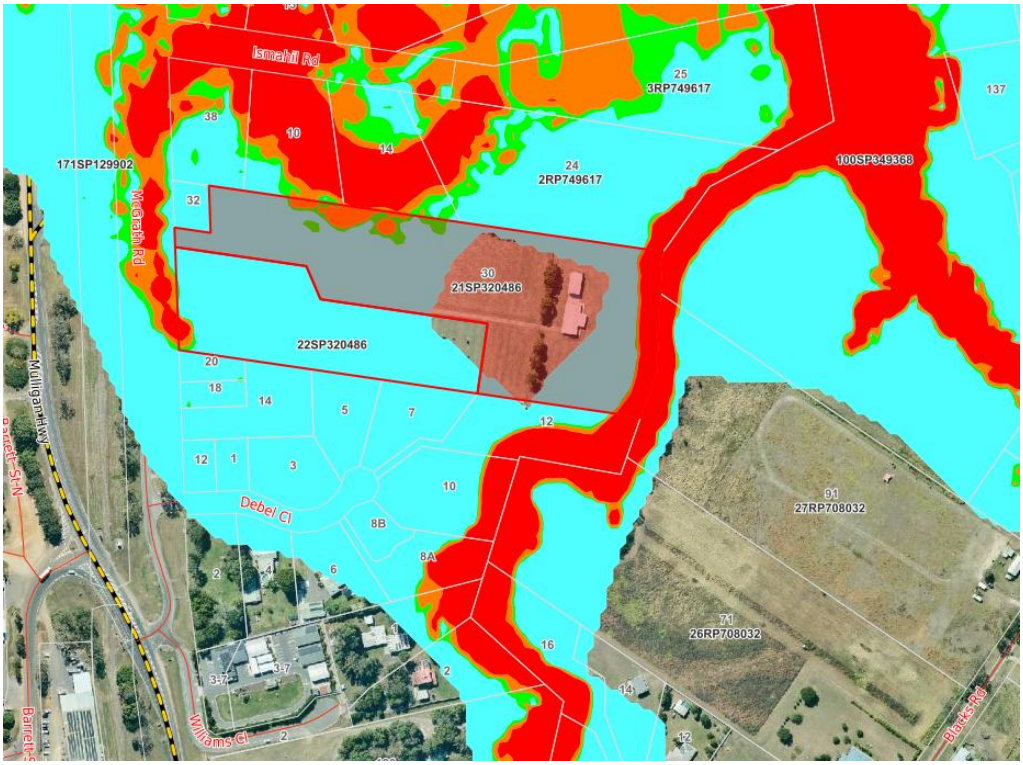


Figure 2– Flood hazard (Source: Mareeba Shire Council Overlay Mapping)

It is recommended that additional flood modelling is required to adequately characterise the flood behaviour affecting the site and to confirm appropriate Finished Floor Levels (FFLs) in accordance with the relevant Decision Notice requirements.

It is recommended that a site-specific Flood Study be undertaken to determine the extent, depth, and velocity of flooding under the applicable design storm events. The outcomes of this study will be used to verify that the proposed FFLs are consistent with the flood hazard provisions and to ensure the development achieves an acceptable level of flood immunity.

The flood study shall be prepared by a suitably qualified flood engineer and submitted to Council for review and approval prior to the commencement of construction.

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2.5 Existing Site Stormwater Network

There is no formal stormwater drainage infrastructure (pits, pipes, or kerb and channel) within the subject site. Under existing conditions, stormwater runoff is conveyed as overland sheet flow across the natural surface. The site drains broadly as follows:

- The western portion of the site (Catchment A) drains as overland toward McGrath Road, entering the grassed open channel drain within the road verge;
- The eastern portion of the site (Catchment B) drains toward the existing watercourse running parallel to the eastern boundary; and
- The norther portion of the site (Catchment C) drains as overland flow north to the rear of existing adjoining properties.

Catchment delineation is based on topographic survey data obtained from Twine Surveys and the Queensland Globe LiDAR dataset. Refer to Lekker Urban Civil Engineering Drawing LU23111-CD-600 for the catchment plan and pre-development flow path illustrations.

2.6 Existing External Stormwater Network

McGrath Street has minimal formal stormwater infrastructure in place within the direct vicinity of the site other than an existing open channel (gully) and channel to the western boundary of the site. There is an existing 600mm diameter stormwater pipe located to the current crossover with associated headwall outlet. The pipe discharges directly into the existing open channel (gully) which conveys the road catchment of McGrath Road to the north, towards Ishmail Road and conveys more broadly into the unnamed watercourse to the east.

McGrath Road has minimal formal stormwater infrastructure in the immediate vicinity of the site. The majority of overland flow is conveyed along the road frontage to an existing grassed open channel (gully drain) within the road verge on the western boundary of the site. There is also an existing 600 mm diameter stormwater pipe located at the current site vehicle access, with an associated headwall outlet. This pipe discharges directly into the existing open channel, which conveys road catchment flows north, towards Ishmail Road and conveys more broadly into the unnamed watercourse to the east. The grassed open channel drain along McGrath Road constitutes the identified Lawful Point of Discharge (LPOD) for Catchment A, as discussed further in Section 3.5.

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3 Council Planning Requirements

3.1 Major and Minor System Design

The stormwater drainage system for the proposed development has been designed in accordance with the following standards:

- FNQROC Development Manual – Design Manual D4: Stormwater Drainage; and
- Queensland Urban Drainage Manual (QUDM), Fourth Edition (2017).

The stormwater system has been assessed for the following design storm events (As per Table 4.3 – Recommended Design Average Recurrence Intervals (ARI) and annual exceedance probabilities (AEP) – FNQROC D4):

- Minor system: 5-year Average Recurrence Interval (ARI) or (20% Annual Exceedance Probability, AEP).; and
- Major system: 100-year ARI (1% Annual Exceedance Probability, AEP).

