12th March 2026 OSE Reference: 25350

The CEO
Charters Towers Regional Council
PO Box 189
Charters Towers Qld 4820

Attention: Planning and Development

Re: MCU 2024/0008 – Extractive industry at 50186 Gregory Development Road Greenvale on lot 4844 on PH1679 – Operational works application.

Further to Council issuing the amended decision notice, reference MCU 2024/0008 dated the 17th of July 2025, we now wish to re-apply for operational works approval to construct the internal works which include a sediment basin, open stormwater drains and internal roadworks. A previous application was submitted on the 27th of February 2026, however, it inadvertently contained incorrect documentation relating to DA form 1 and some technical details. These have now been rectified.

Council is advised that the engineering design for the external works, including road widening of the Gregory Development Road and the access entry, have been previously submitted to TMR for approval. This design has been assessed, and we anticipate receiving approval to proceed in the very near future.

The application and construction monitoring fees have been calculated to be $4640.00 and $3805.00. The construction guarantee (which will also function as the maintenance guarantee), has been determined to be $11,300.00. This has been calculated based on the estimated construction cost of $226,000.00. This cost is made up of $42,000 for the sediment basin and $184,000 for the internal roadworks. As the construction of these works will be carried out by the applicant, who are experienced in this type of work, the estimate has been determined on usual contract rates less approximately 35% as no profit, hire rates, etc. are applicable.

As this application fee is being lodged electronically, can Council kindly issue an invoice for these three amounts, and the fees will be paid on receipt of Council's invoice. The invoice should be made out to Bolwarra Enterprises Pty Ltd and it would be appreciated if the invoice could be emailed to alan.mcpherson@osegroup.com.au so that we can arrange for payment by the applicant.

To assist Council to assess this application we enclose the following:

- DA form 1.
- Engineering plans prepared by Langtree Consulting, reviewed and endorsed by OSE Group.
- OSE Group drawings for the internal road and site works. These have been revised from the drawings previously submitted and include further details on the sediment basin.
- A table containing hydrological and hydraulic details for the sediment basin and diversion channels.
- Town Planning Report prepared by Milford Planning.

Comments on drawing submission:

Council will note that the engineering drawings comprise of Langtree Consulting plans endorsed by our firm (provided for information) together with OSE drawings detailing the internal road, major drainage paths and full details of the sediment basin. The Langtree drawings have been used with their permission.

We make the following additional comments:

- We are satisfied with the sediment basin design and that it has a suitable volume. Based on the design figures and the volume it has a 6-month life. As a result, silt removal will need to occur on a minimum 6 monthly basis, and this requirement will be included in the quarry management plan.
- The intent of the design of the internal drainage paths is correct, and the drain profiles shown are satisfactory and will carry the required flows. However, the exact location of the internal drains may be altered to suit certain aspects of the terrain and the staged development of the quarry. Prior to construction we will conduct further investigations of these drain pathways and, should any alterations be required we will submit further details to Council.
- Council will appreciate that the exact alignment and level of the internal roads may vary depending upon the sequence of the quarry operation. As a result, the road details we have designed will be acceptable to commence operations but may change during the period the quarry operates.
- Engineering drawings will be RPEQ certified once OWA approval is received and are ready to be endorsed “for construction”. Once endorsed the for-construction drawings will be issued to Council.
- We will advise Council when TMR have approved the Highway widening and entrance details. Approved drawings of the entrance works can be provided to Council if required.

We trust that the provision of these drawings, documents, details and commentary is sufficient to enable you to process and issue the OWA. Please do not hesitate to contact this office should you require additional details or clarification of any item.

Yours Sincerely,

Alan McPherson
Senior Civil Engineer, RPEQ 809
OSE Group Pty Ltd

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*)	Bolwarra Enterprises Pty Ltd
Contact name *(only applicable for companies)*	Keoni Kidner
Postal address *(P.O. Box or street address)*	PO Box 1336
Suburb	Atherton
State	Qld
Postcode	4883
Country	Australia
Contact number	40916666
Email address *(non-mandatory)*	keoni@bolwarra.net.au
Mobile number *(non-mandatory)*	
Fax number *(non-mandatory)*	
Applicant's reference number(s) *(if applicable)*	25350

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)

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
		50186	Gregory Development Road	Greenvale
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)
	4816	4844	PH1679	Charters Towers Regional
b)	Unit No.	Street No.	Street Name and Type	Suburb
	Postcode	Lot No.	Plan Type and Number *(e.g. RP, SP)*	Local Government Area(s)

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)*	

☐ 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)*:

Sediment basin, soil erosion, sediment control and internal road

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:	
☒ No	

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

$226,000

PART 4 – ASSESSMENT MANAGER DETAILS

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

Charters Towers Regional 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).*

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	MCU2024/0008	17th July 2025	Charters Towers Regional Council
☐ 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

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

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.*

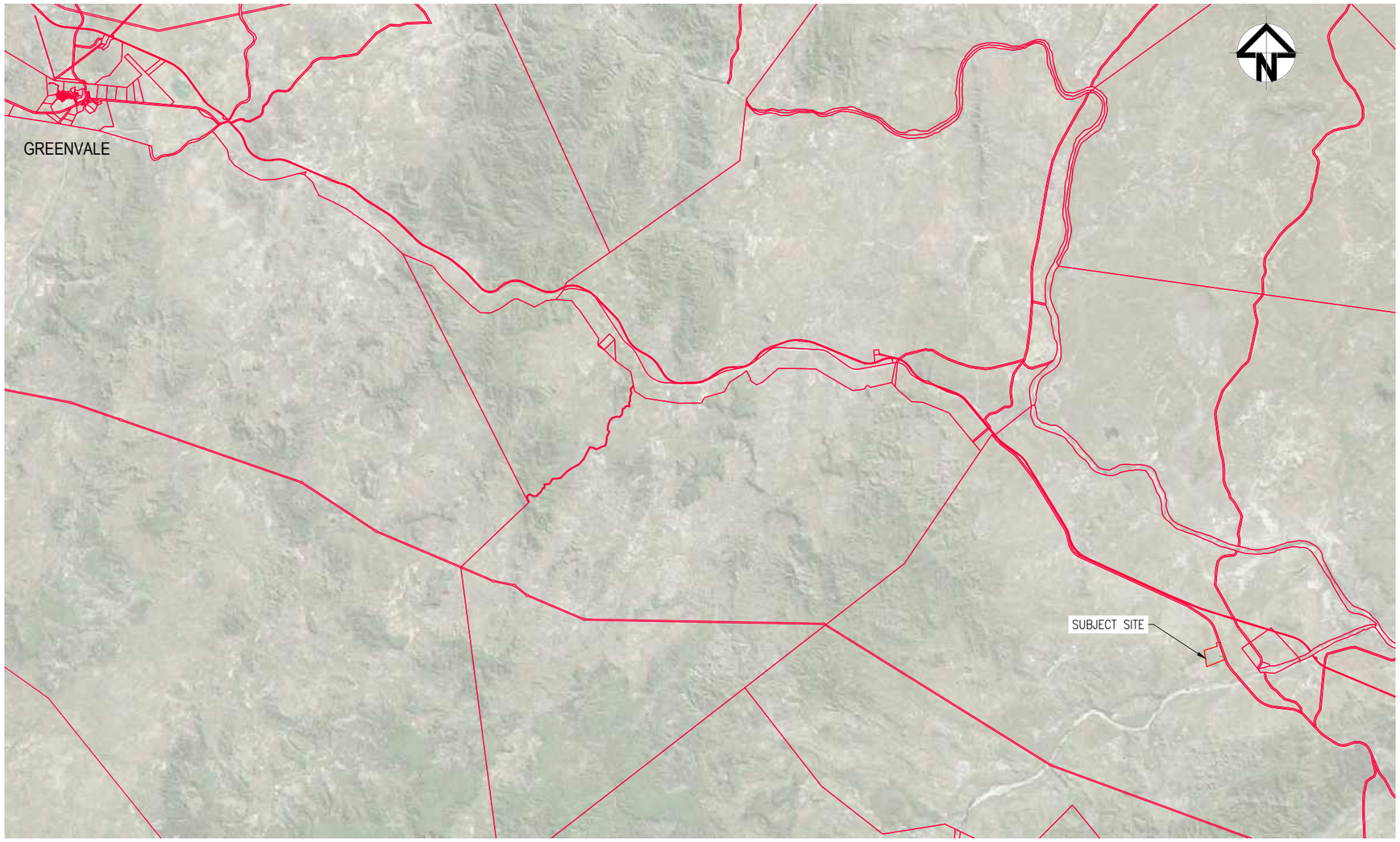
PART 9 – FOR COMPLETION OF THE ASSESSMENT MANAGER – FOR OFFICE USE ONLY

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			

MOUNT FULLSTOP QUARRY
LOT 4844 ON PH1679
SOIL EROSION & SEDIMENT CONTROL



LOCALITY PLAN
1:10,000

DRAWING SCHEDULE

DRAWING NO.	REV	DESCRIPTION
1314-SMP-SK01	A	COVER SHEET, SITE PLAN & DRG SCHEDULE
1314-SMP-SK02	A	EXISTING SITE DRAINAGE
1314-SMP-SK03	A	GENERAL ARRANGEMENT PLAN
1314-SMP-SK04	A	CATCHMENT PLAN - DIVERSION CHANNELS
1314-SMP-SK05	A	CATCHMENT PLAN - SEDIMENT BASIN
1314-SMP-SK06	A	SEDIMENT BASIN DETAILS

REVISIONS

No.	BY	DATE	DESCRIPTION
A	N.P	17/11/24	ISSUED FOR DA APPROVAL

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION

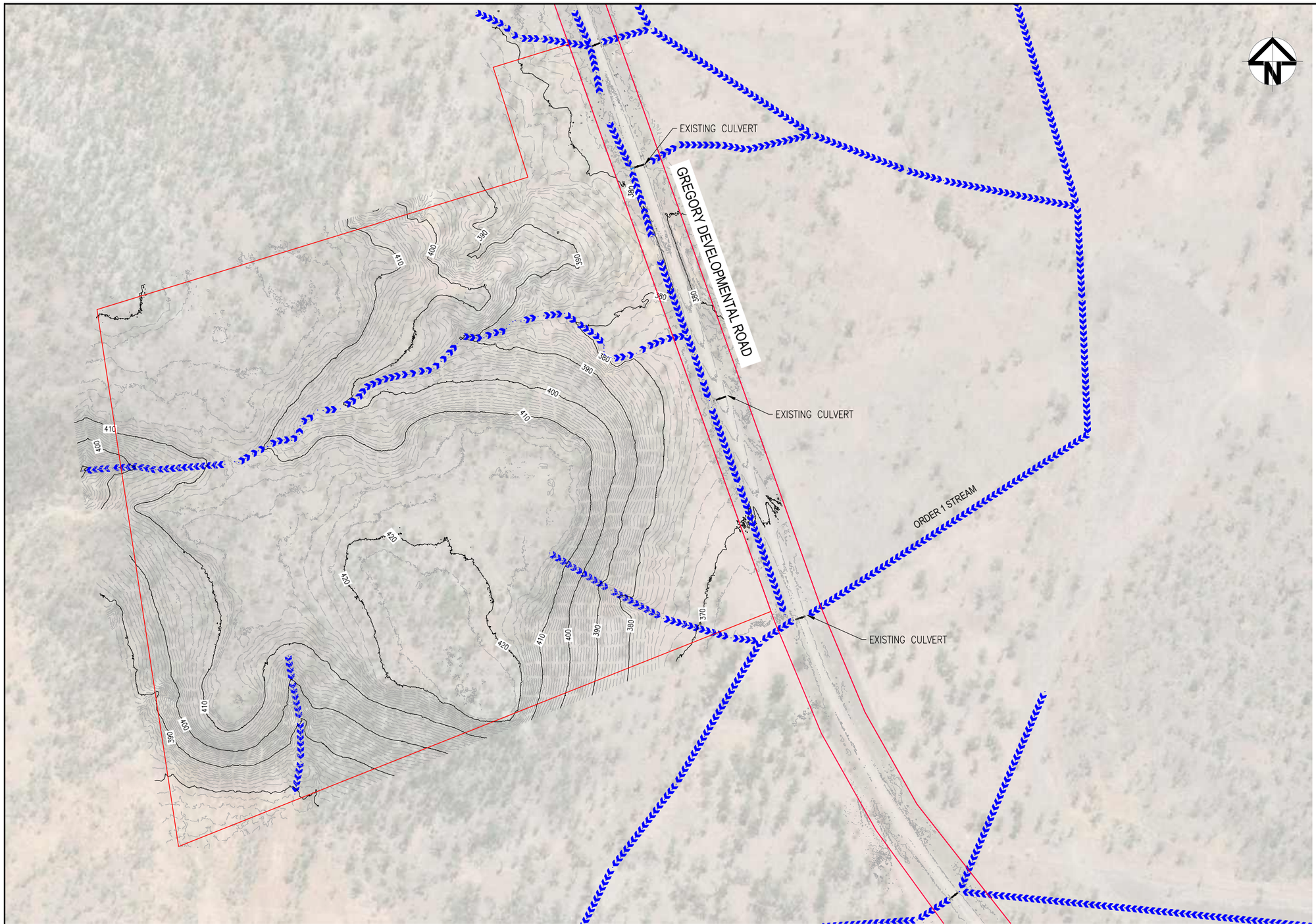
BRETT LANGTRAEE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES

LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
LOCALITY PLAN, DRAWING SCHEDULE

SCALE	AS SHOWN
SHEET	SHEET 1 OF 6
REVISION	A
DRG No.	1314-SMP-SK01



Reviewed by OSE Group and existing drainage paths verified

LEGEND:

EXISTING CULVERT

EXISTING DRAINAGE PATH

EXISTING DRAINAGE

1:2,500 (A1)

REVISIONS	No.	BY	DATE	DESCRIPTION
	A	N.P	17/11/24	ISSUED FOR DA APPROVAL
	No.	BY	DATE	DESCRIPTION

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION

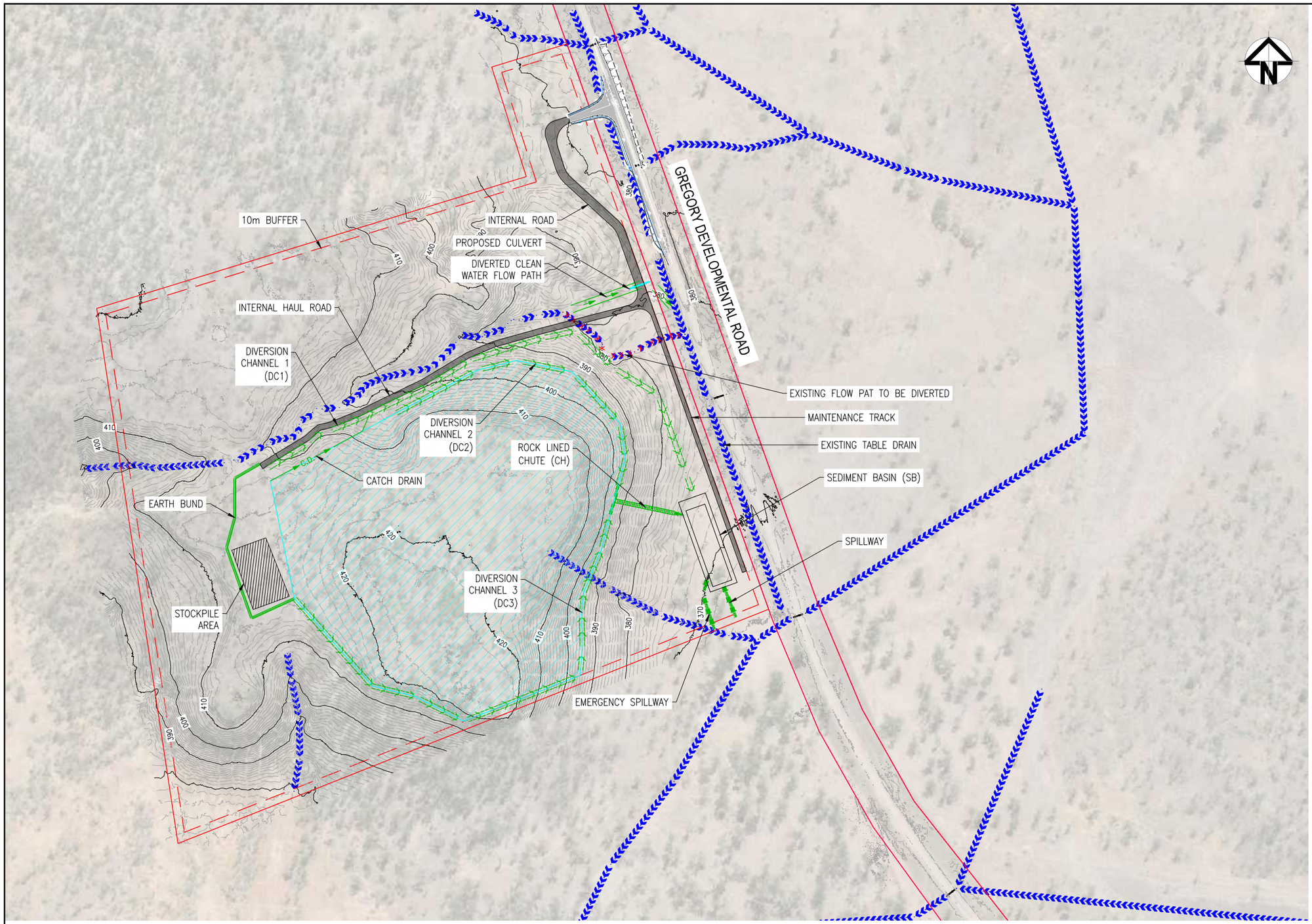
BRETT LANGTREE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES

LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
EXISTING SITE DRAINAGE

SCALE	AS SHOWN
SHEET	SHEET 2 OF 6
REVISION	A
DRG No.	1314-SMP-SK02



GENERAL ARRANGEMEN PLAN

1:2,500 (A1)

NOTES:

1. DETAILS SHOWN ON THESE REPRESENT PROPOSED MINIMUM REQUIREMENTS FOR ONE POSSIBLE METHOD TO ACHIEVE COMPLIANCE WITH LEGISLATION TO PREVENT ENVIRONMENTAL HARM FROM EROSION AND SEDIMENT TRANSFER OFF THE SITE.
2. DRAWINGS ARE INDICATIVE ONLY. DO NOT SCALE DRAWINGS.
3. ROAD WIDTHS HAVE BEEN SHOWN INDICATIVELY ONLY.
4. ENERGY DISSIPATER TO BE INSTALLED AT BASE OF ROCK LINED BATTER CHUTE.

Reviewed by OSE Group and accepted

LEGEND:

- EXISTING CULVERT
- EXISTING DRAINAGE PATH
- EARTH BUND
- DIVERSION DRAIN
- REMOVE DRAIN
- REMOVE DRAIN
- ULTIMATE EXTRACTION AREA
- STOCKPILE AREA
- PROPOSED ROADS

REVISIONS				
No.	BY	DATE	DESCRIPTION	
A	N.P	17/11/24	ISSUED FOR DA APPROVAL	

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION

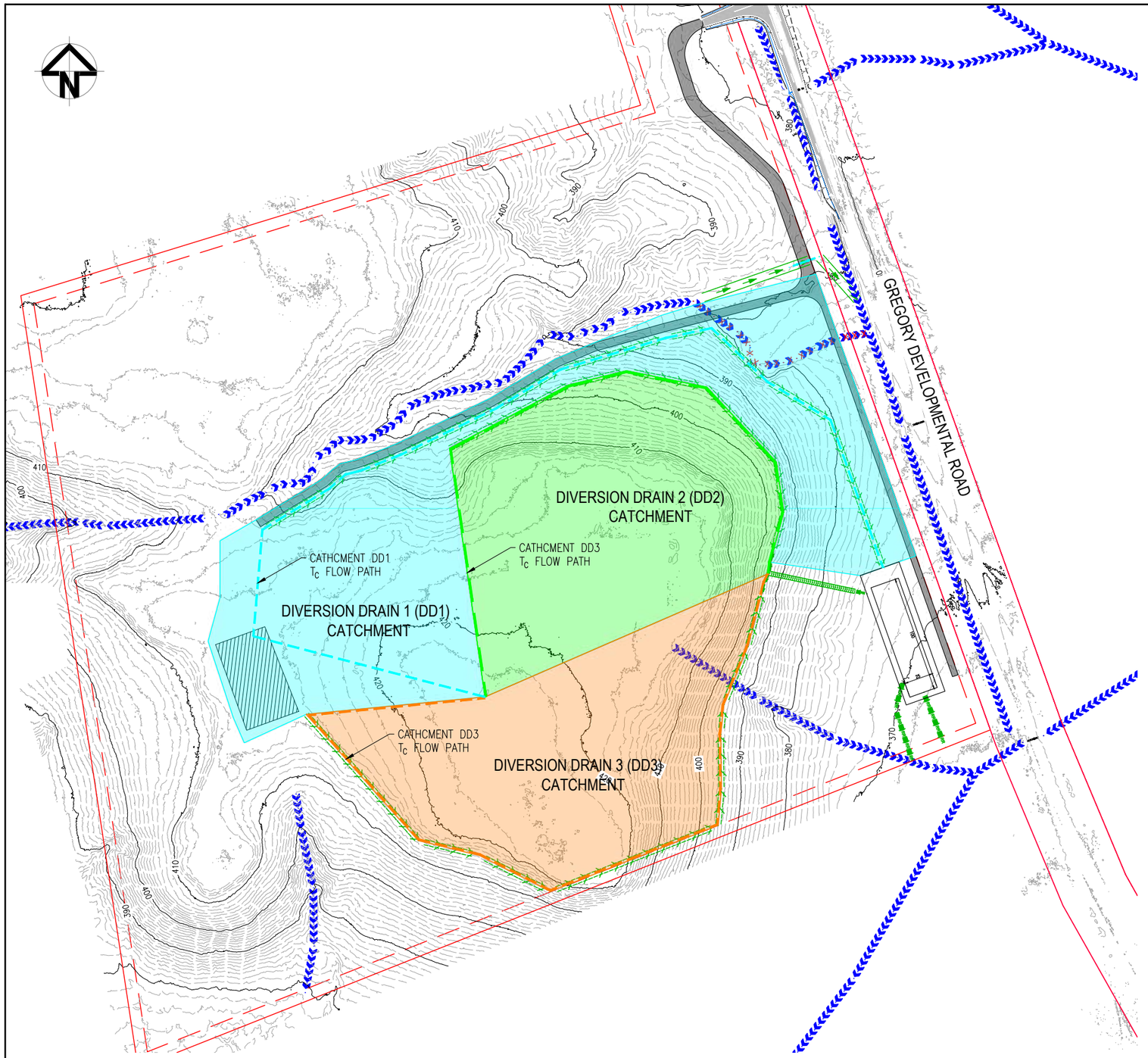
BRETT LANGTRAEE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES

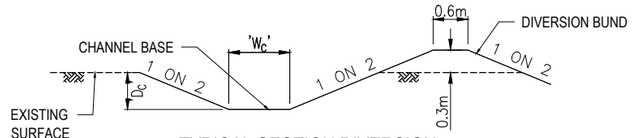
LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
GENERAL ARRANGEMENT PLAN

SCALE	AS SHOWN
SHEET	SHEET 3 OF 6
REVISION	A
DRG No.	1314-SMP-SK03



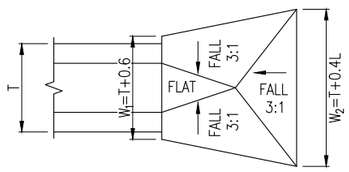
CATCHMENT PLAN - DIVERSION DRAINS
1:2,000 (A1)

DIVERSION CHANNEL & BATTER CHUTE DIMENSIONS (Q5)				
PARAMETER	DC1	DC2	DC3	CH
BATTER SLOPE (1 IN X)	2	2	2	2
BASE WIDTH (m) 'Wc'	1.50	1.00	1.00	2.00
DEPTH (m) 'Dc'	0.25	0.25	0.25	0.25
MINIMUM SLOPE (%)	0.50	0.50	0.50	25.00



TYPICAL SECTION DIVERSION CHANNEL WITH BANK
NTS

CHUTE OUTLET DIMENSIONS					
PARAMETER	T	L	W_1	W_2	d_{50}
CH1	3.6m	4.3m	4.2m	5.3m	300mm



CHUTE OUTLET
NTS

Reviewed by OSE Group - Design intent correct. Line and levels of drain drain 3 (DD3) to be certified prior to construction

REVISIONS				
A	N.P	17/11/24	ISSUED FOR DA APPROVAL	
No.	BY	DATE	DESCRIPTION	

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

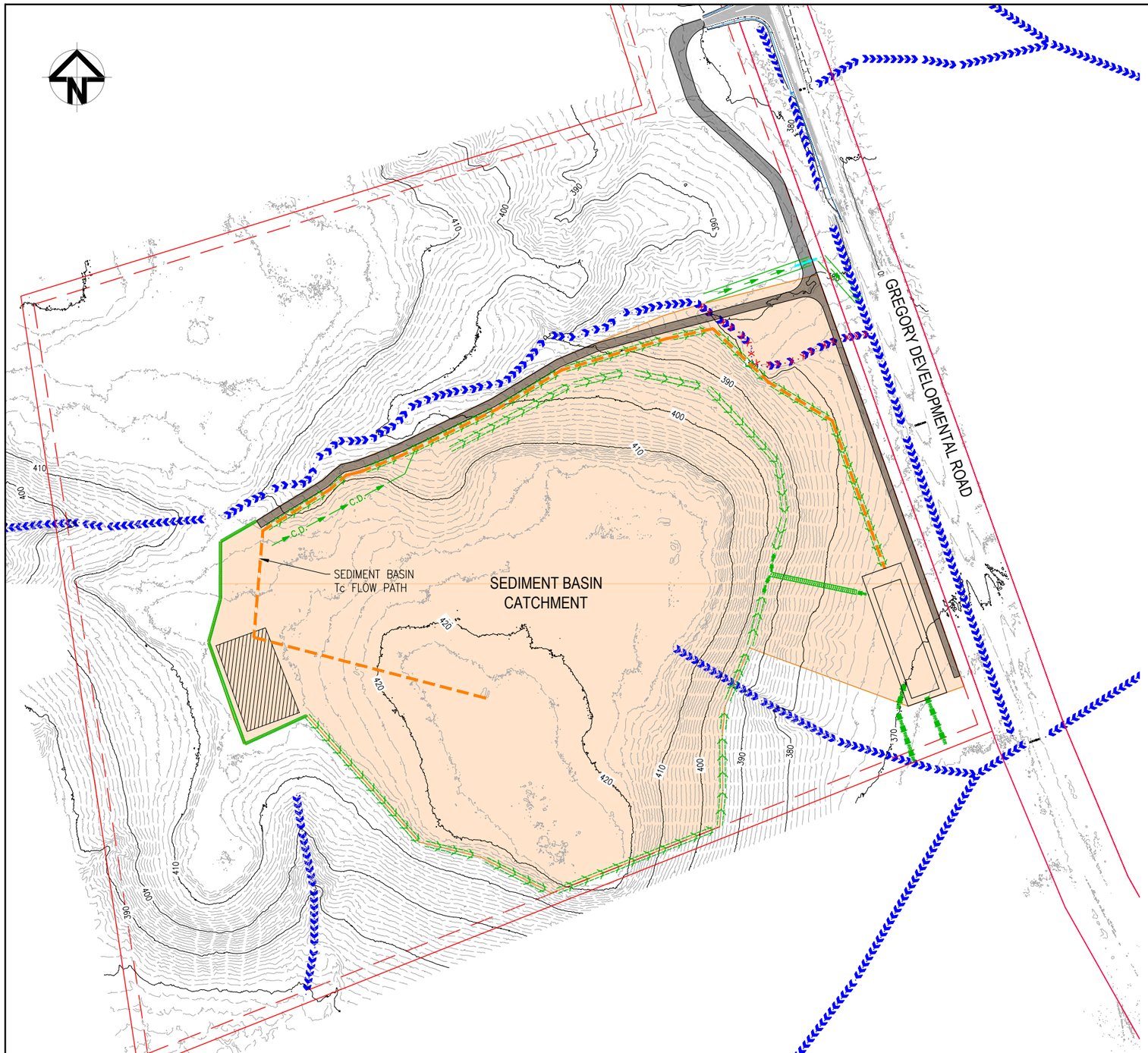
CERTIFICATION
BRETT LANGTRAEE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

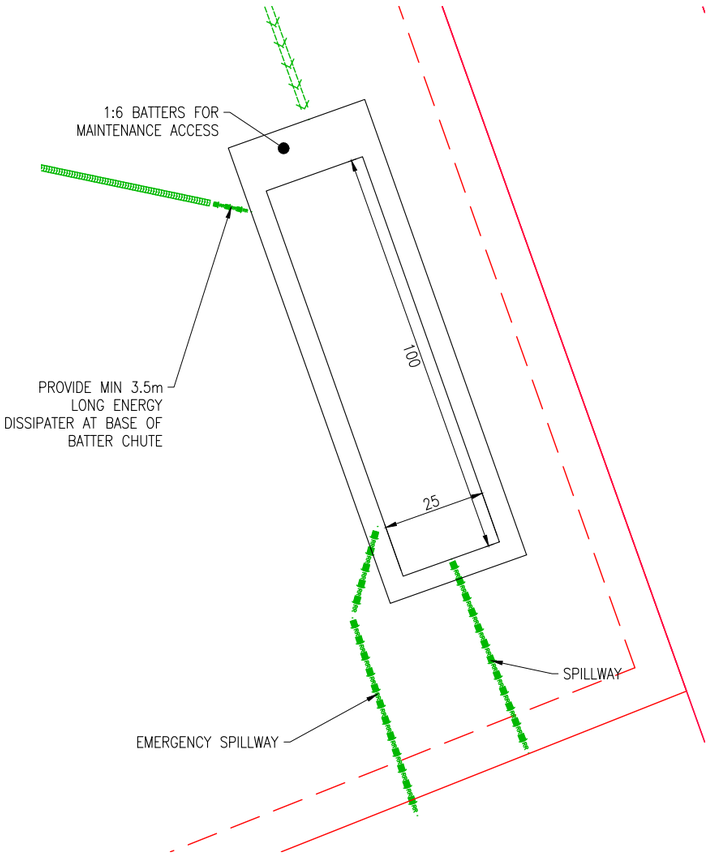
BOLWARRA ENTERPRISES
LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
CATCHMENT PLAN - DIVERSION DRAIN

SCALE	AS SHOWN
SHEET	SHEET 4 OF 6
REVISION	A
DRG No.	1314-SMP-SK04

SEDIMENT BASIN MINIMUM DIMENSIONS	
PARAMETER	BASIN
CATCHMENT (ha)	21.23
BATTER SLOPE (1 in x)	4
TOP WIDTH (m)	39.00
TOP LENGTH (m)	114.00
SETTLING ZONE DEPTH (m)	0.65
SEDIMENT STORAGE DEPTH (m)	0.65
BASIN DESIGN DEPTH (m)	1.3
FREEBOARD (m)	0.40
TOTAL DEPTH "D" (m)	1.70
BASIN VOLUME (m^3)	3,741



CATCHMENT PLAN - SEDIMENT BASIN
1:2,000 (A1)



SEDIMENT BASIN BASE DIMENSIONS
1:750 (A1)

Reviewed by OSE Group - Design intent correct and accepted

REVISIONS				
A	N.P	17/11/24	ISSUED FOR DA APPROVAL	
No.	BY	DATE	DESCRIPTION	

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION
BRETT LANGTRAEE MIEAust. NER. RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

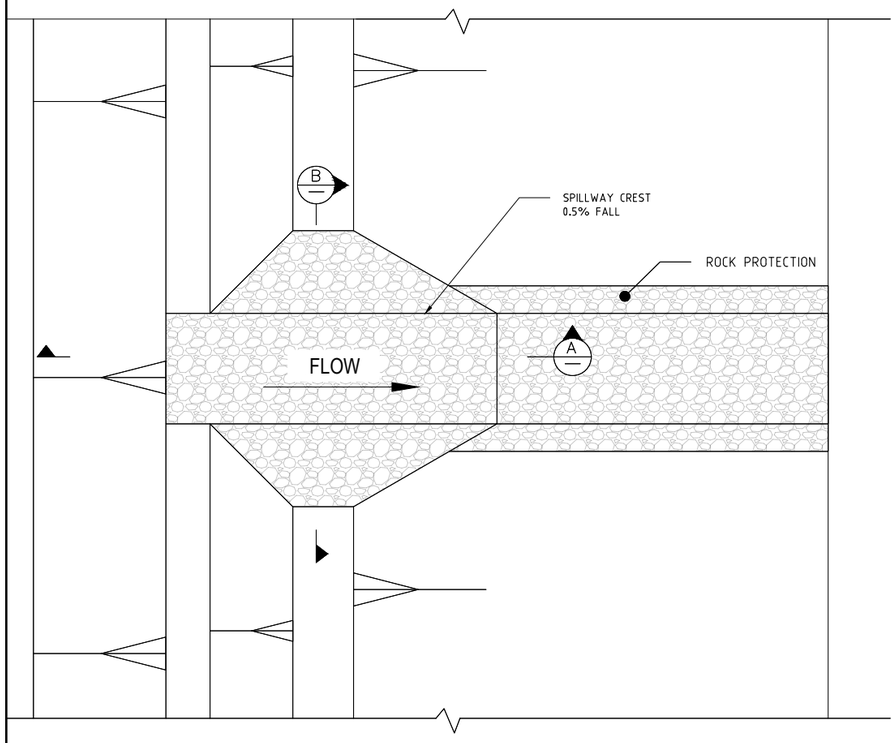
BOLWARRA ENTERPRISES

LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
CATCHMENT PLAN - SEDIMENT BASIN

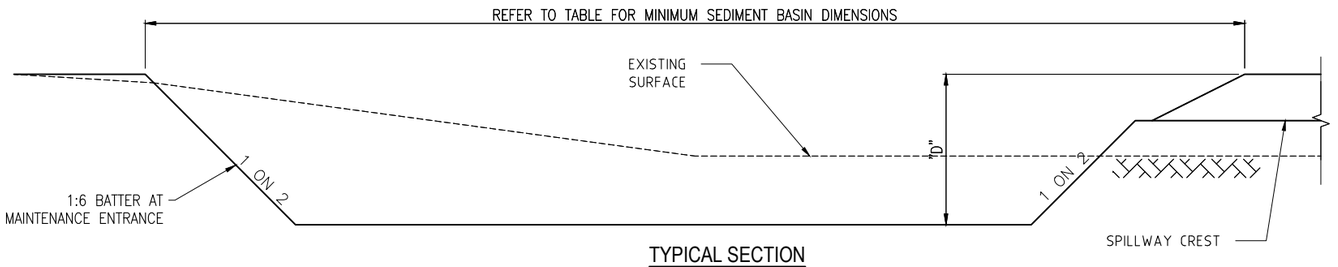
SCALE	AS SHOWN
SHEET	SHEET 5 OF 6
REVISION	A
DRG No.	1314-SMP-SK05

SEDIMENT BASIN NOTES:

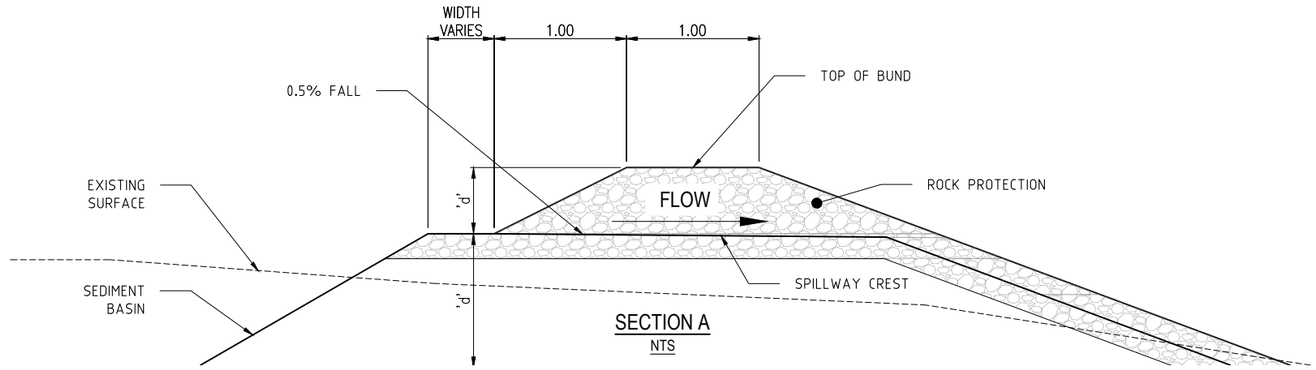
1. DETAILS SHOWN ON THESE REPRESENT PROPOSED MINIMUM REQUIREMENTS FOR ONE POSSIBLE METHOD TO ACHIEVE COMPLIANCE WITH LEGISLATION TO PREVENT ENVIRONMENTAL HARM FROM EROSION AND SEDIMENT TRANSFER OFF THE SITE.
2. DRAWINGS ARE INDICATIVE ONLY. DRAWINGS ARE NOT TO BE SCALED.
3. EARTH EMBANKMENTS GREATER THAN 1m TO BE BE CERTIFIED BY GEOTECHNICAL ENGINEER.
4. MINIMUM EMBANKMENT CREST WIDTH TO BE 2.5m UNLESS JUSTIFIED BY GEOTECHNICAL ENGINEER.
5. EARTH FILL FOR EMBANKMENTS SHALL BE CLEAN SOIL NON–DISPERSIVE SOIL AND FREE OF ROOTS, WOODY VEGETATION, ROCKS AND OTHER UNSUITABLE MATERIAL. FILL MATERIAL TO FROM EMBANKMENT TO BE CERTIFIED BY GEOTECHNICAL ENGINEER.
6. SPILLWAY ROCK SHALL BE HARD, ANGULAR, DURABLE WEARTHER RESISTANT AND EVENLY GRADED ROCK WITH 50% BY WEIGHT LARGER THAN THE SPECIFIED NOMINAL d_{50} ROCK SIZE. THE DIAMETER OF THE LARGEST ROCK SIZE SHOULD BE NO GREATER THAN 1.5 TIMES THE NOMINAL ROCK SIZE. SPECIFIC GRAVITY SHALL BE AT LEAST 2.5.
7. SEDIMENT BASIN DETAILS AND DIMENSIONS SHOWN PROVIDE ONE POSSIBLE METHOD OF ACHIEVE MINIMUM REQUIRED SEDIMENT BASIN VOLUMES.
8. NOMINAL ROCK SIZING, d_{50}, SHOWN IN SPILLWAY TABLE ARE RECOMMENDED ROCK SIZING BASED ON ARI 50 FLOW VELOCITY



TYPICAL BASIN SPILLWAY PLAN
NTS



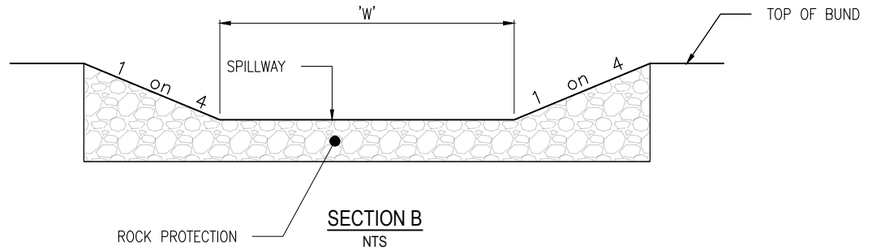
TYPICAL SECTION
SEDIMENT BASIN
NTS



SECTION A
NTS

NOMINAL DIMENSIONS FOR SPILLWAY AND ROCK PROTECTION (Q50)	
PARAMETER	BASIN
SPILLWAY BASE WIDTH (m) 'W'	3.50
SPILLWAY DEPTH (m) 'd'	0.40
NOMINAL ROCK SIZE (m) 'd_{50}'	0.30

Reviewed by OSE Group and accepted



SECTION B
NTS

REVISIONS

No.	BY	DATE	DESCRIPTION
A	N.P	17/11/24	ISSUED FOR DA APPROVAL

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION
BRETT LANGTRAEE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

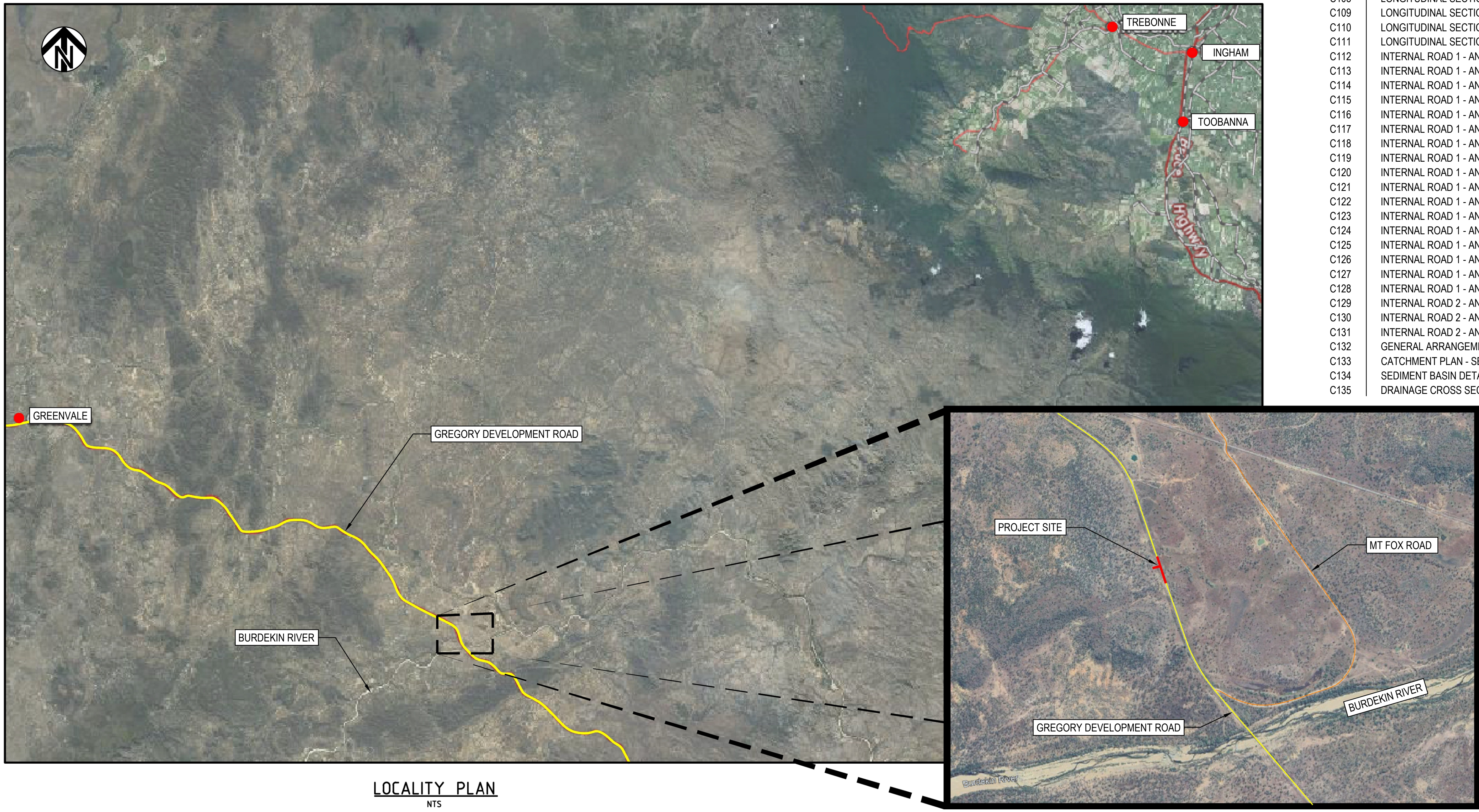
BOLWARRA ENTERPRISES
LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
SEDIMENT BASIN DETAILS

SCALE	AS SHOWN
SHEET	SHEET 6 OF 6
REVISION	A
DRG No.	1314-SMP-SK06

MT FULLSTOP QUARRY
GREGORY DEVELOPMENT ROAD
INTERNAL ACCESS ROADS

DRAWING INDEX

DWG No.	TITLE
C100	COVER SHEET, LOCALITY PLAN AND DRAWING INDEX
C101	ENGINEERING NOTES - CIVIL
C102	TYPICAL SECTIONS
C103	SITE PLAN
C104	SETOUT PLAN
C105	LONGITUDINAL SECTION - INTERNAL ROAD 1 - SHEET 1 OF 5
C106	LONGITUDINAL SECTION - INTERNAL ROAD 1 - SHEET 2 OF 5
C107	LONGITUDINAL SECTION - INTERNAL ROAD 1 - SHEET 3 OF 5
C108	LONGITUDINAL SECTION - INTERNAL ROAD 1 - SHEET 4 OF 5
C109	LONGITUDINAL SECTION - INTERNAL ROAD 1 - SHEET 5 OF 5
C110	LONGITUDINAL SECTION - INTERNAL ROAD 2 - SHEET 1 OF 2
C111	LONGITUDINAL SECTION - INTERNAL ROAD 2 - SHEET 2 OF 2
C112	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 1 OF 17
C113	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 2 OF 17
C114	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 3 OF 17
C115	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 4 OF 17
C116	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 5 OF 17
C117	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 6 OF 17
C118	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 7 OF 17
C119	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 8 OF 17
C120	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 9 OF 17
C121	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 10 OF 17
C122	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 11 OF 17
C123	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 12 OF 17
C124	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 13 OF 17
C125	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 14 OF 17
C126	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 15 OF 17
C127	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 16 OF 17
C128	INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 17 OF 17
C129	INTERNAL ROAD 2 - ANNOTATED CROSS SECTIONS - SHEET 1 OF 3
C130	INTERNAL ROAD 2 - ANNOTATED CROSS SECTIONS - SHEET 2 OF 3
C131	INTERNAL ROAD 2 - ANNOTATED CROSS SECTIONS - SHEET 3 OF 3
C132	GENERAL ARRANGEMENT PLAN - SEDIMENT BASIN
C133	CATCHMENT PLAN - SEDIMENT BASIN
C134	SEDIMENT BASIN DETAILS
C135	DRAINAGE CROSS SECTIONS



LOCALITY PLAN
NTS

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE N/A — Orig. Sheet A3
DO NOT SCALE DRAWINGS
Scales Before Reduction

DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT
MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

TITLE
COVER SHEET, LOCALITY PLAN AND DRAWING INDEX

SCALE (Scale as shown) | DRAWING No 25350-C100 | REV B

Document Set ID: 5185350
Version: 1, Version Date: 13/03/2026

12/03/2026 3:33:19 PM File: C:\Users\BrentonRake\OSE Group\Operations - Docs\Projects\2025\25350 Mt Fullstop Quarry Entrance\Drawings\Working\25350_DESIGN_INTERNAL ROAD.dwg

GENERAL NOTES

1. TRAFFIC CONTROL DEVICES (ROAD EDGE GUIDE POSTS, SIGNS) SHALL BE SUPPLIED AND INSTALLED IN ACCORDANCE WITH THE REQUIREMENTS OF AS 1742 "MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES".
2. THE CONTRACTOR SHALL LIAISE WITH THE RELEVANT AUTHORITIES TO CONFIRM THE LOCATION OF ALL EXISTING SERVICES, AND SHALL ARRANGE FOR THE REMOVAL OR RELOCATION OF ANY SERVICES WHICH WILL BE AFFECTED BY THE WORKS.
3. ENSURE SERVICE CONDUITS ARE LAID BENEATH ANY EARLY WORKS FINISHES. E.g. WATER, POWER, TELECOMMUNICATIONS.
4. THE CONTRACTOR SHALL REMOVE ALL EXISTING CONSTRUCTION, TREES AND SERVICES AS NECESSARY TO PERMIT CONSTRUCTION OF THE NEW WORKS.
5. THE CONTRACTOR SHALL PROVIDE "AS CONSTRUCTED" DRAWINGS PREPARED BY A REGISTERED SURVEYOR PRIOR TO PRACTICAL COMPLETION.

SURVEY & EXISTING SERVICES

1. REFER TO TWINE SURVEYS PTY LTD DRG : "9328-DETAIL 2023.4.26.dwg" TITLED "DETAIL SURVEY - MOUNT FULLSTOP GREGORY DEVELOPMENT ROAD" FOR THE SURVEY STATION SETOUT DETAILS. (HORIZONTAL DATUM IS GDA2020 ZONE 55, LEVEL DATUM IS AHD).
2. THE EXISTING SERVICES SHOWN ON THESE DRAWINGS ARE DERIVED FROM SURFACE SURVEY AND COUNCIL RECORDS AND MAY NOT REPRESENT THE EXISTING SERVICES PRESENT BELOW THE SURFACE.
3. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE ALL EXISTING SERVICES PRIOR TO ANY EXCAVATION.
4. THE LINE AND LEVEL OF EXISTING UNDERGROUND SERVICES SHALL BE DETERMINED BY THE CONTRACTOR AND THE ENGINEER SHALL BE NOTIFIED OF ANY POTENTIAL CLASHES WITH DESIGN STRUCTURES AND SERVICES PRIOR TO COMMENCING CONSTRUCTION.
5. THE CONTRACTOR IS TO BRING TO THE SUPERINTENDENT'S ATTENTION ANY DISCREPANCIES BETWEEN THE EXISTING SERVICES THUS IDENTIFIED AND DOCUMENTED SERVICES WHICH MIGHT AFFECT THE PROPOSED WORKS. APPROPRIATE MEASURES TO RESOLVE ANY CONFLICT WILL BE DOCUMENTED BY THE SUPERINTENDENT.
6. EXISTING SERVICES ON THE DRAWINGS ARE PLOTTED FROM THE BEST INFORMATION AVAILABLE. NO RESPONSIBLY IS TAKEN BY THE PRINCIPAL OR SUPERINTENDENT FOR THE ACCURACY AND COMPLETENESS OF THE INFORMATION SHOWN.
7. PRIOR TO THE COMMENCEMENT OF CONSTRUCTION THE CONTRACTOR IS TO ESTABLISH ON SITE THE EXACT POSITION OF ALL UNDERGROUND SERVICES IN THE PROPOSED WORKS AREA. METHODS FOR ACHIEVING THIS WILL INCLUDE BUT NOT BE LIMITED TO:-
   - CAREFUL EXAMINATION OF THE CONTRACT DRAWINGS.
   - CONSULTATION WITH THE RELEVANT SERVICE AUTHORITIES.
   - COMPREHENSIVELY SCANNING THE AFFECTED AREAS WITH A CABLE DETECTOR AND MARKING ON THE GROUND THE POSITION OF ALL SERVICES.
   - HAND EXCAVATING TO EXPOSE ALL SUCH SERVICES WHICH MAY BE AFFECTED BY THE PROPOSED WORKS UNDER THE DIRECTION OF THE RELEVANT SERVICE AUTHORITY.
8. ALL DAMAGE TO EXISTING SERVICES SHALL BE MADE GOOD TO THE SATISFACTION OF THE SUPERINTENDENT AND THE RELEVANT AUTHORITY, ALL AT THE CONTRACTORS EXPENSE. THE CONTRACTOR SHALL NOTIFY THE RELEVANT AUTHORITY IMMEDIATELY WHEN ANY DAMAGE OCCURS.

CONSTRUCTION UNDER TRAFFIC

1. THE CONTRACTOR SHALL PROVIDE A TRAFFIC MANAGEMENT PLAN IN ACCORDANCE WITH AS1742 "THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES" FOR APPROVAL BY TMR PRIOR TO THE PRESTART MEETING
2. THE CONTRACTOR SHALL ENSURE CONTROLLED CONTINUOUS TRAFFIC THROUGH THE CONSTRUCTION SITE AT ALL TIMES.

EARTHWORKS NOTES

1. ALL GULLIES AND DEPRESSIONS REQUIRING FILLING SHALL BE CLEARED, GRUBBED AND CLEANED OUT OF SILT, BOULDERS, DEBRIS ETC TO PROVIDE A CLEAN, FIRM BASE PRIOR TO PLACING ANY FILL OR FILTER MATERIALS. COMPACT ALL NATURAL SUBGRADES WITH 6 TO 8 PASSES OF A 10 TONNE VIBRATING ROLLER PRIOR TO PLACING ANY FILL MATERIALS. PLACE SUBSOIL DRAINS/MATS TO ENGINEERS APPROVALS AT THE BASE OF ALL SUCH FILLS AND OUTLET TO THE STORMWATER DRAINAGE SYSTEM. NOTIFY THE SUPERINTENDENT FOR AN INSPECTION PRIOR TO PLACING ANY FILL MATERIALS.
2. WHERE FILL IS PLACED ON SLOPING EXISTING SURFACE, THE EXISTING SURFACE SHALL BE BENCHED AND THE BENCH COMPACTED TO 98% SRDD PRIOR TO PLACING THE FILL MATERIAL.
3. THE CONTRACTOR SHALL ENSURE NO PONDING AREAS RESULT FROM THE EARTHWORKS OPERATION. ANY SUCH AREAS WHICH DEVELOP SHALL BE RECTIFIED AS DIRECTED BY THE SUPERINTENDENT. THE CONTRACTOR SHALL NOTIFY THE SUPERINTENDENT OF THE DEVELOPMENT OR EXISTENCE OF ANY SUCH PONDING AREAS.
4. THE CONTRACTOR SHALL ENSURE THE PROPOSED CONSTRUCTION EQUIPMENT TO BE USED ON THE SITE WILL NOT DAMAGE EXISTING UNDERGROUND INFRASTRUCTURE, IN PARTICULAR HEAVY EQUIPMENT TRAVERSING OVER A.C. MAINS WITH NOMINAL COVERS.
5. SPECIAL COMPACTION AREAS ARE WITHIN 2.0 METRES OF STRUCTURES AND WHERE COMPACTION WITH HEAVY COMPACTION EQUIPMENT IS IMPRACTICAL OR UNDESIRABLE BECAUSE OF THE RISK OF DAMAGE TO THE STRUCTURE. MATERIALS IN SPECIAL COMPACTION AREAS SHALL BE PLACED IN CONJUNCTION WITH THE ADJACENT MATERIALS. SPECIAL COMPACTION AREAS SHALL BE COMPACTED USING HAND HELD COMPACTION EQUIPMENT TO ACHIEVE A COMPATIBLE DEGREE OF COMPACTION.

IMPORTED NON-PLASTIC FILL

1. AS METRIC SIEVE — % PASSING BY WEIGHT

AS METRIC SIEVE	% PASSING BY WEIGHT
75mm	100
2.36mm	25 - 70
75um	0 - 30

2. MINIATURE ABRASION LOSS PASSING 1.70mm 0 - 15
3. LINEAR SHRINKAGE PASSING 4.25um 0 - 8
4. MATERIAL RETAINED ON 2.36mm SIEVE SHALL CONSIST OF SOUND STONE
5. SOAKED CBR 15 AT 98% SRDD COMPACTION

PAVEMENT

1. 350mm BASE COURSE TYPE 2.2 (CBR 60) COMPACTED TO 100% SRDD.
2. SUBGRADE (CBR 15) TRIMMED AND COMPACTED TO 98% SRDD
3. SUBGRADE CBR TO BE TESTED AND SUBMITTED TO THE ENGINEER FOR CONFIRMATION OF PAVEMENT DESIGN (REFER TO PAVEMENT SUGRADE NOTES).

PAVEMENT SUB GRADE

1. AREA TO BE CLEARED AND GRUBBED OUT TO REMOVE TOPSOIL AND ORGANIC MATERIAL.
2. EXISTING/ NATURAL SUB GRADE MATERIAL SHALL BE BOXED OUT TO REQUIRED LEVEL & COMPACTED TO 98% SRDD.
3. SUB GRADE UNDER PAVEMENT SHALL HAVE A MINIMUM SOAKED CBR OF 15 WHEN COMPACTED TO 98% SRDD.
4. THE CONTRACTOR SHALL VERIFY WITH A MINIMUM OF TWO (2) CBR TESTS PER MATERIAL TYPE AND APPROVED BY THE SUPERINTENDENT.
5. WHERE NECESSARY APPROVED IMPORTED FILL SHALL BE SPREAD IN LAYERS NOT EXCEEDING 200mm AND COMPACTED USING VIBRATORY ROLLER TO 98% SRDD AT OPTIMUM MOISTURE CONTENT.
6. ANY TREES TO BE REMOVED SHALL BE EXCAVATED AND THE HOLE FILLED WITH APPROVED IMPORTED FILL COMPACTED AS ABOVE.
7. FILLING SHALL BE BROUGHT UP TO THE UNDERSIDE OF THE ROAD PAVEMENT AND TRIMMED TO THE DESIRED LEVELS.
8. APPROVED IMPORTED FILLING UNDER THE PAVEMENT SHALL HAVE CBR 15 AND A MIN DEPTH OF 250mm.
9. ALL FILL SHALL BE TESTED FOR COMPACTION IN ACCORDANCE WITH AS.3798.

EROSION SEDIMENT CONTROL STRATEGY AND ENVIRONMENTAL PROTECTION

1. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT AND PRESERVE THE NATURAL ENVIRONMENT AND SHALL AVOID ENVIRONMENTAL POLLUTION IN ACCORDANCE WITH THE ENVIRONMENTAL PROTECTION ACT.
2. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE INCORPORATION OF APPROPRIATE CONTROL AND MANAGEMENT MEASURES CONFORMING TO THE REQUIREMENTS OF THE ACT AND THE RELEVANT AUTHORITIES.
3. THE EROSION AND SEDIMENT CONTROL STRATEGY, SHOWN OR NOTED ON THESE DRAWINGS, HAS BEEN PROVIDED AS A GUIDE.
4. THE CONTRACTOR SHALL PROVIDE AN EROSION SEDIMENT CONTROL PLAN (ESCP) FOR EACH PHASE OF THEIR PROPOSED CONSTRUCTION PROGRAM AND WORK METHODS, AND IS WHOLLY RESPONSIBLE FOR THE IMPLEMENTATION, CONTROL AND MANAGEMENT OF SUCH PLAN.
5. THE CONTRACTOR SHALL INSTALL ALL DEVICES/MEASURES NECESSARY TO COMPLY WITH THE PROVISIONS OF THE ESCP FNQROC DEVELOPMENT MANUAL, THE ENVIRONMENTAL PROTECTION ACT.
6. THE ESCP SHALL INCLUDE SUCH MEASURES AS SHOWN ON THE STRATEGIC PLAN.
7. OSE GROUP DO NOT ACCEPT RESPONSIBILITY FOR THE CONTRACTOR'S DESIGN & IMPLEMENTATION OF HIS ESCP NOR THE CONSEQUENCES OF HIS FAILURE TO APPLY ALL REASONABLE CONTROLS.
8. ALL STORMWATER INLETS, TRENCHES, ETC, SHALL BE CONSTRUCTED IN SUCH A WAY AS TO PREVENT THE ENTRY OF SEDIMENT INTO THE STRUCTURE. IF IT IS NECESSARY TO DISCHARGE INTO SUCH INLETS THEN SUITABLE SILT TRAPS SHALL BE CONSTRUCTED UPSTREAM OF THE INLETS SUCH THAT OVERFLOW FROM TRAPS ENTERS THE DRAINS AFTER THE SEDIMENT HAS DROPPED OUT.
9. ALL SEDIMENT CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL THE END OF THE MAINTENANCE PERIOD, UNLESS NOTED OTHERWISE. ALL SEDIMENT CONTROL DEVICES ARE TO BE FULLY MAINTAINED IN AN EFFECTIVE WORKING CONDITION DURING CONSTRUCTION AND THE MAINTENANCE PERIOD. THE CONTRACTOR SHALL ENSURE THAT ALL SEDIMENT CONTROL DEVICES ARE KEPT FREE OF SEDIMENT BUILD-UP.
10. SEDIMENT FENCES SHALL BE INSTALLED SUCH THAT THE BASE OF THE FENCE IS PLACED 150MM MINIMUM BELOW GROUND LEVEL, AND ANCHORED SECURELY IN SUCH POSITION.
11. ALL VEHICLE EXIT POINTS SHALL HAVE SHAKER GRIDS, WASH BAYS OR SIMILAR TO PREVENT VEHICLES FROM TRACKING SOIL AND MUD OFF SITE.
12. ALL SOIL STOCKPILES SHALL BE PROTECTED AGAINST WIND EROSION BY COVERING AND AGAINST STORMWATER RUNOFF BY SILT FENCES AT THE DOWNHILL SLOPES. STOCKPILE LOCATIONS SHALL BE DETERMINED BY THE CONTRACTOR AND EROSION/CONTROL MEASURES IMPLEMENTED & MAINTAINED FOR THE LIFE OF THE STOCKPILE.
13. DIVERT CLEAN WATER AROUND AREAS OF CONSTRUCTION.
14. THE CONTRACTOR SHALL CONSTRUCT TEMPORARY BERMS AT THE TOP OF ALL BATTERS TO DIRECT AND CONTROL RUNOFF TO A SINGLE LOCATION. THE DISCHARGE OVER THE BATTER SHALL BE THROUGH A STABILIZED CHUTE ADDRESSED IN THE CONTRACTORS PLAN, e.g. REINFORCED TURF, GEOTEXTILE, CONCRETE OR SIMILAR.

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:50 — Orig. Sheet A3

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Scales Before Reduction: 250 0 250 500 750 1000 1250 mm

DESIGNER: OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT: BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

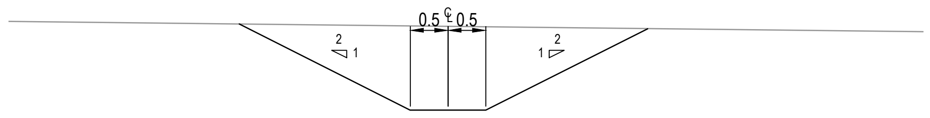
DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

TITLE: ENGINEERING NOTES - CIVIL

SCALE (Scale as shown) — DRAWING No 25350-C101 — REV B

PAVEMENT DATA:

- 350mm TYPE 2.2 SUB-BASE COURSE (CBR 60) COMPACTED TO 100% SRDD.
- SUB-GRADE TO BE TRIMMED AND COMPACTED TO 98% SRDD. SUB-GRADE CBR TO BE CHECKED. REFER TO SUBGRADE AND FILL NOTES C101.
- ASSUMED DESIGN SUBGRADE SOAKED CBR = 10 AT 98% SRDD.



TYPICAL SECTION - CUT SWALE DRAIN PROFILE
SCALE: 1:100

SCALE 1:100	Orig. Sheet A3
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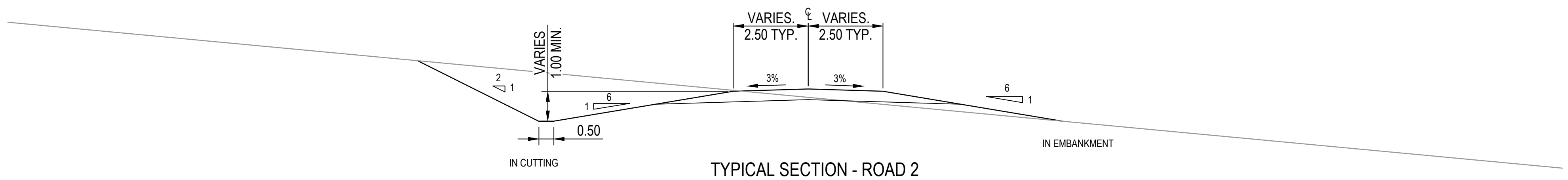
Scales Before Reduction	



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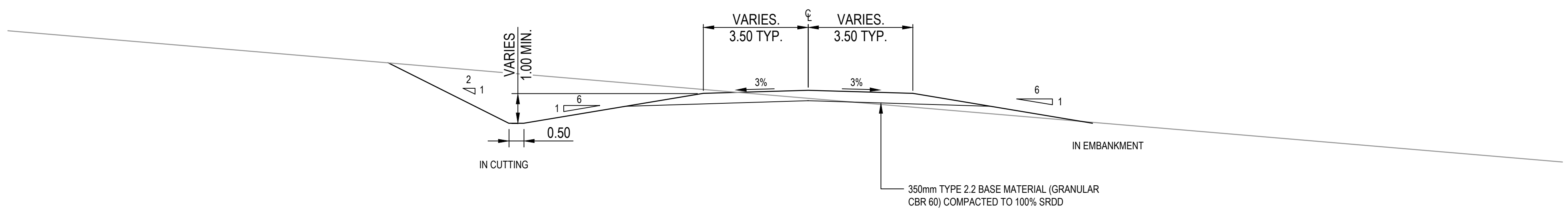

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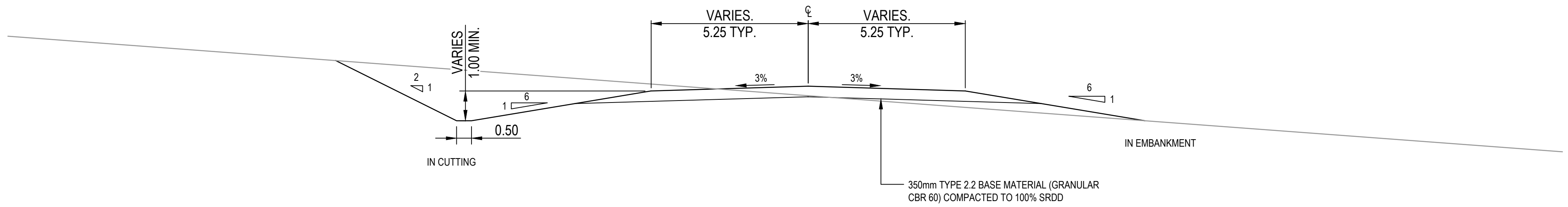

TYPICAL SECTION - ROAD 1
CH: 0.000 - 280.000
SCALE: 1:200

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:200	Orig. Sheet A3
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DESIGNER

OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT

BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	
DM	AMcP	DATE -

TITLE: TYPICAL SECTIONS

SCALE	DRAWING No	REV
(Scale as shown)	25350-C102	B

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LEGEND

- BANK TOE
- BANK TOP
- BATTER TADPOLE
- INTERNAL ROAD PAVEMENT
- PROPERTY BOUNDARY

ROAD 1 - INTERNAL ROAD CONTROL LINE SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL	APPROACH BEARING	DEPARTURE BEARING	APPROACH RADIUS	DEPARTURE RADIUS
0.000	333944.723	7875731.640	380.422		250°19'40.18"		-120.000
11.189	333934.378	7875727.388	381.062	244°59'07.09"	244°59'07.09"	-120.000	
14.513	333931.366	7875725.983	381.252	244°59'07.09"	244°59'07.09"		-59.147
26.167	333921.357	7875720.049	381.918	233°41'45.82"	233°41'47.20"	-59.147	-32.240
36.530	333914.126	7875712.689	382.508	215°16'50.64"	215°16'49.27"	-32.240	-16.000
59.659	333916.388	7875691.642	382.143	132°27'15.38"	132°27'15.38"	-16.000	
179.866	334005.078	7875610.503	383.308	132°27'15.38"	132°27'15.38"		60.000
209.155	334021.110	7875586.337	383.715	160°25'25.17"	160°25'25.17"	60.000	
271.976	334042.159	7875527.148	380.926	160°25'25.17"	160°25'25.17"		16.328
290.729	334038.070	7875509.887	380.133	226°13'47.73"	226°13'47.73"	16.328	42.505
307.673	334023.850	7875500.880	380.009	249°04'11.99"	249°04'11.99"	42.505	252.886
336.058	333996.825	7875492.248	380.563	255°30'03.88"	255°30'03.88"	252.886	
415.342	333920.066	7875472.398	383.501	255°30'03.88"	254°24'19.96"		
458.817	333878.191	7875460.711	387.385	254°24'19.96"	254°24'19.96"		-303.500
481.146	333856.924	7875453.923	389.380	250°11'25.00"	250°11'25.00"	-303.500	-253.500
530.972	333812.002	7875432.553	393.831	238°55'43.02"	238°55'43.02"	-253.500	
563.940	333783.764	7875415.538	396.777	238°55'43.02"	238°55'43.02"		303.500
591.404	333759.632	7875402.447	399.007	244°06'47.78"	244°06'47.78"	303.500	
657.044	333700.578	7875373.789	403.605	244°06'47.78"	244°06'47.78"		403.500
701.577	333659.523	7875356.594	407.466	250°26'12.49"	250°26'12.49"	403.500	-110.000
732.670	333632.075	7875342.208	410.161	234°14'29.20"	234°14'29.20"	-110.000	150.000
744.619	333622.111	7875335.619	411.197	238°48'19.98"	238°48'19.98"	150.000	
785.685	333586.983	7875314.349	413.890	238°48'19.98"	238°48'20.14"		-24.598
804.935	333575.852	7875299.244	414.263	193°58'01.89"	193°58'02.24"	-24.598	-58.291
830.138	333575.162	7875274.247	414.751	169°11'41.41"	169°11'41.43"	-58.291	
851.078	333579.088	7875253.678	415.000	169°11'41.43"	169°11'40.09"		10.180
868.364	333569.713	7875241.609	415.000	266°29'12.81"	266°29'12.81"	10.180	10.180
885.650	333558.931	7875252.440	415.000	3°46'45.53"	3°46'45.53"	10.180	
921.295	333561.281	7875288.007	414.664	3°46'45.53"	3°46'45.53"		21.604
942.043	333571.648	7875305.064	414.249	58°48'19.98"	58°48'19.98"	21.604	
959.969	333586.983	7875314.349	413.890	58°48'19.98"			

ROAD 2 - INTERNAL ROAD CONTROL LINE SETOUT

CHAINAGE	EASTING	NORTHING	LEVEL	APPROACH BEARING	DEPARTURE BEARING	APPROACH RADIUS	DEPARTURE RADIUS
0.000	334038.636	7875510.457	380.141		131°53'58.09"		
19.718	334053.312	7875497.289	379.550	131°53'58.09"	131°53'58.09"		18.500
28.928	334058.388	7875489.718	379.273	160°25'25.17"	160°25'25.17"	18.500	
403.224	334183.801	7875137.058	368.561	160°25'25.17"	160°25'20.94"		7.500
406.938	334184.146	7875133.398	368.532	188°47'45.18"	188°47'49.42"	7.500	17.404
442.797	334156.509	7875122.133	368.464	306°51'12.67"	306°51'12.67"	17.404	17.404
478.657	334159.568	7875151.821	368.772	64°54'35.92"	64°54'35.92"	17.404	-12.500
490.380	334166.530	7875160.718	368.954	11°10'34.01"	11°10'34.01"	-12.500	-44.568
505.500	334166.913	7875175.761	369.249	351°44'18.96"	351°44'18.96"	-44.568	-151.462
535.411	334159.729	7875204.747	369.907	340°25'25.17"			-151.462

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:2500 — Orig. Sheet A3

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DESIGNER

OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT

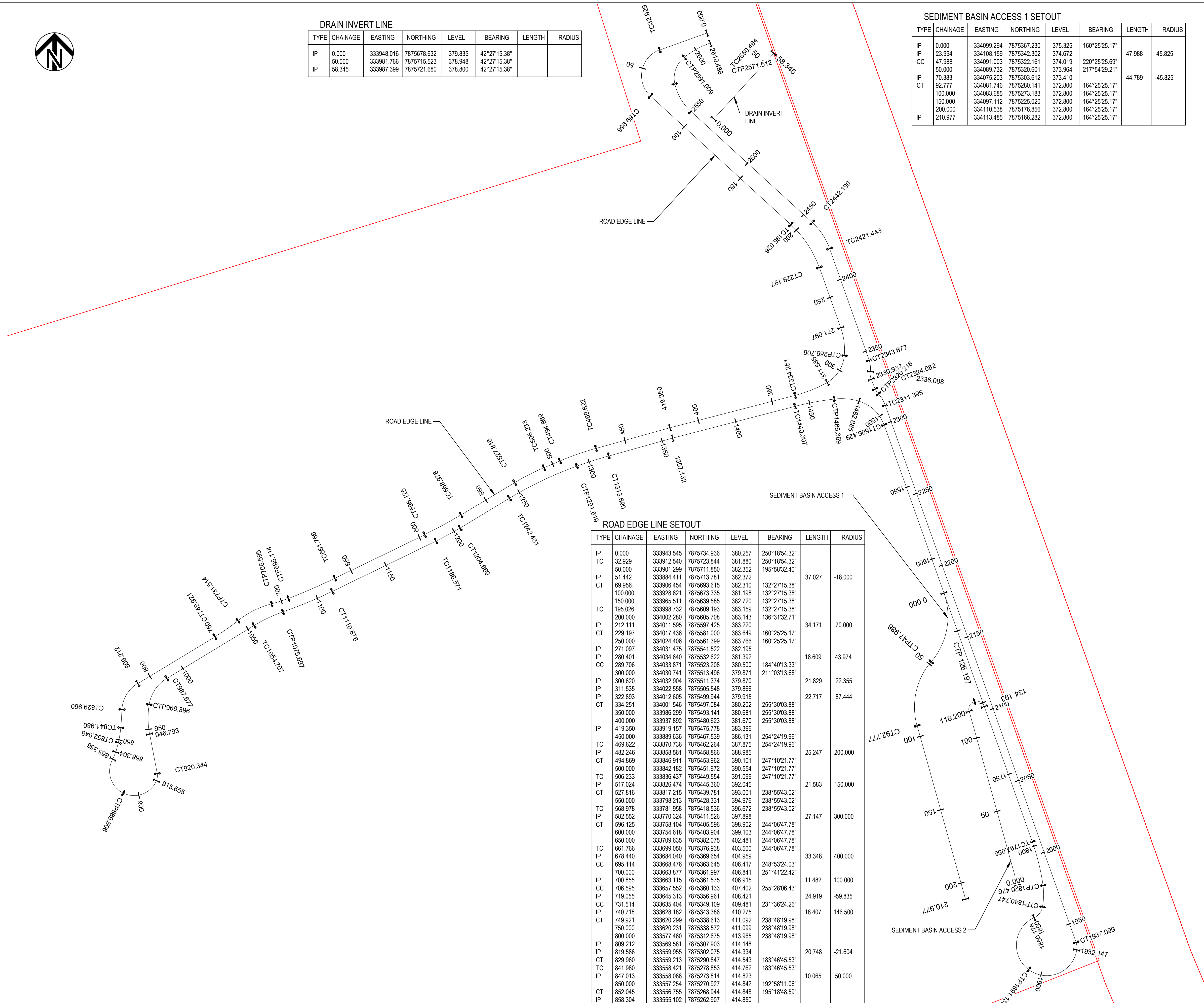
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

TITLE: SITE PLAN

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

SCALE (Scale as shown) — DRAWING No 25350-C103 — REV B



DRAIN INVERT LINE

TYPE	CHAINAGE	EASTING	NORTHING	LEVEL	BEARING	LENGTH	RADIUS
IP	0.000	333948.016	7875678.632	379.835	42°27'15.38"		
	50.000	333981.766	7875715.523	378.948	42°27'15.38"		
IP	58.345	333987.399	7875721.680	378.800	42°27'15.38"		

SEDIMENT BASIN ACCESS 1 SETOUT

TYPE	CHAINAGE	EASTING	NORTHING	LEVEL	BEARING	LENGTH	RADIUS
IP	0.000	334099.294	7875367.230	375.325	160°25'25.17"		
IP	23.994	334108.159	7875342.302	374.672		47.988	45.825
CC	47.988	334091.003	7875322.161	374.019	220°25'25.69"		
	50.000	334089.732	7875320.601	373.964	217°54'29.21"		
IP	70.383	334075.203	7875303.612	373.410		44.789	-45.825
CT	92.777	334081.746	7875280.141	372.800	164°25'25.17"		
	100.000	334083.685	7875273.183	372.800	164°25'25.17"		
	150.000	334097.112	7875225.020	372.800	164°25'25.17"		
	200.000	334110.538	7875176.856	372.800	164°25'25.17"		
IP	210.977	334113.485	7875166.282	372.800	164°25'25.17"		

ROAD EDGE LINE SETOUT

TYPE	CHAINAGE	EASTING	NORTHING	LEVEL	BEARING	LENGTH	RADIUS
IP	0.000	333943.545	7875734.936	380.257	250°18'54.32"		
TC	32.929	333912.540	7875723.844	381.880	250°18'54.32"		
	50.000	333901.299	7875711.850	382.352	195°58'32.40"		
IP	51.442	333884.411	7875713.781	382.372		37.027	-18.000
CT	69.956	333906.454	7875693.615	382.310	132°27'15.38"		
	100.000	333928.621	7875673.335	381.198	132°27'15.38"		
	150.000	333965.511	7875639.585	382.720	132°27'15.38"		
TC	195.026	333998.732	7875609.193	383.159	132°27'15.38"		
	200.000	334002.280	7875605.708	383.143	136°31'32.71"		
IP	212.111	334011.595	7875597.425	383.220		34.171	70.000
CT	229.197	334017.436	7875581.000	383.649	160°25'25.17"		
	250.000	334024.406	7875561.399	383.766	160°25'25.17"		
IP	271.097	334031.475	7875541.522	382.195			
IP	280.401	334034.640	7875532.622	381.392		18.609	43.974
CC	289.706	334033.871	7875523.208	380.500	184°40'13.33"		
	300.000	334030.741	7875513.496	379.871	211°03'13.68"		
IP	300.620	334032.904	7875511.374	379.870		21.829	22.355
IP	311.535	334022.558	7875505.548	379.866			
IP	322.893	334012.605	7875499.944	379.915		22.717	87.444
CT	334.251	334001.546	7875497.084	380.202	255°30'03.88"		
	350.000	333986.299	7875493.141	380.681	255°30'03.88"		
	400.000	333937.892	7875480.623	381.670	255°30'03.88"		
IP	419.350	333919.157	7875475.778	383.396			
	450.000	333889.636	7875467.539	386.131	254°24'19.96"		
TC	469.622	333870.736	7875462.264	387.875	254°24'19.96"		
IP	482.246	333858.561	7875458.866	388.985		25.247	-200.000
CT	494.869	333846.911	7875453.962	390.101	247°10'21.77"		
	500.000	333842.182	7875451.972	390.554	247°10'21.77"		
TC	506.233	333836.437	7875449.554	391.099	247°10'21.77"		
IP	517.024	333826.474	7875445.360	392.045		21.583	-150.000
CT	527.816	333817.215	7875439.781	393.001	238°55'43.02"		
	550.000	333798.213	7875428.331	394.976	238°55'43.02"		
TC	568.978	333781.958	7875418.536	396.672	238°55'43.02"		
IP	582.552	333770.324	7875411.526	397.898		27.147	300.000
CT	596.125	333758.104	7875405.596	398.902	244°06'47.78"		
	600.000	333754.618	7875403.904	399.103	244°06'47.78"		
	650.000	333709.635	7875382.075	402.481	244°06'47.78"		
TC	661.766	333699.050	7875376.938	403.500	244°06'47.78"		
IP	678.440	333684.040	7875369.654	404.959		33.348	400.000
CC	695.114	333668.476	7875363.645	406.417	248°53'24.03"		
	700.000	333663.877	7875361.997	406.841	251°41'22.42"		
IP	700.855	333663.115	7875361.575	406.915		11.482	100.000
CC	706.595	333657.552	7875360.133	407.402	255°28'06.43"		
IP	719.055	333645.313	7875356.961	408.421		24.919	-59.835
CC	731.514	333635.404	7875349.109	409.481	231°36'24.26"		
IP	740.718	333628.182	7875343.386	410.275		18.407	146.500
CT	749.921	333620.299	7875338.613	411.092	238°48'19.98"		
	750.000	333620.231	7875338.572	411.099	238°48'19.98"		
	800.000	333577.460	7875312.675	413.965	238°48'19.98"		
IP	809.212	333569.581	7875307.903	414.148			
IP	819.586	333559.955	7875302.075	414.334		20.748	-21.604
CT	829.960	333559.213	7875290.847	414.543	183°46'45.53"		
TC	841.980	333558.421	7875278.853	414.762	183°46'45.53"		
IP	847.013	333558.088	7875273.814	414.823		10.065	50.000
	850.000	333557.254	7875270.927	414.842	192°58'11.06"		
CT	852.045	333556.755	7875268.944	414.848	195°18'48.59"		
IP	858.304	333555.102	7875262.907	414.850			

ROAD EDGE LINE SETOUT - CONTINUED

TYPE	CHAINAGE	EASTING	NORTHING	LEVEL	BEARING	LENGTH	RADIUS
IP	860.830	333554.431	7875260.458	414.838		5.052	20.000
IP	863.356	333553.169	7875258.254	414.814			
IP	876.431	333544.707	7875243.470	414.752		26.150	-16.023
CC	889.506	333559.981	7875235.927	414.756	116°16'48.40"		
	900.000	333570.200	7875234.579	414.789	78°45'15.50"		
IP	902.581	333575.255	7875228.385	414.798		26.150	-16.023
IP	915.655	333581.849	7875244.092	414.857			
IP	918.000	333582.783	7875246.317	414.870		4.688	-8.000
CT	920.344	333582.331	7875248.688	414.895	349°11'41.43"		
IP	946.793	333577.373	7875274.668	414.684			
	950.000	333576.862	7875277.834	414.619	352°28'24.69"		
IP	956.594	333575.516	7875284.396	414.486		19.603	56.042
CC	966.396	333577.106	7875294.170	414.289	9°14'11.09"		
IP	977.036	333578.929	7875305.380	414.041		21.281	24.598
CT	987.677	333588.644	7875311.263	413.789	58°48'19.98"		
	1000.000	333599.186	7875317.646	413.396	58°48'19.98"		
	1050.000	333641.956	7875343.543	409.237	58°48'19.98"		
TC	1054.707	333645.983	7875345.981	408.816	58°48'19.98"		
IP	1065.202	333654.994	7875351.437	407.888		20.990	100.000
CC	1075.697	333664.943	7875354.896	406.972	70°49'55.12"		
IP	1093.287	333681.577	7875360.678	405.455		35.179	-300.000
	1100.000	333687.551	7875363.796	404.877	66°11'25.73"		
CT	1110.876	333697.420	7875368.366	403.946	64°06'47.78"		
	1150.000	333732.618	7875385.447	400.561	64°06'47.78"		
TC	1186.571	333765.519	7875401.414	398.600	64°06'47.78"		
IP	1195.620	333773.665	7875405.367	397.894		18.098	-200.000
	1200.000	333777.395	7875407.678	397.508	60°15'57.82"		
CT	1204.669	333781.421	7875410.040	397.098	58°55'43.02"		
TC	1242.481	333813.808	7875429.556	393.726	58°55'43.02"		
	1250.000	333820.306	7875433.339	393.045	60°39'06.73"		
IP	1267.050	333834.921	7875442.277	391.501		49.138	250.000
CC	1291.619	333858.110	7875450.630	389.275	70°11'25.00"		
	1300.000	333866.034	7875453.360	388.518	71°47'27.24"		
IP	1302.655	333868.498	7875454.372	388.278		22.071	300.000
CT	1313.690	333879.132	7875457.340	387.280	74°24'19.96"		
	1350.000	333914.105	7875467.101	384.036	74°24'19.96"		
IP	1357.132	333920.975	7875469.018	383.396			
	1400.000	333962.477	7875479.751	380.131	75°30'03.88"		
TC	1440.307	334001.500	7875489.842	380.280	75°30'03.88"		
	1450.000	334010.943	7875492.024	379.960	78°28'37.89"		
IP	1453.338	334014.137	7875493.110	379.897		26.062	186.607
CC	1466.369	334027.105	7875494.586	379.800	83°30'11.01"		
IP	1474.627	334035.416	7875495.533	379.734		16.516	42.262
IP	1482.885	334043.462	7875493.242	379.550			
IP	1494.657	334055.723	7875489.750	379.198		23.544	24.739
	1500.000	334057.082	7875483.450	379.037	145°31'59.04"		
CT	1506.429	334059.995	7875477.738	378.844	160°25'25.17"		
	1550.000	334074.594	7875436.686	377.536	160°25'25.17"		
	1600.000	334091.347	7875389.576	376.036	160°25'25.17"		
	1650.000	334108.100	7875342.467	374.536	160°25'25.17"		
	1700.000	334124.853	7875295.357	372.693	160°25'25.17"		
	1750.000	334141.606	7875248.247	370.781	160°25'25.17"		
TC	1797.058	334157.374	7875203.909	369.832	160°25'25.17"		
	1800.000	334158.332	7875201.128	369.767	161°33'18.80"		
IP	1811.767	334162.318	7875190.005	369.503		29.418	148.962
CC	1826.476	334164.439	7875175.402	369.174	171°44'18.96"		
IP	1833.611	334165.474	7875168.271	369.019		14.272	42.068
CC	1840.747	334164.077	7875161.203	368.879	191°10'34.01"		
IP	1845.436	334163.096	7875156.233	368.783		9.378	10.000
	1850.000	334158.621	7875154.139	368.699	244°11'25.16"		
IP	1850.126	334158.507	7875154.085	368.697			
IP	1870.631	334128.475	7875140.023	368.494		41.011	-19.903
CC	1891.136	334155.010	7875120.133	368.389	126°51'12.88"		
	1900.000	334163.035	7875116.544	368.371	101°20'15.11"		
IP	1911.642	334181.545	7875100.243	368.375		41.011	-19.903
IP	1932.147	334186.617	7875133.015	368.457			
IP	1934.623	334187.003	7875135.513	368.470		4.952	-10.000
CT	1937.099	334186.156	7875137.895	368.486	340°25'25.17"		
	1950.000	334181.834	7875150.051	368.617	340°25'25.17"		
	2000.000	334165.081	7875197.160	369.549	340°25'25.17"		
	2050.000	334148.327	7875244.270	370.649	340°25'25.17"		
	2100.000	334131.574	7875291.380	372.453	340°25'25.17"		
	2150.000	334114.821	7875338.490	374.357	340°25'25.17"		
	2200.000	334098.068	7875385.600	375.857	340°25'25.17"		
	2250.000	334081.315	7875432.709	377.357	340°25'25.17"		
	2300.000	334064.562	7875479.819	378.857	340°25'25.17"		
TC	2311.395	334060.744	7875490.555	379.198	340°25'25.17"		
IP	2315.807	334059.243	7875494.774	379.335		8.823	-21.000
CC	2320.218	334056.153	7875498.014	379.487	316°21'00.06"		
IP	2322.150	334054.802	7875499.430	379.550		3.864	10.000
CT	2324.082	334054.085	7875501.250	379.614	338°29'22.40"		
IP	2330.937	334051.571	7875507.627	379.838			
IP	2333.513	334050.605	7875510.078	379.923		5.151	10.000
IP	2336.088	334050.972	7875512.687	380.006			
IP	2339.883	334051.511	7875516.518	380.128		7.589	-15.765
CT	2343.677	334050.214	7875520.164	380.283	340°25'25.17"		
	2350.000	334048.096	7875526.121	380.601	340°25'25.17"		
	2400.000	334031.343	7875573.231	383.915	340°25'25.17"		
TC	2421.443	334024.158	7875593.435	383.424	340°25'25.17"		
IP	2431.817	334020.611	7875603.407	383.212		20.747	-42.500
CT	2442.190	334012.802	7875610.552	383.141	312°27'15.38"		
	2450.000	334007.040	7875615.824	383.155	312°27'15.38"		
	2500.000	333970.149	7875649.574	382.565	312°27'15.38"		
	2550.000	333933.258	7875683.324	381.358	312°27'15.38"		
TC	2550.464	333932.916	7875683.637	381.379	312°27'15.38"		
IP	2560.988	333924.901	7875690.969	381.641		21.048	34.527
CC	2571.512	333922.528	7875701.570	382.237	347°22'57.44"		
IP	2581.261	333920.139	7875712.243	381.972		19.497	17.257
CC	2591.009	333928.771	7875718.959	381.434	52°06'49.29"		
	2600.000	333936.246	7875723.941	380.931	60°31'09.23"		
IP	2600.749	333936.523	7875724.991	380.888		19.479	61.286
IP	2610.488	333945.772	7875728.298	380.326	70°19'28.81"		