3.2 Climate Change Controls

Climate change impacts, such as changes to rainfall intensity, will be incorporated into system design as per relevant policies and/or Australian Rainfall and Runoff (AR&R) guidelines.

3.3 Stormwater Quality and Waterway Protection

Queensland State Planning Policy 2017 – Part E – Assessment Benchmarks – Water Quality have been reviewed in context with the proposed development.

The criteria and associated responses from Lekker Urban outlined in Table 4 below.

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SPP Assessment Benchmarks – Water Quality	Lekker Urban Response to Criteria
For receiving waters, a development application for: (1) a material change of use for an urban purpose that involves premises 2500 m^2 or greater in size and; (i) (a) will result in six or more dwellings; or (ii) (b) will result in an impervious area greater than 25 per cent of the net developable area; or	Not applicable. The proposed development is a reconfiguration of a lot (ROL), not a material change of use.
(2) reconfiguring a lot for an urban purpose that involves premises 2500 m^2 or greater in size and will result in six or more lots; or	This Benchmark applies to the subject site.
(3) operational works for an urban purpose that involves disturbing a land area 2500 metres2 or greater in size.	This Benchmark applies to the subject site.

Table 4 – Response to criteria outlined within the QLD SPP 2017 – Part E – Assessment Benchmarks – Water Quality.

In accordance with FNQROC Development Manual – Design Manual D5 – Stormwater Quality Management does not apply to the proposed development due to small increase in impervious area of the development and due to the site discharging directly to a grass-lined open channel which would provide benefits for Water Quality improvements.

3.4 Legal Point of Discharge

The subject site has been assessed in accordance with the Queensland Urban Drainage Manual, Fourth Edition (2017). In accordance with *Section 3.9.1 – Lawful Point of Discharge Test*, the applicable regulatory and other legal requirements have been reviewed and met to allow stormwater to discharge into the surrounding properties located at the north of the subject site.

The criteria and associated responses from Lekker Urban outlined in Table 5 below.

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QUDM Lawful Point of Discharge Test Criteria	Lekker Urban Response to Criteria
(i) Will the proposed development alter the site's stormwater discharge characteristics in a manner that may substantially damage a third-party property [ii] *(see Section 3.6)* o If not, then no further steps are required to obtain tenure for a lawful point of discharge (assuming any previous circumstances and changes were lawful). o If there is a reasonable risk of such damage, then consider issue (ii) or (iii). [ii] *The issue of whether or not there is an actionable nuisance does not depend on what is demonstrated at the time the works are proposed. The issue is what in fact occurs. This is consistent with it being the developer's responsibility to not cause nuisance, rather than the regulator's responsibility to assess and condition works to prevent a nuisance.*	Consistent with QUDM Section 3.6, the development will not alter stormwater characteristics in a manner that would cause actionable nuisance or substantial damage to any third-party property. The proposed drainage strategy formalises the existing overland flow regimes and splits the discharge to the McGrath Road open channel drain and the rear watercourse, as the Lawful Point of Discharge (LPOD), maintaining the established discharge orientation.
(ii) Is the location of the discharge from the development site under the lawful control of the local government or other statutory authority from whom permission to discharge has been received? This will include a park, watercourse, drainage or road reserve, stormwater registered drainage easement, or land held by local government (including freehold land). Note: The regulatory authority (in its capacity as land holder) is likely to require information about the potential impact of the site's stormwater discharge characteristics on third party properties	The grassed open channel drain along McGrath Road is under the lawful control of Mareeba Shire Council. Likewise, the unnamed watercourse to the rear of the site is under the lawful control of Mareeba Shire Council. Criterion (ii) is satisfied; no further tenure steps are required. Approval is sought through the provision of this report.

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(particularly those downstream of the proposed discharge point) before it will consent to the discharge entering its land. o If so, then no further steps are required to obtain tenure for a lawful point of discharge. o If not, then consider issue (iii). A landowner or regulator may require that the developer obtain an authority to discharge as described (ii).	
(iii) An authority to discharge over affected properties will be necessary. In descending order of certainty, an authority may be in the form of: o Dedication of a drainage reserve or park o A registered easement for stormwater discharge/works o Written discharge approval	Criterion (iii) is not applicable, as Criterion (ii) above has been satisfied.

Table 5 – Response to criteria outlined within the Lawful Point of Discharge Test from Section 3.9.1 of QUDM.

On the basis of the above assessment, the grassed open channel drain along McGrath Road is confirmed as the Lawful Point of Discharge for Catchment A. The rear watercourse along the eastern boundary is confirmed as the Lawful Point of Discharge for Catchment B (Lots 6 and 7). Both discharge points satisfy QUDM requirements, and no additional tenure or authority to discharge is required.

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4 Stormwater Strategy

4.1 Stormwater Management Strategy Overview

The stormwater management strategy for the proposed development aims to manage both the quantity and quality of stormwater runoff generated by the development, while maintaining or improving pre-development discharge conditions at the Lawful Point of Discharge.

The primary stormwater management measures are:

- A new internal stormwater drainage network connecting roof and hardstand drainage from each lot to the proposed kerb and channel system (Where possible);
- Kerb and channel along the internal road conveying runoff to the existing open channel drain at McGrath Road (Catchment A);
- Preservation of natural drainage to the rear watercourse for Lots 6 and 7 (Catchment B), consistent with pre-development flow patterns;
- Preservation of natural drainage to the northern boundary for Lots 1 to 5 (Catchment C), consistent with pre-development flow patterns;

The drainage strategy relies on a new underground stormwater pipe network (pits and pipes) to manage existing overland flow and kerb and channel conveyance.

In regard to stormwater quality, no formal treatment infrastructure has been included. As any treated water would be discharged to open channels within the road reserve - resulting in treated stormwater becoming dirty - the development instead relies on passive treatment measures, consistent with Mareeba Shire Council's preference for low-infrastructure drainage solutions for rural residential subdivisions.