SEDIMENT BASIN ACCESS 2 SETOUT

TYPE	CHAINAGE	EASTING	NORTHING	LEVEL	BEARING	LENGTH	RADIUS
IP	0.000	334147.585	7875175.788	372.800	344°25'25.17"		
	50.000	334134.159	7875223.952	372.800	344°25'25.17"		
	100.000	334120.733	7875272.115	372.800	344°25'25.17"		
IP	118.200	334115.846	7875289.647	372.800			
IP	118.201	334115.846	7875289.646	372.800			
IP	122.199	334114.496	7875294.489	372.747		7.996	5.206
CC	126.197	334119.289	7875296.008	372.694	72°25'25.17"		
IP	130.195	334124.082	7875297.526	372.641		7.996	5.206
IP	134.193	334125.766	7875292.789	372.588	160°25'25.17"		

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:2500 — Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction

12.5 0 12.5 25.0 37.5 50.0 62.5 m

DESIGNER

OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT

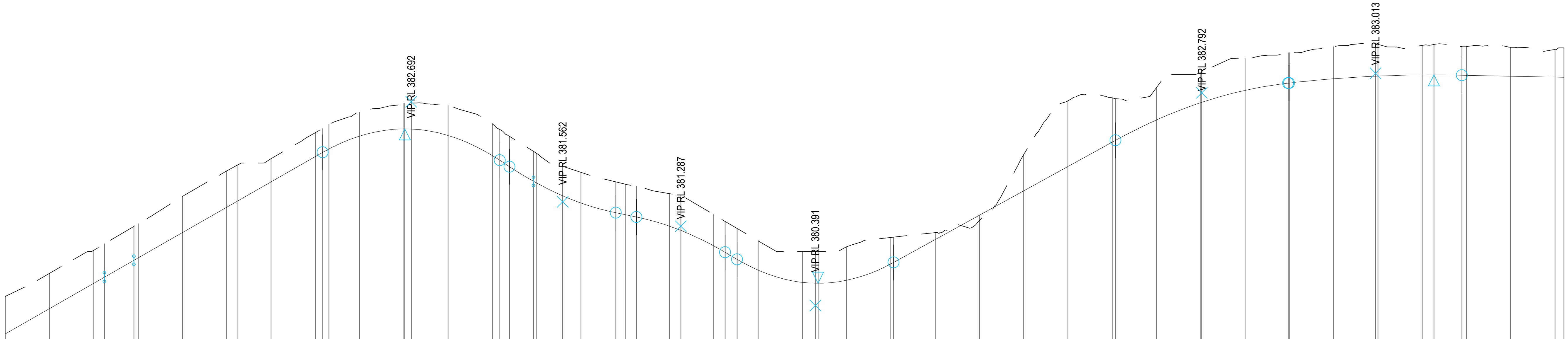
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT
MT FULLSTOP QUARRY - GREGORY DEVELOPMENT
ROAD. INTERSECTION UPGRADE

TITLE
SETOUT PLAN

DRAWN: DM | DRAWING CHECK: AMcP | APPROVED
DESIGNED: DM | DESIGN REVIEW: AMcP | DATE -

SCALE (Scale as shown) | DRAWING No 25350-C104 | REV B



HORIZONTAL CURVE DATA: R -120 | R -59.15 | R -32.24 | R -16

VERTICAL CURVE LENGTH (m) / VERTICAL CURVE RADIUS (m): VC 20, R 162.38 | VC 12, R 264.33 | VC 10, R 260.99 | VC 17.66, R 155 | VC 19.5, R 445.81 | VC 19.5, R 1452.02

VERTICAL GEOMETRY GRADE (%) / VERTICAL GEOMETRY LENGTH (m): 5.7%, 50.84 | -6.6%, 17.1 | -2.1%, 13.34 | -5.9%, 15.2 | 5.5%, 43.64 | 1.1%, 19.62 | -0.2%, 36.59

DATUM RL = 378.700

CONTROL LINE CHAINAGE	FINISHED SURFACE LEVEL	EXISTING SURFACE LEVEL	CUT / FILL DEPTH
0	380.072	380.495	-0.422
5	380.358	380.756	-0.398
10	380.644	381.016	-0.373
11.189	380.712	381.088	-0.376
14.513	380.902	381.286	-0.384
15	380.930	381.314	-0.385
20	381.215	381.622	-0.407
25	381.501	381.912	-0.411
26.167	381.568	381.976	-0.408
30	381.787	382.049	-0.262
35	382.072	382.344	-0.271
35.837	382.120	382.388	-0.268
36.53	382.158	382.435	-0.277
40	382.305	382.572	-0.267
45	382.385	382.674	-0.289
45.115	382.385	382.675	-0.290
45.837	382.384	382.683	-0.300
50	382.312	382.649	-0.337
55	382.084	382.447	-0.363
55.837	382.031	382.384	-0.352
56.938	381.959	382.302	-0.343
59.659	381.793	382.132	-0.339
60	381.774	382.109	-0.334
62.938	381.630	381.964	-0.334
65	381.549	381.895	-0.346
68.938	381.439	381.787	-0.349
70	381.417	381.761	-0.344
71.276	381.390	381.738	-0.348
75	381.287	381.655	-0.368
76.276	381.239	381.637	-0.398
80	381.064	381.418	-0.353
81.276	380.992	381.342	-0.350
82.64	380.912	381.262	-0.350
85	380.791	381.123	-0.332
90	380.653	381.000	-0.347
91.471	380.643	381.000	-0.357
91.777	380.643	381.000	-0.357
95	380.676	381.054	-0.377
100	380.861	381.160	-0.299
100.302	380.877	381.163	-0.286
105	381.135	381.215	-0.079
110	381.410	381.349	0.061
115	381.685	382.096	-0.411
120	381.960	382.702	-0.742
125	382.235	382.736	-0.501
125.365	382.256	382.727	-0.471
130	382.486	382.852	-0.365
135	382.681	383.026	-0.344
135.115	382.685	383.031	-0.346
140	382.820	383.186	-0.366
144.865	382.902	383.245	-0.344
144.983	382.903	383.245	-0.342
145	382.903	383.245	-0.342
150	382.951	383.313	-0.362
154.733	382.980	383.348	-0.368
155	382.981	383.340	-0.359
160	382.994	383.328	-0.334
161.332	382.995	383.339	-0.344
164.483	382.992	383.314	-0.322
165	382.990	383.314	-0.323
170	382.980	383.306	-0.327
175	382.969	383.280	-0.311
176	382.967	383.301	-0.334

A3 SCALE: H 1:500, V 1:50

LONGITUDINAL SECTION INTERNAL ROAD 1

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:500 H 1:50 V | Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction: 2.5 0 2.5 5.0 7.5 10.0 12.5 m; 0.25 0 0.25 0.50 0.75 1.00 1.25 m

DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

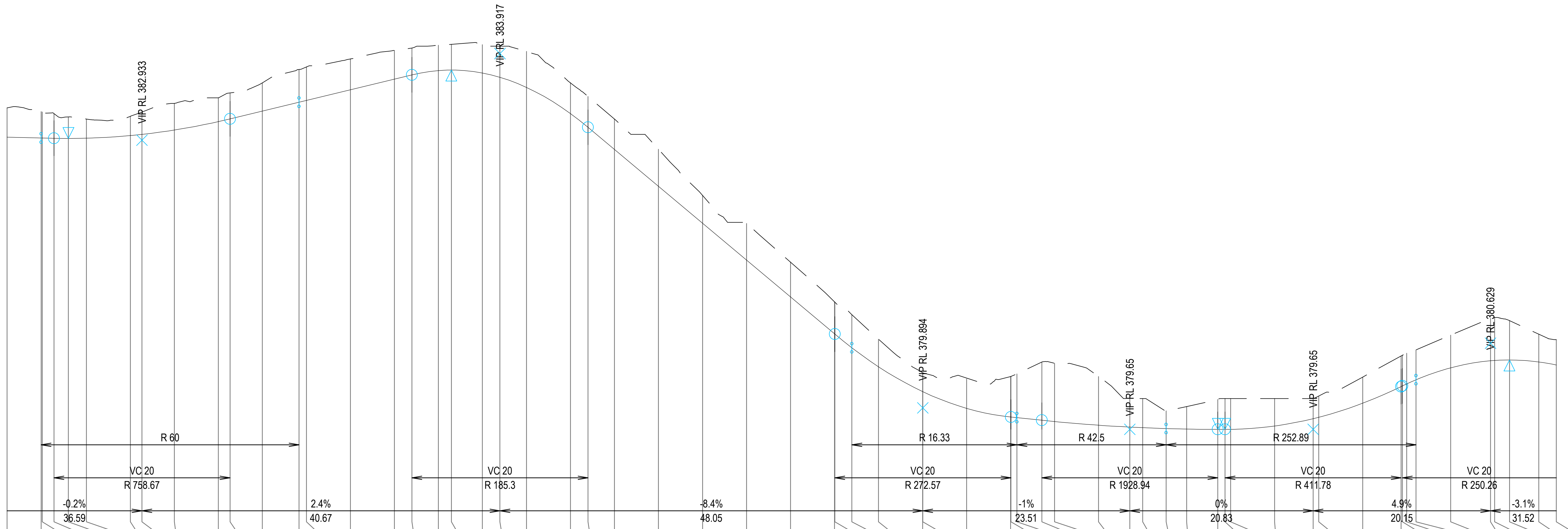
CLIENT
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN: DM | DRAWING CHECK: AMcP | APPROVED
DESIGNED: DM | DESIGN REVIEW: AMcP | DATE -

TITLE: LONGITUDINAL SECTION - INTERNAL ROAD 1
SHEET 1 OF 5

SCALE (Scale as shown) | DRAWING No 25350-C105 | REV B



DATUM RL = 378.300

FINISHED SURFACE LEVEL	382.967	382.958	382.958	382.955	382.953	382.956	382.986	382.999	383.049	383.144	383.175	383.264	383.365	383.385	383.506	383.627
EXISTING SURFACE LEVEL	383.301	383.257	383.254	383.232	383.192	383.174	383.204	383.249	383.352	383.415	383.466	383.585	383.735	383.765	383.856	383.953
CUT / FILL DEPTH	-0.334	-0.299	-0.296	-0.277	-0.239	-0.218	-0.219	-0.249	-0.303	-0.271	-0.291	-0.320	-0.370	-0.380	-0.350	-0.326
CONTROL LINE CHAINAGE	176	179.866	180	181.32	182.967	185	190	191.32	195	200	201.32	205	209.155	210	215	220

FINISHED SURFACE LEVEL	383.675	383.724	383.730	383.696	383.647	383.533	383.236	383.080	382.828	382.409	381.990	381.572	381.153	380.734	380.731	380.576
EXISTING SURFACE LEVEL	383.980	384.011	384.022	384.017	384.000	383.942	383.585	383.430	383.174	382.831	382.307	381.989	381.549	381.099	381.095	380.953
CUT / FILL DEPTH	-0.305	-0.287	-0.293	-0.321	-0.353	-0.409	-0.349	-0.350	-0.346	-0.422	-0.316	-0.417	-0.396	-0.364	-0.364	-0.377
CONTROL LINE CHAINAGE	221.99	225	226.473	230	231.99	235	240	241.99	245	250	255	260	265	270	270.035	271.976

FINISHED SURFACE LEVEL	380.361	380.079	380.077	379.889	379.790	379.790	379.783	379.754	379.739	379.698	379.676	379.669	379.659	379.653	379.650	379.650
EXISTING SURFACE LEVEL	380.672	380.292	380.291	380.221	380.250	380.252	380.280	380.410	380.399	380.250	380.000	380.000	379.859	379.908	379.990	380.000
CUT / FILL DEPTH	-0.311	-0.214	-0.214	-0.332	-0.460	-0.461	-0.497	-0.656	-0.660	-0.553	-0.324	-0.331	-0.200	-0.255	-0.340	-0.350
CONTROL LINE CHAINAGE	275	280	280.035	285	290	290.035	290.729	293.547	295	300	303.547	305	307.673	310	313.547	314.373

FINISHED SURFACE LEVEL	379.650	379.688	379.771	379.787	379.947	380.136	380.143	380.166	380.213	380.349	380.429	380.432	380.438	380.416	380.381
EXISTING SURFACE LEVEL	380.000	380.000	380.000	380.024	380.243	380.482	380.490	380.514	380.553	380.720	380.909	380.921	380.885	380.731	380.670
CUT / FILL DEPTH	-0.350	-0.312	-0.229	-0.237	-0.297	-0.347	-0.348	-0.348	-0.340	-0.371	-0.480	-0.489	-0.447	-0.315	-0.288
CONTROL LINE CHAINAGE	315	320	324.373	325	330	334.373	334.522	335	336.058	340	344.522	345	346.677	350	352

A3 SCALE: H 1:500, V 1:50

LONGITUDINAL SECTION INTERNAL ROAD 1

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:500 H 1:50 V — Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction
2.5 0 2.5 5.0 7.5 10.0 12.5 m
0.25 0 0.25 0.50 0.75 1.00 1.25 m

DESIGNER: OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

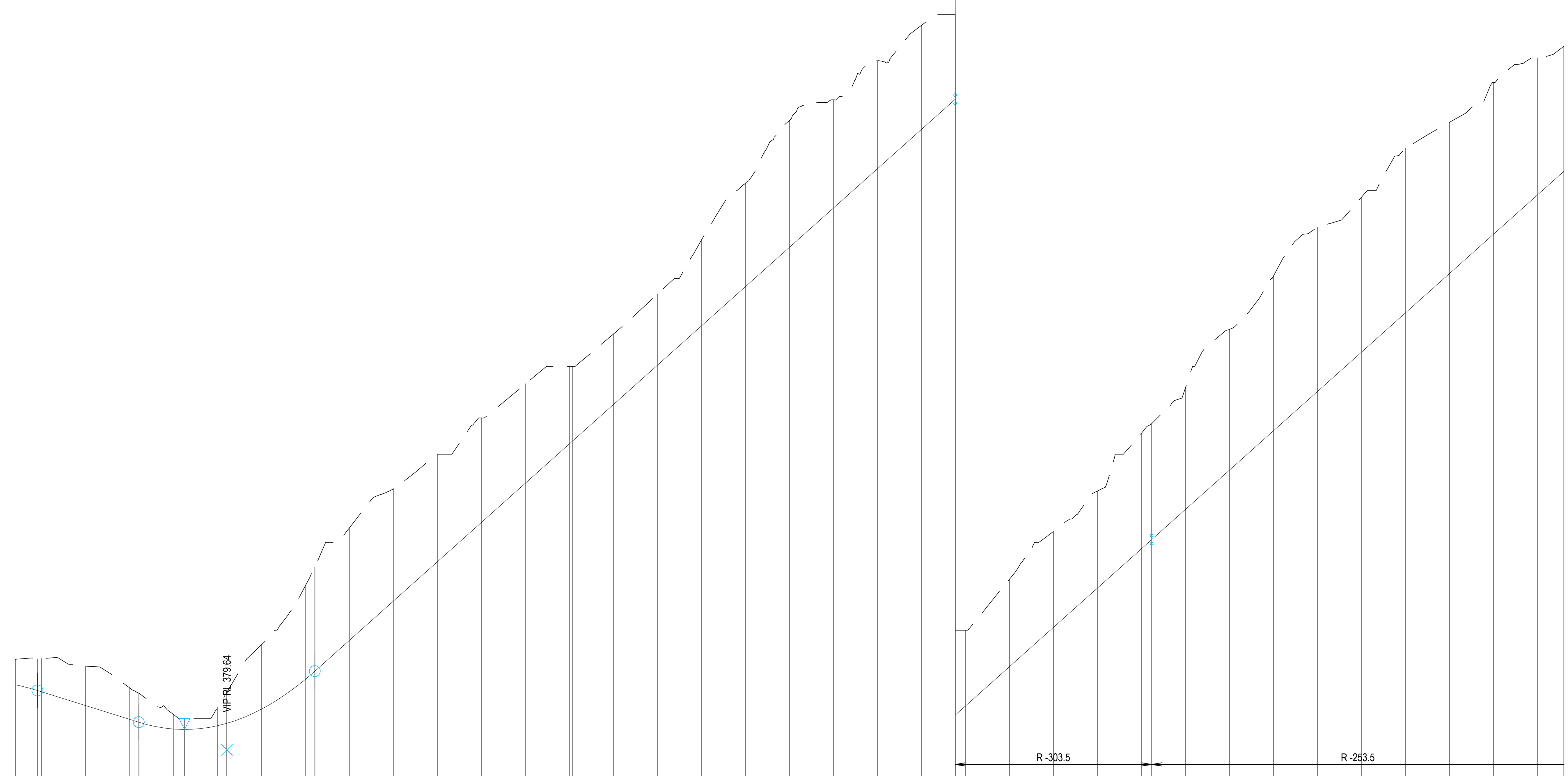
CLIENT: BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

TITLE: LONGITUDINAL SECTION - INTERNAL ROAD 1
SHEET 2 OF 5

SCALE (Scale as shown) — DRAWING No 25350-C106 — REV B



HORIZONTAL CURVE DATA: R -303.5; R -253.5

VERTICAL CURVE LENGTH (m): VC 20; VC 20
VERTICAL CURVE RADIUS (m): R 250.26; R 165.72

VERTICAL GEOMETRY GRADE (%): -3.1%; 8.9%
VERTICAL GEOMETRY LENGTH (m): 31.52; 214.21

DATUM RL = 378.300 | 385.300

CONTROL LINE CHAINAGE	FINISHED SURFACE LEVEL	EXISTING SURFACE LEVEL	CUT / FILL DEPTH
352	380.381	380.670	-0.288
354.522	380.315	380.672	-0.357
355	380.300	380.676	-0.376
360	380.143	380.593	-0.450
365	379.987	380.345	-0.358
366.045	379.954	380.284	-0.330
370	379.877	380.042	-0.165
371.24	379.872	380.000	-0.128
375	379.915	380.124	-0.208
376.045	379.942	380.294	-0.352
380	380.104	380.837	-0.733
385	380.444	381.512	-1.068
386.045	380.534	381.720	-1.187
390	380.887	382.167	-1.280
395	381.334	382.608	-1.274
400	381.781	383.000	-1.219
405	382.227	383.413	-1.185
410	382.674	383.802	-1.128
415	383.121	384.000	-0.879
415.342	383.151	384.000	-0.849
420	383.567	384.368	-0.801
425	384.014	384.823	-0.809
430	384.461	385.440	-0.979
435	384.907	386.084	-1.176
440	385.354	386.798	-1.444
445	385.801	387.029	-1.228
450	386.247	387.473	-1.225
455	386.694	387.877	-1.182
458.817	387.035	388.000	-0.965
460	387.141	388.000	-0.859
465	387.588	388.576	-0.989
470	388.034	389.124	-1.089
475	388.481	389.573	-1.092
480	388.928	390.243	-1.315
481.146	389.030	390.348	-1.318
485	389.374	390.759	-1.385
490	389.821	391.418	-1.597
495	390.268	392.027	-1.759
500	390.714	392.582	-1.868
505	391.161	392.917	-1.756
510	391.608	393.481	-1.873
515	392.054	393.769	-1.715
520	392.501	394.226	-1.725
525	392.948	394.502	-1.554
528	393.216	394.639	-1.423

A3 SCALE: H 1:500, V 1:50

LONGITUDINAL SECTION INTERNAL ROAD 1

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:500 H 1:50 V — Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction: 2.5 0 2.5 5.0 7.5 10.0 12.5 m; 0.25 0 0.25 0.50 0.75 1.00 1.25 m

DESIGNER: OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

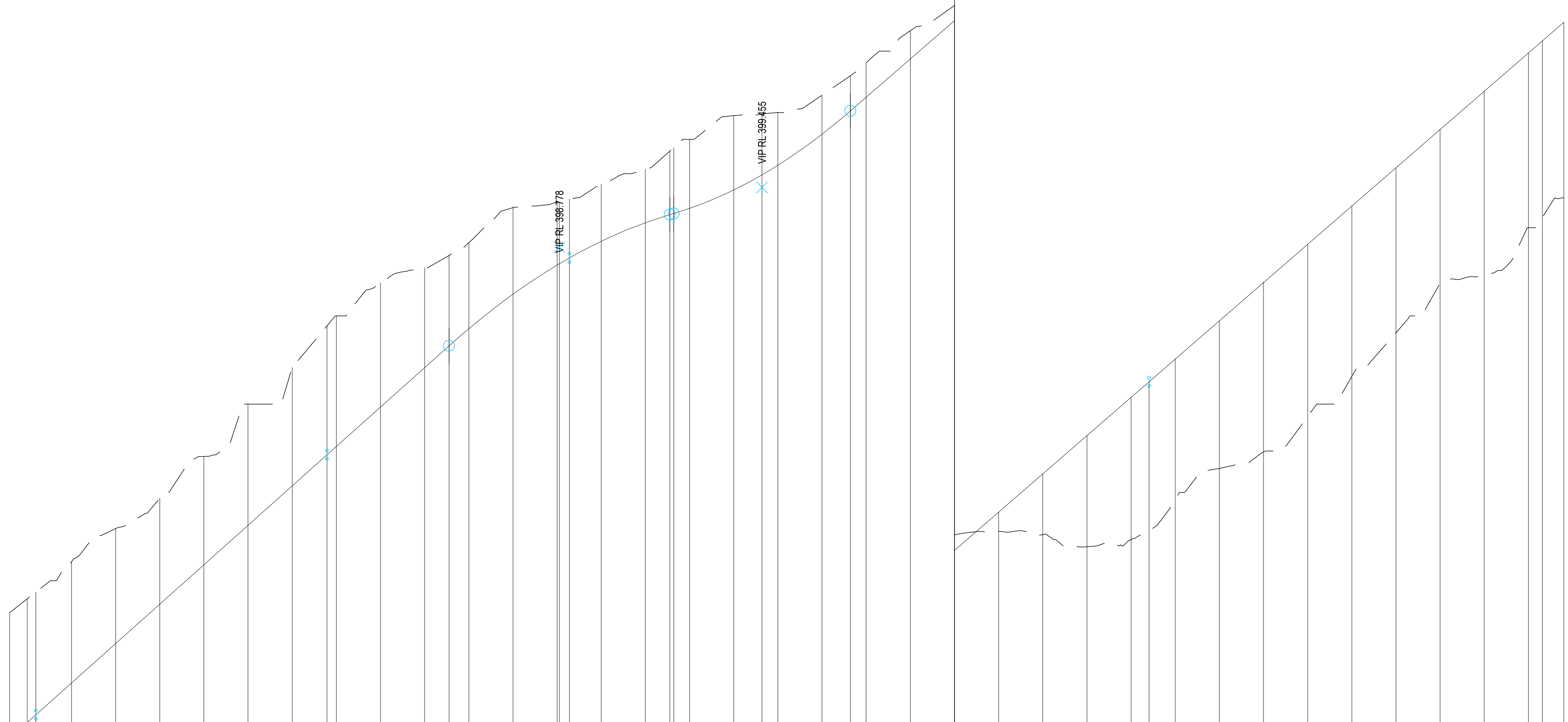
CLIENT: BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN: DM | DRAWING CHECK: AMcP | APPROVED
DESIGNED: DM | DESIGN REVIEW: AMcP | DATE -

TITLE: LONGITUDINAL SECTION - INTERNAL ROAD 1
SHEET 3 OF 5

SCALE: (Scale as shown) | DRAWING No: 25350-C107 | REV: B



HORIZONTAL CURVE DATA: R -253.5 | R 303.5 | R 403.5 | R -110

VERTICAL CURVE LENGTH (m) / VERTICAL CURVE RADIUS (m): VC 25, R 417.93 | VC 20, R 349.86

VERTICAL GEOMETRY GRADE (%) / VERTICAL GEOMETRY LENGTH (m): 8.9%, 214.21 | 3%, 22.95 | 8.7%, 159.6

DATUM RL = 391.900 (397.900 from chainage 640)

CONTROL LINE CHAINAGE	FINISHED SURFACE LEVEL	EXISTING SURFACE LEVEL	CUT / FILL DEPTH
528	393.216	394.639	-1.423
530	393.395	394.795	-1.400
530.972	393.481	394.871	-1.390
535	393.841	395.213	-1.372
540	394.288	395.591	-1.303
545	394.735	395.933	-1.198
550	395.181	396.408	-1.227
555	395.628	397.000	-1.372
560	396.075	397.416	-1.342
563.94	396.427	397.887	-1.461
565	396.521	398.000	-1.479
570	396.968	398.372	-1.404
575	397.415	398.542	-1.127
577.758	397.661	398.687	-1.026
580	397.855	398.831	-0.976
585	398.245	399.232	-0.987
590	398.576	399.288	-0.712
590.258	398.591	399.289	-0.698
591.404	398.657	399.324	-0.666
595	398.846	399.492	-0.646
600	399.056	399.661	-0.604
602.758	399.147	399.865	-0.718
603.207	399.160	399.905	-0.745
605	399.218	400.000	-0.782
610	399.427	400.268	-0.842
613.207	399.598	400.286	-0.687
615	399.707	400.303	-0.596
620	400.059	400.500	-0.441
623.207	400.322	400.720	-0.398
625	400.478	400.868	-0.391
630	400.911	401.231	-0.320
635	401.345	401.516	-0.171
640	401.778	401.558	0.220
645	402.211	401.524	0.687
650	402.645	401.385	1.260
655	403.078	401.466	1.612
657.044	403.255	401.565	1.690
660	403.512	401.914	1.597
665	403.945	402.275	1.670
670	404.379	402.458	1.920
675	404.812	402.864	1.948
680	405.245	403.316	1.929
685	405.679	403.811	1.868
690	406.112	404.371	1.742
695	406.546	404.459	2.086
700	406.979	405.000	1.979
701.577	407.116	405.116	1.999
704	407.326	405.340	1.986

A3 SCALE: H 1:500, V 1:50

LONGITUDINAL SECTION INTERNAL ROAD 1

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:500 H 1:50 V — Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction: 2.5 0 2.5 5.0 7.5 10.0 12.5 m / 0.25 0 0.25 0.50 0.75 1.00 1.25 m

DESIGNER: OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

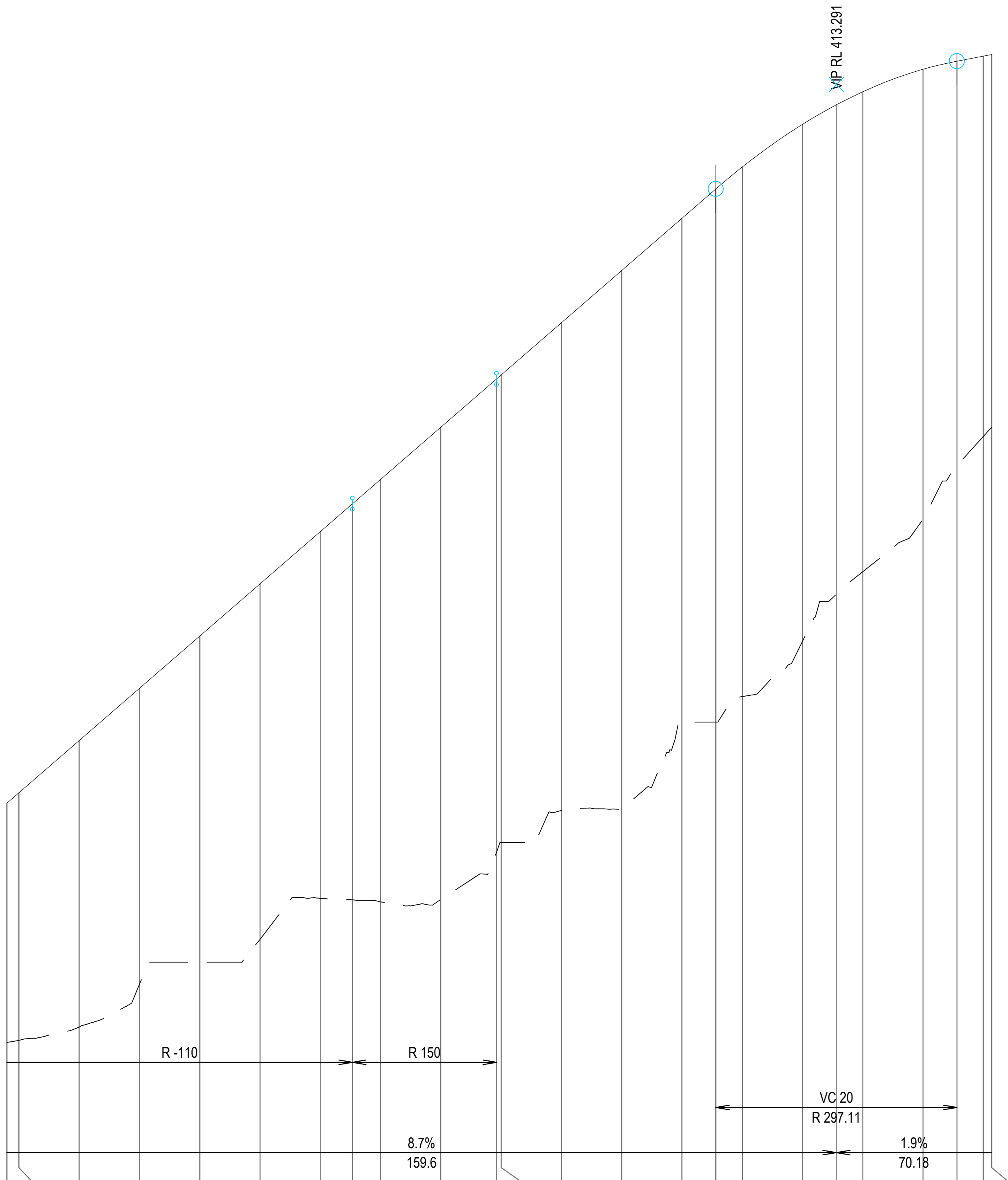
CLIENT: BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN: DM | DRAWING CHECK: AMcP | APPROVED:
DESIGNED: DM | DESIGN REVIEW: AMcP | DATE -

TITLE: LONGITUDINAL SECTION - INTERNAL ROAD 1
SHEET 4 OF 5

SCALE: (Scale as shown) | DRAWING No: 25350-C108 | REV: B



HORIZONTAL CURVE DATA

VERTICAL CURVE LENGTH (m)
VERTICAL CURVE RADIUS (m)
VERTICAL GEOMETRY GRADE (%)
VERTICAL GEOMETRY LENGTH (m)

DATUM RL = 404.000

FINISHED SURFACE LEVEL	407.326	407.413	407.846	408.279	408.713	409.146	409.580	409.811	410.013	410.447	410.847
EXISTING SURFACE LEVEL	405.340	405.358	405.468	405.820	406.000	406.195	406.536	406.523	406.511	406.527	406.920
CUT / FILL DEPTH	1.986	2.055	2.378	2.459	2.713	2.951	3.044	3.288	3.502	3.919	3.927
CONTROL LINE CHAINAGE	704	705	710	715	720	725	730	732.67	735	740	744.619

FINISHED SURFACE LEVEL	410.880	411.313	411.747	412.180	412.424	412.606	412.960	413.122	413.230	413.417	413.484	413.527	413.540
EXISTING SURFACE LEVEL	407.000	407.267	407.275	408.000	408.000	408.211	408.670	409.061	409.247	409.684	410.125	410.371	410.447
CUT / FILL DEPTH	3.880	4.047	4.472	4.180	4.424	4.395	4.290	4.062	3.983	3.733	3.359	3.156	3.093
CONTROL LINE CHAINAGE	745	750	755	760	762.807	765	770	772.807	775	780	782.807	785	785.685

A3 SCALE: H 1:500, V 1:50

LONGITUDINAL SECTION INTERNAL ROAD 1

B 12.03.26 REVISED SUBMISSION FOR APPROVAL
A 12.02.26 FOR APPROVAL
REV DATE REVISION NOTES

SCALE 1:500 H 1:50 V
Orig. Sheet A3
DO NOT SCALE DRAWINGS
Scales Before Reduction
2.5 0 2.5 5.0 7.5 10.0 12.5 m
0.25 0 0.25 0.50 0.75 1.00 1.25 m

DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

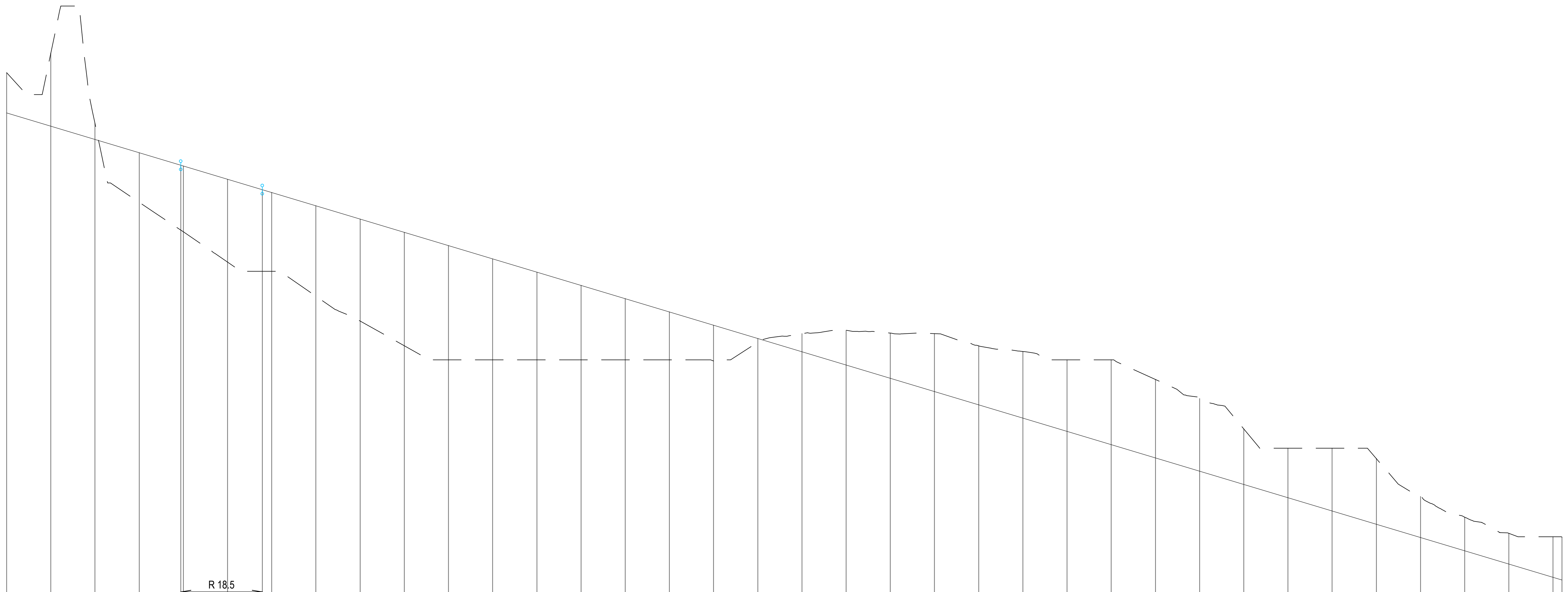
CLIENT
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT
MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN DM
DRAWING CHECK AMcP
APPROVED
DESIGNED DM
DESIGN REVIEW AMcP
DATE -

TITLE
LONGITUDINAL SECTION - INTERNAL ROAD 1
SHEET 5 OF 5

SCALE (Scale as shown)
DRAWING No 25350-C109
REV B



HORIZONTAL CURVE DATA — R 18.5 (Ch 19.718 to 28.928)

VERTICAL CURVE LENGTH (m)
VERTICAL CURVE RADIUS (m)

VERTICAL GEOMETRY GRADE (%) — -3%
VERTICAL GEOMETRY LENGTH (m) — 200

DATUM RL = 373.200

CONTROL LINE CHAINAGE	0	5	10	15	19.718	20	25	28.928	30	35	40	45	50
FINISHED SURFACE LEVEL	379.791	379.641	379.491	379.341	379.200	379.191	379.041	378.923	378.891	378.741	378.591	378.441	378.291
EXISTING SURFACE LEVEL	380.247	380.468	379.673	378.782	378.466	378.447	378.105	378.000	378.000	377.719	377.440	377.159	377.000
CUT / FILL DEPTH	-0.456	-0.827	-0.182	0.559	0.733	0.744	0.937	0.923	0.891	1.022	1.151	1.282	1.291

CONTROL LINE CHAINAGE	55	60	65	70	75	80	85	90	95	100	105	110	115
FINISHED SURFACE LEVEL	378.141	377.991	377.841	377.691	377.541	377.391	377.241	377.091	376.941	376.791	376.641	376.491	376.341
EXISTING SURFACE LEVEL	377.000	377.000	377.000	377.000	377.000	376.986	377.198	377.295	377.334	377.303	377.297	377.158	377.094
CUT / FILL DEPTH	1.141	0.991	0.841	0.691	0.541	0.405	0.043	-0.204	-0.392	-0.511	-0.656	-0.667	-0.753

CONTROL LINE CHAINAGE	120	125	130	135	140	145	150	155	160	165	170	175	176
FINISHED SURFACE LEVEL	376.191	376.041	375.891	375.741	375.591	375.441	375.291	375.141	374.991	374.841	374.691	374.541	374.511
EXISTING SURFACE LEVEL	377.000	377.000	376.777	376.562	376.218	376.000	376.000	375.883	375.454	375.220	375.038	375.000	374.996
CUT / FILL DEPTH	-0.809	-0.959	-0.886	-0.821	-0.627	-0.559	-0.709	-0.742	-0.463	-0.379	-0.346	-0.459	-0.485

A3 SCALE: H 1:500, V 1:50

LONGITUDINAL SECTION INTERNAL ROAD 2

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:500 H, 1:50 V — Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction: 2.5 0 2.5 5.0 7.5 10.0 12.5 m / 0.25 0 0.25 0.50 0.75 1.00 1.25 m

DESIGNER: OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

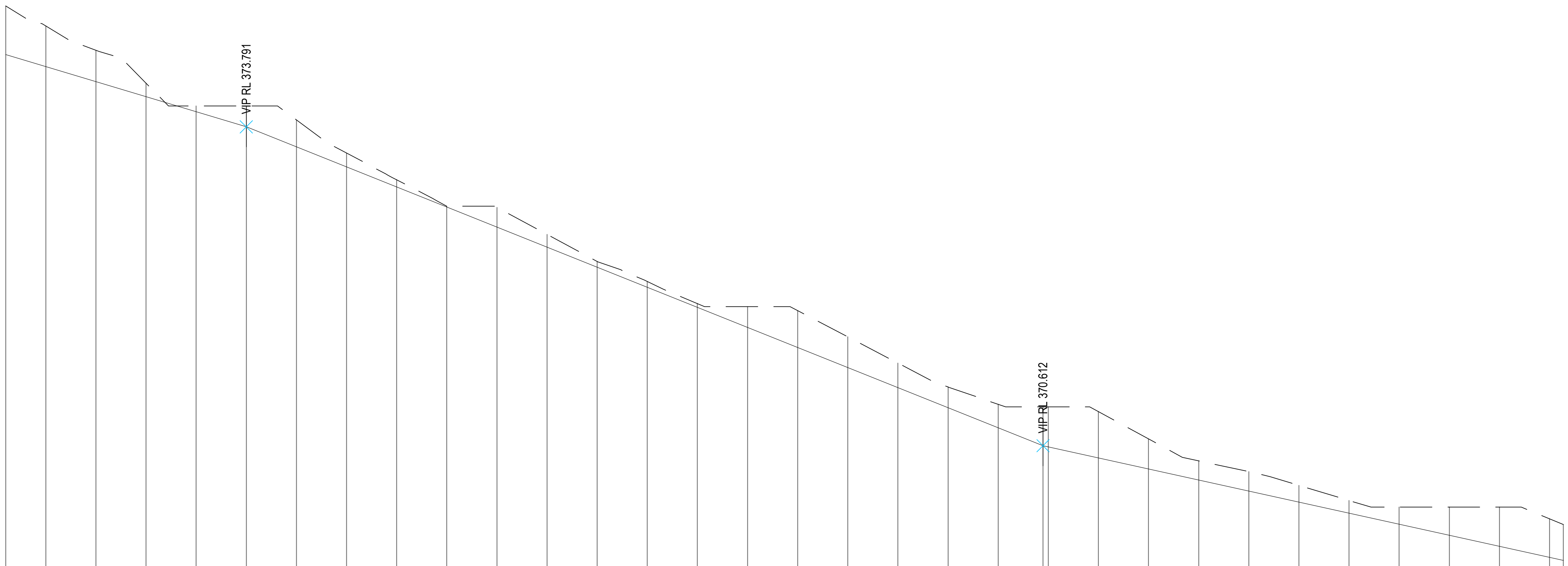
CLIENT: BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN: DM | DRAWING CHECK: AMcP | APPROVED
DESIGNED: DM | DESIGN REVIEW: AMcP | DATE -

TITLE: LONGITUDINAL SECTION - INTERNAL ROAD 2
SHEET 1 OF 2

SCALE: (Scale as shown) | DRAWING No: 25350-C110 | REV: B



HORIZONTAL CURVE DATA

VERTICAL CURVE LENGTH (m)
VERTICAL CURVE RADIUS (m)

VERTICAL GEOMETRY GRADE (%)	-3%	-4%	-2.2%
VERTICAL GEOMETRY LENGTH (m)	200	79.47	151.95

DATUM RL = 368.100

CONTROL LINE CHAINAGE	176	180	185	190	195	200	205	210	215	220	225	230
FINISHED SURFACE LEVEL	374.511	374.391	374.241	374.091	373.941	373.791	373.591	373.391	373.191	372.991	372.791	372.591
EXISTING SURFACE LEVEL	374.996	374.797	374.554	374.227	374.000	374.000	373.861	373.530	373.264	373.000	372.988	372.719
CUT / FILL DEPTH	-0.485	-0.406	-0.313	-0.136	-0.059	-0.209	-0.270	-0.139	-0.073	-0.009	-0.197	-0.128

CONTROL LINE CHAINAGE	235	240	245	250	255	260	265	270	275	279.467	280	285
FINISHED SURFACE LEVEL	372.391	372.191	371.991	371.791	371.591	371.391	371.191	370.991	370.791	370.612	370.601	370.491
EXISTING SURFACE LEVEL	372.450	372.250	372.030	372.000	371.960	371.698	371.436	371.198	371.026	371.000	371.000	370.953
CUT / FILL DEPTH	-0.059	-0.058	-0.039	-0.209	-0.369	-0.307	-0.245	-0.207	-0.234	-0.388	-0.399	-0.462

CONTROL LINE CHAINAGE	290	295	300	305	310	315	320	325	330	331.382
FINISHED SURFACE LEVEL	370.381	370.271	370.161	370.051	369.941	369.831	369.721	369.611	369.501	369.470
EXISTING SURFACE LEVEL	370.680	370.461	370.355	370.218	370.066	370.000	370.000	370.000	369.885	369.828
CUT / FILL DEPTH	-0.300	-0.191	-0.194	-0.167	-0.126	-0.169	-0.279	-0.389	-0.384	-0.357

A3 SCALE: H 1:500, V 1:50

LONGITUDINAL SECTION INTERNAL ROAD 2

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:500 H 1:50 V — Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction 2.5 0 2.5 5.0 7.5 10.0 12.5 m / 0.25 0 0.25 0.50 0.75 1.00 1.25 m

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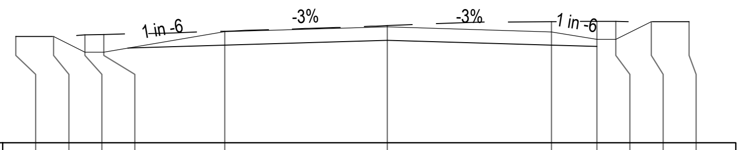
CLIENT: BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN: DM | DRAWING CHECK: AMcP | APPROVED
DESIGNED: DM | DESIGN REVIEW: AMcP | DATE -

TITLE: LONGITUDINAL SECTION - INTERNAL ROAD 2 SHEET 2 OF 2

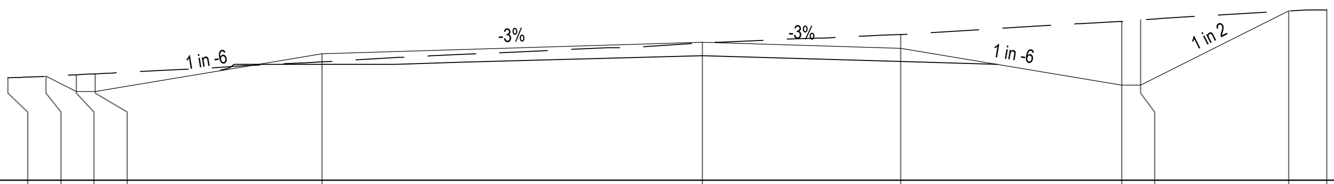
SCALE: (Scale as shown) | DRAWING No: 25350-C111 | REV: B



DATUM RL 378.200

FINISHED SURFACE LEVEL		381.000	380.588	380.588	381.123	381.252	381.121	380.921	380.921	381.389	
SUBGRADE LEVEL					380.773	380.902	380.771	380.735			
EXISTING SURFACE LEVEL	381.000	381.000	381.039	381.051	381.138	381.286	381.390	381.397	381.393	381.389	381.388
OFFSET	-9.827	-8.827	-8.003	-7.503	-4.296	0.000	4.346	5.546	6.046	6.982	7.982

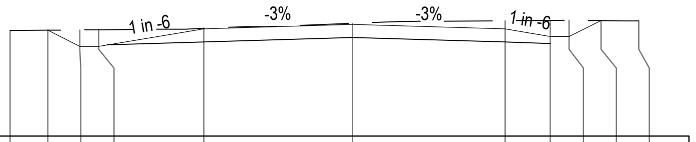
CH 14.513



DATUM RL 378.500

FINISHED SURFACE LEVEL		381.244	380.841	380.841	381.841	382.143	381.985	381.010	381.010	382.972	
SUBGRADE LEVEL					381.560	381.793	381.635				
EXISTING SURFACE LEVEL	381.205	381.244	381.284	381.311	381.626	382.132	382.352	382.696	382.734	382.972	383.000
OFFSET	-18.378	-17.378	-16.571	-16.071	-10.071	0.000	5.250	11.100	11.600	15.524	16.524

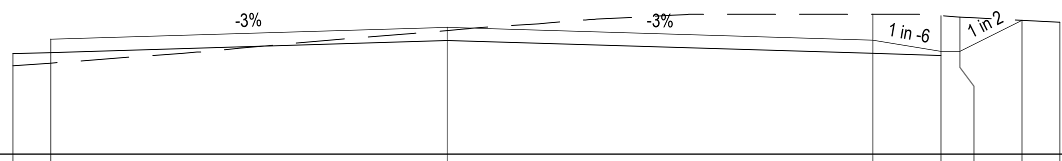
CH 59.659



DATUM RL 378.100

FINISHED SURFACE LEVEL		380.905	380.480	380.480	380.944	381.062	380.941	380.741	380.741	381.162	
SUBGRADE LEVEL					380.594	380.712	380.591	380.555			
EXISTING SURFACE LEVEL	380.896	380.905	380.912	380.916	380.955	381.088	381.157	381.165	381.167	381.162	381.157
OFFSET	-9.068	-8.068	-7.218	-6.718	-3.932	0.000	4.036	5.236	5.736	6.578	7.578

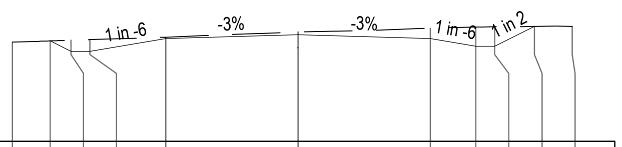
CH 11.189



DATUM RL 379.300

FINISHED SURFACE LEVEL		382.340	382.655	382.317	382.016	382.016	382.839	
SUBGRADE LEVEL	381.960	381.990	382.305	381.967	381.913			
EXISTING SURFACE LEVEL	381.635	381.709	382.572	383.000	382.963	382.929	382.839	382.794
OFFSET	-11.493	-10.493	0.000	11.249	13.053	13.553	15.197	16.197

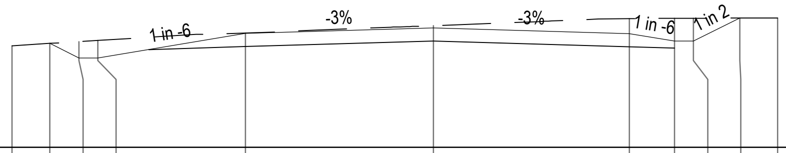
CH 40.000



DATUM RL 377.600

FINISHED SURFACE LEVEL		380.259	379.984	379.984	380.318	380.423	380.318	380.118	380.118	380.642	
SUBGRADE LEVEL						380.072		379.932			
EXISTING SURFACE LEVEL	380.224	380.259	380.276	380.292	380.368	380.495	380.594	380.624	380.631	380.642	380.646
OFFSET	-7.550	-6.550	-6.000	-5.500	-3.500	0.000	3.500	4.700	5.200	6.249	7.249

CH 0.000



DATUM RL 378.400

FINISHED SURFACE LEVEL		381.152	380.766	380.766	381.416	381.565	381.410	381.210	381.210	381.822	
SUBGRADE LEVEL					381.066	381.215	381.060	381.024			
EXISTING SURFACE LEVEL	381.091	381.152	381.199	381.230	381.426	381.622	381.807	381.813	381.816	381.822	381.820
OFFSET	-11.142	-10.142	-9.369	-8.869	-4.966	0.000	5.179	6.379	6.879	8.104	9.104

CH 20.000

B 12.03.26 REVISED SUBMISSION FOR APPROVAL
A 12.02.26 FOR APPROVAL
REV DATE REVISION NOTES

SCALE 1:200 | Orig. Sheet A3
DO NOT SCALE DRAWINGS
Scales Before Reduction
1 0 1 2 3 4 5 m

DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

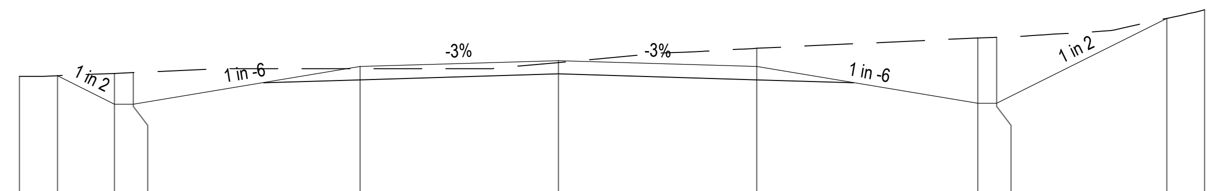
CLIENT
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT
MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN DM | DRAWING CHECK AMcP | APPROVED
DESIGNED DM | DESIGN REVIEW AMcP | DATE -

TITLE
INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 1 OF 17

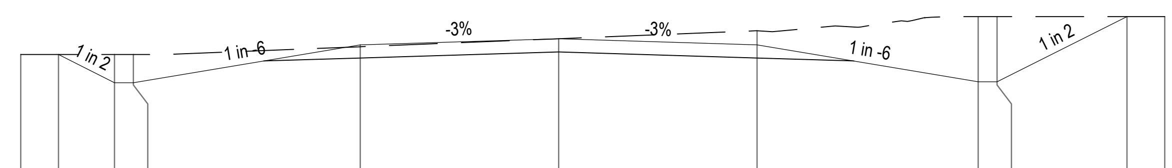
SCALE (Scale as shown) | DRAWING No 25350-C112 | REV B



DATUM RL 377.700

FINISHED SURFACE LEVEL		380.810	380.053	380.053	381.053	381.211	381.053	380.078	380.078	382.329	
SUBGRADE LEVEL					380.703	380.861	380.703				
EXISTING SURFACE LEVEL	380.789	380.810	380.873	380.895	381.000	381.160	381.535	381.807	381.828	382.329	382.550
OFFSET	-14.264	-13.264	-11.750	-11.250	-5.250	0.000	5.250	11.100	11.600	16.101	17.101

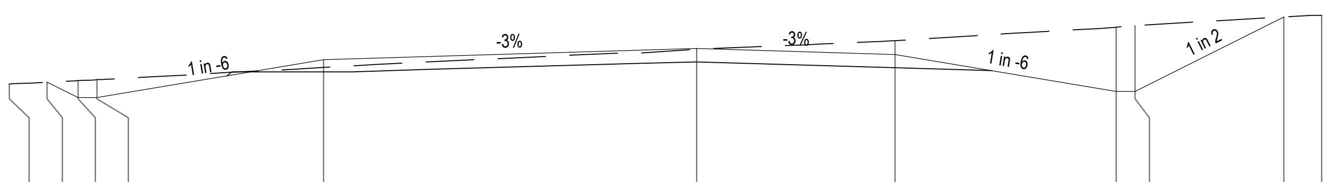
CH 100.000



DATUM RL 377.900

FINISHED SURFACE LEVEL		381.000	380.257	380.257	381.257	381.414	381.257	380.282	380.282	382.000	
SUBGRADE LEVEL					380.907	381.064	380.907				
EXISTING SURFACE LEVEL	381.000	381.000	381.000	381.000	381.208	381.418	381.624	382.000	382.000	382.000	382.000
OFFSET	-14.236	-13.236	-11.750	-11.250	-5.250	0.000	5.250	11.100	11.600	15.036	16.036

CH 80.000



DATUM RL 378.500

FINISHED SURFACE LEVEL		381.235	380.828	380.828	381.828	382.124	381.967	380.992	380.992	382.959	
SUBGRADE LEVEL					381.509	381.774	381.617				
EXISTING SURFACE LEVEL	381.190	381.235	381.277	381.302	381.626	382.109	382.333	382.689	382.727	382.959	383.000
OFFSET	-18.186	-17.186	-16.372	-15.872	-9.872	0.000	5.250	11.100	11.600	15.534	16.534

CH 60.000

B 12.03.26 REVISED SUBMISSION FOR APPROVAL
A 12.02.26 FOR APPROVAL
REV DATE REVISION NOTES

SCALE 1:200 | Orig. Sheet A3
DO NOT SCALE DRAWINGS
Scales Before Reduction
1 0 1 2 3 4 5 m

DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT
BOLWARRA ENTERPRISES
CRUSHING & SCREENING

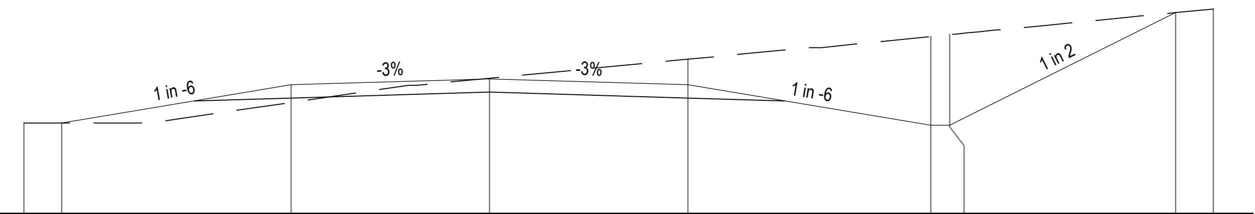
PROJECT
MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN DM | DRAWING CHECK AMcP | APPROVED
DESIGNED DM | DESIGN REVIEW AMcP | DATE -

TITLE
INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 2 OF 17

SCALE (Scale as shown) | DRAWING No 25350-C113 | REV B

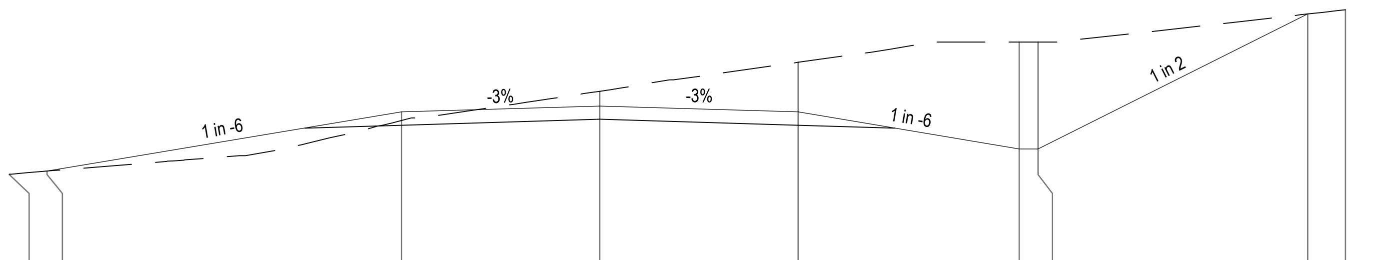
Docs\Projects\2026\25350 Mt Fullstop Quarry Entrance\Drawings\Working\25350_DESIGN_INTERNAL ROAD.dwg



DATUM RL 379.600

FINISHED SURFACE LEVEL		382.000	383.013	383.170	383.013	381.942	381.942	384.928	
SUBGRADE LEVEL			382.663	382.820	382.663				
EXISTING SURFACE LEVEL	382.000	382.000	382.545	383.186	383.690	384.295	384.343	384.928	385.025
OFFSET	-12.327	-11.327	-5.250	0.000	5.250	11.675	12.175	18.148	19.148

CH 140.000



DATUM RL 378.200

FINISHED SURFACE LEVEL		380.590	382.153	382.310	382.153	381.178	381.178	384.745	
SUBGRADE LEVEL			381.803	381.960	381.803				
EXISTING SURFACE LEVEL	380.506	380.590	381.931	382.702	383.469	384.000	384.000	384.745	384.859
OFFSET	-15.631	-14.631	-5.250	0.000	5.250	11.100	11.600	18.734	19.734

CH 120.000

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:200 — Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction

DESIGNER: OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT: BOLWARRA ENTERPRISES CRUSHING & SCREENING

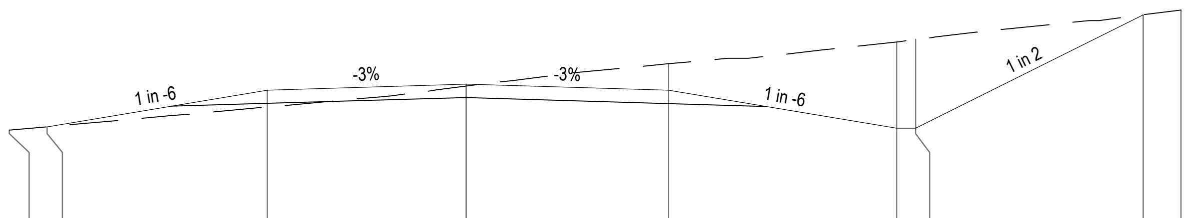
PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN: DM — DRAWING CHECK: AMcP — APPROVED

DESIGNED: DM — DESIGN REVIEW: AMcP — DATE -

TITLE: INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 3 OF 17

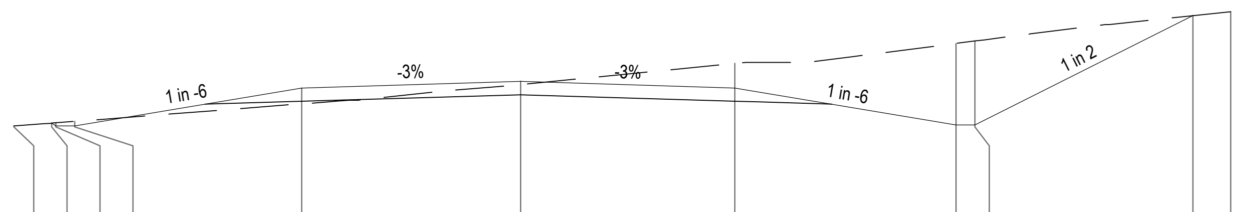
SCALE: (Scale as shown) — DRAWING No: 25350-C114 — REV: B



DATUM RL 379.700

FINISHED SURFACE LEVEL		382.180	383.151	383.308	383.148	382.141	382.141	385.150	
SUBGRADE LEVEL			382.801	382.958	382.798				
EXISTING SURFACE LEVEL	382.091	382.180	382.706	383.257	383.853	384.431	384.494	385.150	385.279
OFFSET	-12.076	-11.076	-5.250	0.000	5.353	11.390	11.890	17.908	18.908

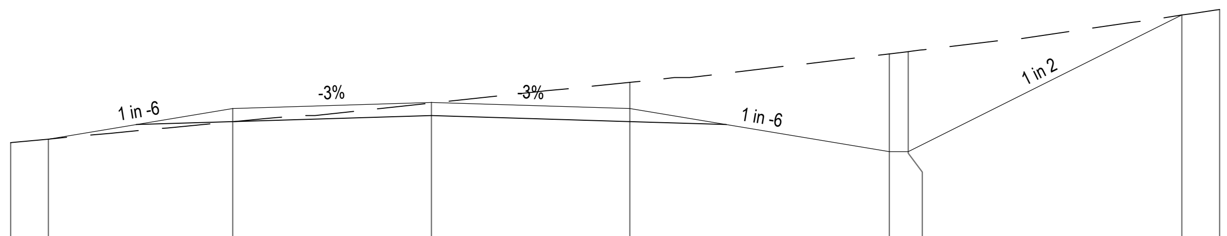
CH 179.866



DATUM RL 380.000

FINISHED SURFACE LEVEL		382.394	382.321	382.321	383.321	383.494	383.325	382.350	382.350	385.232	
SUBGRADE LEVEL					382.971	383.144	382.975				
EXISTING SURFACE LEVEL	382.323	382.394	382.403	382.441	382.904	383.415	383.970	384.499	384.563	385.232	385.334
OFFSET	-13.403	-12.403	-12.293	-11.793	-5.793	0.000	5.665	11.515	12.015	17.779	18.779

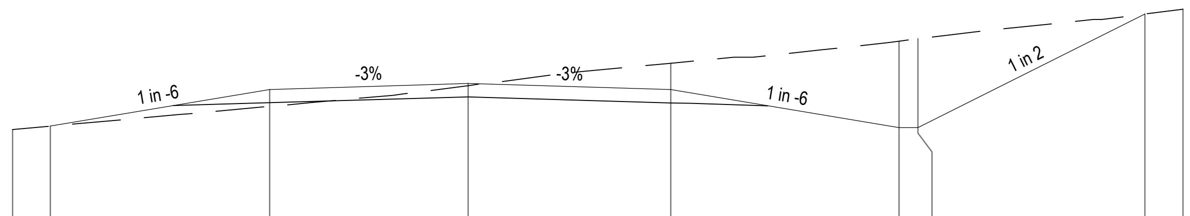
CH 200.000



DATUM RL 379.700

FINISHED SURFACE LEVEL		382.374	383.187	383.344	383.187	382.042	382.042	385.660	
SUBGRADE LEVEL			382.837	382.994	382.837				
EXISTING SURFACE LEVEL	382.280	382.374	382.833	383.328	383.879	384.634	384.694	385.660	385.805
OFFSET	-11.127	-10.127	-5.250	0.000	5.250	12.119	12.619	19.856	20.856

CH 160.000



DATUM RL 379.700

FINISHED SURFACE LEVEL		382.184	383.150	383.308	383.147	382.142	382.142	385.147	
SUBGRADE LEVEL			382.800	382.958	382.797				
EXISTING SURFACE LEVEL	382.095	382.184	382.703	383.254	383.843	384.429	384.493	385.147	385.276
OFFSET	-12.051	-11.051	-5.250	0.000	5.360	11.391	11.891	17.900	18.900

CH 180.000

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:200
Orig. Sheet A3
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1 0 1 2 3 4 5 m

DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT
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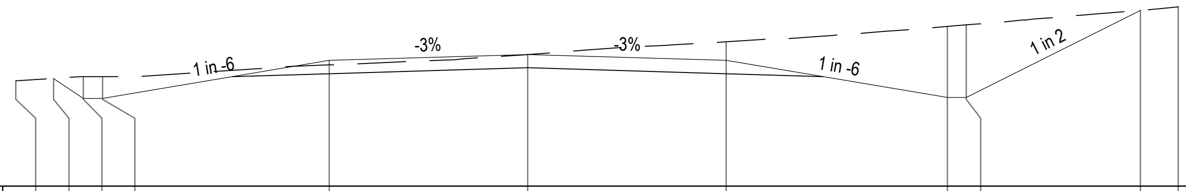
PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

TITLE: INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 4 OF 17

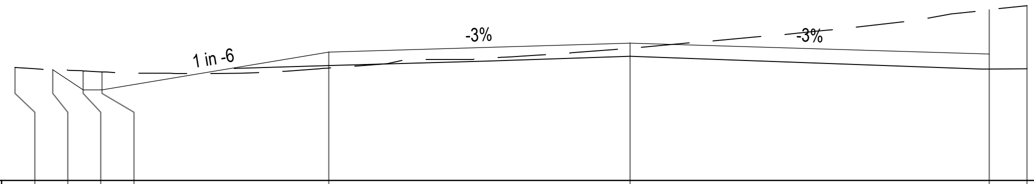
SCALE (Scale as shown) | DRAWING No 25350-C115 | REV B



DATUM RL 380.100

FINISHED SURFACE LEVEL		382.953	382.428	382.428	383.428	383.586	383.428	382.453	382.453	384.754	
SUBGRADE LEVEL					383.078	383.236	383.078				
EXISTING SURFACE LEVEL	382.888	382.953	383.000	383.000	383.311	383.585	383.924	384.329	384.368	384.754	384.848
OFFSET	-13.538	-12.538	-11.750	-11.250	-5.250	0.000	5.250	11.100	11.600	16.201	17.201

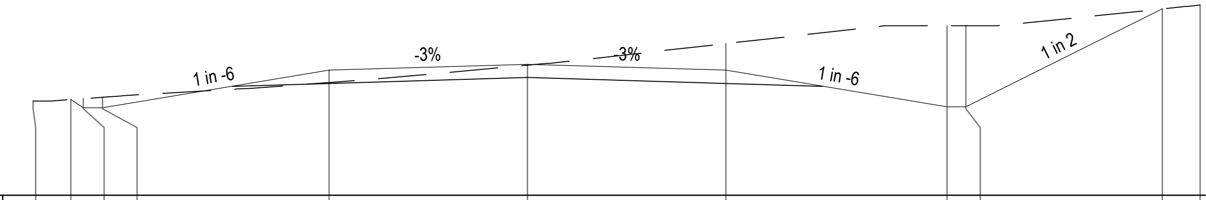
CH 240.000



DATUM RL 376.800

FINISHED SURFACE LEVEL		379.729	379.190	379.190	380.190	380.429	380.144	
SUBGRADE LEVEL					379.836	380.079	379.744	379.756
EXISTING SURFACE LEVEL	379.785	379.729	379.697	379.669	379.770	380.292	381.313	381.423
OFFSET	-16.282	-15.282	-14.473	-13.973	-7.973	0.000	9.512	10.512

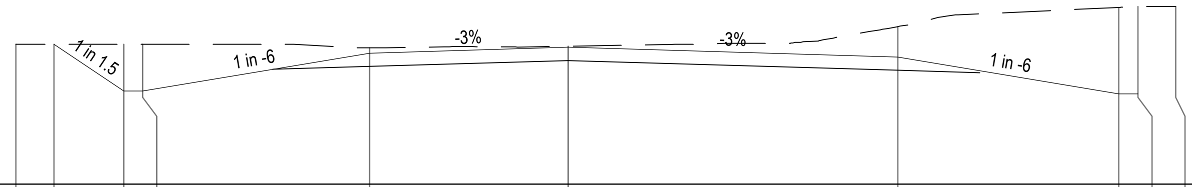
CH 280.000



DATUM RL 380.500

FINISHED SURFACE LEVEL		383.040	382.820	382.820	383.820	383.977	383.820	382.845	382.845	385.444	
SUBGRADE LEVEL					383.470	383.627	383.470				
EXISTING SURFACE LEVEL	383.000	383.040	383.065	383.102	383.493	383.953	384.525	385.000	385.000	385.444	385.548
OFFSET	-13.081	-12.081	-11.750	-11.250	-5.250	0.000	5.250	11.100	11.600	16.799	17.799

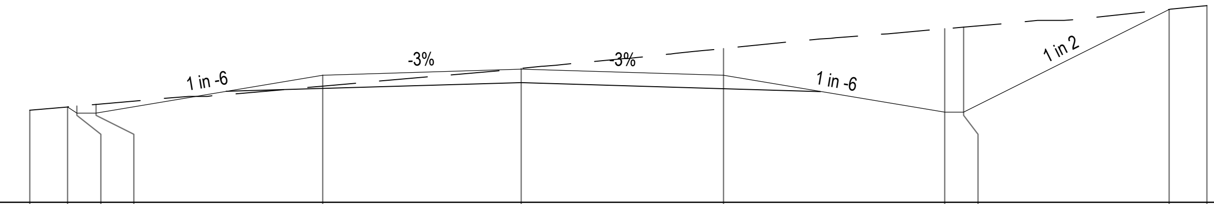
CH 220.000



DATUM RL 377.300

FINISHED SURFACE LEVEL		381.000	379.768	379.768	380.768	380.926	380.664	379.689	379.689	
SUBGRADE LEVEL					380.418	380.576	380.314			
EXISTING SURFACE LEVEL	381.000	381.000	381.000	381.000	380.909	380.953	381.471	381.979	382.000	382.000
OFFSET	-14.598	-13.598	-11.750	-11.250	-5.250	0.000	8.720	14.570	15.070	16.070

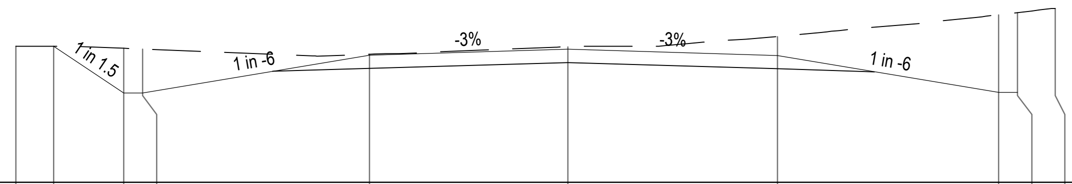
CH 271.976



DATUM RL 380.200

FINISHED SURFACE LEVEL		382.722	382.557	382.557	383.557	383.715	383.554	382.579	382.579	385.295	
SUBGRADE LEVEL					383.207	383.365	383.204				
EXISTING SURFACE LEVEL	382.635	382.722	382.743	382.787	383.268	383.735	384.262	384.784	384.828	385.295	385.393
OFFSET	-12.997	-11.997	-11.750	-11.250	-5.250	0.000	5.353	11.203	11.703	17.134	18.134

CH 209.155



DATUM RL 378.400

FINISHED SURFACE LEVEL		382.000	380.764	380.764	381.764	381.922	381.755	380.780	380.780	
SUBGRADE LEVEL					381.414	381.572	381.405			
EXISTING SURFACE LEVEL	382.000	382.000	381.946	381.926	381.792	381.989	382.258	382.834	382.892	383.000
OFFSET	-14.604	-13.604	-11.750	-11.250	-5.250	0.000	5.552	11.402	11.902	12.902

CH 260.000

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:200 — Orig. Sheet A3
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1 0 1 2 3 4 5 m

DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

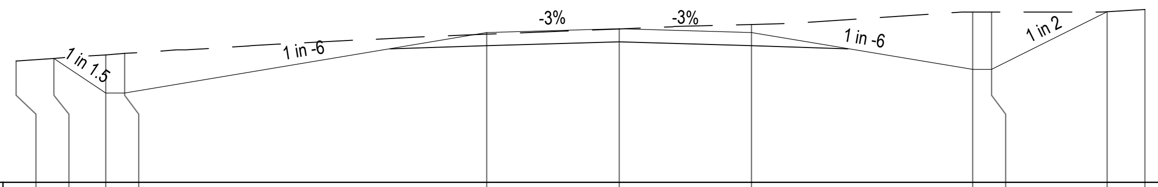
CLIENT
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT
MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

TITLE
INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 5 OF 17

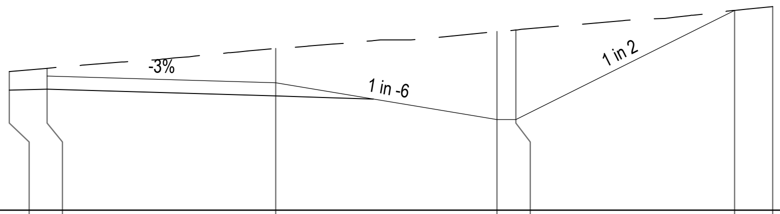
SCALE (Scale as shown) — DRAWING No 25350-C116 — REV B



DATUM RL 376.500

FINISHED SURFACE LEVEL		379.774	378.861	378.861	380.458	380.563	380.458	379.483	379.483	381.010	
SUBGRADE LEVEL					380.108	380.213	380.108				
EXISTING SURFACE LEVEL	379.705	379.774	379.870	379.905	380.414	380.553	380.673	381.000	381.000	381.010	381.072
OFFSET	-15.949	-14.949	-13.580	-13.080	-3.500	0.000	3.500	9.350	9.850	12.904	13.904

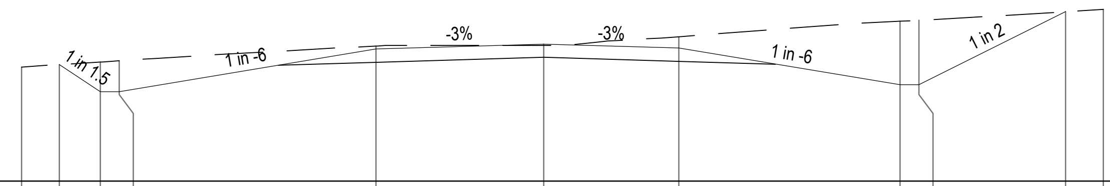
CH 336.058



DATUM RL 376.500

FINISHED SURFACE LEVEL		380.048	379.866	378.891	378.891	381.783	
SUBGRADE LEVEL	379.669	379.698	379.517				
EXISTING SURFACE LEVEL	380.159	380.250	380.770	381.218	381.265	381.783	381.886
OFFSET	-1.000	0.000	6.045	11.895	12.395	18.179	19.179

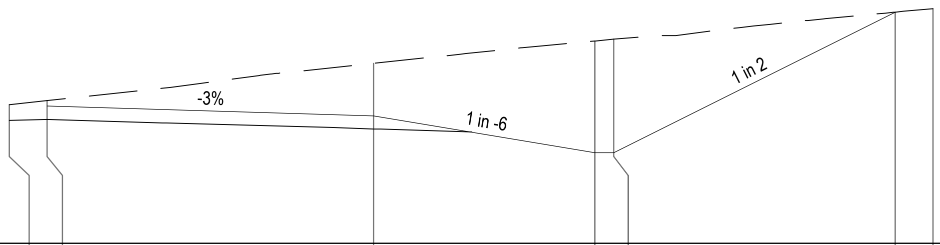
CH 300.000



DATUM RL 376.400

FINISHED SURFACE LEVEL		379.493	378.773	378.773	379.906	380.038	379.931	378.956	378.956	380.896	
SUBGRADE LEVEL					379.556	379.688	379.581				
EXISTING SURFACE LEVEL	379.430	379.493	379.562	379.593	379.986	380.000	380.234	380.642	380.666	380.896	380.956
OFFSET	-13.807	-12.807	-11.726	-11.226	-4.431	0.000	3.576	9.426	9.926	13.806	14.806

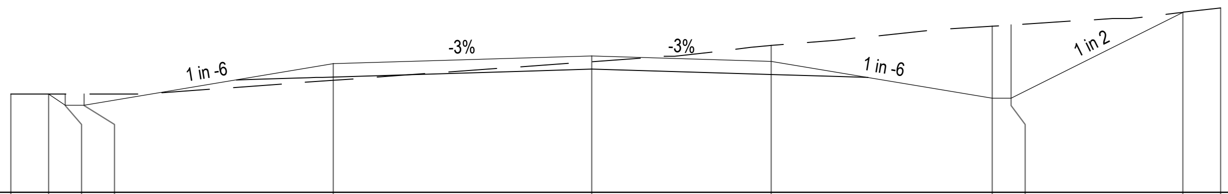
CH 320.000



DATUM RL 376.500

FINISHED SURFACE LEVEL		380.133	379.874	378.899	378.899	382.619	
SUBGRADE LEVEL	379.752	379.783	379.529				
EXISTING SURFACE LEVEL	380.172	380.280	381.264	381.857	381.902	382.619	382.707
OFFSET	-1.000	0.000	8.637	14.487	14.987	22.428	23.428

CH 290.729



DATUM RL 376.400

FINISHED SURFACE LEVEL		379.000	378.705	378.705	379.804	380.009	379.866	378.891	378.891	381.164	
SUBGRADE LEVEL					379.454	379.659	379.517				
EXISTING SURFACE LEVEL	379.000	379.000	379.000	379.000	379.366	379.859	380.292	380.799	380.831	381.164	381.280
OFFSET	-15.376	-14.376	-13.933	-13.433	-6.839	0.000	4.754	10.604	11.104	15.651	16.651

CH 307.673

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:200 — Orig. Sheet A3

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1 0 1 2 3 4 5 m

DESIGNER

OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT

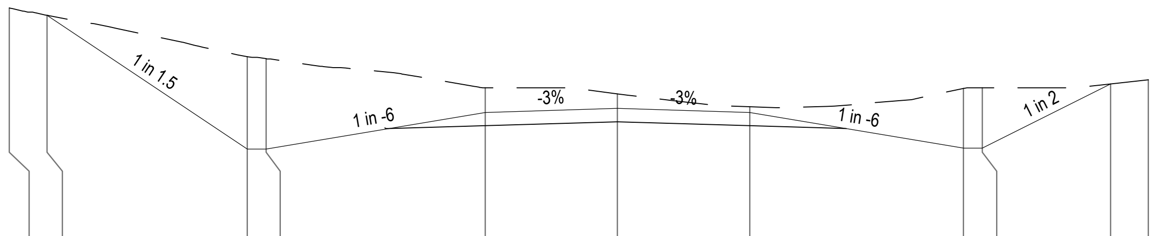
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

TITLE: INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 6 OF 17

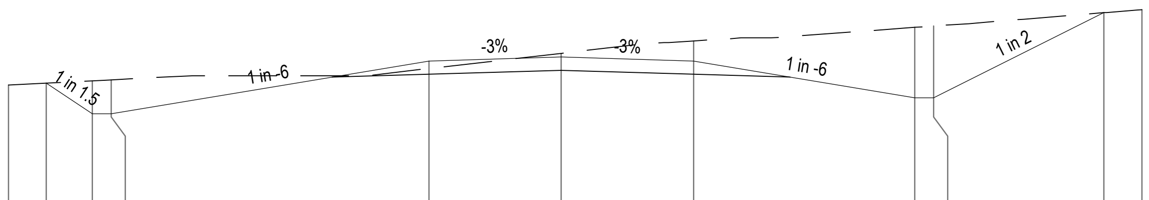
SCALE (Scale as shown) — DRAWING No 25350-C117 — REV B



DATUM RL 377.000

FINISHED SURFACE LEVEL		382.913	379.383	379.383	380.349	380.454	380.349	379.405	379.405	381.102	
SUBGRADE LEVEL					379.999	380.104	379.999				
EXISTING SURFACE LEVEL	383.109	382.913	381.818	381.765	381.000	380.837	380.496	380.982	381.000	381.102	381.211
OFFSET	-16.094	-15.094	-9.798	-9.298	-3.500	0.000	3.500	9.164	9.664	13.057	14.057

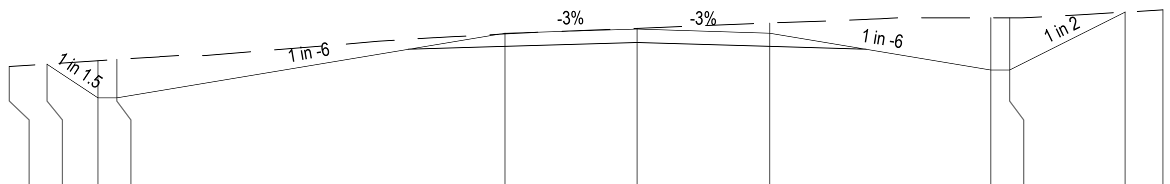
CH 380.000



DATUM RL 376.600

FINISHED SURFACE LEVEL		379.799	378.987	378.987	380.388	380.493	380.388	379.413	379.413	381.669	
SUBGRADE LEVEL					380.038	380.143	380.038				
EXISTING SURFACE LEVEL	379.747	379.799	379.862	379.888	380.189	380.593	380.922	381.280	381.317	381.669	381.749
OFFSET	-14.626	-13.626	-12.408	-11.908	-3.500	0.000	3.500	9.350	9.850	14.361	15.361

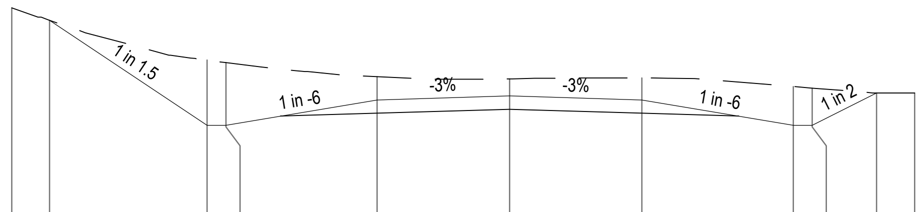
CH 360.000



DATUM RL 376.500

FINISHED SURFACE LEVEL		379.775	378.882	378.882	380.594	380.699	380.594	379.619	379.619	381.150	
SUBGRADE LEVEL					380.244	380.349	380.244				
EXISTING SURFACE LEVEL	379.709	379.775	379.863	379.896	380.572	380.720	380.859	381.000	381.000	381.150	381.211
OFFSET	-16.611	-15.611	-14.272	-13.772	-3.500	0.000	3.500	9.350	9.850	12.913	13.913

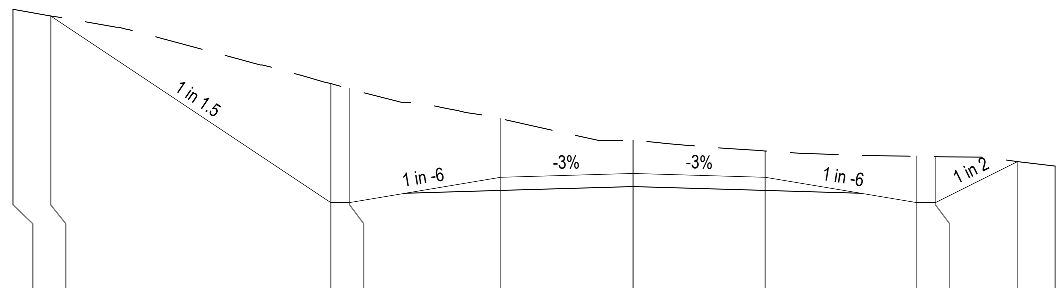
CH 340.000



DATUM RL 380.800

FINISHED SURFACE LEVEL		385.922	383.146	383.146	383.812	383.917	383.812	383.146	383.146	384.000	
SUBGRADE LEVEL					383.462	383.567	383.462				
EXISTING SURFACE LEVEL	386.248	385.922	384.867	384.802	384.428	384.368	384.397	384.168	384.128	384.000	384.000
OFFSET	-13.164	-12.164	-8.000	-7.500	-3.500	0.000	3.500	7.500	8.000	9.709	10.709