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4.2 Stormwater Quantity

4.2.1 Introduction

Both pre and post-development hydrologic and hydraulic models were developed to establish peak flow targets (pre-development) and determine the performance of the proposed stormwater system (post-development) for a range of storm events (5, 20 and 100 year ARI). Table 6 and Table 7 provide a breakdown of pre and post-development imperviousness and ultimate discharge points.

Pre-development catchment breakdown (m²)				
	Catchment A Discharge to McGrath Road to the west of the subject site via new underground piped network	Catchment B Overland flow to the existing watercourse to the east of the subject site	Catchment C Overland flow to adjoining properties to the north of the subject site	Total
Pervious area (m²)	19175	10725	14680	44580
Impervious area (m²)	1625	475	390	2490
Total area (m²)	20800	11200	15070	47070
% of Site area	44%	24%	32%	100%
% Pervious	92%	96%	97%	95%
% Impervious	8%	4%	3%	5%

Table 6 – Pre-development catchment breakdown.

Post-development catchment breakdown (m²)				
	Catchment A Discharge to McGrath Road to the west of the subject site via new underground piped network	Catchment B Overland flow to the existing watercourse to the east of the subject site	Catchment C Overland flow to adjoining properties to the north of the subject site	Total
Pervious area (m²)	17218	10275	11750	39243
Impervious area (m²)	4652	925	2250	7827
Total area (m²)	21870	11200	14000	47070
% of Site area	46%	24%	30%	100%
% Pervious	79%	92%	84%	83%
% Impervious	21%	8%	16%	17%

Table 7 – Post-development catchment breakdown.

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The key observations from these tables are as follows:

- The total site area is 47,070 m², distributed across three catchments: Catchment A (20,800 m², 44%), Catchment B (11,200 m², 24%) and Catchment C (15,070 m², 32%).
- Under pre-development conditions, the site is predominantly pervious, with an overall imperviousness of 5% (2,490 m² impervious across the site).
- Under post-development conditions, impervious area increases to 7,827 m², representing an overall site imperviousness of 17% - an increase of 5,337 m² compared to pre-development.
- The greatest increase in imperviousness occurs within Catchment A, which increases from 8% to 21%, reflecting the concentration of proposed road through the middle of the site.
- Catchment B imperviousness increases from 4% to 8%, while Catchment C increases from 3% to 16%.

4.2.2 Hydrologic and Hydraulic Modelling

Pre-development and post-development stormwater systems have been assessed using DRAINS hydrologic and hydraulic modelling software, applying Australian Rainfall and Runoff (ARR 2019) procedures. This approach is considered more robust than the Rational Method for catchments of this scale, as it accounts for the full temporal pattern of rainfall, antecedent moisture conditions, and the attenuation effects of detention.

Site IFD (Intensity–Frequency–Duration) data was sourced from the Bureau of Meteorology (BoM) website for the site coordinates. Temporal storm patterns, pre-burst data, and loss parameters were sourced from the ARR Data Hub. Both pre-development and post-development scenarios were modelled to assess peak flow targets and confirm the performance of the proposed stormwater system across the full range of design storm events.

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4.2.3 Modelling Assumptions and parameters

The following assumptions were made for the modelling:

- Using Site survey data Pre-development Site split up into sub-catchments based on land use and ultimate drainage points (i.e. Existing open space) to establish pre-development peak flows;
- Post-development Site split up into sub-catchments based on land use and ultimate drainage points (i.e. Road reserve, open space etc);

The following parameters were adopted for the DRAINS model:

- Manning's 'n': RCP Pipe – 0.012
- Soil type – Normal (3.0)
- Paved (Impervious) Area Depression Storage – 1mm
- Grassed (Pervious) Area Depression Storage – 1mm
- Antecedent Moisture Condition – 3.0

Tables 8, 9 and 10 present the pre and post-development peak flows for each catchment across the 5, 20 and 100 year ARI storm events.

Catchment A Discharge to McGrath Road to the west of the subject site via new underground piped network				
ARI Event	% AEP Event	Pre-Development (m3/s)	Post-Development (m3/s)	Difference (m3/s)
5-year	20%	0.258	0.292	0.034
20-year	5%	0.414	0.449	0.035
100-year	1%	0.667	0.755	0.088

Table 8 – Pre and Post Development Peak Flows.

Catchment B Overland flow to the existing watercourse to the east of the subject site				
ARI Event	% AEP Event	Pre-Development (m3/s)	Post-Development (m3/s)	Difference (m3/s)
5-year	20%	0.177	0.177	0.000
20-year	5%	0.266	0.266	0.000
100-year	1%	0.459	0.459	0.000

Table 9 – Pre and Post Development Peak Flows.

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Catchment C Overland flow to adjoining properties to the north of the subject site				
ARI Event	% AEP Event	Pre-Development (m3/s)	Post-Development (m3/s)	Difference (m3/s)
5-year	20%	0.229	0.214	-0.015
20-year	5%	0.357	0.333	-0.024
100-year	1%	0.608	0.566	-0.042

Table 10 – Pre and Post Development Peak Flows.

The key observations from the hydraulic modelling results are as follows:

- Catchment A — Post-development peak flows increase marginally across all storm events, ranging from 0.034 m³/s (5 year ARI) to 0.088 m³/s (100 year ARI) above pre-development levels. These flows are conveyed via the proposed underground piped network discharging to McGrath Road to the west of the site.
- Catchment B — Post-development peak flows are unchanged from pre-development conditions across all modelled storm events, with zero difference recorded for the 5, 20 and 100 year ARI events. The proposed development does not adversely impact flows to the existing watercourse to the east.
- Catchment C — Post-development peak flows are reduced across all storm events compared to pre-development, with reductions ranging from 0.015 m³/s (5 year ARI) to 0.042 m³/s (100 year ARI). This reduction is attributable to the net decrease in total catchment area contributing to the north under post-development conditions, which benefits adjoining properties.

Overall, the proposed stormwater system performs satisfactorily across the modelled storm events. Flows to the existing watercourse (Catchment B) are maintained at pre-development levels, and flows to adjoining properties to the north (Catchment C) are reduced. The marginal increase in flows within Catchment A is managed via the proposed underground piped network to McGrath Road.

Onsite detention (OSD) was explored as part of the stormwater management strategy. However, OSD was not adopted as the minor increases in peak flows under post-development conditions are considered negligible. Catchment A discharges to McGrath

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Road via the proposed underground piped network, which ultimately drains to the same watercourse on the northern side of Ismail Road as Catchment C. When the combined flows from both catchments are considered, the post-development discharge to the watercourse is similar to pre-development levels, with the marginal increase in Catchment A offset by the reduction in flows from Catchment C across all modelled storm events.

4.3 Stormwater Quality Management

4.3.1 Construction Phase

A concept Erosion and Sediment Control Plan (ESCP) will be prepared and submitted as part of the Operational Works application, in accordance with FNQROC D5 and the IECA Best Practice Erosion and Sediment Control Guidelines. The ESCP will detail temporary erosion and sediment control measures appropriate for the construction phase, including:

- Sediment fencing at the site perimeter and within the site as required;
- Stabilised vehicle access point(s) to McGrath Road;
- Diversion bunds and interception drains to manage stormwater during earthworks;
- Staged vegetation clearing to minimise exposed soil areas;
- Stockpile management and temporary sediment basins where required; and
- Regular site inspections and maintenance, particularly during the wet season.

All temporary erosion and sediment control measures will remain in place until permanent surface cover and stabilisation are established across the site.

4.3.2 Post-Development Phase

Permanent stormwater quality management for the development is achieved through passive, low-infrastructure measures consistent with Mareeba Shire Council's preferred approach for rural residential subdivisions. Rather than formal treatment infrastructure, the strategy relies on the natural filtering capacity of grassed areas to manage stormwater quality prior to discharge from the site.

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The measures incorporated into the development include:

- Grassed filter strips between property boundaries and kerb and channel, promoting natural infiltration and filtering of runoff from driveways and landscaped areas prior to entering the road drainage system;
- Vegetated open channel (swale) drainage within the McGrath Road road reserve, providing passive treatment of runoff through natural sedimentation, filtration, and surface water polishing; and
- Preservation of natural drainage to the rear watercourse for Lots 6 and 7, with no increase in impervious area, ensuring no degradation of discharge quality to the receiving watercourse.

These measures reflect the Water Sensitive Urban Design (WSUD) principles endorsed by the FNQROC D5 Acceptable Design Solutions and the intent of the Queensland State Planning Policy 2017, managing stormwater quality through practical and effective passive treatment without the introduction of formal infrastructure that would otherwise direct treated water to open channels within the road reserve.

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5 Conclusion:

Pre and post-development hydrologic and hydraulic modelling has demonstrated that peak flows generated under post-development conditions are negligible in the context of the broader catchment. As discussed, Catchment A and Catchment C both ultimately discharge to the same watercourse on the northern side of Ismail Road, and when considered in combination, post-development flows to that watercourse are similar to pre-development levels. The marginal increase in flows from Catchment A is offset by the reduction in flows from Catchment C, and no adverse impacts to the downstream network or adjoining properties are anticipated.

The proposed stormwater management measures include:

- A new internal stormwater network to convey runoff from the new proposed Access Road to the existing drainage system via McGrath Road; and
- Landscaped depressions and vegetated areas within the site to promote detention, infiltration and stormwater quality improvement.

The proposed stormwater strategy has been developed in accordance with the following requirements:

- FNQROC Development Manual – Design Manual D4 – Stormwater Drainage;
- FNQROC Development Manual – Design Manual D5 – Stormwater Quality Management;
- Queensland Urban Drainage Manual (QUDM); and
- Australian Rainfall and Runoff (ARR).

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Attachment F

Civil Engineering Design Report

(Provided by Lekker Urban)

Lekker Urban.

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Civil Engineering Design Report
Proposed Residential Development

On behalf of McGrath Devco Pty Ltd

Lot 21 & 22 on SP320486

30 McGrath Road, Mareeba QLD

22 May 2025 (Revision A)

Lekker Urban
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Parramatta Park QLD 4870

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Revision

Report Title:	Civil Engineering Design Report
Street Address	30 McGrath Road, Mareeba QLD
RP Description	Lot 21 & 22 on SP320486
Prepared For:	McGrath Devco Pty Ltd
Date:	22 May 2026
Revision No.	A
Report Status:	Issued for Approval
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Signature	

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1 Introduction

1.1 Background

Lekker Urban has been commissioned by McGrath Devco Pty Ltd to prepare this Civil Engineering Design Report in support of a proposed residential subdivision at Lots 21 and 22 on SP320486, 30 McGrath Road, Mareeba, Queensland. The site has an existing development approval in place with Mareeba Shire Council, referenced as Application No. RAL/25/0017.

This DR has been prepared to satisfy the requirements of Mareeba Shire Council (MSC) and to demonstrate compliance with applicable engineering standards and State planning policies.

1.2 Property Details

The details of the subject property for the proposed development are shown in Table 1:

Title:	Lots 21 & 22 on SP320486
Street Address:	30 McGrath Road, Mareeba QLD 4880
Local Government Area:	Mareeba Shire Council
Site Area:	4.704 ha (47,040 m²)
Planning Zone:	Emerging Communities
Existing Use:	Rural residential (two existing dwellings)
Title:	Lots 21 & 22 on SP320486
Street Address:	30 McGrath Road, Mareeba QLD 4880

Table 1 –Property Details

1.3 Scope of Report

The proposed Reconfiguration of a Lot seeks to amend Two (2) Lots into Twelve (12) Lots comprising of Two (2) Lots (6 and 12) that contain existing Dwelling houses and the balance Ten (10) vacant lots ranging in size from 2,516m2 to 4,149m2. This development will be serviced via new infrastructure and utilities including a new road access connecting onto McGrath Road.