CH 420.000



DATUM RL 379.000

FINISHED SURFACE LEVEL		386.297	381.359	381.359	382.026	382.131	382.026	381.359	381.359	382.444	
SUBGRADE LEVEL					381.676	381.781	381.676				
EXISTING SURFACE LEVEL	386.469	386.297	384.503	384.368	383.573	383.000	382.723	382.582	382.573	382.444	382.319
OFFSET	-16.407	-15.407	-8.000	-7.500	-3.500	0.000	3.500	7.500	8.000	10.169	11.169

CH 400.000

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
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SCALE 1:200 — Orig. Sheet A3

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1 0 1 2 3 4 5 m

DESIGNER

OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
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CLIENT

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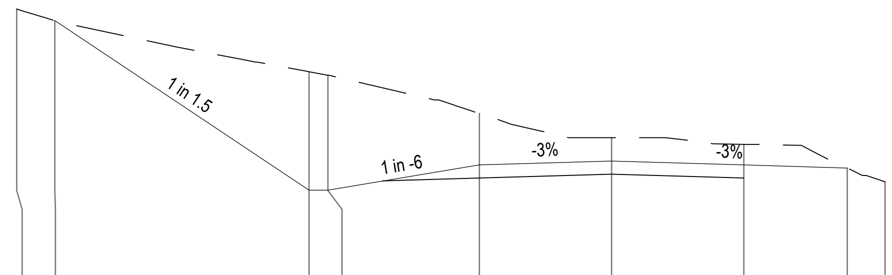
PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

TITLE: INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 7 OF 17

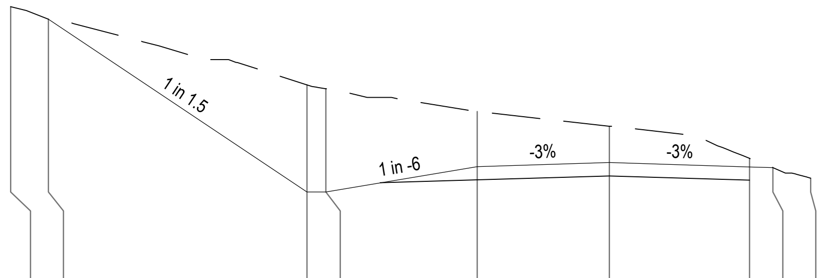
SCALE: (Scale as shown) | DRAWING No: 25350-C118 | REV: B



DATUM RL 384.300

FINISHED SURFACE LEVEL		391.098	386.614	386.614	387.280	387.385	387.280	387.198	
SUBGRADE LEVEL					386.930	387.035	386.930		
EXISTING SURFACE LEVEL	391.400	391.098	389.745	389.653	388.642	388.000	387.824	387.198	386.827
OFFSET	-15.727	-14.727	-8.000	-7.500	-3.500	0.000	3.500	6.228	7.228

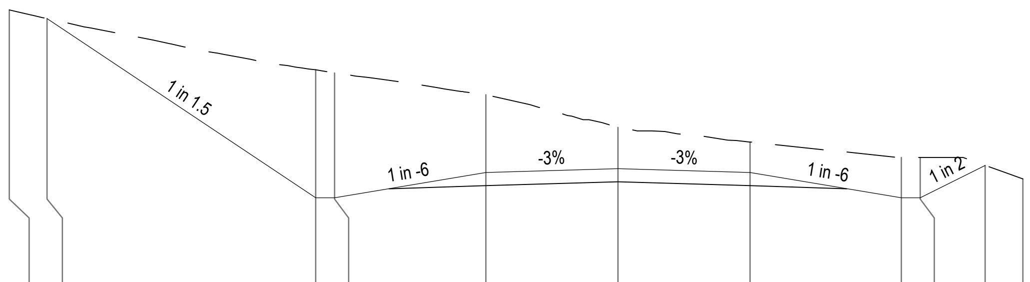
CH 458.817



DATUM RL 386.200

FINISHED SURFACE LEVEL		393.067	388.506	388.506	389.173	389.278	389.166	389.148	
SUBGRADE LEVEL					388.823	388.928	388.816		
EXISTING SURFACE LEVEL	393.395	393.067	391.330	391.231	390.630	390.243	389.391	389.148	388.871
OFFSET	-15.841	-14.841	-8.000	-7.500	-3.500	0.000	3.710	4.322	5.322

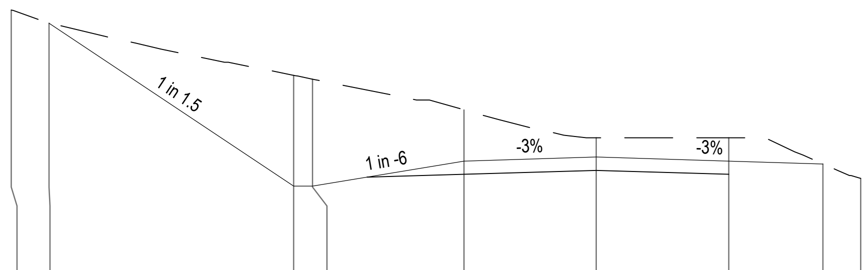
CH 480.000



DATUM RL 382.600

FINISHED SURFACE LEVEL		389.672	384.932	384.932	385.599	385.704	385.599	384.932	384.932	385.791	
SUBGRADE LEVEL					385.249	385.354	385.249				
EXISTING SURFACE LEVEL	389.905	389.672	388.315	388.238	387.661	386.798	386.405	386.000	386.000	385.791	385.431
OFFSET	-16.109	-15.109	-8.000	-7.500	-3.500	0.000	3.500	7.500	8.000	9.717	10.717

CH 440.000



DATUM RL 384.400

FINISHED SURFACE LEVEL		391.032	386.719	386.719	387.386	387.491	387.386	387.311	
SUBGRADE LEVEL					387.036	387.141	387.036		
EXISTING SURFACE LEVEL	391.383	391.032	389.654	389.554	388.741	388.000	388.000	387.311	386.924
OFFSET	-15.469	-14.469	-8.000	-7.500	-3.500	0.000	3.502	5.991	6.991

CH 460.000

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:200 — Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction: 1 0 1 2 3 4 5 m

DESIGNER: OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

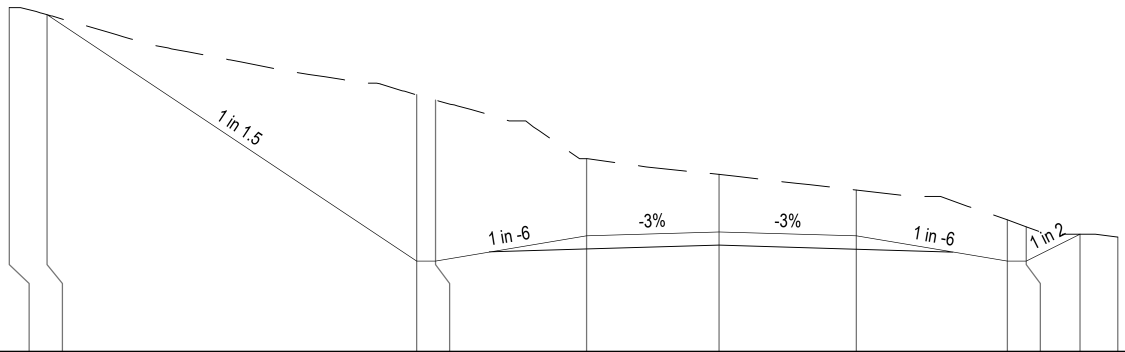
CLIENT: BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED: DM	DESIGN REVIEW: AMcP	DATE -

TITLE: INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 8 OF 17

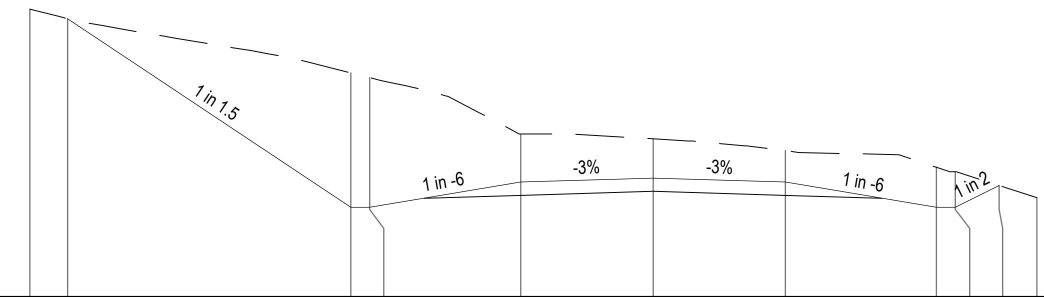
SCALE (Scale as shown) — DRAWING No 25350-C119 — REV B



DATUM RL 387.900

OFFSET	-18.776	-17.776	-8.000	-7.500	-3.500	0.000	3.630	7.630	8.130	9.552	10.552
FINISHED SURFACE LEVEL		396.810	390.293	390.293	390.959	391.064	390.956	390.289	390.289	391.000	
SUBGRADE LEVEL					390.609	390.714	390.606				
EXISTING SURFACE LEVEL	397.000	396.810	394.691	394.551	393.000	392.582	392.170	391.379	391.200	391.000	390.924

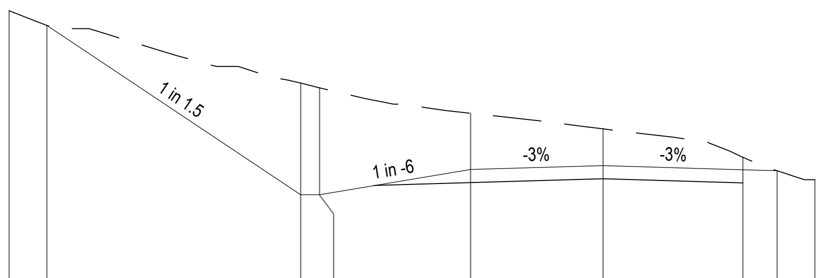
CH 500.000



DATUM RL 390.700

OFFSET	-16.490	-15.490	-8.000	-7.500	-3.500	0.000	3.500	7.500	8.000	9.156	10.156
FINISHED SURFACE LEVEL		398.053	393.060	393.060	393.726	393.831	393.726	393.060	393.060	393.638	
SUBGRADE LEVEL					393.376	393.481	393.376				
EXISTING SURFACE LEVEL	398.304	398.053	396.614	396.490	395.000	394.871	394.559	394.119	394.000	393.638	393.318

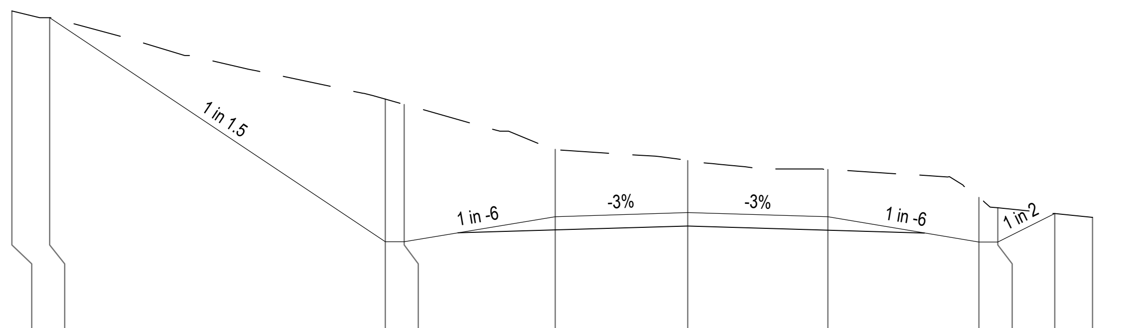
CH 530.972



DATUM RL 386.300

OFFSET	-15.712	-14.712	-8.000	-7.500	-3.500	0.000	3.704	4.604	5.604
FINISHED SURFACE LEVEL		393.083	388.608	388.608	389.275	389.380	389.269	389.242	
SUBGRADE LEVEL					388.925	389.030	388.919		
EXISTING SURFACE LEVEL	393.475	393.083	391.558	391.437	390.762	390.348	389.600	389.242	389.000

CH 481.146



DATUM RL 389.700

OFFSET	-17.881	-16.881	-8.000	-7.500	-3.500	0.000	3.712	7.712	8.212	9.718	10.718
FINISHED SURFACE LEVEL		398.000	392.080	392.080	392.746	392.851	392.740	392.073	392.073	392.826	
SUBGRADE LEVEL					392.396	392.501	392.390				
EXISTING SURFACE LEVEL	398.182	398.000	395.849	395.709	394.518	394.226	393.991	393.251	392.980	392.826	392.722

CH 520.000

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:200 — Orig. Sheet A3

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Scales Before Reduction: 1 0 1 2 3 4 5 m

DESIGNER: OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

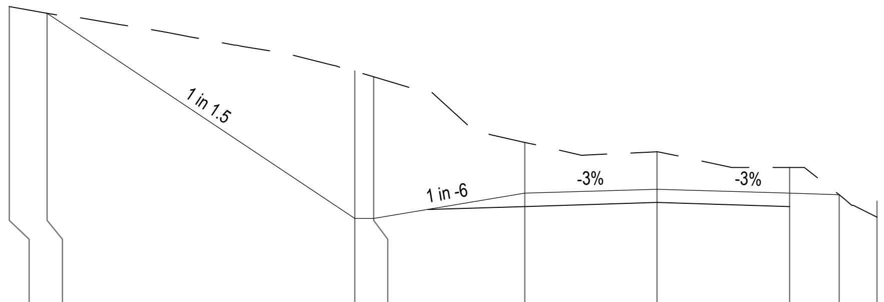
CLIENT: BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN: DM — DRAWING CHECK: AMcP — APPROVED
DESIGNED: DM — DESIGN REVIEW: AMcP — DATE -

TITLE: INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 9 OF 17

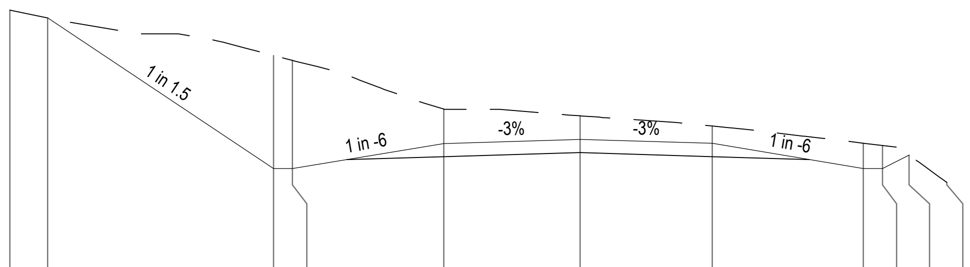
SCALE: (Scale as shown) — DRAWING No: 25350-C120 — REV: B



DATUM RL 393.300

FINISHED SURFACE LEVEL		401.072	395.653	395.653	396.320	396.425	396.320	396.280	
SUBGRADE LEVEL					395.970	396.075	395.970		
EXISTING SURFACE LEVEL	401.251	401.072	399.545	399.397	397.662	397.416	397.000	396.280	396.111
OFFSET	-17.129	-16.129	-8.000	-7.500	-3.500	0.000	3.500	4.813	5.813

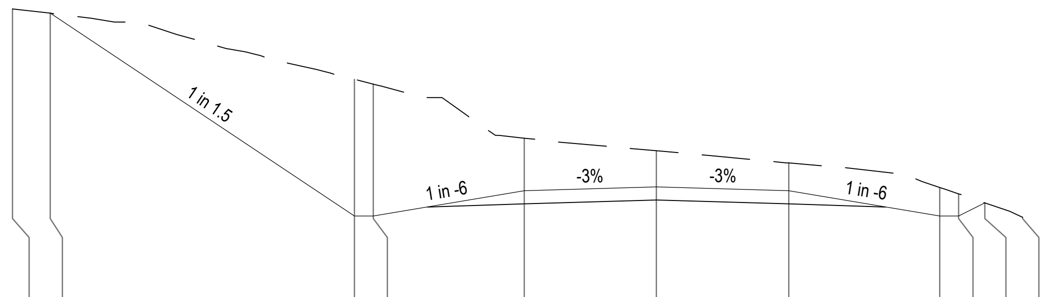
CH 560.000



DATUM RL 394.700

FINISHED SURFACE LEVEL		401.419	397.431	397.431	398.097	398.205	398.100	397.434	397.434	397.788	
SUBGRADE LEVEL					397.747	397.855	397.750				
EXISTING SURFACE LEVEL	401.621	401.419	400.422	400.294	399.008	398.831	398.559	398.106	398.045	397.788	397.072
OFFSET	-15.088	-14.088	-8.105	-7.605	-3.605	0.000	3.500	7.500	8.000	8.709	9.709

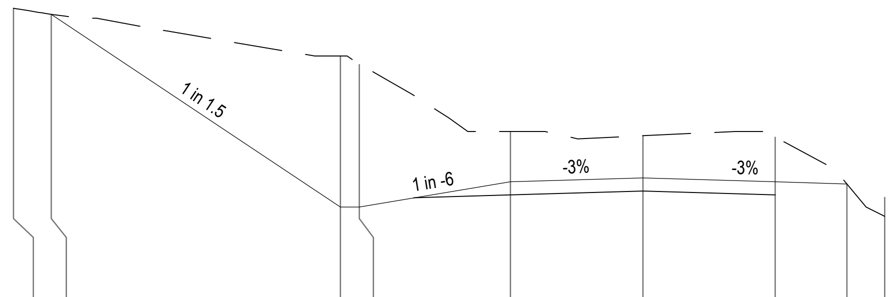
CH 580.000



DATUM RL 391.500

FINISHED SURFACE LEVEL		399.230	393.866	393.866	394.533	394.638	394.533	393.866	393.866	394.214	
SUBGRADE LEVEL					394.183	394.288	394.183				
EXISTING SURFACE LEVEL	399.348	399.230	397.480	397.356	395.925	395.591	395.267	394.622	394.452	394.214	393.833
OFFSET	-17.046	-16.046	-8.000	-7.500	-3.500	0.000	3.500	7.500	8.000	8.695	9.695

CH 540.000



DATUM RL 393.400

FINISHED SURFACE LEVEL		401.102	396.005	396.005	396.672	396.777	396.672	396.615	
SUBGRADE LEVEL					396.322	396.427	396.322		
EXISTING SURFACE LEVEL	401.265	401.102	400.000	399.771	398.000	397.887	397.851	396.615	396.259
OFFSET	-16.645	-15.645	-8.000	-7.500	-3.500	0.000	3.500	5.396	6.396

CH 563.940

B 12.03.26 REVISED SUBMISSION FOR APPROVAL
A 12.02.26 FOR APPROVAL
REV DATE REVISION NOTES

SCALE 1:200 | Orig. Sheet A3
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1 0 1 2 3 4 5 m

DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

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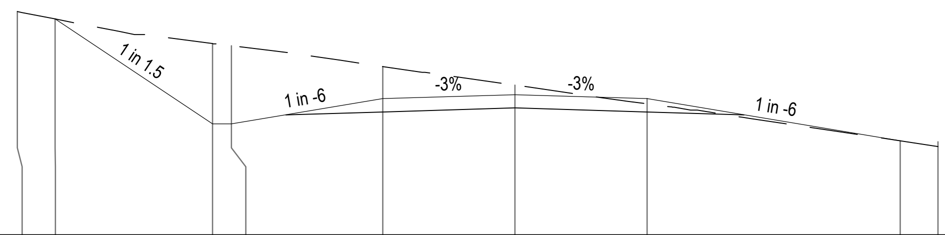
DESIGNED DM | DESIGN REVIEW AMcP | DATE -

TITLE INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 10 OF 17

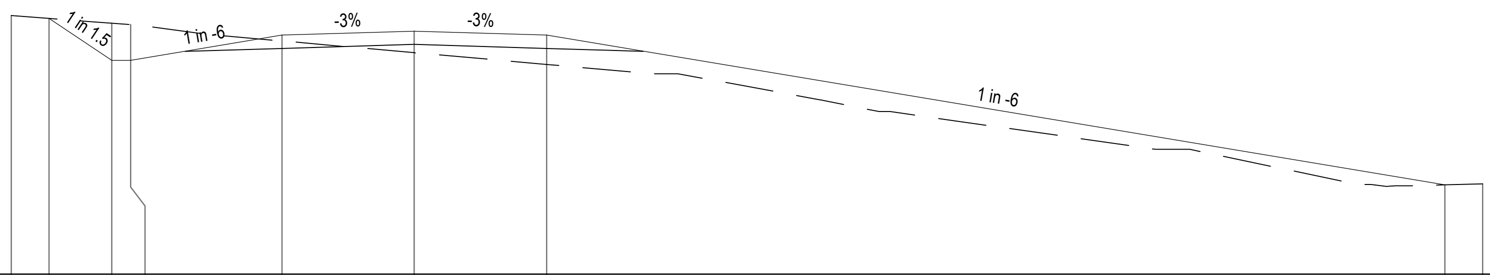
SCALE (Scale as shown) | DRAWING No 25350-C121 | REV B



DATUM RL 395.700

FINISHED SURFACE LEVEL		401.411	398.635	398.635	399.301	399.406	399.301	398.186	
SUBGRADE LEVEL					398.951	399.056	398.951		
EXISTING SURFACE LEVEL	401.606	401.411	400.759	400.703	400.154	399.661	399.165	398.186	398.162
OFFSET	-13.164	-12.164	-8.000	-7.500	-3.500	0.000	3.500	10.193	11.193

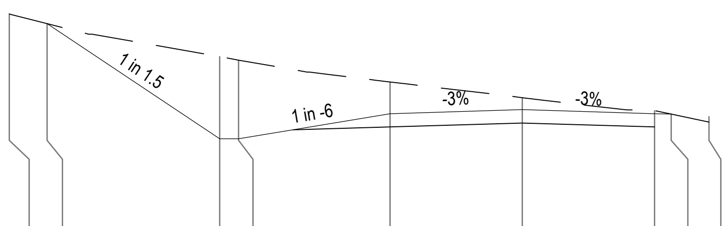
CH 600.000



DATUM RL 395.700

FINISHED SURFACE LEVEL		402.464	401.356	401.356	402.023	402.128	402.023	398.062	
SUBGRADE LEVEL					401.673	401.778	401.673		
EXISTING SURFACE LEVEL	402.539	402.464	402.340	402.305	401.869	401.558	401.247	398.062	398.090
OFFSET	-10.661	-9.661	-8.000	-7.500	-3.500	0.000	3.500	27.266	28.266

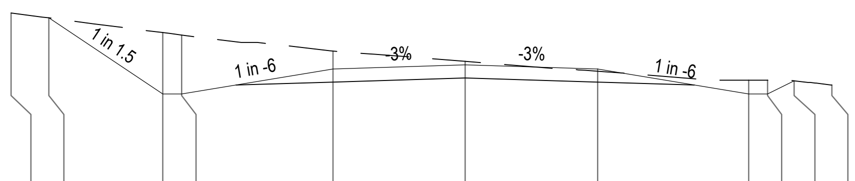
CH 640.000



DATUM RL 395.900

FINISHED SURFACE LEVEL		401.277	398.236	398.236	398.902	399.007	398.902	398.889	
SUBGRADE LEVEL					398.552	398.657	398.552		
EXISTING SURFACE LEVEL	401.530	401.277	400.407	400.318	399.742	399.324	398.979	398.889	398.822
OFFSET	-13.562	-12.562	-8.000	-7.500	-3.500	0.000	3.500	3.936	4.936

CH 591.404



DATUM RL 397.300

FINISHED SURFACE LEVEL		401.651	399.637	399.637	400.304	400.409	400.304	399.637	399.637	399.989	
SUBGRADE LEVEL					399.954	400.059	399.954				
EXISTING SURFACE LEVEL	401.784	401.651	401.261	401.198	400.778	400.500	400.240	400.000	400.000	399.989	399.879
OFFSET	-12.021	-11.021	-8.000	-7.500	-3.500	0.000	3.500	7.500	8.000	8.703	9.703

CH 620.000

B 12.03.26 REVISED SUBMISSION FOR APPROVAL
A 12.02.26 FOR APPROVAL
REV DATE REVISION NOTES

SCALE 1:200 | Orig. Sheet A3
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1 0 1 2 3 4 5 m

DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

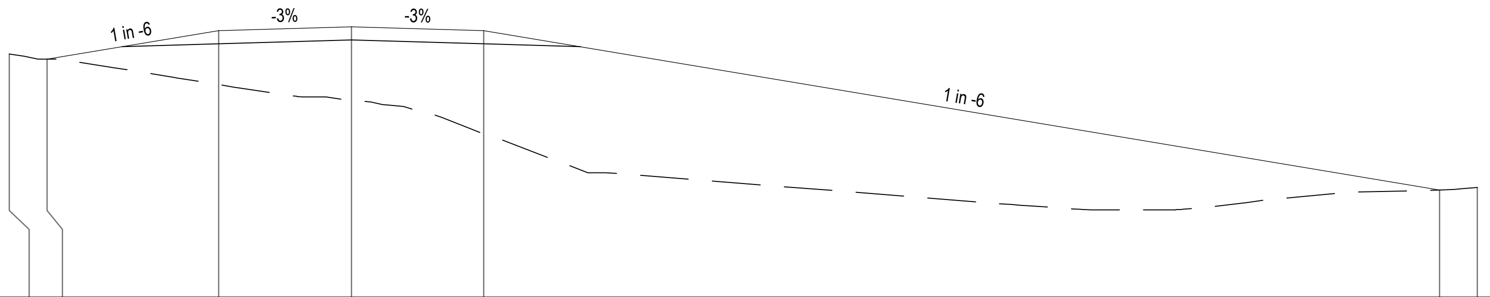
CLIENT
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN DM | DRAWING CHECK AMcP | APPROVED
DESIGNED DM | DESIGN REVIEW AMcP | DATE -

TITLE INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 11 OF 17

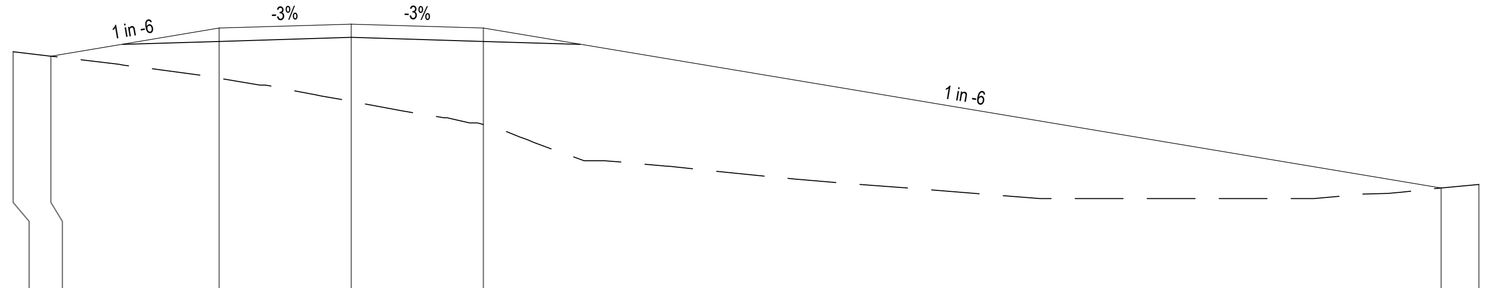
SCALE (Scale as shown) | DRAWING No 25350-C122 | REV B



DATUM RL 396.700

FINISHED SURFACE LEVEL		403.000	403.756	403.862	403.757	399.543	
SUBGRADE LEVEL			403.406	403.512	403.407		
EXISTING SURFACE LEVEL	403.137	403.000	402.326	401.914	401.022	399.543	399.605
OFFSET	-9.049	-8.049	-3.511	0.000	3.500	28.780	29.780

CH 660.000



DATUM RL 396.600

FINISHED SURFACE LEVEL		402.758	403.500	403.605	403.500	399.276	
SUBGRADE LEVEL			403.150	403.255	403.150		
EXISTING SURFACE LEVEL	402.878	402.758	402.181	401.565	400.952	399.276	399.368
OFFSET	-8.952	-7.952	-3.500	0.000	3.500	28.844	29.844

CH 657.044

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:200 | Orig. Sheet A3

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Scales Before Reduction

1 0 1 2 3 4 5 m

DESIGNER

OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT

BOLWARRA ENTERPRISES CRUSHING & SCREENING

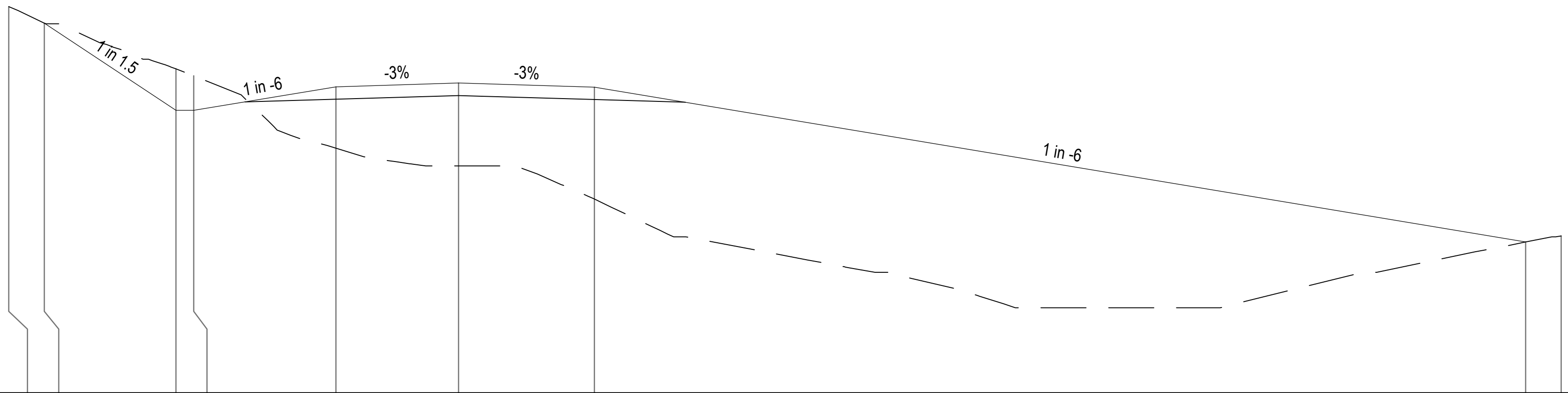
PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN: DM | DRAWING CHECK: AMcP | APPROVED

DESIGNED: DM | DESIGN REVIEW: AMcP | DATE -

TITLE: INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 12 OF 17

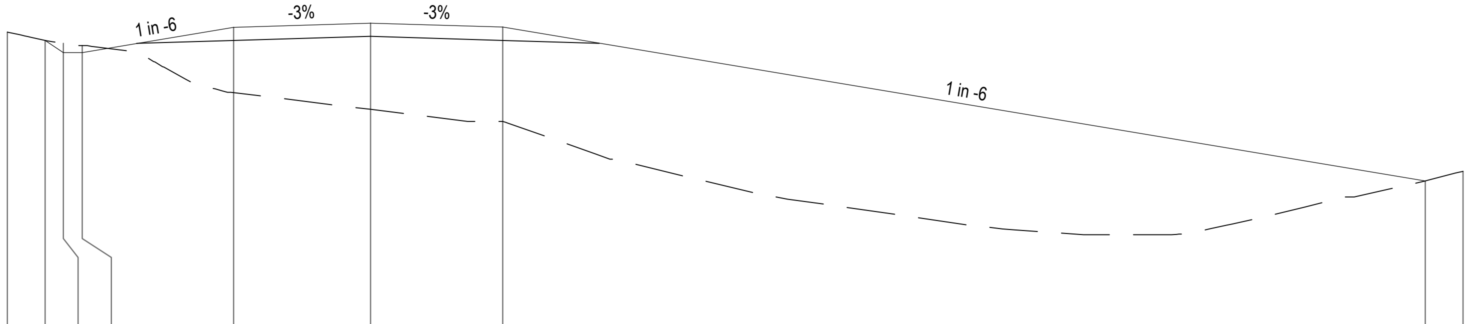
SCALE (Scale as shown) | DRAWING No 25350-C123 | REV B



DATUM RL 398.600

FINISHED SURFACE LEVEL		409.021	406.559	406.559	407.226	407.329	407.215	402.853	
SUBGRADE LEVEL					406.876	406.979	406.865		
EXISTING SURFACE LEVEL	409.488	409.021	407.730	407.533	405.498	405.000	404.062	402.853	403.026
OFFSET	-12.634	-11.634	-7.942	-7.442	-3.442	0.000	3.820	29.992	30.992

CH 700.000



DATUM RL 397.600

FINISHED SURFACE LEVEL		405.143	404.820	404.820	405.487	405.595	405.490	401.423	
SUBGRADE LEVEL					405.137	405.245	405.140		
EXISTING SURFACE LEVEL	405.361	405.143	405.060	405.000	403.761	403.316	402.999	401.423	401.674
OFFSET	-9.606	-8.606	-8.122	-7.622	-3.622	0.000	3.500	27.907	28.907

CH 680.000

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
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SCALE 1:200 | Orig. Sheet A3
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1 0 1 2 3 4 5 m

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Address: 35 ABBOTT ST, CAIRNS 4870
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CLIENT
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PROJECT
MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

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DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

TITLE
INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 13 OF 17

SCALE (Scale as shown) | DRAWING No 25350-C124 | REV B

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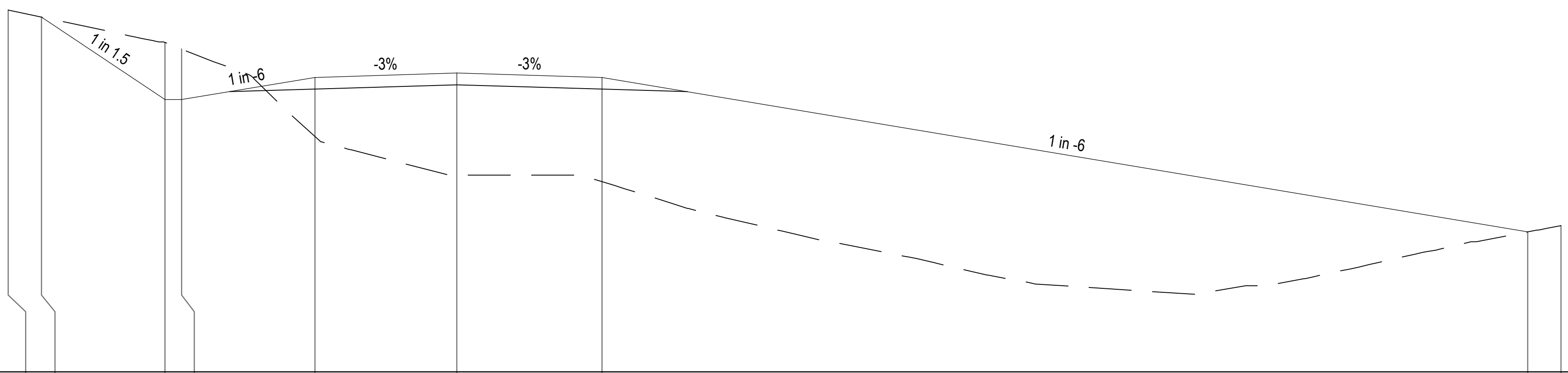
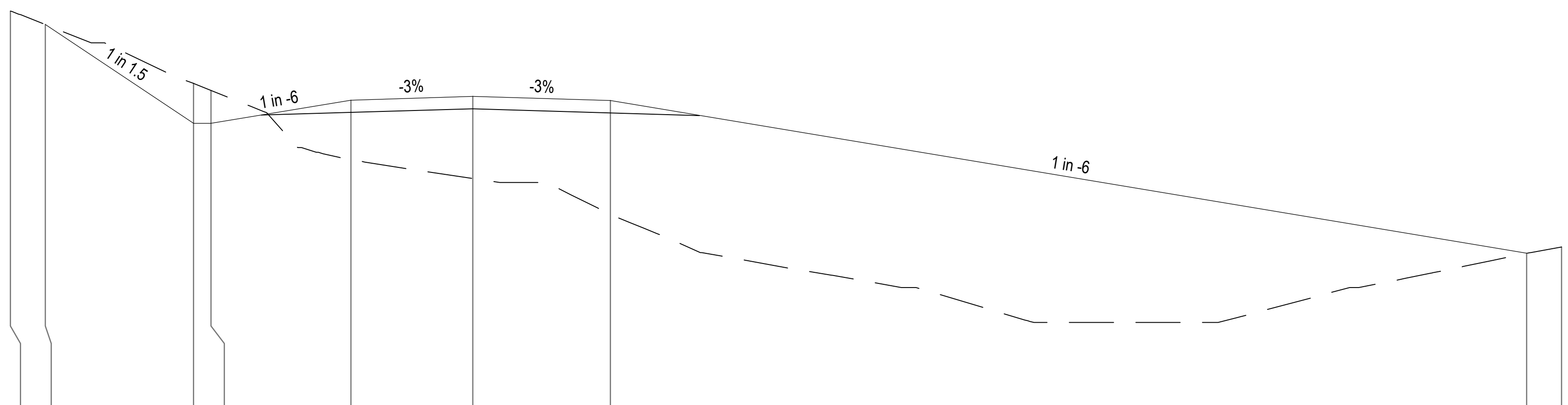


DATUM RL 400.100

FINISHED SURFACE LEVEL		410.740	408.268	408.268	408.935	409.063	408.932	404.300	
SUBGRADE LEVEL					408.585	408.713	408.582		
EXISTING SURFACE LEVEL	410.952	410.740	409.982	409.784	407.160	406.000	405.803	404.300	404.486
OFFSET	-13.466	-12.466	-8.758	-8.258	-4.258	0.000	4.364	32.156	33.156

CH 720.000



DATUM RL 398.600

FINISHED SURFACE LEVEL		409.523	406.695	406.695	407.361	407.466	407.348	402.978	
SUBGRADE LEVEL					407.011	407.116	406.998		
EXISTING SURFACE LEVEL	409.910	409.523	407.841	407.640	405.663	405.116	404.097	402.978	403.159
OFFSET	-13.229	-12.229	-7.987	-7.487	-3.487	0.000	3.938	30.158	31.158

CH 701.577

B 12.03.26 REVISED SUBMISSION FOR APPROVAL
A 12.02.26 FOR APPROVAL
REV DATE REVISION NOTES

SCALE 1:200 Orig. Sheet A3
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Scales Before Reduction
1 0 1 2 3 4 5 m

DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

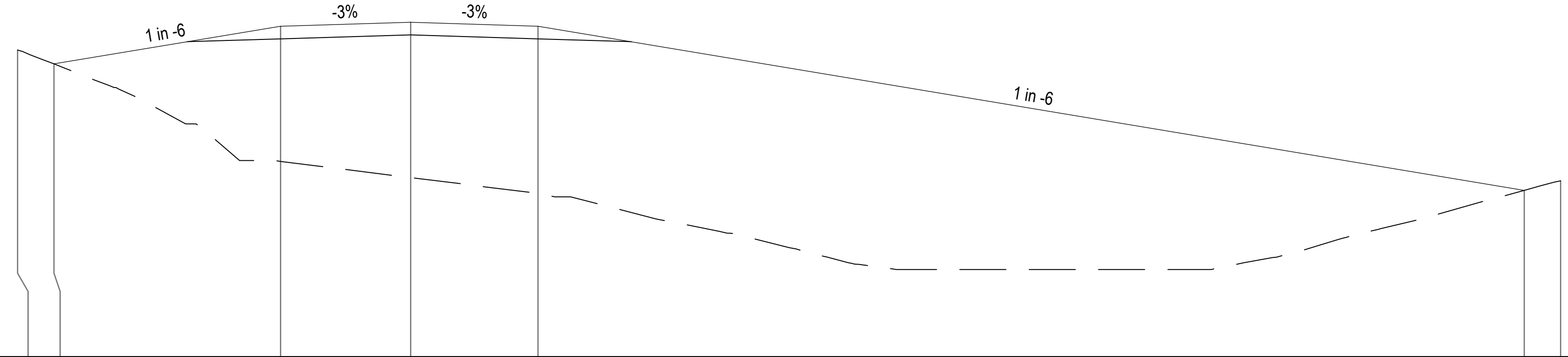
CLIENT
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN DM | DRAWING CHECK AMcP | APPROVED
DESIGNED DM | DESIGN REVIEW AMcP | DATE -

TITLE INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 14 OF 17

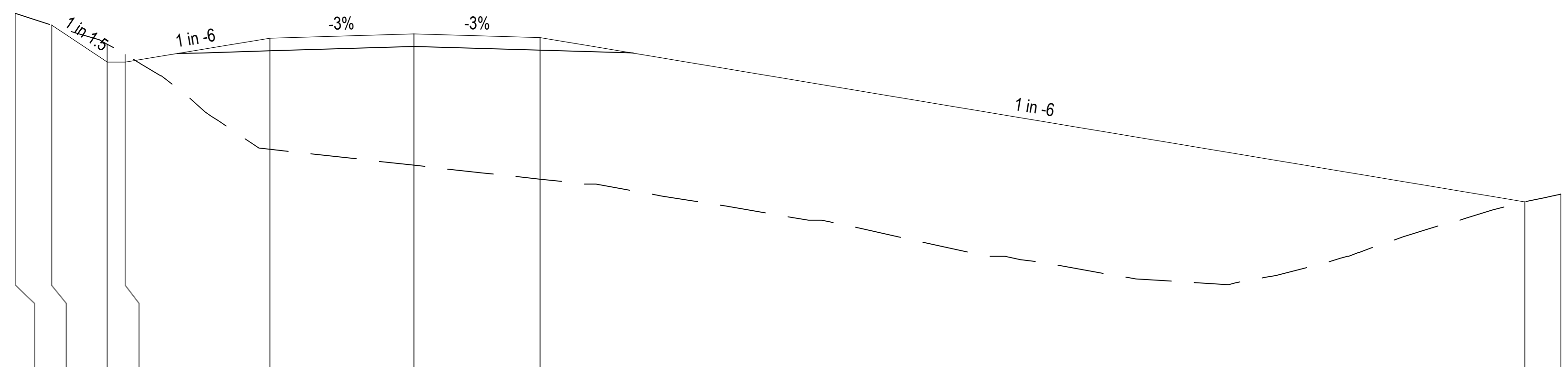
SCALE (Scale as shown) | DRAWING No 25350-C125 | REV B



DATUM RL 401.600

FINISHED SURFACE LEVEL		409.652	410.689	410.797	410.692	406.178	
SUBGRADE LEVEL			410.339	410.447	410.342		
EXISTING SURFACE LEVEL	410.034	409.652	406.973	406.527	406.089	406.178	406.439
OFFSET	-10.798	-9.798	-3.573	0.000	3.500	30.581	31.581

CH 740.000



DATUM RL 400.900

FINISHED SURFACE LEVEL		410.401	409.375	409.375	410.042	410.161	410.056	405.512	
SUBGRADE LEVEL					409.691	409.811	409.707		
EXISTING SURFACE LEVEL	410.726	410.401	409.873	409.582	406.967	406.523	406.137	405.512	405.721
OFFSET	-11.028	-10.028	-8.488	-7.988	-3.988	0.000	3.500	30.768	31.768