The scope of this report is to detail the following:

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Traffic – Parking & Vehicular Access

- Undertake a swept path analysis for the design vehicle to confirm that the appropriate vehicle movements are available entering and existing the proposed development; and
- Provide commentary on refuse collection vehicular movements.

Stormwater & Flooding

- Provide commentary on potential flood related matters; and
- Provide a concept drainage management plan for the proposed development including consideration of the stormwater quantity and quality.

Earthworks

- Provide commentary on the proposed conceptual earthworks and general site arrangement.

Water Reticulation

- Calculate the potable water demand for the proposed development and nominate an appropriate connection point to Councils trunk water network.

Sewerage

- Calculate the sewer loading from the proposed development and nominate an appropriate connection point to Council's trunk sewer network. This includes an assessment of the existing sewer main location in conjunction with the subject site.

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2 Existing Conditions:

2.1 Property Detail

As can be seen in the aerial photo below, the Site (total site area is 4.704 Ha) is bounded by the following:

- North boundary – Existing rural residential development;
- East boundary – Existing rural land and an existing watercourse running parallel to the eastern boundary;
- South boundary – Existing rural residential development; and
- West boundary – McGrath Road (Local Government controlled road)

The surrounding land uses are predominantly rural residential in character, consistent with the site's Emerging Communities zoning under the Mareeba Shire Council Planning Scheme.

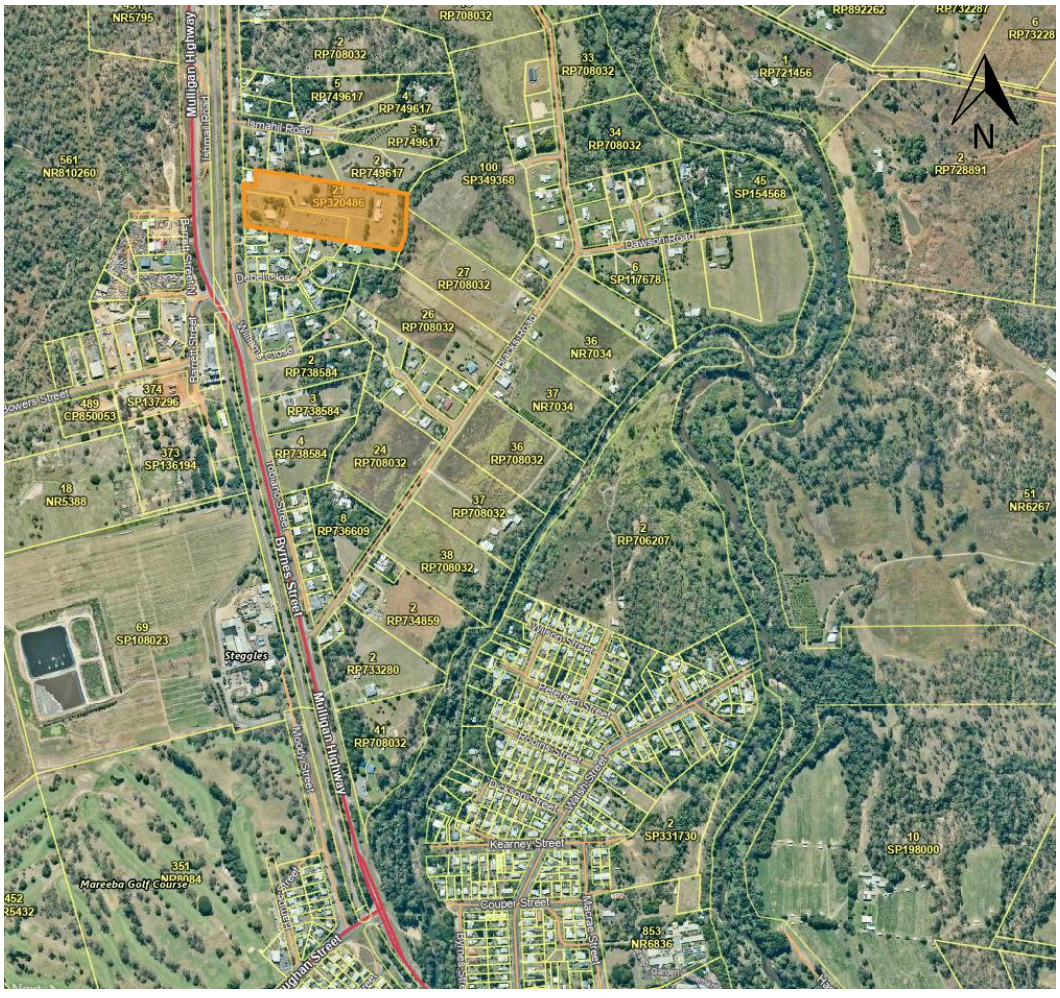


Figure 1 – Location of Site (Source: Queensland Globe)

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2.2 Topography

A detail and contour survey was undertaken by Twine Surveys on 30 July 2025. Broader topographical information from ELVIS and Queensland Globe has also been reviewed to identify site constraints.

The site generally drains in a west-direction at an average grade of approximately 1%, which is relatively flat for the most part, with a steeper batter located along both the northern and eastern boundary. Elevation changes from the high point at the east of the site at RL 395.8m down to the lowest point of the site along the northern boundary at 391.8m. The invert of the channel with McGrath Road to the west of the site is down to approximately RL 391.6m, representing a total fall of approximately 4.2 m across the site.

The site adjoins McGrath Road to the west, with a grass-lined open channel located between the road pavement and the site boundary. There are no notable external topographical features influencing the subject site beyond the local stormwater catchment.

2.3 Existing Site Conditions & Improvements

The site is partially developed, with two existing dwelling houses located within the development footprint. The remainder of the site consists of vegetated open land with scattered rural improvements. There is no formal underground stormwater infrastructure across the site.

2.4 Existing Services

Existing known services are shown on the civil works plans. The contractor shall be responsible for location and protection of all services, and relocation/decommissioning where documented.

2.5 Existing Road Network

McGrath Road (Local government-controlled road), currently provides access from the west and is the primary access for the site. McGrath Road is a Minor Rural formation under the Mareeba Shire Council Planning Scheme 2016 and is sign posted 60km/h speed zone, to the site frontage.

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McGrath Road comprises of a single carriageway with dual lanes, operating in a north-south direction, continuing to an unsealed road formation from Studt Road, approx. 1800m north of the site. The site can gain access via the road reserve via a north and southbound access.

No kerb and channel are present to the road along the frontage of the subject site. There is a grassed open channel running parallel to McGrath Road on both shoulders, and generally slope to the north.

2.6 Existing Vehicular Access

The site is currently serviced via McGrath Road with sealed access to both lots.

2.7 Existing Cyclist and Pedestrian Connectivity

McGrath Road has no formed pathway within the verge. Furthermore, the surrounding streets do not contain formed pathways for any pedestrian connectivity. As such it is assumed that there is no requirement for the formalisation of a pedestrian pathway as part of this application.

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3 Basis of Design

The information presented in this section forms the basis for the civil design of the proposed development and serves as supporting documentation for the associated Operational Works Approval.

3.1 Proposed Civil Works

3.1.1 Operational Works Drawings

A set of For Approval Civil Engineering drawings for the proposed Civil Subdivision Works is provided in Appendix A of this report for Council comment and approval.

3.1.2 The Scope of the Civil Subdivision Works

The scope of the Civil Subdivision Works is as follows:

- Stripping of topsoil from areas to be excavated or filled. Stockpiling topsoil for reuse.
- Establishment and maintain erosion and sediment control works for the duration of the construction period.
- Filling and compaction of earthworks to the required levels.
- Trimming of final earthworks.
- Construction of fencing.
- Construction of on-site sewer works (by property owner within Building Approval stage).
- Construction of stormwater drainage pipes, pits, manholes and drains.
- Construction of water reticulation.
- Installation of NBN and Ergon HV Energy conduits and associated works
- Installation of Street Lighting and associated LV Infrastructure
- Modification of existing services including Water, Stormwater and Telstra/NBN as required.
- Construction of road pavements, bituminous surfacing and concrete kerb and channel.
- General landscaping/grassing.

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3.1.3 Specifications

The project specific specifications used during construction activities will be based on the standard FNQROC specifications.

Additional specifications of the works are provided in the form of notes on the project Drawings.

3.2 Earthworks

3.2.1 Site Regrading and Allotment Earthworks

Site regrading is to remove as is, with at least 1% fall being achieved across the site. The remainder of the site grading has been designed to achieve a cut/import to fill as per the following quantities based on a 100mm stripped surface and excluding bulking factors, Specific earthworks quantities are:

- Cut: - 2,843 m^3
- Fill: 255 m^3
- Balance: - 2,588 m^3 exported from site (excluding trench material)

3.2.1.1 Imported Fill

Site regrading has been undertaken in an attempt to achieve a balanced cut-fill over the site. It is anticipated that approximately 2,588 m^3 of material is required to be exported to the site for bulk earthworks. Pending the results of the Flood Study being undertaken, Lekker Urban may request to fill sections of the lots and will be undertake as Generally in Accordance with the proposed design.

3.2.2 Topsoil and Grassing

Clean topsoil as defined in the FNQROC development manual will be spread to a depth of 50mm minimum within the verge areas.

Turf strips will be provided to the rear of kerbing, on either side of pathways and the new link pathway. Verges, batters flatter than 1V:4H, and allotments will be drill seeded as per FNQROC requirements.

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3.3 Road Geometry

3.3.1 Traffic Assessment

No Traffic Impact Assessment has been undertaken for the subject site due to the local nature of the road. The development approval for the Reconfiguration of a Lot with Mareeba Shire Council has identified that this is not required.

3.3.2 Road Types

The internal road network has been designed in accordance with the FNQROC Regional Development Manual Standards, Table D1.1 for a Type 2 Access Street.

Road Classification							
Road Name	Classification	Catchment Size (No. of dwellings)	Road Reserve Width (m)	Carriageway Width (m)	Footpath	Max. Gradient	Design Speed
	Access Street	12	15.5	6.5	No*	16%	30km/h

Table 1 –Road Classification.

Note:

*The subject site is not located within the Centre Zone or the Recreation and Open Space Zone.

3.3.3 Design Criteria

3.3.3.1 Design Speed

Design speeds for the new proposed access street have been adopted based on FNQROC and is a 30km/h design speeds, in accordance with Table D1.1.

3.3.3.2 Longitudinal Gradients

Longitudinal gradients of the New Access Street are in accordance with FNQROC requirements. Refer to Lekker Urban Civil Engineering Drawing LU23111-CD-300.

3.3.3.3 Horizontal Alignment

The horizontal alignment has been selected with consideration to the requirements of IPWEA Street Design Manual. Refer to Lekker Urban Civil Engineering Drawings.

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3.3.3.4 Vertical Curves

Vertical curves have been provided on all change in grades greater than 1%, and a minimum length of vertical curve adopted as 20m as per the road longitudinal sections provided.

The minimum vertical curve has been checked for compliance against Austroads Guide to Roads Design Part 3 Geometric Design Section 8.6.2 with all vertical curves exceeding minimum requirements. Refer to Lekker Urban Civil Engineering Drawing LU23111-CD-300.

3.3.3.5 Crossfalls

Road crossfalls of 3% have been adopted as per FNQROC requirements for asphaltic surfaces which can be referenced as per the provided road cross sections from Lekker Urban Civil Engineering Drawing LU23111-CD-400 series.