CH 732.670

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
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SCALE 1:200 | Orig. Sheet A3

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DESIGNER

OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT

BOLWARRA ENTERPRISES CRUSHING & SCREENING

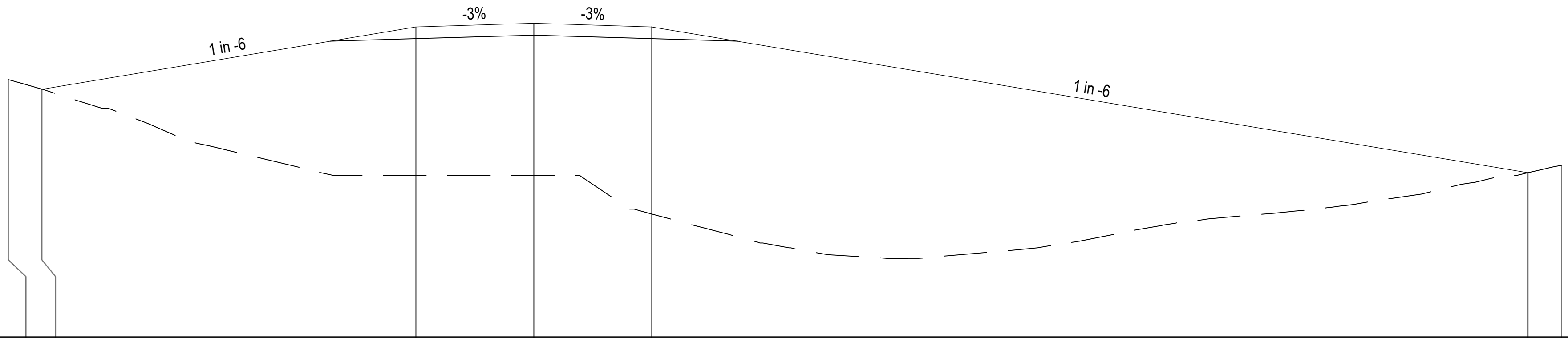
PROJECT
MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN DM | DRAWING CHECK AMcP | APPROVED

DESIGNED DM | DESIGN REVIEW AMcP | DATE -

TITLE
INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 15 OF 17

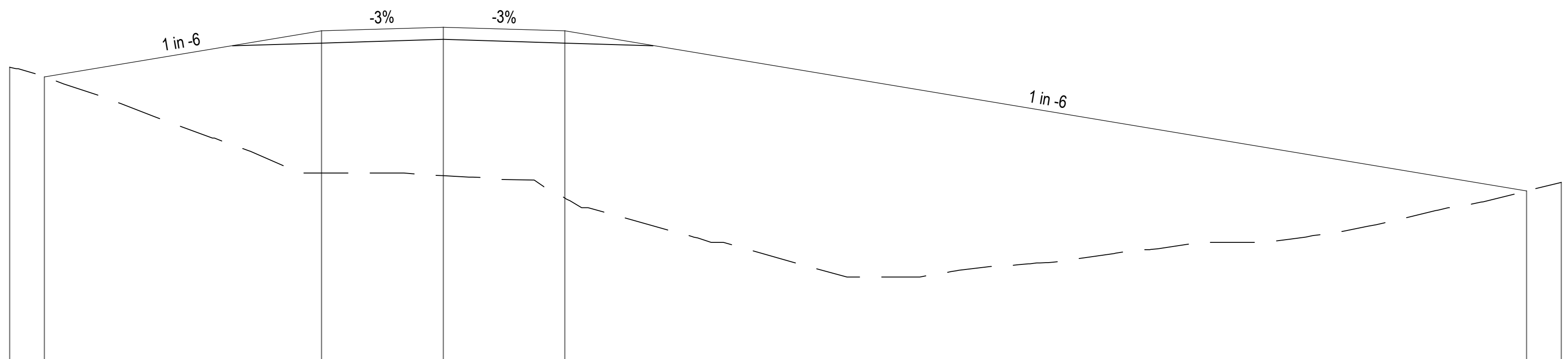
SCALE (Scale as shown) | DRAWING No 25350-C126 | REV B



DATUM RL 403.200

FINISHED SURFACE LEVEL		410.572	412.425	412.530	412.425	408.084	
SUBGRADE LEVEL			412.075	412.180	412.075		
EXISTING SURFACE LEVEL	410.857	410.572	408.000	408.000	406.861	408.084	408.309
OFFSET	-15.617	-14.617	-3.500	0.000	3.500	29.550	30.550

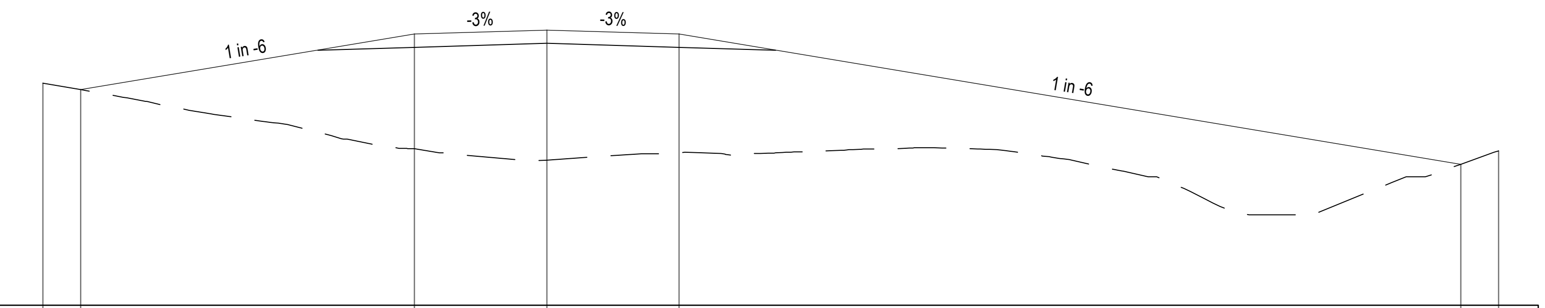
CH 760.000



DATUM RL 401.600

FINISHED SURFACE LEVEL		409.762	411.092	411.197	411.092	406.479	
SUBGRADE LEVEL			410.742	410.847	410.742		
EXISTING SURFACE LEVEL	410.049	409.762	407.000	406.920	406.273	406.479	406.729
OFFSET	-12.480	-11.480	-3.500	0.000	3.500	31.179	32.179

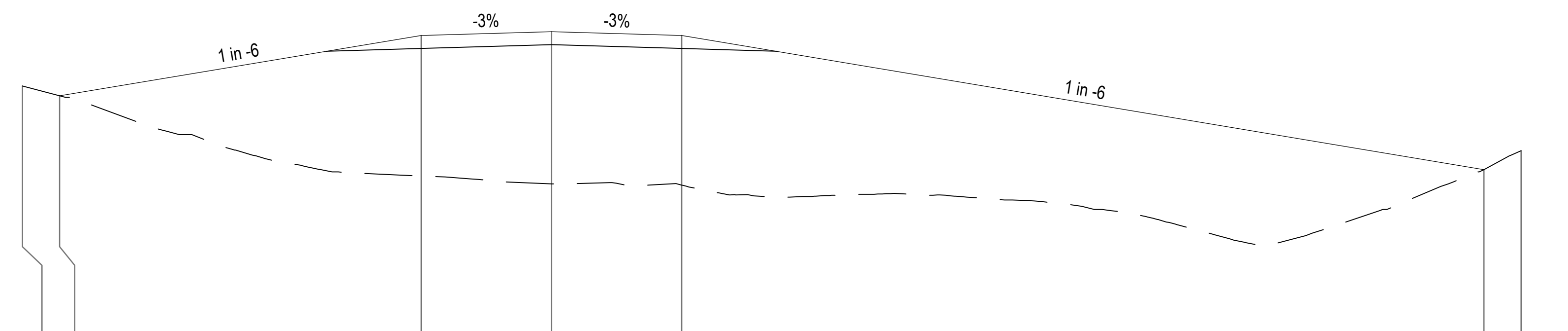
CH 744.619



DATUM RL 406.600

FINISHED SURFACE LEVEL		412.312	413.785	413.890	413.785	410.338	
SUBGRADE LEVEL			413.435	413.540	413.435		
EXISTING SURFACE LEVEL	412.483	412.312	410.745	410.447	410.634	410.338	410.694
OFFSET	-13.336	-12.336	-3.500	0.000	3.500	24.183	25.183

CH 785.685



DATUM RL 405.700

FINISHED SURFACE LEVEL		412.042	413.662	413.767	413.662	410.067	
SUBGRADE LEVEL			413.312	413.417	413.312		
EXISTING SURFACE LEVEL	412.311	412.042	409.894	409.684	409.652	410.067	410.575
OFFSET	-14.219	-13.219	-3.500	0.000	3.500	25.065	26.065

CH 780.000

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:200 | Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction

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DESIGNER

OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT

BOLWARRA ENTERPRISES CRUSHING & SCREENING

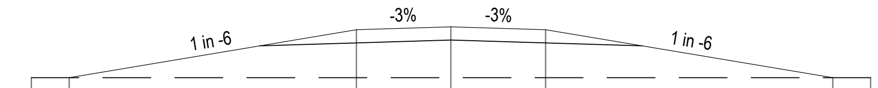
PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

TITLE: INTERNAL ROAD 1 - ANNOTATED CROSS SECTIONS - SHEET 17 OF 17

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED: DM	DESIGN REVIEW: AMcP	DATE -

SCALE (Scale as shown) | DRAWING No 25350-C128 | REV B

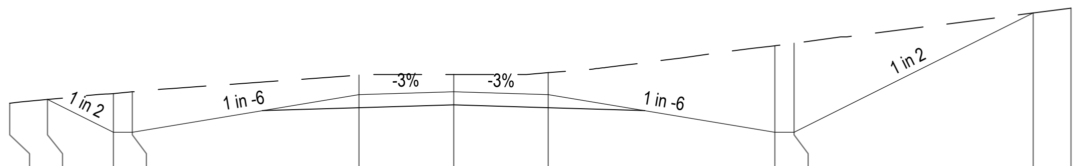
12/03/2026 3:46:10 PM File: C:\Users\BrentonRake\OSE Group\Operations - Docs\Projects\2025\25350 Mt Fullstop Quarry Entrance\Drawings\Working\25350_DESIGN_INTERNAL ROAD.dwg



DATUM RL 374.600

FINISHED SURFACE LEVEL		377.000	378.266	378.341	378.266	377.000	
SUBGRADE LEVEL			377.916	377.991	377.916		
EXISTING SURFACE LEVEL	377.000	377.000	377.000	377.000	377.000	377.000	377.000
OFFSET	-11.097	-10.097	-2.500	0.000	2.500	10.097	11.097

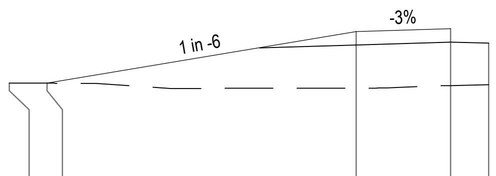
CH 60.000



DATUM RL 373.100

FINISHED SURFACE LEVEL		376.338	375.466	375.466	376.466	376.541	376.466	375.466	375.466	378.629	
SUBGRADE LEVEL					376.116	376.191	376.116				
EXISTING SURFACE LEVEL	376.238	376.338	376.493	376.538	376.985	377.000	377.047	377.764	377.830	378.629	378.757
OFFSET	-11.744	-10.744	-9.000	-8.500	-2.500	0.000	2.500	8.500	9.000	15.326	16.326

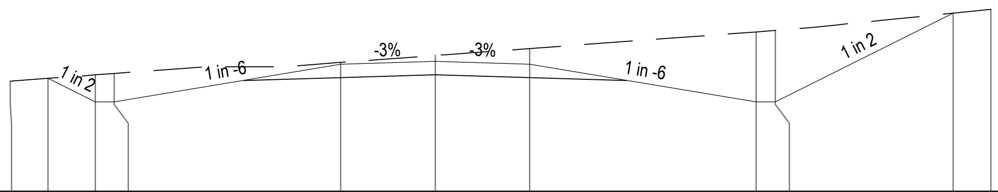
CH 120.000



DATUM RL 375.000

FINISHED SURFACE LEVEL		377.503	378.866	378.941	
SUBGRADE LEVEL			378.516	378.591	378.562
EXISTING SURFACE LEVEL	377.507	377.503	377.371	377.440	377.465
OFFSET	-11.677	-10.677	-2.500	0.000	1.000

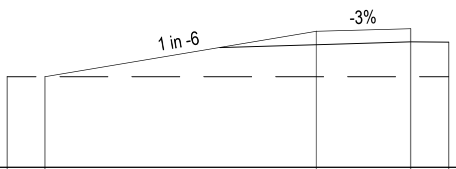
CH 40.000



DATUM RL 373.700

FINISHED SURFACE LEVEL		376.692	376.066	376.066	377.066	377.141	377.066	376.066	376.066	378.422	
SUBGRADE LEVEL					376.716	376.791	376.716				
EXISTING SURFACE LEVEL	376.618	376.692	376.785	376.822	377.115	377.303	377.485	377.927	377.964	378.422	378.524
OFFSET	-11.252	-10.252	-9.000	-8.500	-2.500	0.000	2.500	8.500	9.000	13.711	14.711

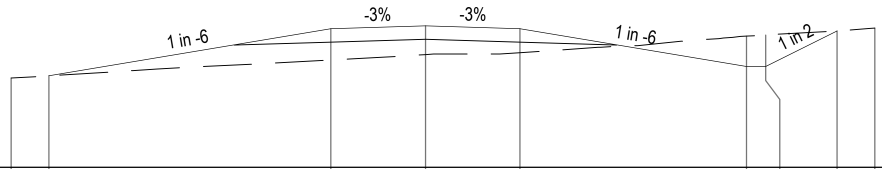
CH 100.000



DATUM RL 375.600

FINISHED SURFACE LEVEL		378.000	379.198	379.273	
SUBGRADE LEVEL			378.848	378.923	378.912
EXISTING SURFACE LEVEL	378.000	378.000	378.000	378.000	378.000
OFFSET	-10.690	-9.690	-2.500	0.000	1.000

CH 28.928



DATUM RL 374.000

FINISHED SURFACE LEVEL		376.422	377.666	377.741	377.666	376.666	376.666	377.612	
SUBGRADE LEVEL			377.316	377.391	377.316				
EXISTING SURFACE LEVEL	376.363	376.422	376.842	376.986	377.036	377.472	377.502	377.612	377.687
OFFSET	-10.963	-9.963	-2.500	0.000	2.500	8.500	9.000	10.892	11.892

CH 80.000

B 12.03.26 REVISED SUBMISSION FOR APPROVAL
A 12.02.26 FOR APPROVAL
REV DATE REVISION NOTES

SCALE 1:200 | Orig. Sheet A3
DO NOT SCALE DRAWINGS
Scales Before Reduction
1 0 1 2 3 4 5 m

DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

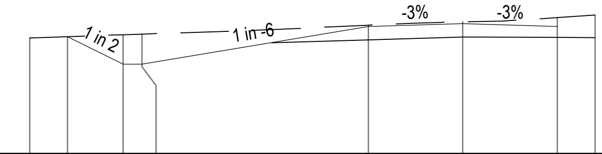
CLIENT
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT
MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN DM | DRAWING CHECK AMcP | APPROVED
DESIGNED DM | DESIGN REVIEW AMcP | DATE -

TITLE
INTERNAL ROAD 2 - ANNOTATED CROSS SECTIONS - SHEET 1 OF 3

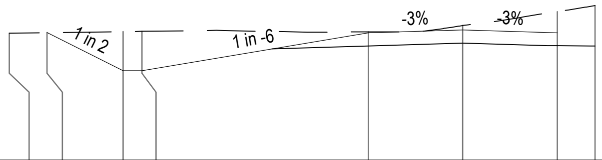
SCALE (Scale as shown) | DRAWING No 25350-C129 | REV B



DATUM RL 371.300

FINISHED SURFACE LEVEL		374.401	373.666	373.666	374.666	374.741	374.666	
SUBGRADE LEVEL					374.316	374.391	374.378	374.372
EXISTING SURFACE LEVEL	374.367	374.401	374.450	374.467	374.702	374.797	374.905	374.971
OFFSET	-11.469	-10.469	-9.000	-8.500	-2.500	0.000	2.500	3.500

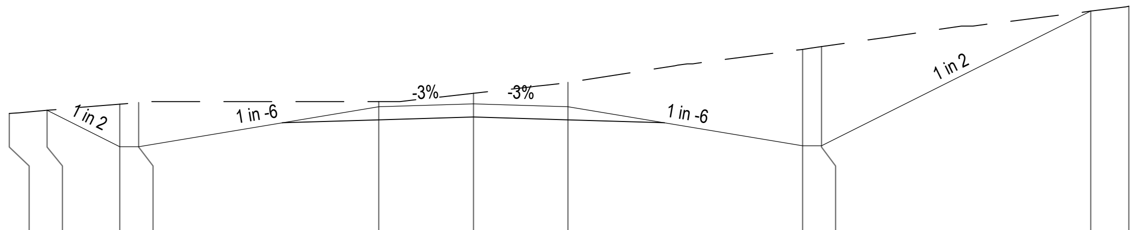
CH 180.000



DATUM RL 371.900

FINISHED SURFACE LEVEL		375.270	374.266	374.266	375.266	375.341	375.266	
SUBGRADE LEVEL					374.916	374.991	374.922	374.913
EXISTING SURFACE LEVEL	375.257	375.270	375.296	375.302	375.289	375.454	375.824	375.979
OFFSET	-12.008	-11.008	-9.000	-8.500	-2.500	0.000	2.500	3.500

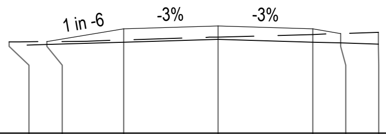
CH 160.000



DATUM RL 372.500

FINISHED SURFACE LEVEL		375.768	374.808	374.808	375.866	375.941	375.866	374.832	374.832	378.393	
SUBGRADE LEVEL					375.516	375.591	375.516				
EXISTING SURFACE LEVEL	375.683	375.768	375.934	375.973	376.000	376.218	376.508	377.382	377.454	378.393	378.520
OFFSET	-12.272	-11.272	-9.351	-8.851	-2.500	0.000	2.500	8.707	9.207	16.330	17.330

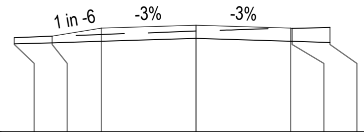
CH 140.000



DATUM RL 369.700

FINISHED SURFACE LEVEL		372.128	372.466	372.541	372.466	372.343	
SUBGRADE LEVEL		372.055	372.116	372.191	372.116	372.094	372.064
EXISTING SURFACE LEVEL	372.123	372.128	372.176	372.250	372.319	372.343	372.375
OFFSET	-5.529	-4.529	-2.500	0.000	2.500	3.240	4.240

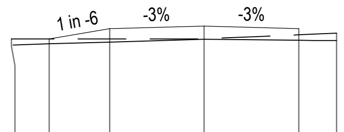
CH 240.000



DATUM RL 367.700

FINISHED SURFACE LEVEL		370.219	370.436	370.511	370.436	370.429	
SUBGRADE LEVEL	370.017	370.047	370.086	370.161	370.086	370.084	370.054
EXISTING SURFACE LEVEL	370.183	370.219	370.265	370.355	370.428	370.429	370.452
OFFSET	-4.803	-3.803	-2.500	0.000	2.500	2.543	3.543

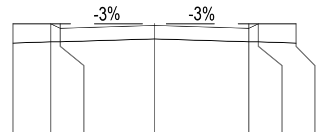
CH 300.000



DATUM RL 370.500

FINISHED SURFACE LEVEL		373.000	373.266	373.341	373.266	
SUBGRADE LEVEL		372.868	372.916	372.991	372.963	372.953
EXISTING SURFACE LEVEL	373.000	373.000	373.000	373.000	373.106	373.152
OFFSET	-5.097	-4.097	-2.500	0.000	2.500	3.500

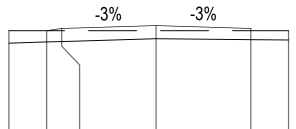
CH 220.000



DATUM RL 368.100

FINISHED SURFACE LEVEL		371.000	370.876	370.951	370.876	371.000	
SUBGRADE LEVEL	370.488	370.518	370.526	370.601	370.526	370.518	370.488
EXISTING SURFACE LEVEL	371.000	371.000	371.000	371.000	371.000	371.000	371.000
OFFSET	-3.748	-2.748	-2.500	0.000	2.500	2.748	3.748

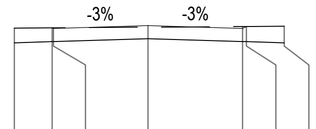
CH 280.000



DATUM RL 371.300

FINISHED SURFACE LEVEL		374.000	374.066	374.141	374.066	
SUBGRADE LEVEL	373.674	373.704	373.716	373.791	373.768	373.758
EXISTING SURFACE LEVEL	374.000	374.000	374.000	374.000	374.000	374.000
OFFSET	-3.897	-2.897	-2.500	0.000	2.500	3.500

CH 200.000



DATUM RL 368.900

FINISHED SURFACE LEVEL		371.680	371.666	371.741	371.666	371.716	
SUBGRADE LEVEL	371.285	371.315	371.316	371.391	371.316	371.313	371.283
EXISTING SURFACE LEVEL	371.673	371.680	371.681	371.698	371.716	371.716	371.723
OFFSET	-3.528	-2.528	-2.500	0.000	2.500	2.600	3.600

CH 260.000

B 12.03.26 REVISED SUBMISSION FOR APPROVAL
A 12.02.26 FOR APPROVAL
REV DATE REVISION NOTES

SCALE 1:200 | Orig. Sheet A3
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DESIGNER
OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

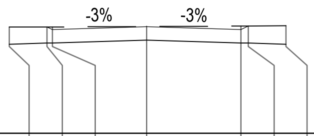
CLIENT
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT
MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN DM | DRAWING CHECK AMcP | APPROVED
DESIGNED DM | DESIGN REVIEW AMcP | DATE -

TITLE
INTERNAL ROAD 2 - ANNOTATED CROSS SECTIONS - SHEET 2 OF 3

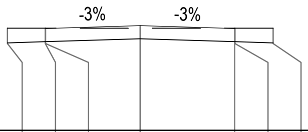
SCALE (Scale as shown) | DRAWING No 25350-C130 | REV B



DATUM RL 367.000

FINISHED SURFACE LEVEL		369.815	369.745	369.820	369.745	369.841		
SUBGRADE LEVEL	369.361	369.391	369.395	369.470	369.395	369.390	369.360	
EXISTING SURFACE LEVEL	369.811	369.815	369.816	369.828	369.840	369.841	369.845	
OFFSET	-3.640	-2.640	-2.500	0.000	2.500	2.690	3.690	

CH 331.382



DATUM RL 367.300

FINISHED SURFACE LEVEL		370.000	369.996	370.071	369.996	370.000		
SUBGRADE LEVEL	369.616	369.646	369.646	369.721	369.646	369.646	369.616	
EXISTING SURFACE LEVEL	370.000	370.000	370.000	370.000	370.000	370.000	370.000	
OFFSET	-3.508	-2.508	-2.500	0.000	2.500	2.508	3.508	

CH 320.000

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:200 | Orig. Sheet A3

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Scales Before Reduction

1 0 1 2 3 4 5 m

DESIGNER

OSE GROUP
Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT

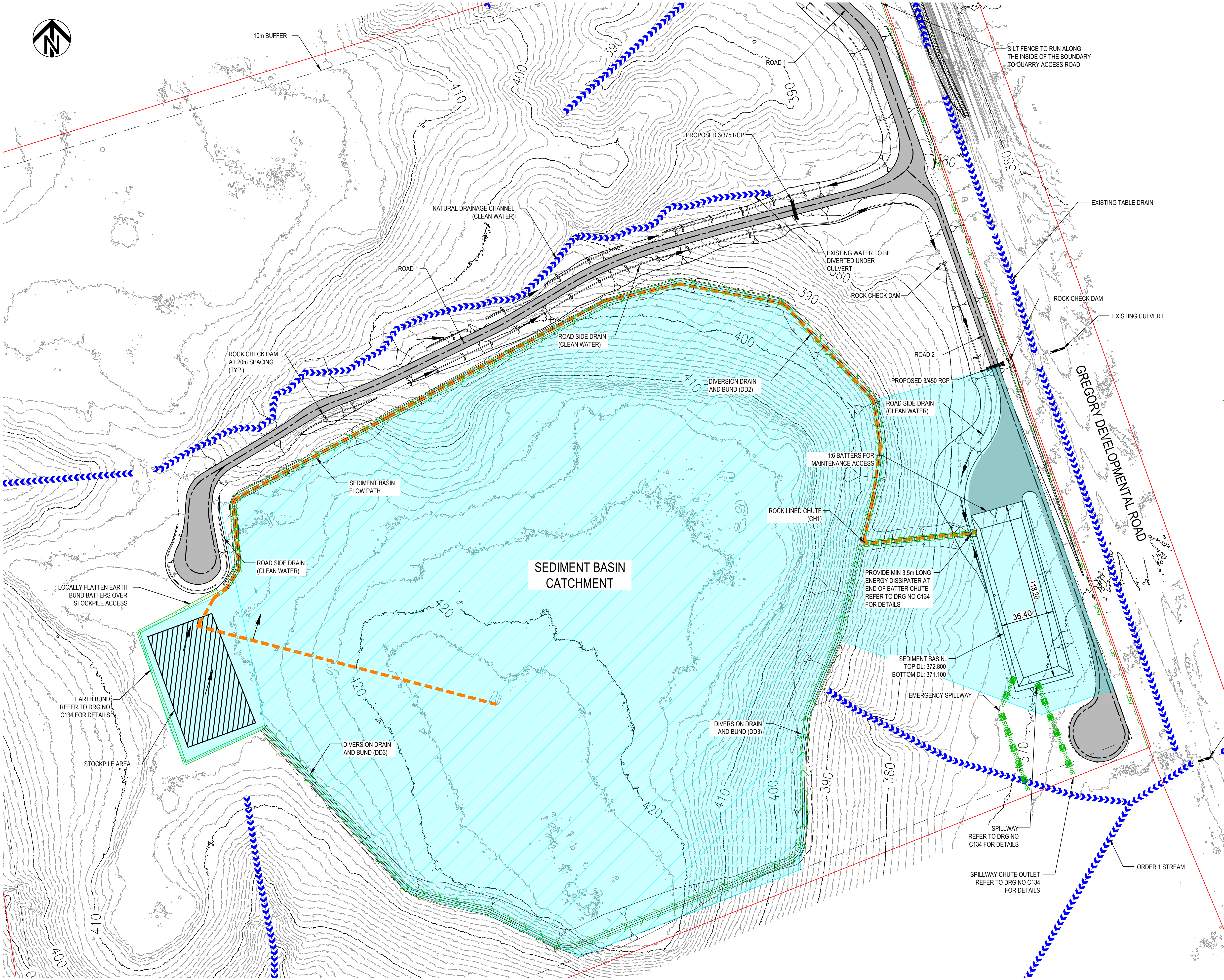
BOLWARRA ENTERPRISES
CRUSHING & SCREENING

PROJECT
MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

TITLE
INTERNAL ROAD 2 - ANNOTATED CROSS SECTIONS - SHEET 3 OF 3

SCALE	DRAWING No	REV
(Scale as shown)	25350-C131	B



NOTES:

1. DETAILS SHOWN ON THESE REPRESENT PROPOSED MINIMUM REQUIREMENTS FOR ONE POSSIBLE METHOD TO ACHIEVE COMPLIANCE WITH LEGISLATION TO PREVENT ENVIRONMENTAL HARM FROM EROSION AND SEDIMENT TRANSFER OFF THE SITE.
2. DRAWINGS ARE INDICATIVE ONLY. DO NOT SCALE DRAWINGS.
3. ROAD WIDTHS HAVE BEEN SHOWN INDICATIVELY ONLY.
4. ENERGY DISSIPATER TO BE INSTALLED AT BASE OF ROCK LINED BATTER CHUTE.
5. REFER TO DRG NO. C134 FOR SEDIMENT BASIN AND DIVERSION DRAIN DETAILS
6. REFER TO DRG NO. C101 FOR EROSION SEDIMENT CONTROL NOTES.

LEGEND:

- EXISTING CULVERT
- EXISTING DRAINAGE PATH
- EARTH BUND
- DIVERSION DRAIN
- ROCK LINED CHUTE
- SPILLWAY
- ULTIMATE EXTRACTION AREA
- STOCKPILE AREA
- PROPOSED ROADS
- ROCK CHECK DAM MIN. HEIGHT 0.3m SPACED AT EVERY 20m ALONG TABLE DRAIN
- (SF) SILT FENCE

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:2500 | Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction

12.5 0 12.5 25.0 37.5 50.0 62.5 m

DESIGNER

OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT

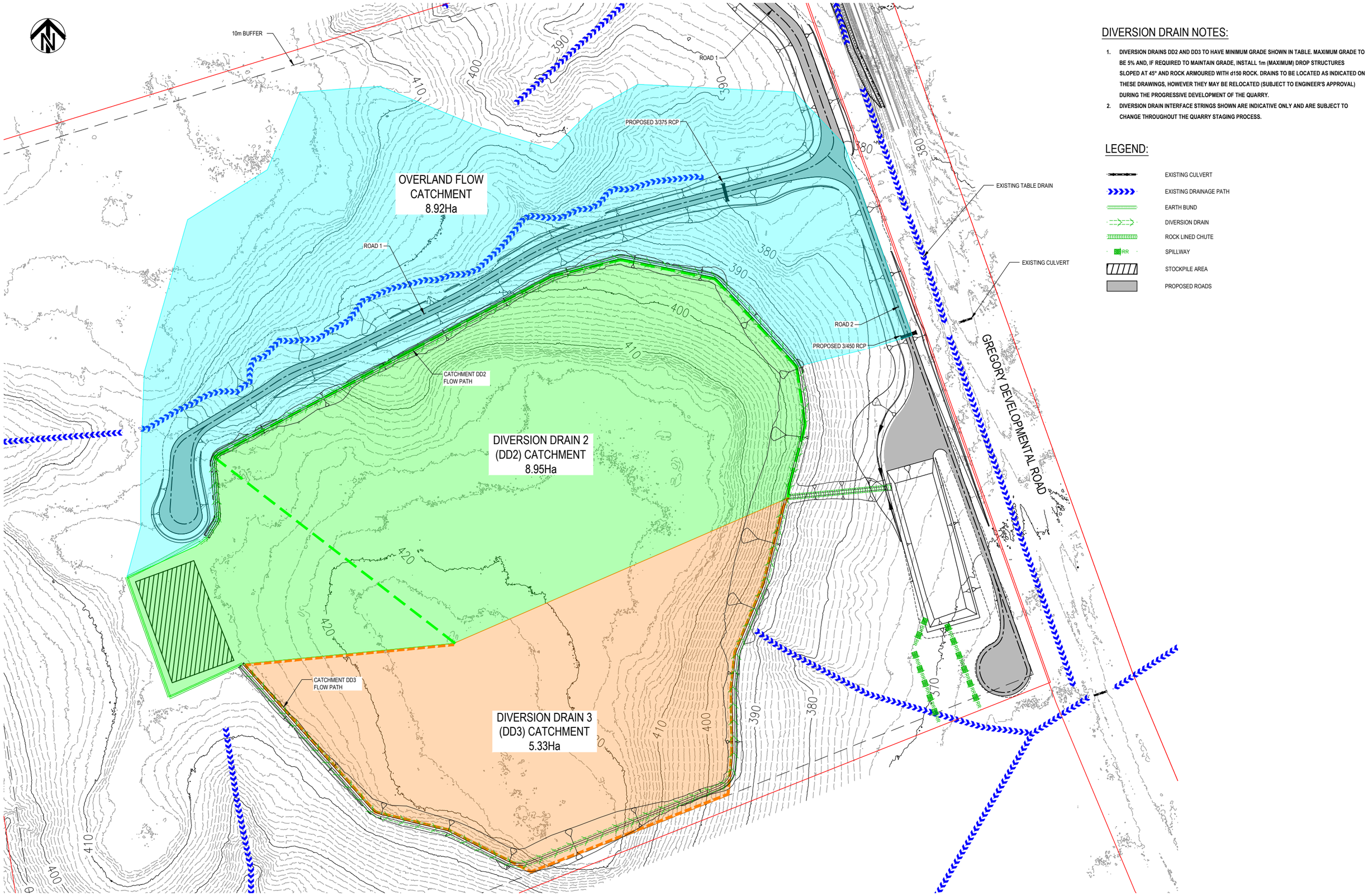
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

TITLE: GENERAL ARRANGEMENT PLAN - SEDIMENT BASIN AND SOIL EROSION AND SEDIMENT CONTROL

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

SCALE (Scale as shown) | DRAWING No 25350-C132 | REV B



DIVERSION DRAIN NOTES:

1. DIVERSION DRAINS DD2 AND DD3 TO HAVE MINIMUM GRADE SHOWN IN TABLE. MAXIMUM GRADE TO BE 5% AND, IF REQUIRED TO MAINTAIN GRADE, INSTALL 1m (MAXIMUM) DROP STRUCTURES SLOPED AT 45° AND ROCK ARMOURED WITH d150 ROCK. DRAINS TO BE LOCATED AS INDICATED ON THESE DRAWINGS, HOWEVER THEY MAY BE RELOCATED (SUBJECT TO ENGINEER'S APPROVAL) DURING THE PROGRESSIVE DEVELOPMENT OF THE QUARRY.
2. DIVERSION DRAIN INTERFACE STRINGS SHOWN ARE INDICATIVE ONLY AND ARE SUBJECT TO CHANGE THROUGHOUT THE QUARRY STAGING PROCESS.

LEGEND:

- EXISTING CULVERT
- EXISTING DRAINAGE PATH
- EARTH BUND
- DIVERSION DRAIN
- ROCK LINED CHUTE
- SPILLWAY (RR)
- STOCKPILE AREA
- PROPOSED ROADS

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:2500 | Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction

12.5 0 12.5 25.0 37.5 50.0 62.5 m

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OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT

BOLWARRA ENTERPRISES
CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

TITLE: CATCHMENT PLAN - SEDIMENT BASIN

SCALE (Scale as shown) | DRAWING No 25350-C133 | REV B

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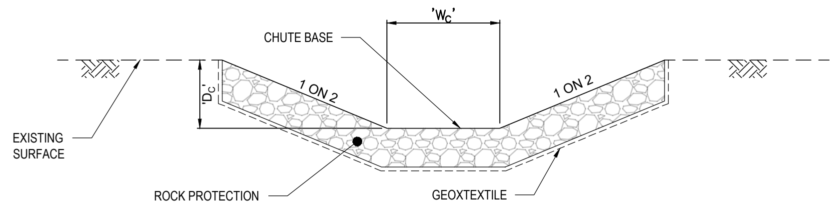
SEDIMENT BASIN NOTES:

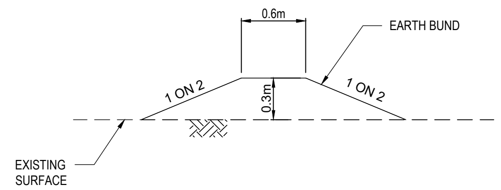
1. DETAILS SHOWN ON THESE REPRESENT PROPOSED MINIMUM REQUIREMENTS FOR ONE POSSIBLE METHOD TO ACHIEVE COMPLIANCE WITH LEGISLATION TO PREVENT ENVIRONMENTAL HARM FROM EROSION AND SEDIMENT TRANSFER OFF THE SITE.
2. DRAWINGS ARE INDICATIVE ONLY. DRAWINGS ARE NOT TO BE SCALED.
3. EARTH EMBANKMENTS GREATER THAN 1m TO BE BE CERTIFIED BY SUPERVISING ENGINEER OR GEOTECHNICAL ENGINEER.
4. MINIMUM EMBANKMENT CREST WIDTH TO BE 2.5m UNLESS JUSTIFIED BY SUPERVISING ENGINEER OR GEOTECHNICAL ENGINEER.
5. EARTH FILL FOR EMBANKMENTS SHALL BE CLEAN SOIL NON-DISPERSIVE SOIL AND FREE OF ROOTS, WOODY VEGETATION, ROCKS AND OTHER UNSUITABLE MATERIAL. FILL MATERIAL TO FROM EMBANKMENT TO BE CERTIFIED BY SUPERVISING ENGINEER OR GEOTECHNICAL ENGINEER.
6. SPILLWAY ROCK SHALL BE HARD, ANGULAR, DURABLE WEARTHER RESISTANT AND EVENLY GRADED ROCK WITH 50% BY WEIGHT LARGER THAN THE SPECIFIED NOMINAL d_{50} ROCK SIZE. THE DIAMETER OF THE LARGEST ROCK SIZE SHOULD BE NO GREATER THAN 1.5 TIMES THE NOMINAL ROCK SIZE. SPECIFIC GRAVITY SHALL BE AT LEAST 2.5.
7. SEDIMENT BASIN DETAILS AND DIMENSIONS SHOWN PROVIDE ONE POSSIBLE METHOD OF ACHIEVE MINIMUM REQUIRED SEDIMENT BASIN VOLUMES.
8. NOMINAL ROCK SIZING, d_{50}, SHOWN IN SPILLWAY TABLE ARE RECOMMENDED ROCK SIZING BASED ON ARI 50 FLOW VELOCITY

DIVERSION DRAIN NOTES:

1. DIVERSION DRAINS DD2 AND DD3 TO HAVE MINIMUM GRADE SHOWN IN TABLE. MAXIMUM GRADE TO BE 5% AND, IF REQUIRED TO MAINTAIN GRADE, INSTALL 1m (MAXIMUM) DROP STRUCTURES SLOPED AT 45° AND ROCK ARMOURED WITH d150 ROCK. DRAINS TO BE LOCATED AS INDICATED ON THESE DRAWINGS, HOWEVER THEY MAY BE RELOCATED (SUBJECT TO ENGINEER'S APPROVAL) DURING THE PROGRESSIVE DEVELOPMENT OF THE QUARRY.

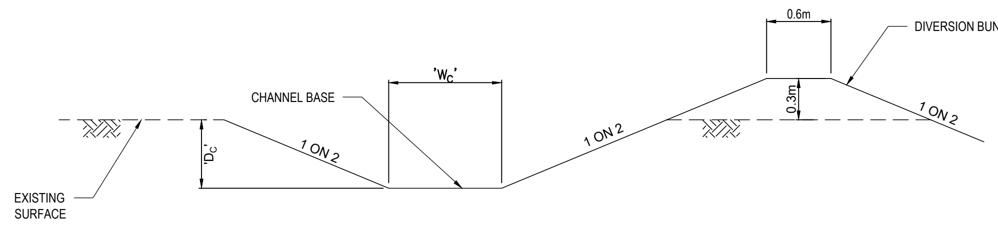


OUTLET CHUTE DETAIL
NTS



TYPICAL SECTION EARTH BUND
NTS

DIVERSION DRAIN & BATTER CHUTE DIMENSIONS (Q5)			
PARAMETER	DD2	DD3	CH1
BATTER SLOPE (1 IN X)	2	2	2
BASE WIDTH (m) 'Wc'	1.50	1.50	2.00
DEPTH (m) 'Dc'	0.50	0.50	0.50
MINIMUM SLOPE (%)	0.50	0.50	25.00

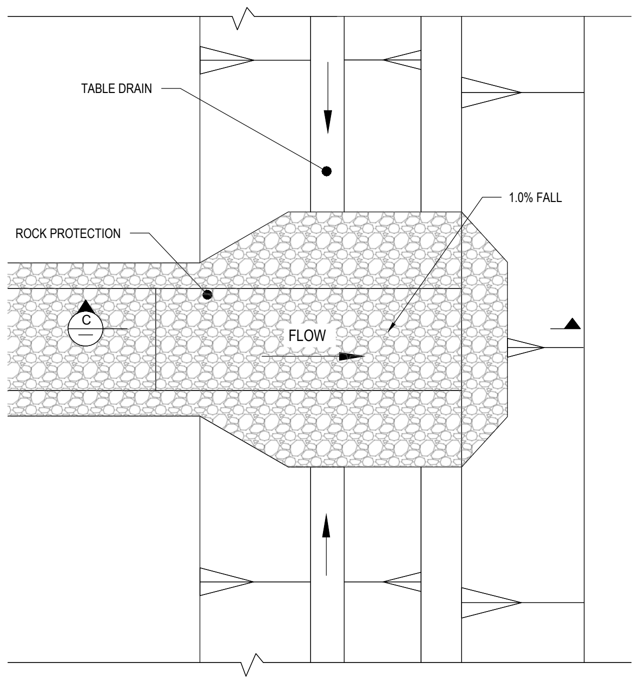


TYPICAL SECTION DIVERSION DRAIN WITH BUND
NTS

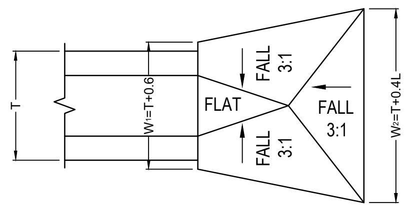
NOMINAL DIMENSIONS FOR SPILLWAY AND ROCK PROTECTION (Q50)	
PARAMETER	BASIN
SPILLWAY BASE WIDTH (m) 'W'	3.50
SPILLWAY DEPTH (m) 'd'	0.40
NOMINAL ROCK SIZE (m) 'd_{50}'	0.30

SPILLWAY CHUTE OUTLET DIMENSIONS					
PARAMETER	T	L	W_1	W_2	d_{50}
CH1	3.6m	4.3m	4.2m	5.3m	300mm

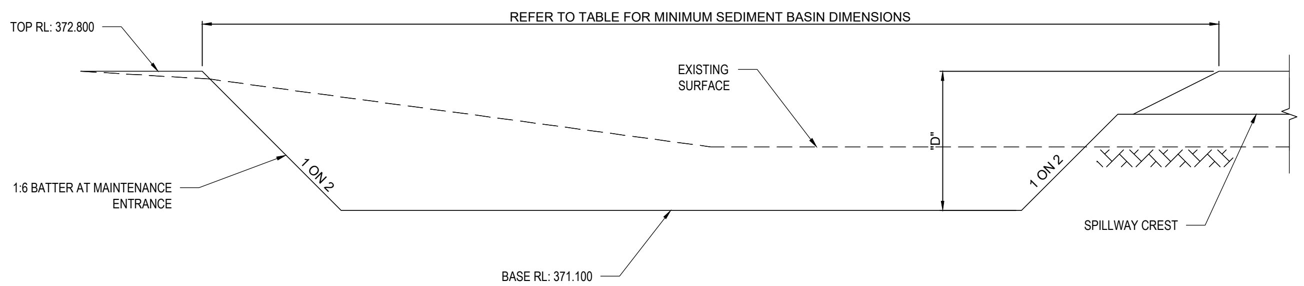
SEDIMENT BASIN MINIMUM DIMENSIONS	
PARAMETER	BASIN
CATCHMENT (ha)	21.23
BATTER SLOPE (1 in x)	4
TOP WIDTH (m)	39.00
TOP LENGTH (m)	114.00
SETTLING ZONE DEPTH (m)	0.65
SEDIMENT STORAGE DEPTH (m)	0.65
BASIN DESIGN DEPTH (m)	1.3
FREEBOARD (m)	0.40
TOTAL DEPTH "D" (m)	1.70
BASIN VOLUME (m^3)	3,741



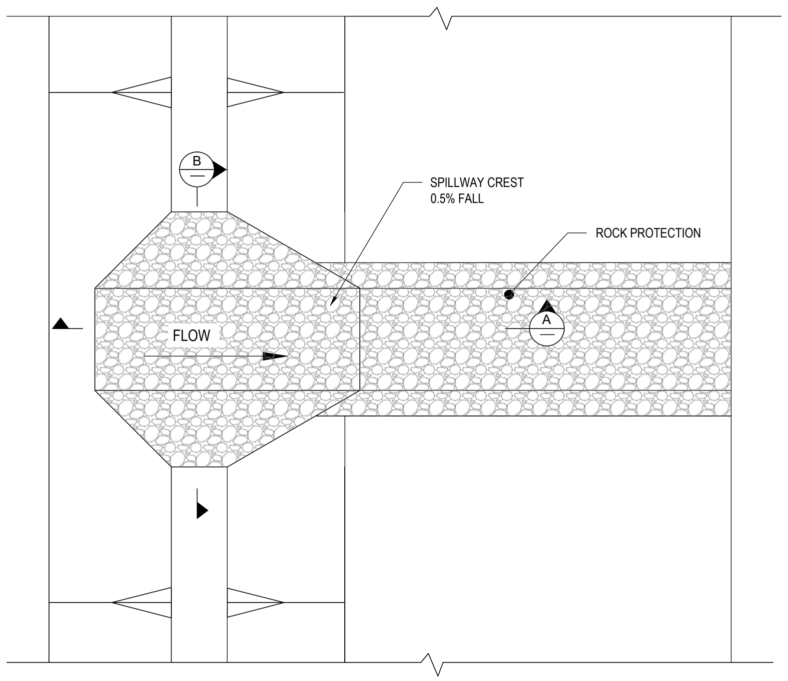
TYPICAL CHUTE INLET PLAN
NTS

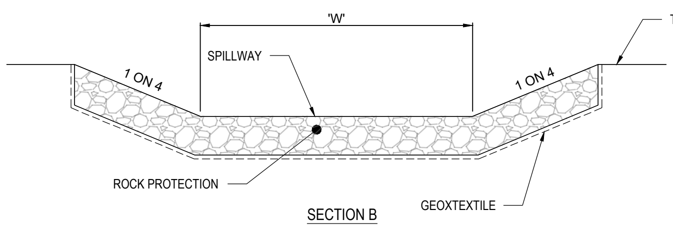


CHUTE OUTLET
NTS

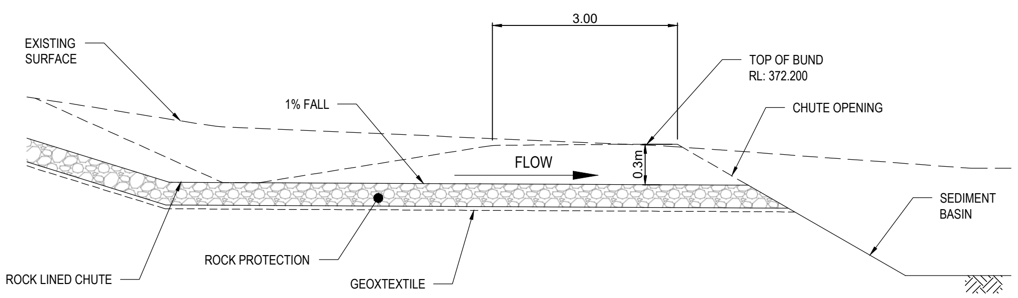


TYPICAL SECTION
SEDIMENT BASIN
NTS

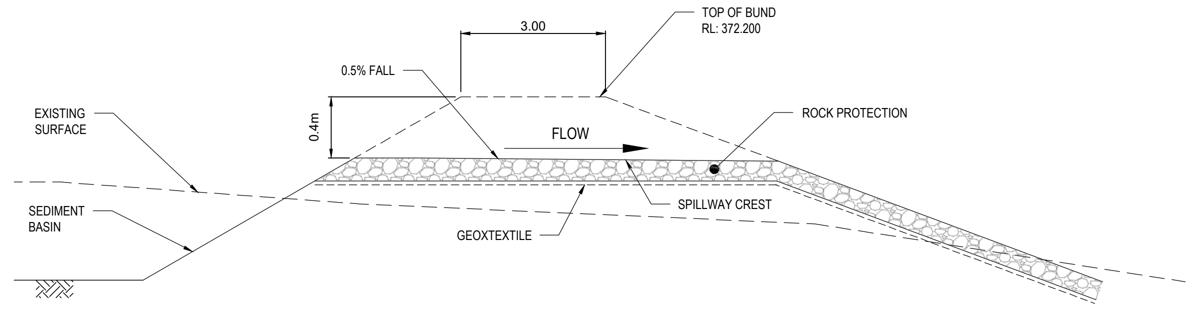




SECTION B
NTS



SECTION C - CHUTE INLET
NTS



SECTION A - BASIN SPILLWAY
NTS

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:2500 | Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction

12.5 0 12.5 25.0 37.5 50.0 62.5 m

DESIGNER

OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT

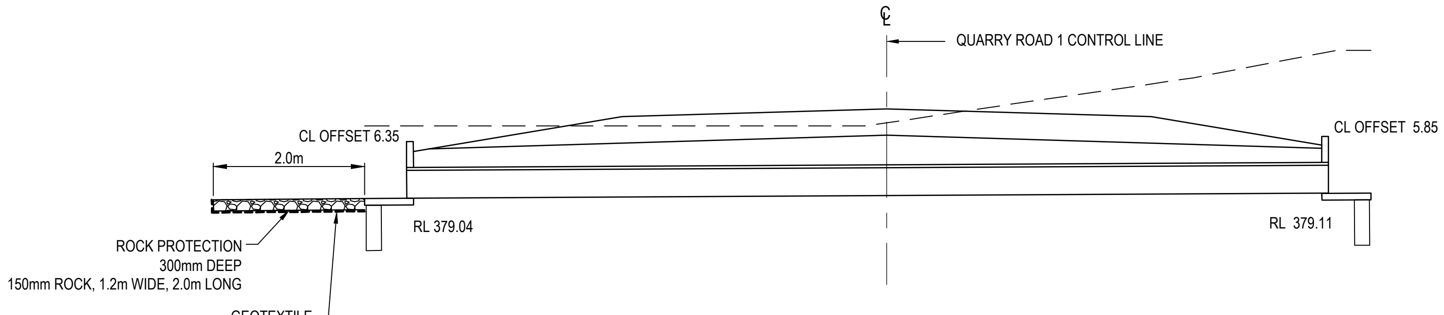
BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

TITLE: SEDIMENT BASIN DETAILS

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

SCALE (Scale as shown) | DRAWING No 25350-C134 | REV B



3/375 RCP (15/2.44) (CLASS 3, BUTT JOINT) (12.20 OUTSIDE OF WALLS) ROAD 1 CH 370

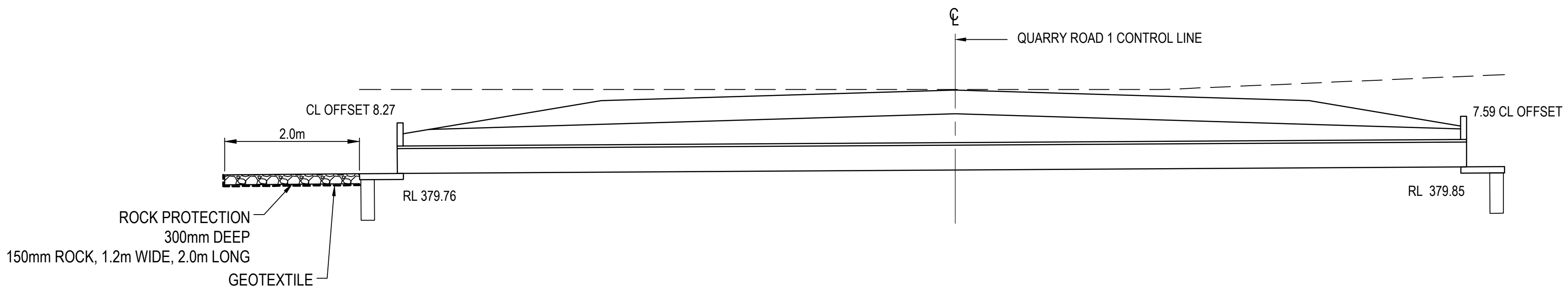
PRECAST HEADWALLS 2 OFF

OVERLAY MATERIAL 10.7m³ BACKFILL MATERIAL 3.2m³

BEDDING/HAUNCH MATERIAL 5.7m³ (HS3)

STANDARD DRAWINGS - TMR 1243, 1359

BASIS FOR DIMENSIONS:
EXTERNAL DIA. 445mm, PIPE THICK. 38mm, HEADWALL HT. 343mm



3/375 RCP (3/1.22 18/2.44) (CLASS 3, BUTT JOINT) (15.86 OUTSIDE OF WALLS) ROAD 1 CH 91.777

PRECAST HEADWALLS 2 OFF

OVERLAY MATERIAL 13.9m³ BACKFILL MATERIAL 4.0m³

BEDDING/HAUNCH MATERIAL 7.5m³ (HS3)

STANDARD DRAWINGS - TMR 1243, 1359

BASIS FOR DIMENSIONS:

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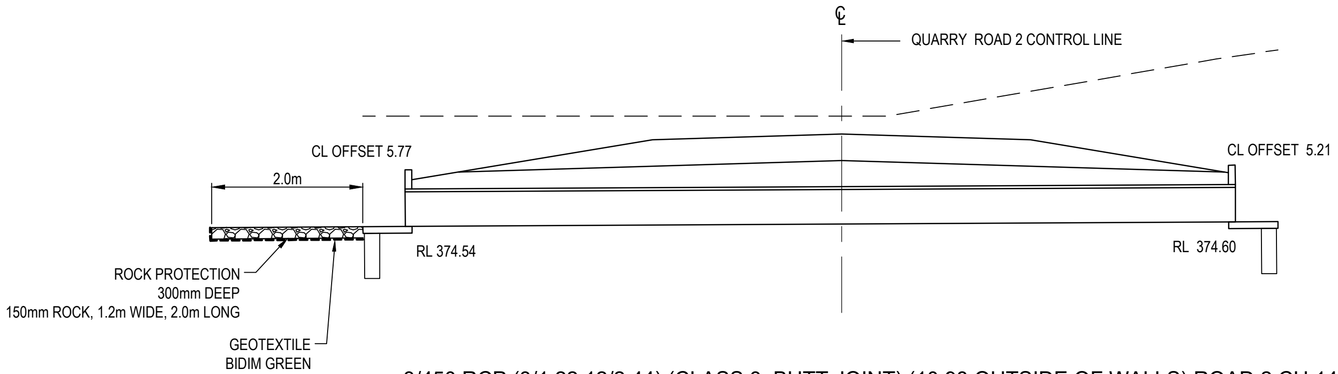


3/450 RCP (3/1.22 12/2.44) (CLASS 3, BUTT JOINT) (10.98 OUTSIDE OF WALLS) ROAD 2 CH 146

PRECAST HEADWALLS 2 OFF

OVERLAY MATERIAL 10.9m³ BACKFILL MATERIAL 3.4m³

BEDDING/HAUNCH MATERIAL 6.0m³ (HS3)

STANDARD DRAWINGS - TMR 1243, 1359

BASIS FOR DIMENSIONS:

EXTERNAL DIA. 534mm, PIPE THICK. 38mm, HEADWALL HT. 255mm

REV	DATE	REVISION NOTES
B	12.03.26	REVISED SUBMISSION FOR APPROVAL
A	12.02.26	FOR APPROVAL

SCALE 1:2500 — Orig. Sheet A3

DO NOT SCALE DRAWINGS

Scales Before Reduction

12.5 0 12.5 25.0 37.5 50.0 62.5 m

DESIGNER: OSE GROUP

Address: 35 ABBOTT ST, CAIRNS 4870
Email: admin@osegroup.com.au

CLIENT: BOLWARRA ENTERPRISES CRUSHING & SCREENING

PROJECT: MT FULLSTOP QUARRY - GREGORY DEVELOPMENT ROAD. INTERSECTION UPGRADE

TITLE: DRAINAGE CROSS SECTIONS

DRAWN	DRAWING CHECK	APPROVED
DM	AMcP	
DESIGNED	DESIGN REVIEW	DATE -
DM	AMcP	

SCALE	DRAWING No	REV
(Scale as shown)	25350-C135	B

Mt Fullstop Quarry

Sediment Basin and diversion drains

:

Mount Fullstop Quarry

Hydrologic &Hydraulic Assessment

Hydrology Assessment• Time of Concentration , tc

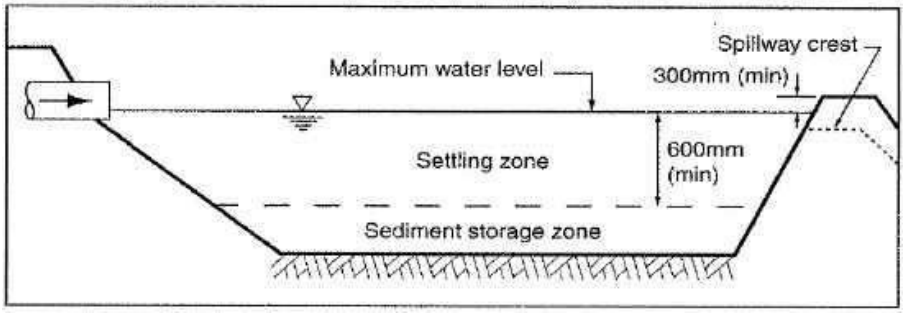
Structure Type	Location ID	Catchment Area	Time of Concentration		
			Bransby Williams Eqt.		
			Flow Path	Slope	l o
		(ha)	km	(%)	(min)
Spillway	SB	21.23	0.882	5.30	27.0
Diversion Channel 1	DC1	7.83	0.882	5.30	29.8
Diversion Channel 2	DC2	5.46	0.803	3.76	30.1
Diversion Channel 3	DC3	5.33	0.803	3.10	31.4
Rock lined chute	CH1	9.70	0.647	6.90	20.3

Hydrology Assessment• Design Flow , Q

Structure Type	Location ID	Design Flow								
		Design ARI	le	Rainfall Intensity I	1110	Fraction Impervious f,	Frequency Factor F	C10	C y	Flow Rate Q
			(min)	(mm/hr)	(mm/hr)					(m3/s)
Spillway	SB	50	11.1	119.8	119.78		1.15	0.90	1.00	7.069
Diversion Channel 1	DC1	50	29.8	79.9	59.43		0.95	0.70	0.67	1.157
Diversion Channel 2	DC2	50	30.1	79.5	59.43		0.95	0.70	0.67	0.803
Diversion Channel 3	DC3	50	31.4	77.9	59.43		0.95	0.70	0.67	0.768
Rock lined chute	CH1	50	20.3	95.4	59.43		0.95	0.70	0.67	1.711

Mount Fullstop Quarry

Sediment Basin Desiqn



INPUT

Catchment (S81)

1) Proposed Sediment Basin Dimensions

Parameter	Value	Comments
Basin Type	D	To be confirmed upon receive of geotechnical results
Catchment (ha)	21.23	
Batter Slope (1 on x)	4	Assumed batter slope
Top Width (m)	38.6	
Top Length (m)	113.6	IECA Min. desirable length to width ratio 3:1
Bottom Width (m)	25	Assumed dimension
Bottom Length (m)	100	Approx. 4:1 ratio gives to ratio of 3:1
Design Water Depth (m)	1.30	
Freeboard (m)	0.4	IECA minimum freeboard,
Total Basin Depth (m)	1.70	Overall depth including freeboard

2) Settling Zone & Sediment Storage Zone

Parameter	Units	Value	Comments
Batter slope	m/m	0.250	
Volumetric runoff coefficient, C,		100	Assumed worse case compacted clay
Catchment area, A	ha	21.23	
Constant, K1		17	IECA Appendix B - Table B4 (2008)
Constant, K		112	y% = 80% - Basins with a design life >6 months
Average rainfall intensity, I (5yr 24hr)	mm/hr	541	Refer IFD
Rainfall depth, R(y%1-day)		1040	R = K11(5yr,24hr) + K2
Settling volume, V,	m^3	2208	DES Stormwater and environmentally relevant activities V, = R,C A
Sediment storage volume	m^3	1104	DES Stormwater and environmentally relevant activities, IECA Table B8 - 50% of settling volume
Total Sediment Basin Volume required	m^3	3312	

3) Proposed Sediment Basin Dimension Checks

Parameter	Units	Value	Comments
Basin Design Depth	m	1.30	
Top Width	m	35.4	
Top Length	m	110.4	
Bottom Width	m	25	
Bottom Length	m	100	
Proposed Sediment Basin Volume	m^3	3741	OK Equal or greater than total volume require d

4) Proposed Settling Zone volume and depth

Parameter	Units	Value	Comments
Proposed Settling Depth	m	0.65	Iterate
Top Width	m	35.4	
Top Length	m	110.4	
Bottom Width	m	30.2	
Bottom Length	m	105.2	
Proposed Settling Volume	m3	2194	WARNING Less than Settling Volume required

5) Trapezoidal Spillway Wier Crest

Parameter	Units	Value	Comments
ARI 50 Flow	m l s	7 07	
Water Depth	m	032	Not including freeboard
Spillway Slope (1 on x)	m	4	
Spillway Base Width	m	4.5	
Flow (Q)	m l s	7.13	OK Equal or greater than ARI 50 Flow

6) Minimum Sediment Basin Sizing

Batter Slope (1 on x)	4	
Basin Top of Bank Width	38.60	m
Basin Top of Bank Length	113.60	m
Settling Zone Depth	0.65	m
Sediment Storage Depth	0.65	m
Basin Design Depth	1.30	m
Freeboard	0.40	m
Overall Basin Depth incl. freeboard	1.70	m
Sediment Basin Storage Capacity	3741	m^3

7) Rock Size

SF	1.50		Safety Factor (high risk)
k_1			Correction factor for rock grading (angular)
k_2			Correction factor for rock grading (well graded)
So		/m	Bed slope
q		m^3/s/m	ff ow per unit width
Sr			Specific gravity of rock (granite)
d_{50}			Mean Rock size of which 50% are smaller
Adopted d50			Adopted d50
Minimum thickness	0.480	m	Size distribution d50/d90 = 0.8

8) Dissipater Length

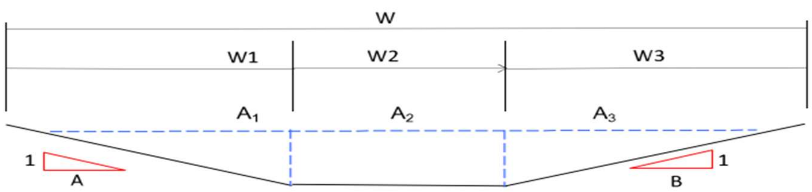
Length of dissipator	3.86	m	Catchment and Creeks, Energy Dissipaters, Table 1 - Energy Dissipaters
Recess depth	0.414	m	Catchment and Creeks, Energy Dissipaters, Table 2

Mount Fullstop Quarry

Open drain• Trapizoidal Shaped

Maoo;ogs

	Input
	Output



	Channel Flow Properties								Flow Properties						overall Drain Dimensions						
Location ID	Design Flow rate Q (m'l s)	LHS Slope A (m)	RHS Slope B)	Base width (m)	Material	Mannning's	Channel Slope (m /m)	Flow depth (m)	Flow Area A (m')	Wetted perimeterr (m)	Hydraulic Radius (m)	Capacity Q (m 'l ·)	Velocity v (m is)	Dgx v ave	Freeboard	Drain Depth þ	LHS batter width W1 (m)	Base Wdth W2 (m)	RHS Batter width W3 (m)	Total width w (m)	
SB	4 24	4.0	4.0	45	Rock Lined	0.025	0 100	0 32	1850	7139	0259	9508	5 141	1645	0 150	0470	1880	4500	1.880	8260	
DC1	116	2.0	2.0	15	Excavated earth channel	0.025	0.050	0 25	0 500	2618	0 150	1263	2525	0631	0 150	0400	0800	1500	0.800	3 100	
DC2	0.80	2.0	2.0	1.0	Excavated earth channel	0.025	0.050	0 25	0 375	2 118	0 150	0947	2525	0631	0 150	0400	0800	1000 See note 2 *	0800	2.600	
DC3	077	2.0	2.0	1.0	Excavated earth channel	0.025	0.050	0 25	0 375	2118	0 150	0947	2525	0631	0 150	0400	0800	1000	0.800	2.600	
CH1	171	2.0	2.0	2.0	Rock Lined	0.039	0 250	025	0.625	3118	0200	2744	4391	1098	0 150	0400	0800	2000	0.800	3.600	d50 = 100mm

Note, All channels to have min 150mm freeboard. Sediment basin spillways to have minimum 300mm freeboard. Overall dimensions do not include earth bunding where required. Refer to engineering details. Minimum channel grade as per table. Maximum Channel grade to be 5% and if required 1 metre drops (rock armoured at 45 degrees) to maintain maximum slope.

Note 2:- If DC1 is partly diverted and eliminated by table drain on internal road increase base width to 1500mm to take additional catchment from quarry area.

MILFORD PLANNING

Applicant	**Bolwarra Enterprises Pty Ltd**
Reference	**M2127**
Date	**February 2026**

Development Application

Proposed Development	**Operational Works associated with Development Permit MCU2024/0008 for Material Change of Use – Extractive Industry (Up to 100,000 tonnes Extraction and Screening per annum)**
Property Details	**Lot 4844 on PH1679 (Sales Permt Area only)** **50168 Gregory Development Road, Greenvale**

DOCUMENT CONTROL

Applicant	Bolwarra Enterprises Pty Ltd
Proposed Development	Operational Works associated with Development Permit MCU2024/0008 for Material Change of Use – Extractive Industry (Up to 100,000 tonnes Extraction and Screening per annum)
Contact	Sarah Jones

Quality Assurance		
Date 27.2.26 **Version** 4 **Issue** Final **Template** DA-STN-1	Electronic Libby Dixon TOWN PLANNER	Electronic Sarah Jones SENIOR TOWN PLANNER
	Author	**Reviewer**

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APPENDICES

Appendix 1	SmartMap; and site aerial plan of the subject site
Appendix 2	Sales Permit
Appendix 3	SARA Mapping
Appendix 4	Sales Permit
Appendix 5	Development Permit MCU2O24/0008
Appendix 6	Plans
Appendix 7	Stormwater Management Plan prepare by Langtree Consulting Engineers
Appendix 8	Site Classification and Wastewater Management System Report been prepared by Earth Test

1.0 INTRODUCTION

1.1 Purpose

The purpose of this development application is to seek approval for Operational Works associated with Development Permit MCU2204/0008 for Material Change of Use – Extractive Industry (Up to 100,000 tonnes Extraction and Screening per annum) (the proposed development) under the provisions of the *Planning Act 2016* (the Act).

The purpose of this report is to provide information about the site on which the subject development is proposed, detail of the proposed development, and an assessment against the relevant assessment benchmarks. The assessment detailed in this report has been undertaken in accordance with the provisions and subordinate planning controls under the Act.

1.2 Structure

This report provides the following information with respect to the assessment of the proposed development:

- overview of the site and surrounding area;
- description of the proposed development;
- overview of the relevant assessment framework; and
- assessment of the proposed development against the relevant assessment benchmarks.

2.0 SUBJECT SITE

2.1 Site Parameters

The following parameters are applicable to the site of the proposed development (the subject site).

Property Owner	Garry Lawrence and Trevor Alan Core (refer **Appendix 1**)
Street Address	50186 Gregory Development Road, Greenvale
Formal Description	Lot 4844 on PH1679
Site Area	47.49 ha (Sales Permit Area only) (refer **Appendix 2**)
Easements	The land is not burdened by any easements.
Street Frontage	Gregory Development Road
Topography	The site has generally even topography.
Existing Use	Grazing/ vacant
Existing Infrastructure	The site is not serviced by any existing infrastructure.
Local Heritage Register	The site is not listed on the Local Heritage Register.
Contaminated Land	The land is not known to be included on the State Environmental Management Register or Contaminated Land Register.
Relevant State Interests	The following State interests are relevant to the proposed development as detailed in the State Assessment Referral Agency (SARA) mapping (refer **Appendix 3**): ▪ Queensland waterways for waterway barrier works; ▪ Water resource planning area boundaries; ▪ Wetland protection area trigger area; ▪ Wetland protection area wetland; ▪ Regulated vegetation management map (Category A and B extract); ▪ State-controlled road; ▪ Area within 25m of a State-controlled road; and ▪ Future railway corridor.

2.2 Subject Site

The parent lot (Lot 4844 on PH1679) has a total area of 63,200 ha, however for the purposes of this development application, the subject site is limited to the approved Sales Permit area, which equates to 47.49 ha, refer overleaf to Figure 2 Detailed Site Map – Supply Zone, which is sourced from Sales Permit: 201909012.

Figure 2 **Detailed Site Map - Supply Zone**

2.3 Surrounding Area

North	Rural vacant undeveloped land, Burdekin River
East	Rural vacant undeveloped land, Burdekin River
South	Rural vacant undeveloped land, Burdekin River
West	Rural vacant undeveloped land

2.4 Environmentally Relevant Activity

Extracting and screening aggregate in the volume proposed are Environmentally Relevant Activities that require an Environmental Authority (EA) to be issued by the Department of Environment, Technology, Science and Innovation (DETSI). In accordance with Schedule 2, Part 4, Item 16 of the *Environmental Protection Regulation 2019* the relevant ERA are currently being sought from DETSI.

2.5 Sales Permit

The former Department of Agriculture, Fisheries and Forestry (DAFF) issued a Sales Permit under the *Forestry Act 1959*, refer to **Appendix 4**.

2.6 Approval Background

Charters Towers Regional Council issued an Amended Development Permit for a Material Change of Use (MCU2024/0008) - Extractive Industry (Up to 100,000 tonnes Extraction and Screening per annum) on 17 July 2025, refer to **Appendix 5**.

3.0 PROPOSED DEVELOPMENT

3.1 Description of Proposed Development

The proposed development involves Operational Works associated with Development Permit MCU2024/0008 for Material Change of Use – Extractive Industry (Up to 100,000 tonnes Extraction and Screening per annum). Specific detail of the proposed operational work is provided below.

Purpose of Development

The purpose of the proposed development is to undertake the required earthworks and civil works associated with MCU2024/0008.

The proposed earthworks and civil works are nominated as assessable development in Table 5.7.1 of Charters Towers Regional Town Plan 2020 (planning scheme).

Design Overview

The proposed extractive industry use proposes the establishment of a new quarry pit on a portion of the hill feature that is generally central to the designated supply zone area, refer to **Appendix 6**. The extraction pit has an area of approximately 3.25 ha. The extraction pit will primarily extract high-grade aggregate type material and will be limited to a maximum extraction rate of 100,000t of material per year. Stockpiles, on-site crushing and screening activities will be located adjacent to the primary pit area. The pit will be accessed via an internal access road and new intersection at the Gregory Development.

Operational Overview

The proposed extractive industry will operate under a 'campaign crushing' operational method. This involves undertaking a large-scale extraction (drilling and blasting), crushing and screening and stockpiling activities over a set period of time, usually being 3 to 9 months. Stockpiled material is then taken from site an as needed basis for specific project requirements. The 'campaign crushing' will generally enable a supply of material for approximately 20+ years, however this may vary subject to the level of demand for certain materials. Transport vehicles will primarily attend the site and haul material to project sites during the periods where extraction is not occurring. Depending on the level of demand, it may be necessary that transport vehicles attend the site during extraction periods. Once the volumes of stockpiled material are depleting, the 'campaign crushing' process is repeated.

The extraction pit will be established through a range of methods involving rock breaking, digging and blasting. The extraction method will depend on the type and durability of rock encountered during the extraction process. Bolwarra Enterprises utilises general excavation machinery in the rock breaking and digging process. Excavation machinery may be removed from the site during

periods when extraction is not occurring on the site. Blasting will be intermittently undertaken in some circumstances. Any blasting activities will be undertaken by a certified blaster, the EA permit will contain specific conditions around the parameters associated with blasting activities.

Access and Parking

The Applicant is required to construct a new intersection to Gregory Development Road to service the proposed developmnet. An internal access road is proposed from the Gregory Development Road to the site facilities. Workers will travel to site via Gregory Development Road, predominantly in private vehicles. All machinery shall be kept on-site and stored away from the road reserve, within proximity to the extraction pit. Nominated parking provisions are not deemed necessary, as there will be ample space on site to appropriately park and manoeuvre vehicles as required.

Water and Sewer

Given the rural nature of the locality, Council infrastructure services are not available to the subject land. The extractive industry use will require provision of a water supply and on-site wastewater disposal system.

A water truck may be required for circumstances, for vehicle wash down and dust suppression. The water truck will obtain water from external locations. Given the rural nature of the site, and the locality, dust suppression is seldomly anticipated to be required. Transport and machinery washdowns may occur after the campaign crushing periods.

Stormwater

Langtree Consulting Engineers prepared a Stormwater Management Plan (SMP), refer to **Appendix 7**. Condition 5 of SARA's Referral Agency Response requires the Applicant to carry out stormwater management generally in accordance with the SMP. OSE Group have prepared the Operational Work application and have reviewed and qualified the SMP prepared by Langtree Consulting Engineers.

Electricity and Communications

Due to the remote location of the proposed development, a combination of batteries and solar panels are proposed, with a back-up diesel powered generator will be utilised in the operation of the extractive industry where required. Due to the nature of the rural locality, communication infrastructure is not proposed. Employees will utilise wireless and broadband communication services where available.

Landscaping

Given the rural nature of the locality, no landscaping is proposed as part of the development. The draft QMP includes the following fauna, vegetation and weed management measures:

- Do not harm or displace native animals/ nests;
- Minimise clearing of vegetation
- Encourage natural vegetation regrowth;
- Wash down any mobilised plant prior to entering site;
- Do not stockpile material adjacent to existing vegetation; and
- Stockpiles and the perimeter of the Supply Zone are regularly sprayed to contain all weeds.

4.0 ASSESSMENT FRAMEWORK

4.1 Planning Act 2016

The *Planning Act 2016* (the Act) provides the framework for Queensland's planning system and coordinates local, regional, and State planning. The Act allows for the establishment and is supported by subordinate planning legislation and instruments such as planning schemes. The provisions of the Act are therefore applicable to the proposed development.

4.2 Planning Regulation 2017

The *Planning Regulation 2017* (the Regulation) is established under the Act and provides support to the Act by detailing how it functions at a practical level. The Regulation determines the Assessment Manager and Referral Agencies relevant to assessable development, and relevant State interests through the State Planning Policy (SPP) and State Development Assessment Provisions (SDAP). The provisions of the Regulation are therefore applicable to the proposed development.

4.3 Approval Sought

Approval Type	Development Permit
Development Type	Operational Work
Definition or General Description	Earthworks and Civil Works

4.4 Assessment Manager Assessment Parameters

Assessment Manager	Charters Towers Regional Council
Planning Instrument	*Charters Towers Regional Town Plan 2* (the planning scheme)
Zone and Precinct	Rural Zone
Triggered Overlays	N/A
Category of Assessment	Code
Table of Assessment Reference	Table 5.7.1

Assessment Manager Assessment Benchmarks	Development Works Code

4.5 Referral Agency Assessment Parameters

Referral Agencies	State Assessment Referral Agency
Planning Instrument	*Planning Regulation 2017* (the Regulation)
Referral Triggers	Not Applicable
Referral Agency Assessment Benchmarks	Not Applicable

5.0 ASSESSMENT MANAGER CONSIDERATIONS

5.1 State Planning Policy

The *State Planning Policy* (the SPP) is a State planning instrument established under the Act and is designed to ensure the State's interests in planning are protected and delivered as part of local government planning across Queensland. Local government use the SPP when making or amending its planning scheme. Local government will also assess aspects of development applications using the SPP if their local planning scheme has not integrated certain State interests.

In accordance with Section 2.1 – State Planning Policy (SPP) of the planning scheme, the Minister has identified that all relevant State interests as outlined in the SPP dated July 2017 have been integrated into the planning scheme.

For the purpose of the proposed development, we consider that assessment against the provisions of the SPP is not required, and all relevant matters will be dealt with under the provisions of the planning scheme.

5.2 Regional Plan

Regional plans are State planning instruments established under the Act and set the long term strategic direction for how regions grow and respond to change. Regional plans are designed to facilitate economic growth, development, liveable communities, and the protection of natural resources. Regional plans seek to balance the State interests identified by the SPP in the context of the particular region they apply to.

The *North Queensland Regional Plan* (the Regional Plan) applies to the local government areas of Townsville City, Hinchinbrook Shire, Burdekin Shire, Charters Towers Regional, and Palm Island Aboriginal Shire. The Regional Plan was implemented in March 2020, and seeks to capitalise on the growth, prosperity, and diversity of the region by supporting a vibrant economy, generating jobs, improving business investment, protecting our natural environment, and encouraging tourism and lifestyle opportunities over the next 25 years.

The proposed development is considered to align with the goals outlined in the Regional Plan. In particular, the proposed development will further Goal 1 – A leading economy in regional Australia Goal 2 – A rich and healthy natural environment Goal 4 – A safe, connected and efficient North Queensland.

5.3 Development Works Code

The assessment matrix below summarises the outcome of an assessment of the proposed development against the relevant performance and accepted outcomes of the applicable Assessment Manager assessment benchmarks. The assessment matrix identifies the level of compliance of the proposed development in accordance with the legend below.

The proposed works requires assessment against the Development works code of the planning scheme.

The purpose of the Development works code is to:

- *(a) ensure all development is provided with appropriate infrastructure, parking spaces and services;*
- *(b) ensure development manages stormwater and wastewater as part of the integrated total water cycle and in ways that help protect the environmental water values specified in the Environmental Protection (Water) Policy 2009 and the Stormwater Management Design Objectives in the State Planning Policy;*
- *(c) protect surface water and ground water; and*
- *(d) ensure development is designed, constructed, operated and maintained to eliminate any adverse impacts on the environment and the amenity of the locality.*

The purpose of the code will be achieved through the following overall outcomes:

- *(a) development is adequately serviced by utility and access infrastructure including roads, water, waste water, power, telecommunications, stormwater management and waste management;*
- *(b) the integrity and efficiency of utility and access infrastructure systems is maintained;*
- *(c) environmental values of receiving waters are protected from adverse development impacts arising from stormwater quality and flow;*
- *(d) environmental values of receiving waters are protected from waste water impacts;*
- *(e) public health and safety are protected and damage or nuisance caused by stormwater is avoided;*
- *(f) stormwater management works is designed to maintain or recreate natural hydrological processes and minimise run-off;*
- *(g) the function, safety and efficiency of the transport network is optimised;*
- *(h) development within close proximity to existing or future public passenger transport facilities supports an integrated approach to land use and transport integration;*
- *(i) development provides adequate on site vehicular access and adequate parking and servicing facilities for vehicles and parking facilities for bicycles;*
- *(j) access, parking, servicing and associated manoeuvring areas are designed to be safe, functional and meet the reasonable demands generated by the development;*
- *(k) provision of safe and non-discriminatory public and pedestrian access is provided;*

(l) works in public streets and spaces enhance the pedestrian amenity and improve streetscape appearance;

(m) earthwork does not impact adversely on the amenity of the site or the surrounding area and does not result in increased flooding, drainage and soil erosions problems on upstream and downstream property; and

(n) development provides for the storage of generated waste in an environmentally acceptable manner and waste storage facilities are functionally appropriate for users of the facilities.

Performance outcomes	Acceptable outcomes	Comments
Utility infrastructure and services		
PO1 Development is serviced by an adequate, safe and reliable supply of potable and general use water, connected to reticulated water supply where possible.	**AO1** Development is: (a) connected to Council's reticulated water supply network, including the installation of easily accessed water meters, in accordance with the *Development works Town plan policy*; or (b) if connection to Council's reticulated water supply network is not possible, a potable on site water supply is provided in accordance with the *Development works Town plan policy.*	**Complies** Connection to Council's reticulated water supply network is not possible due to the remote location of the proposed development. A potable on site water supply will be provided in accordance with the *Development works Town plan policy* as required.
PO2 Development is serviced by appropriate wastewater disposal infrastructure which ensures: (a) no adverse ecological impacts on the receiving environment; (b) cumulative impacts of onsite wastewater treatment are considered in assessing the likely environmental impacts; (c) public health is maintained; (d) the location, site area, soil type and topography is suitable for on site waste water treatment; and (e) the reuse of wastewater does not contaminate any surface water or ground water.	**AO2** Development is: (a) connected to Council's reticulated sewerage treatment system, in accordance with the Development works Town plan policy; or (b) if connection to Council's reticulated sewerage treatment system is not possible, wastewater is treated in accordance with *Development works Town Plan Policy*.	**Complies** Connection to Council's reticulated sewerage treatment system is not possible due to the remote location of the proposed development. Wastewater will be treated in accordance with *Development works Town Plan Policy as required*. A Site Classification and Wastewater Management System report has been prepared by Earth Test (refer to **Appendix 8**)
PO3 Electricity supply network and telecommunication service connections are provided to the site and are connected.	**AO3.1** The development is connected to electricity and telecommunications infrastructure in accordance with the standards of the relevant regulatory authority prior to the commencement of any use of the site.	**Alternative Acceptable Outcome** Due to the remote location of the proposed development, a combination of batteries and solar panels are proposed, with a back-up diesel powered generator will be utilised in the

		operation of the extractive industry where required. Due to the nature of the rural locality, communication infrastructure is not proposed. Employees will utilise wireless and broadband communication services where available.
	AO3.2 Where not included in the development, provision is made for future telecommunications services (such as fibre optic cable) in accordance with the standards of the relevant regulatory authority.	**Not Applicable**
Stormwater management Editor's note–Refer also to the Stormwater management design objectives in the State planning policy.		
PO4 Stormwater management is designed and operated to ensure that adjoining land and upstream and downstream areas are not adversely affected through any ponding or changes in flows: (a) ensure that adjoining land and upstream and downstream areas are not adversely affected through any ponding or changes in flows; and	**AO4.1** Development does not result in an increase in flood level or flood duration on upstream, downstream or adjacent properties.	**Complies** Refer to the SMP prepared by Langtree Consulting Engineers (refer **Attachment 7**), which has been reviewed and verified by OSE Group
	AO4.2 Stormwater (including roof and surface water) is conveyed to the kerb and channel or other lawful point of discharge in accordance with the requirements of the *Development works Town plan policy.*	
(b) direct stormwater to a lawful point of discharge through competently designed and constructed outlet works in a manner that reflects the predevelopment status. Editor's note– Stormwater quality must meet the design objectives within the *Development works Town plan policy.*	**AO4.3** Stormwater runoff from all impervious areas (roof, pavements, etc) are not permitted to flow or discharge over adjoining properties.	**Complies** Refer to the SMP prepared by Langtree Consulting Engineers (refer **Attachment 7**), which has been reviewed and verified by OSE Group
Earthworks		
PO5 Earthworks are undertaken in a manner that: (a) prevents any worsening of soil erosion or water quality on the site, any adjoining land, or land upstream or downstream of the site; (b) produces stable landforms and structures; (c) maintain natural landforms where possible;	**AO5.1** Earthworks comply with the *Development works Town plan policy.*	**Complies** Earthworks will comply with the Development Works planning scheme policy
	AO5.2 The extent of filling or excavation does not exceed 40% of the site area or 500m^2, whichever is lesser.	**Alternative Acceptable Outcome** Due to the nature of the proposed development and the required sediment basin filling and excavation will exceed the thresholds referenced in AO5.2. Refer to the engineering drawings prepared by OSE Group.

(d) minimise the height of any batter faces; (e) does not unduly impact on the amenity or privacy for occupants of the site or on adjoining land or on the amenity of the streetscape; (f) does not result in the contamination of land or water; and (g) avoids risk to people and property.	**AO5.3** Excavating or filling is no greater than 1m in height or depth.	**Alternative Acceptable Outcome** Due to the nature of the proposed development and the required sediment basin filling and excavation will exceed the thresholds referenced in AO5.3. Refer to the engineering drawings prepared by OSE Group.
	AO5.4 Batters have a maximum slope of 25%, are terraced at every rise of 1.5m and each terrace has a depth of 0.75m.	**Complies** Refer to the engineering drawings for details of the proposed earthworks and batters.
	AO5.5 No contaminated material is used as fill.	**Complies** No contaminated fill will be used on site.
PO6 Retaining walls are designed to minimise visual impact through: (a) setbacks from any boundary; and (b) being stepped or terraced to accommodate landscaping.	**AO6.1** The combined height of any retaining walls and fences does not exceed 2m.	**Not Applicable**
	AO6.2 A retaining wall is set back at least half the height of the wall from any boundary of the site.	**Not Applicable**
	AO6.3 Retaining walls over 1.5m are stepped 0.75m for every 1.5m in height, terraced and landscaped.	**Not Applicable**
	AO6.4 Design and construction of retaining walls over 1m in height are certified by a Registered Professional Engineer of Queensland.	**Not Applicable**
PO7 The excavation, filling or laying of pipes within the vicinity of electricity supply infrastructure must not create damage or hazard. Editor's note–Development involving filling, excavation or laying of metal pipes on land contiguous to electricity supply infrastructure should be referred to the relevant electricity entity for safety advice on the proposed development.	**AO7.1** Excavation or filling does not occur within: (a) 10m of any tower, pole, foundation, ground anchorage or stay supporting electric lines or associated equipment; (b) 5m of a substation site boundary; (c) 2m of a padmount substation; or (d) (d) 1m of a padmount transformer or an underground cable.	**Not Applicable**

	AO7.2 The laying of metal pipes does not occur within: (a) 5m of any pole, tower, foundation, ground anchorage or stay supporting electric lines or associated equipment; (b) 15m of any substation site boundary; or (c) 5m of, and parallel to, an electric line shadow.	**Not Applicable**
Parking and access		
PO8 Development includes the provision of adequate and convenient car parking on site to satisfy the anticipated requirements of the land use or activity.	**AO8** Car parking is provided in accordance with Table 8.3.1.3(b)–Car parking requirements.	**Complies** Adequate car parking spaces will be provided on site to cater for the demand generated by the proposed development.
PO9 Development provides end of trip facilities for people engaging in active transport (bicycle and pedestrian): (a) to meet the needs of users and promote active modes of travel; (b) at convenient, easily identifiable, safe locations; and (c) in locations that do not obstruct vehicular, bicycle or pedestrian movement paths.	**AO9** Development provides cycling and pedestrian end of trip facilities, in accordance with the requirements of the *Development works Town plan policy.*	**Not Applicable**
PO10 Access driveways are designed and constructed to: (a) provide convenient access to the site and maintain the safety and efficiency of the road; (b) minimise conflicts with traffic and pedestrians; and (c) are constructed to a standard that is appropriate to the location and to meet the anticipated volume and type of traffic.	**AO10.1** Access driveways are designed and constructed in accordance with the relevant *Development works Town plan policy.*	**Complies** The Applicant is required to construct a new intersection to Gregory Development Road to service the proposed development. Internal Access driveways will be designed and constructed in accordance with the relevant *Development works Town plan policy.*
	AO10.2 Access driveways allow vehicles (with the exception of Dwelling house and Dual occupancy) to enter and exit the site in a forward gear.	**Complies** The access arrangements will ensure that all vehicles can enter and exit the site in forward gear.