3.3.3.6 Carriageway Width

An AUSTROADS 2013 Service Vehicle, Commercial Truck (12.5m long Single Unit (SU) Truck) has been adopted to confirm the carriageway widths and suitability of intersections for all internal roads. The design vehicle aligns with Mareeba Shire Council standard garbage truck as detailed in J.J. Richards Engineering PTY LTD "35m3 Hybrid Side Loader Overall Dimensions Volvo FE 6X2 Euro 6 Comfort Cab Rev D". It is understood that in the low-speed residential environment the garbage truck will generally be travelling at speeds less than the design speed due to its frequent stop-start movements. As such, no curve widening to the standard carriageway widths are deemed appropriate.

3.3.3.7 Verges

The grassed verge areas has been designed with crossfalls of 3% as per FNQROC requirements which can be referenced as per the provided road cross sections from Lekker Urban Civil Engineering Drawing LU23111-CD-400 series. Verge widths have been designed in accordance with FNQROC requirements.

3.3.3.8 Cul-De-Sac

A single cul-de-sac has been provided, located at the terminus of the new access street. The cul-de-sac has been designed with a minimum approach/departure curve radius of 15m and a turning circle radius of 10m measured per FNQROC Requirements.

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3.3.3.9 Local Area Traffic Management

The internal road network has been designed with consideration for the management of movement and speed for traffic within local area as per FNQROC D1.15.

3.3.3.10 Bus Stops

No bus stops have been provided internally. The proposed site is not part of the school or public transport bus route.

3.3.3.11 Access to Allotments

Driveways are to be constructed in accordance with FNQROC Standard Drawings S1110 (where required). The provision of layback/ roll-over kerb along the frontage of each allotment is noted to satisfy the conditions of access in accordance with the current approval.

A sealed access handle is provided to Lot 7 with a minimum formation of three (3) metres wide, for the full length of the access handle and cater for one-way crossfall to convey stormwater to the rear of the site as per the Stormwater Management Plan.

3.3.3.12 Parking Provision

No on street or off-street parking provisions have been allocated as part of development due to the rural residential nature.

3.3.3.13 Pathways and Bikeways

No pathways are provided as part of this development, noting that the site is outside of the Centre Zone and the Recreation and Open Space Zone.

3.3.3.14 Kerb and Channel

Layback kerb and channel, and layback kerb and tray have been adopted for the internal road network dependant on the road cross section with minimum grades adopted as 0.5%.

3.3.3.15 Signs and Road Marking

No street signs, with the exception of a new sign at the entry intersection, or line marking is required as part of the Operational Works (Subdivision Works).

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3.4 Road Pavements

3.4.1 Geotechnical Investigation

Ground Technics have been engaged by the client to conduct a geotechnical investigation of the site and advise on general earthworks. Pavement design has been provided by D&N Geotechnical. A copy of the geotechnical report is provided in Appendix A. Pavement design criteria has been identified within this report in conjunction with the geotechnical investigations.

3.4.2 Adopted Driveway Pavement Design

As per Section 3.4 of the D&N Pavement Design Report, a subgrade design CBR of 4.5% should be adopted for the alluvial clayey sand / sandy clay subgrade experienced onsite. As such, the pavement has been provided, based on a Access Street.

Pavement Layer	Type	Thickness (mm)	Details
Base Course	2.2	150	Placed and compacted in accordance with FNQROC guidelines.
Subbase	2.3	170	Placed and compacted in accordance with FNQROC guidelines.
Primerseal	AMC7	-	-
Surfacing	AC10	30 (min.) 50 within Turning Head	

Table 2 – New Access Street Pavement Design profile.

3.5 Stormwater

A separate Stormwater Management Plan has been prepared by Lekker Urban. Refer to this for all Stormwater and Flood related information.

3.6 Sewer Reticulation

There is no sewer reticulation proposed to service the site. All sewerage works are to be provided by the individual lot owners and implemented at the time of Building Approval phase. Iin accordance to the approved conditions, Lots 1, 5 and 7-11 on-site effluent

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disposal system must be constructed in compliance with the latest version On-Site Domestic Wastewater Management Standard (ASNZ1547). Lots 2-4 must be an advanced secondary treatment system constructed in compliance with the latest version On-Site Domestic Wastewater Management Standard (ASNZ1547). Refer to Lekker Urban drawing LU23111-SD-200 for further information.

3.7 Water Reticulation

The existing water supply infrastructure has been reviewed which has been provided by Mareeba Shire Council as part of a Before You Dig Australia (BYDA) search. An existing water main is located within the verge of McGrath Road, at the frontage of the site.

A series of valves and hydrants are located within the vicinity of the site. The closest hydrant is located at the frontage of the site, within McGrath Road.

The proposed development will require connection to the existing council main. Point of connection for the site is proposed via the existing water main located within verge at the property frontage within McGrath Road.

All proposed water infrastructure works have been designed in accordance with the FNQROC Regional Development Manual and shall be installed in accordance with the relevant FNQROC specifications.

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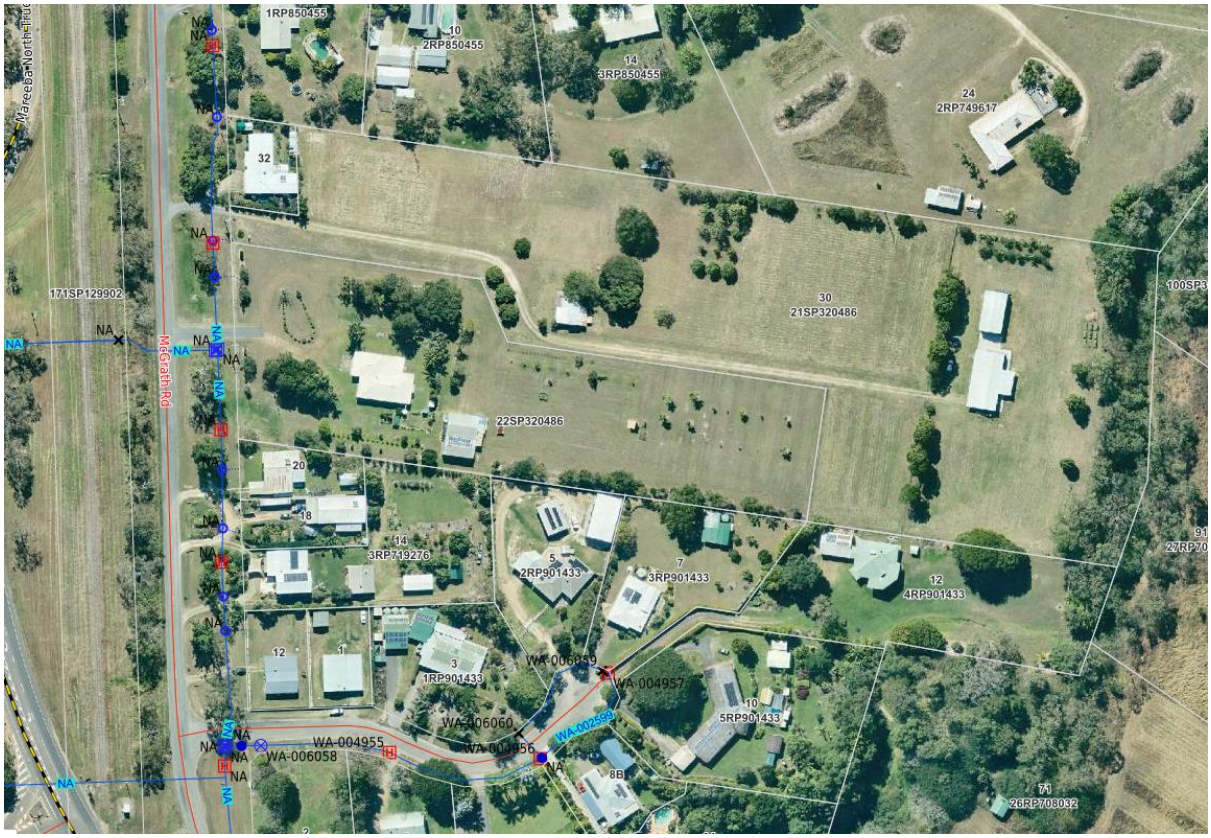


Figure 2 – Existing Water Reticulation (Source: Mareeba Shire Council)

3.7.1 Design Criteria

The water supply design criteria for the proposed development are based on FNQROC Design Manual D6 – Water Reticulation V05/23.

The water supply demand was calculated in accordance with Table 6.1 "Equivalent Demands" in FNQROC Design Manual D6. In accordance with the Table, the equivalent persons (EP) per lot is 3.7 EP/Connection, with all lots noted as being > 1500m².

The Equivalent Demand for the proposed development is summarised below.

Development Description (Table 6.1 FNQROC D6)	Qty	Equivalent Persons (EP) / Connections	Total EP
Lots > 1500m² 3.7 EP	12	12 x 3.7 EP = 44.4	44.4
Deduction of existing Lots > 1500m² 3.7 EP	2	2 x 3.7 EP = 44.4	7.4
		Total Additional EP	37

Table 5 –Water Supply Equivalent Demand Calculations.

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The following Average Daily Consumption and peaking factors were adopted to obtain flow parameters from Section D6.07 of FNQROC:

- Average Daily Consumption (AD) = 400 L/EP/Day
- Mean Day max. Month (MDMM) = 1.50 x AD
- Peak Day (PD) – Low and Medium Density = 2.25 x AD
- Peak Hour (PH) – Low and Medium Density = 1/12 x PD

The flow demand for the proposed development is summarised below in conjunction with FNQROC peaking factors.

Demand Parameter	Demand Calculation	Total Demand
Average Daily Consumption (AD)	400 L/EP/Day x 37 (EP)	14,800 L/day
Mean Day max. Month (MDMM)	1.50 x (AD) = 1.50 x 14,800	22,200 L/day
Peak Day (PD)	2.25 x (AD) = 2.25 x 14,800	33,300 L/day
Peak Hour (PH)	1/12 x (PD) = 1/12 x 33,300	2,775 L or 0.77 L/s

Table 6 –Flow Demand for the Proposed Development.

Therefore, the estimated additional demand due to the proposed development of 0.77 L/s during the Peak Hour (PH).

3.8 Environmental and Landscaping

3.8.1 Planting

Planting of street trees and other vegetation will be in accordance with FNQROC and will be one (1) tree per lot at the corner junction of each lot.

3.8.2 Grassing

Lot frontage areas will be topsoiled and grassed as per the Civil plans. A combination of turf and drill seeding will be utilised as appropriate.

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3.9 Other Preliminaries

3.9.1 Portable Long Service Leave Levy

McGrath Devco Pty Ltd acknowledges that Portable Long Service Leave Levy must be paid for the proposed works. It is proposed that the levy be paid and the receipt provided to Council prior to the Pre-Start meeting.

3.9.2 Electrical and Telecommunications

Negotiations with electrical and telecommunications providers is being undertaken by VMI Engineers for the internal development supply. Ergon approval has been obtained for the proposed layout with electrical plans supplied by VMI for internal coordination of services.

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4 Conclusion

Based on the reporting above, Lekker Urban considered it reasonable to conclude the following:

- The site well supported by an established road network.
- The existing traffic network currently operates at a satisfactory level of service during both the AM and PM peak periods.
- An appropriate connection to Council's existing water reticulation network is available with an estimated demand due to the proposed development of 0.77 L/s during Peak Hour (PH).
- A stormwater drainage management strategy has been developed that allows for the discharge of stormwater to a lawful point of discharge without significantly increasing pre-development runoff.
- Stormwater quality measures are not required for the proposed development in accordance with the Queensland State Planning Policy 2017 and FNQROC Development Manual – Design Manual D5.
- An appropriate connection to Council's existing water reticulation network is available.

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