PO11 Vehicle movement areas (including internal driveways, access aisles, manoeuvring areas, car parks and service bays) are designed to ensure: (a) a gradient appropriate for the type of vehicles; (b) effective stormwater drainage; (c) clearly marked and signed spaces; (d) convenience and safety for drivers and pedestrians; and (e) adequate dimensions to meet user requirements, including access and egress for emergency vehicles.	**AO11** Manoeuvring, queuing, loading and unloading areas, and parking areas are: (a) designed and constructed in accordance with the Development works Town plan policy; and (b) certified by a Registered Professional Engineerof Queensland.	**Not Applicable**
PO12 Footpaths in the road reserve are provided along all road frontages and are paved in durable and stable materials matching any adjacent development footpaths.	**AO12** Footpaths are: (a) provided for the full width and length of all road frontages; (b) designed and constructed in accordance with the requirements of the Development works Town plan policy; and (c) certified by a Registered Professional Engineerof Queensland.	**Not Applicable**
PO13 Pedestrian access to buildings: (a) do not obstruct pedestrian movement (or form physical clutter) on public footpaths; (b) are not visually overbearing (or form visual clutter) in the streetscape; and (c) provide safe, efficient and convenient access including wheelchair access.	**AO13** Steps, escalators, ramps and lifts are: (a) located wholly within the site; and (b) setback a minimum of 1.5m from the front boundary.	**Not Applicable**
Acoustic and air quality		
PO14 Development minimises potential conflicts with, or impacts on, other uses having regard to vibration, odour, dust or other emissions.	**AO14** Development achieves the air quality design objectives set out in the *Environmental Protection (Air) Policy 2008, as amended.* Editor's note–To achieve compliance, development is planned, designed and managed to ensure emissions from activities achieve the appropriate acoustic objectives (measured at the receptor dB(A)).	**Complies** Air quality associated with the construction phase of the proposed development will achieve the air quality design objectives set out in the *Environmental Protection (Air) Policy 2019.* Once operational the conditions of the EA permit will regulate air quality.

PO15 Development prevents or minimises the generation of any noise so that: (a) nuisance is not caused to adjoining premises or other nearby sensitive land uses; and (b) desired ambient noise levels in residential areas are not exceeded.	**AO15** Development achieves the noise generation levels set out in the *Environmental Protection (Noise) Policy 2008, as amended*.	**Complies** Noise levels associated with the construction phase of the proposed development will achieves the noise generation levels set out in the *Environmental Protection (Noise) Policy 2019.* Once operational the conditions of the EA permit will regulate noise.
PO16 Development adjacent to State controlled roads or Council controlled arterial road minimise nuisance caused by noise, vibration and dust emissions.	**AO16** Development complies with the requirements of the Department Main Roads - Road Traffic Noise Management Code of Practice and the *Environmental Protection (Noise) Policy 2008*.	**Complies** The construction phase of the proposed development will align with the requirements of the Department Main Roads - Road Traffic Noise Management Code of Practice and the *Environmental Protection (Noise) Policy 2019*.
Lighting		
PO17 External lighting is provided in urban areas to ensure a safe environment.	**AO17** Technical parameters, design, installation, operation and maintenance of outdoor lighting complies with the requirements of *AS4282 – Control of the Obtrusive Effects of Outdoor Lighting.*	**Not Applicable**

Waste management		
PO18 Development: (a) minimises waste generation (including construction, demolition and operational waste); and (b) provides adequate facilities on site for the storage of waste and recyclables.	**AO18** Waste storage and management arrangements are sited, screened and designed in accordance with the *Development works Town plan policy.*	**Complies** During the construction phase, waste storage and management arrangements will be sited, screened and designed in accordance with the *Development works Town plan policy.*
PO19 Development is designed to allow for safe and efficient servicing of waste and recycling containers through: (a) a development layout that facilitates direct and unobstructed servicing of waste and recycling containers; and (b) minimising the potential for nuisances to be caused by way of noise and odour.	**AO19** Waste and recycling collection services are provided in accordance with the *Development works Town plan policy.*	**Complies** During the construction phase, the contractor will be responsible for the appropriate management and removal of waste from the site.
For all assessable development		
General		
PO20 Where buildings and structures	No acceptable outcome specified.	**Not Applicable**

are located on multiple lots, these are amalgamated to form one lot.		
Wastewater management		
PO20 Wastewater is managed to: (a) avoid wastewater discharge to any waterway; or (b) if wastewater discharge to waterways cannot be practically avoided, discharge is minimised to an acceptable level by re-use, recycling, recovery and treatment for disposal to sewer, surface water and groundwater. Editor's note–Wastewater is defined in accordance with *Environmental Protection (Water) Policy 2009*, schedule 2). A wastewater management plan (WWMP) is prepared by a suitably qualified person and addresses: (i) wastewater type; and (ii) climatic conditions; and (iii) water quality objectives (WQOs); and (iv) best-practice environmental management.	No acceptable outcome specified.	**Complies** A Site Classification and Wastewater Management System report has been prepared by Earth Test (refer to **Appendix 8**).
PO21 Wastewater discharge maintains ecological processes, riparian vegetation, waterway integrity, and downstream ecosystem health including: (a) protecting applicable water quality objectives for the receiving waters; (b) managing soil disturbance or altering natural hydrology in coastal areas; and (c) avoiding or minimising the release of nutrients of concern.	No acceptable outcome specified.	**Complies** A Site Classification and Wastewater Management System report has been prepared by Earth Test (refer to **Appendix 8**).

Stormwater management		
PO22 Stormwater management systems: (a) implement Water Sensitive Urban Design (WSUD) principles that: (i) protect natural systems and waterways; (ii) allow for the detention of stormwater instead	**AO22** Stormwater management systems are designed and constructed in accordance with the *Development works Town plan policy.* Editor's note–A site Stormwater Quality Management Plan (SQMP) is prepared in accordance with *Development works Town plan policy.*	**Complies** Refer to the SMP prepared by Langtree Consulting Engineers (refer **Appendix 7**), which has been reviewed and verified by OSE Group.

of rapid conveyance; (iii) minimise impervious areas; (iv) utilise stormwater to conserve potable water; (v) integrate stormwater treatment into the landscape; (vi) ensure water quality values are protected; (b) must be economically maintained for the life of the system; (c) provide for safe access and maintenance; and (d) maintain natural drainage lines and adequate filtering and settlement of sediment for the protection of watercourses, wetlands from point sources and non-point source stormwater discharges.		
PO23 Development allows for sufficient site area to accommodate an effective stormwater management system.	No acceptable outcome specified.	**Complies** Refer to the SMP prepared by Langtree Consulting Engineers (refer **Appendix 7**), which has been reviewed and verified by OSE Group.
PO24 Development provides for the orderly development of stormwater infrastructure within a catchment, having regard to: (a) existing capacity of stormwater infrastructure and ultimate catchment conditions; (b) discharge for existing and future upstream development; and (c) protecting the integrity of adjacent and downstream development.	No acceptable outcome specified.	**Complies** Refer to the SMP prepared by Langtree Consulting Engineers (refer **Appendix 7**), which has been reviewed and verified by OSE Group.

PO25 Major stormwater drainage network elements are designed and constructed with the capacity to control stormwater flows under normal and minor system blockage conditions for the applicable defined flood event ensuring there is no damage to property or hazards for motorists.	**AO25** Stormwater infrastructure is designed in accordance with the requirements of the *Development works Town plan policy.*	**Complies** Refer to the SMP prepared by Langtree Consulting Engineers (refer **Appendix 7**), which has been reviewed and verified by OSE Group.

PO26 Reconfiguration of lots includes stormwater management measures in the design of any road reserve, streetscape or drainage networks to: (a) minimise impacts on the water cycle; (b) protect waterway health by improving stormwater quality and reducing site run-off; and (c) avoid large impervious surfaces.	No acceptable outcome specified.	**Not Applicable**
PO27 Construction activities for the development avoids or minimise adverse impacts on stormwater quality by: (a) achieving the post construction stormwater management design objectives for pollution load reductions for Western Queensland (TSS 85% TP 60% TN 45% and 90% Gross pollutants) and or In lieu of modelling, the default bio-retention treatment area of 1.5 per cent of the contributing catchment area; and (b) the waterway stability management design objective: limit the peak 1-year ARI event discharge within the receiving waterway to the pre-development peak1-year ARI discharge.	**AO27** Stormwater quality achieves the stormwater design objectives of the *Development works Town plan policy.*	**Complies** Refer to the SMP prepared by Langtree Consulting Engineers (refer **Appendix 7**), which has been reviewed and verified by OSE Group.

An Erosion and Sediment Control Plan (ESCP) is prepared by a suitably qualified person that demonstrates: (a) erosion and sediment control practices (including any proprietary erosion and sediment control products) are designed, installed, constructed, operated, monitored and maintained, and any other erosion and sediment control practices are carried out in accordance with local conditions; or (b) how stormwater quality will be managed in accordance with an acceptable regional or local guideline so that target contaminants are treated to a design objective at least equivalent of this Performance outcome.		**Complies** Refer to the SMP prepared by Langtree Consulting Engineers (refer **Appendix 7**), which has been reviewed and verified by OSE Group.
Earthworks		
PO28 Earthworks associated with roads: (a) maintain the efficiency of the road network; (b) do not adversely impact upon residents or road infrastructure; and (c) do not obstruct access to the site.	No acceptable outcome specified.	**Not Applicable**
PO29 Development in the Rural zone and Rural residential zone manages soil erosion and sedimentation by: (a) avoiding land clearing or earthworks in the riparian corridor to a designated stream; (b) minimising the extent of disturbance on, or the stabilisation of slopes steeper than 10%; and (c) managing and controlling surface drainage by using natural flow paths.	No acceptable outcome specified.	**Complies** Refer to the SMP prepared by Langtree Consulting Engineers (refer **Appendix 7**), which has been reviewed and verified by OSE Group.
PO30 Any disturbed areas within the site are to be progressively rehabilitated through appropriate earthworks and involve the: (a) grading and reshaping of the disturbed areas to provide controlled and stable drainage flow paths;	No acceptable outcome specified.	**Complies** The draft Quarry Management Plan details how the site will be progressively rehabilitated, refer to MCU2024/0008.

(b) construction of drainage paths which divert high velocity flows away from disturbed areas; (c) re-spreading of stored topsoil stripped from the site prior to commencement of construction works; and (d) planting of the disturbed area with native species of grasses, ground covers and trees and placing mulch in between on the surface. Editor's note–Applicants may be required to engage specialists to prepare a rehabilitation plan.		
Land use and transport integration		
PO31 Development: (a) supports a road hierarchy which facilitates efficient movement of all transport modes; and (b) appropriately integrates and connects with surrounding movement networks. Editor's note–Refer to the road hierarchy identified on map AM1.	No acceptable outcome specified.	**Not Applicable**
PO32 Development provides direct and safe access to public passenger transport facilities.	**AO32** Any through-site pathway connections to public passenger transport facilities are provided in accordance with Austroads guide to road design— Part 6A: Pedestrian and cyclist paths.	**Not Applicable**
Road design		
PO33 Roads providing access to the site are provided, constructed and maintained to a standard which is adequate for the traffic type and volume likely to be generated by the activities on site.	**AO33** Roadworks are provided in accordance with the requirements of the *Development works Town plan policy.*	**Not Applicable**
PO34 Street lighting and signs are provided to ensure the safety of both vehicles and pedestrians, and to facilitate access and movement.	**PO34** Street lighting and signage comply with the requirements of the *Development works Town plan policy*.	**Not Applicable**

Acoustic and air quality		
PO35 Utility services and service structures attached to buildings, do not adversely impact on the acoustic or visual amenity of the surrounding area and are: (a) located as far from sensitive land uses, road frontage boundaries and public open spaces as practical; (b) acoustically shielded and visually screened so as not to be audible or visible from adjoining and nearby sites, public open spaces and roads.	No acceptable outcome specified.	**Not Applicable**

6.0 CONCLUSION

6.1 Assessment Summary

The assessment of the proposed development against the relevant assessment benchmarks detailed in this development application supports a recommendation for approval based on the following reasons:

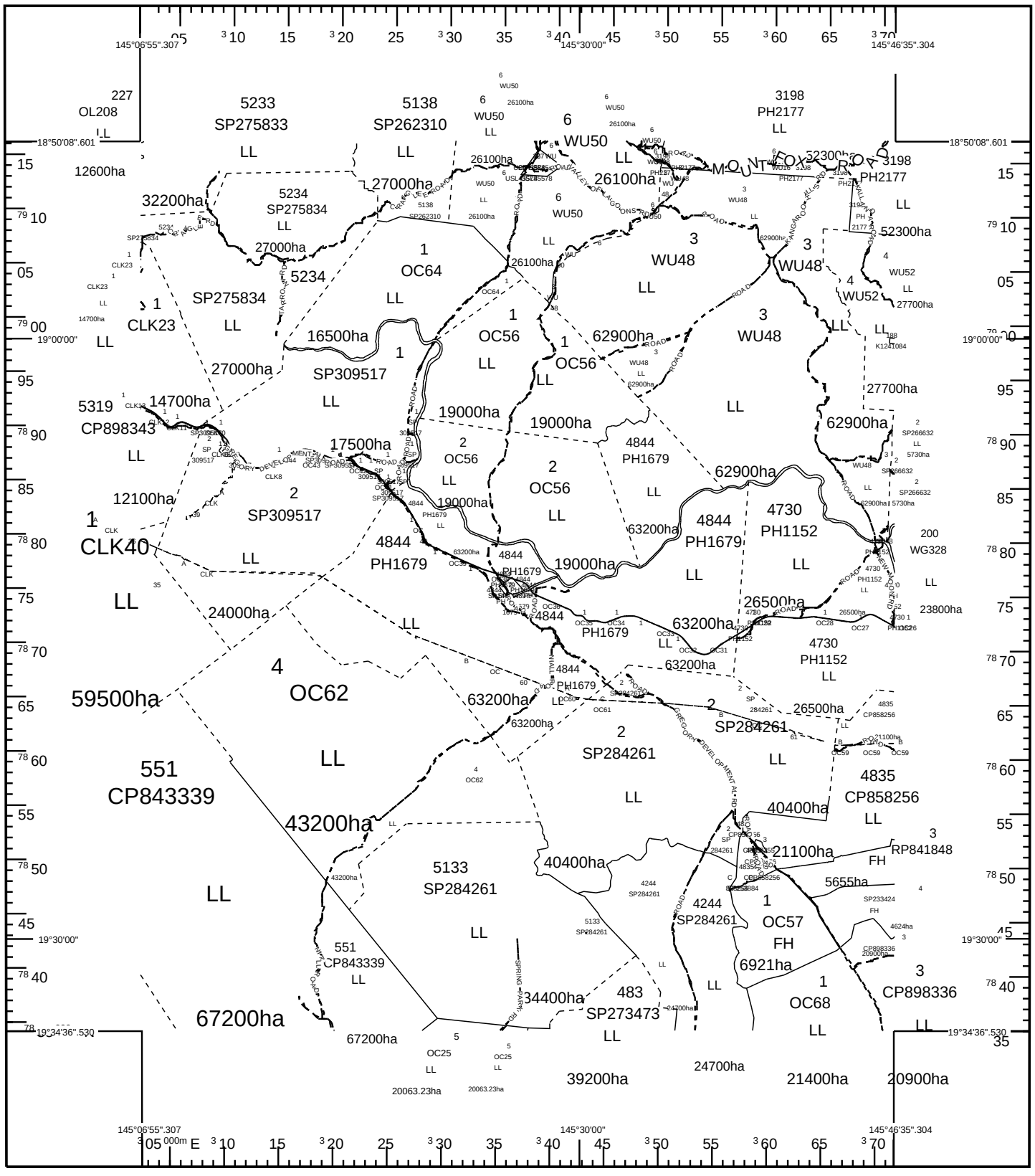
- the proposed development complies with the relevant assessment benchmarks; and
- compliance with the relevant assessment benchmarks can be managed through reasonable and relevant conditions.

6.2 Recommended Conditions of Approval

Given the above facts and circumstances presented in this development application, we recommend that Council **approve** the proposed development subject to the following reasonable and relevant conditions that are considered specifically relevant to the proposed development.

MILFORD PLANNING

Appendix 1



STANDARD MAP NUMBER
7959-12243

MAP WINDOW POSITION & NEAREST LOCATION

SUBJECT PARCEL DESCRIPTION

DCDB

Lot/Plan	4844/PH1679
Area/Volume	63200ha
Tenure	LANDS LEASE
Local Government	CHARTERS TOWERS REGIONAL
Locality	GREENVALE
Segment/Parcel	45857/2

CLIENT SERVICE STANDARDS

PRINTED (dd/mm/yyyy) 30/06/2020

DCDB 29/06/2020 (Lots with an area less than 8.000ha are not shown)

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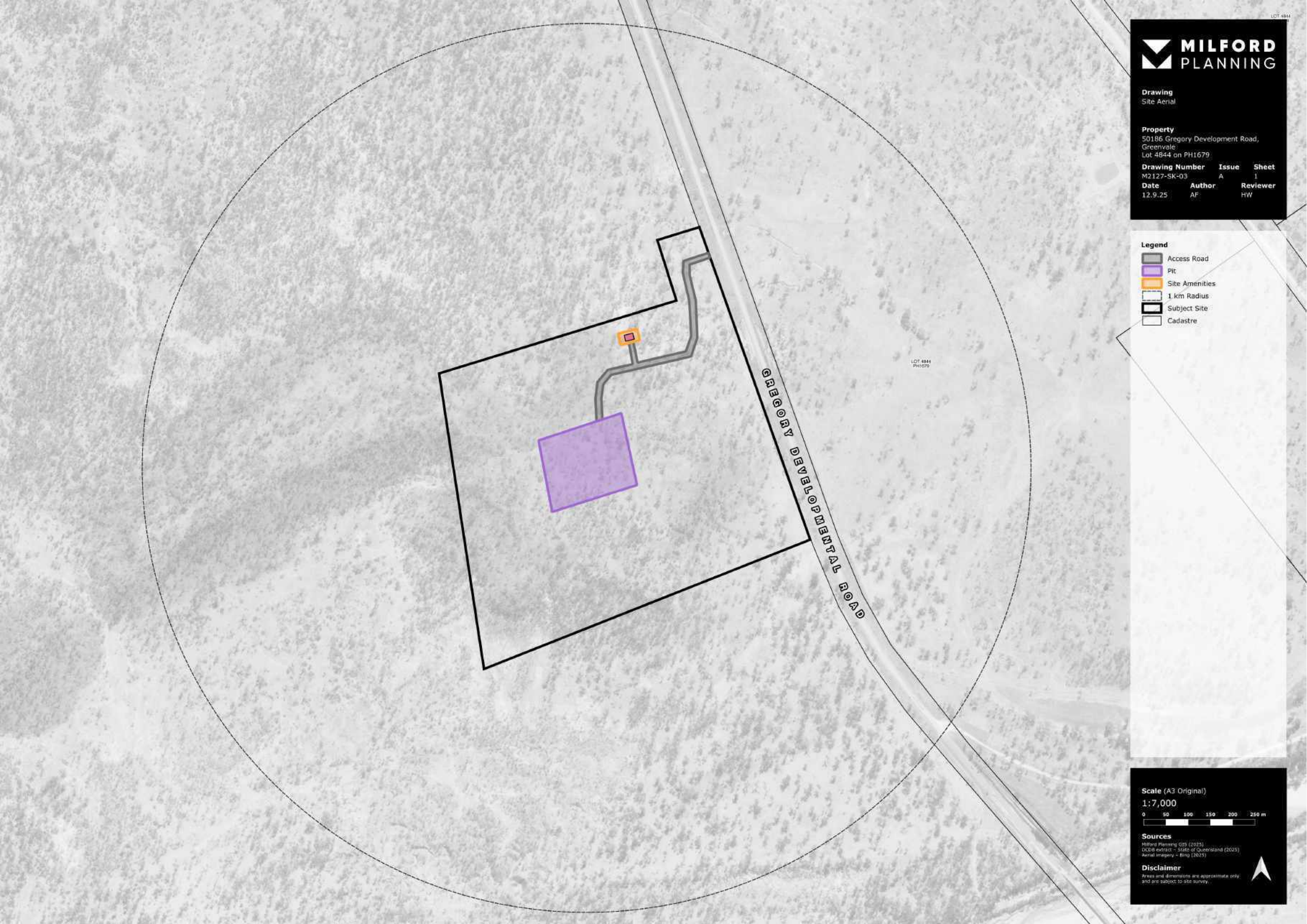
GDA

Queensland Government



MILFORD PLANNING

Drawing
Site Aerial

Property
50186 Gregory Development Road, Greenvale
Lot 4844 on PH1679

Drawing Number	Issue	Sheet
M2127-SK-03	A	1
Date	**Author**	**Reviewer**
12.9.25	AF	HW

Legend

- Access Road
- Pit
- Site Amenities
- 1 km Radius
- Subject Site
- Cadastre

Scale (A3 Original)
1:7,000
0 50 100 150 200 250 m

Sources
Milford Planning GIS (2025)
DCDB extract – State of Queensland (2025)
Aerial imagery – Bing (2025)

Disclaimer
Areas and dimensions are approximate only and are subject to site survey.

MILFORD PLANNING

Appendix 2

State Assessment and Referral Agency

Date: 30/06/2020

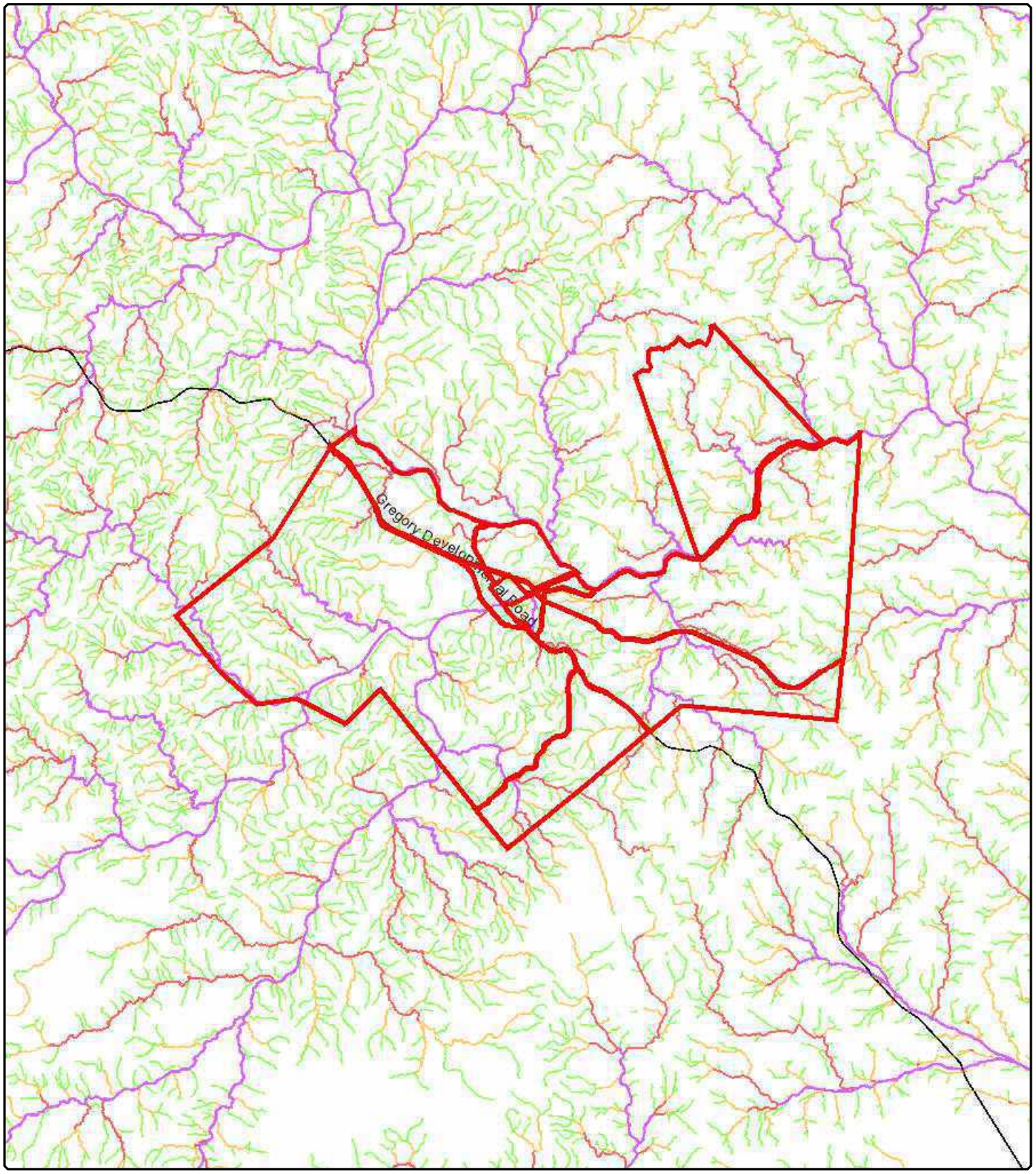
Department of State Development
Manufacturing, Infrastructure
and Planning

Matters of Interest for all selected Lot Plans

Queensland waterways for waterway barrier works
Water resource planning area boundaries
Wetland protection area trigger area
Wetland protection area wetland
Regulated vegetation management map (Category A and B extract)
State-controlled road
Area within 25m of a State-controlled road
Future railway corridor

Matters of Interest by Lot Plan

Lot Plan: 4844PH1679 (Area: 632000000 m^2)
Queensland waterways for waterway barrier works
Water resource planning area boundaries
Wetland protection area trigger area
Wetland protection area wetland
Regulated vegetation management map (Category A and B extract)
State-controlled road
Area within 25m of a State-controlled road
Future railway corridor



State Assessment and Referral Agency

Date: 30/06/2020

Department of State Development
Manufacturing, Infrastructure
and Planning

Queensland Government

N

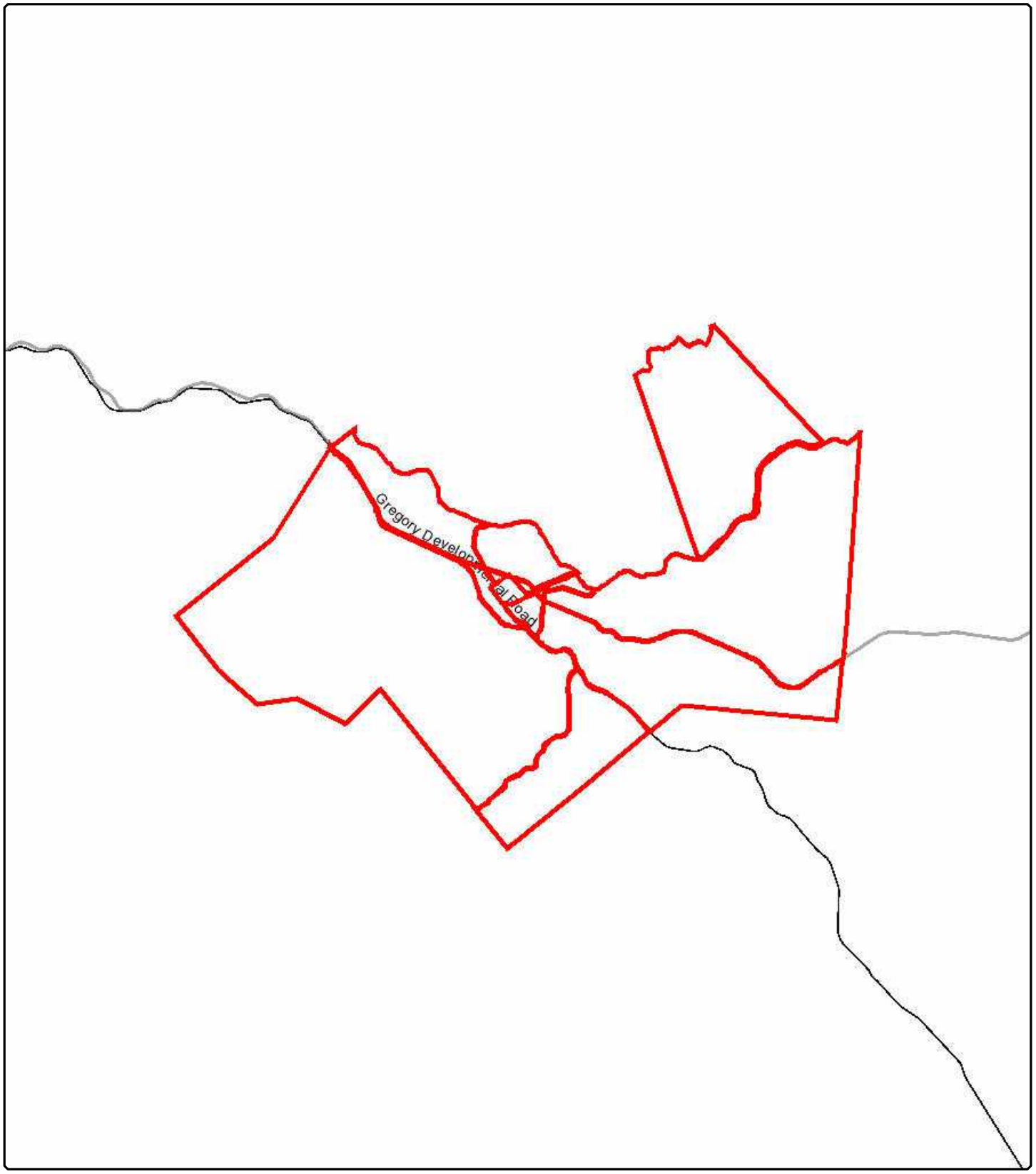
0 6,200 12,400 18,600 24,800

Metres

Legend

Queensland waterways for waterway barrier works

- 1 - Low
- 2 - Moderate
- 3 - High
- 4 - Major



State Assessment and Referral Agency

Date: 30/06/2020

Department of State Development
Manufacturing, Infrastructure
and Planning

Queensland Government

N

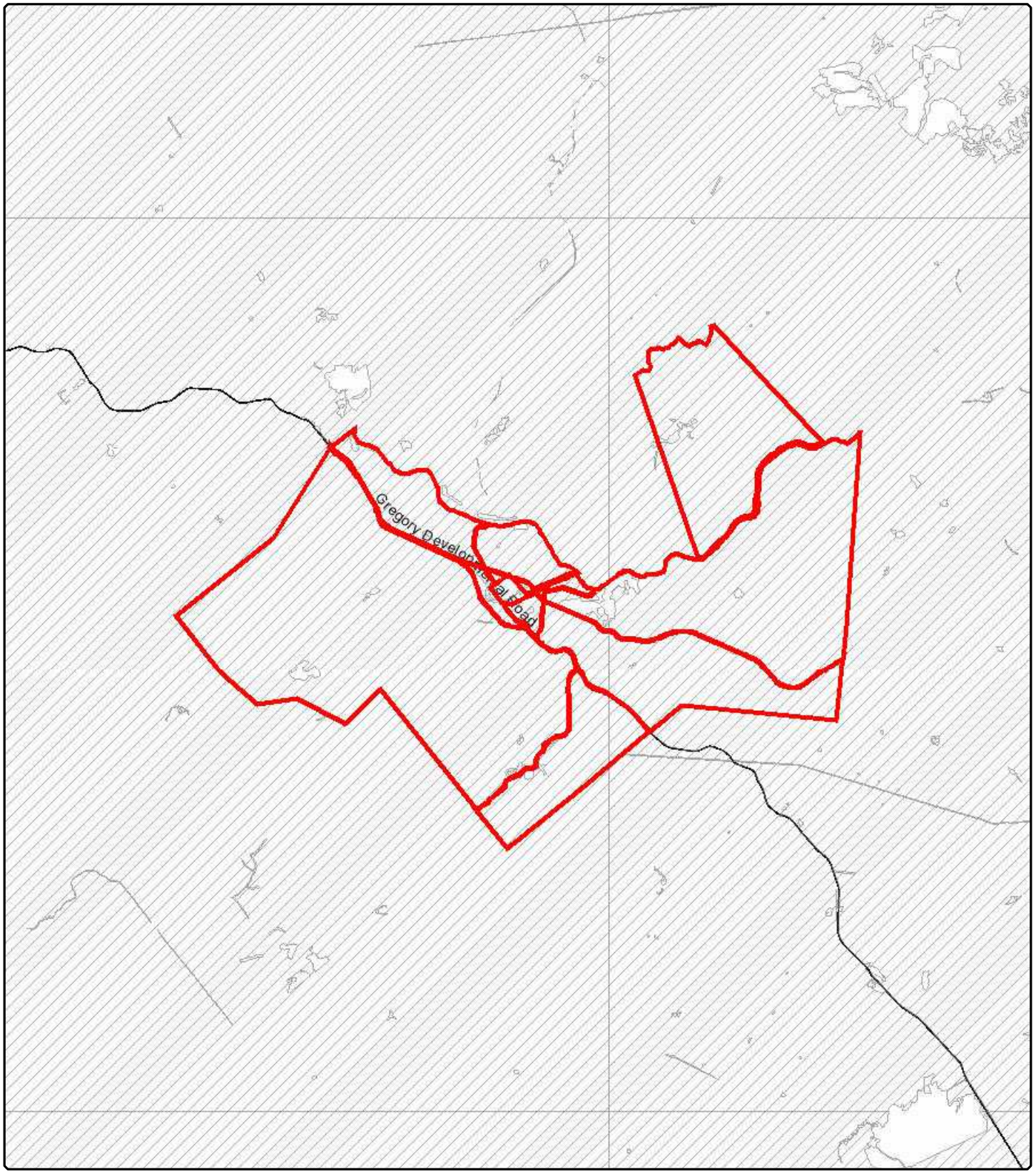
Legend

Future railway corridor

Future railway corridor

0 6,200 12,400 18,600 24,800

Metres



State Assessment and Referral Agency

Date: 30/06/2020

Department of State Development
Manufacturing, Infrastructure
and Planning

N

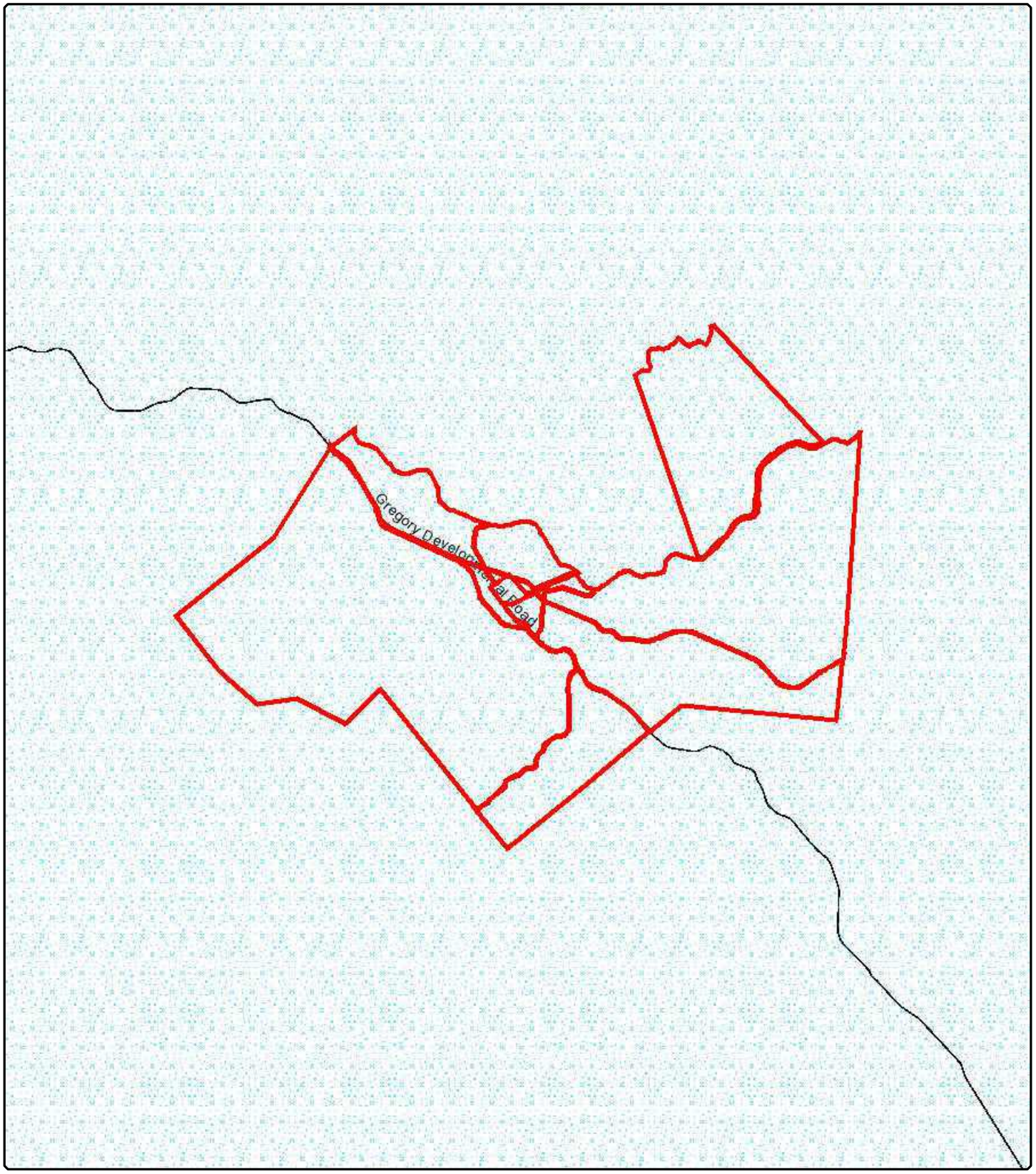
0 6,200 12,400 18,600 24,800

Metres

Legend

Regulated vegetation management map (Category A and B extract)

- Category A on the regulated vegetation management map
- Category B on the regulated vegetation management map



State Assessment and Referral Agency

Date: 30/06/2020

Department of State Development
Manufacturing, Infrastructure
and Planning

N

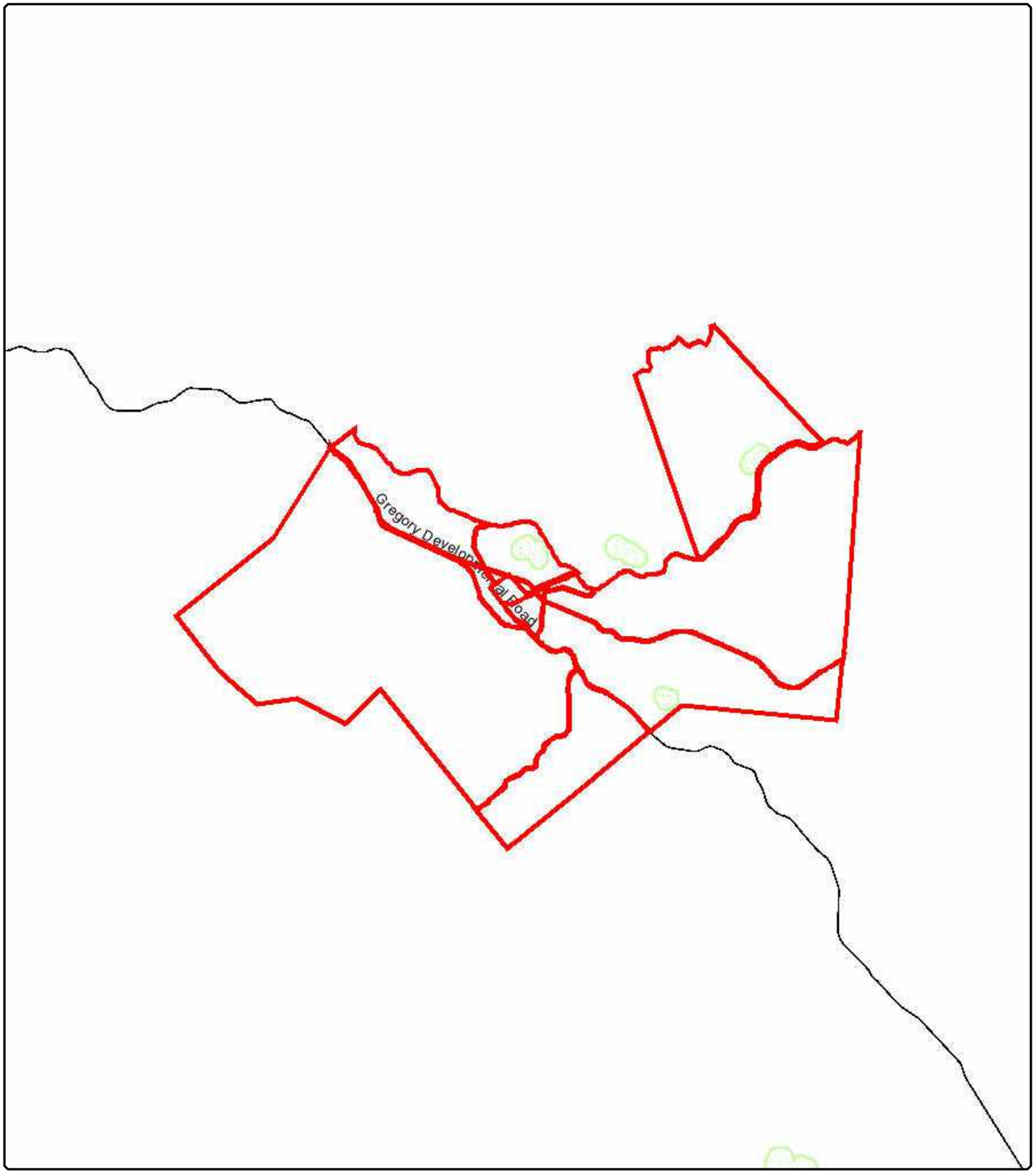
Legend

Water resource planning area boundaries

Water resource planning area boundaries

0 6,200 12,400 18,600 24,800

Metres



State Assessment and Referral Agency

Date: 30/06/2020

Department of State Development
Manufacturing, Infrastructure
and Planning

Queensland Government

N

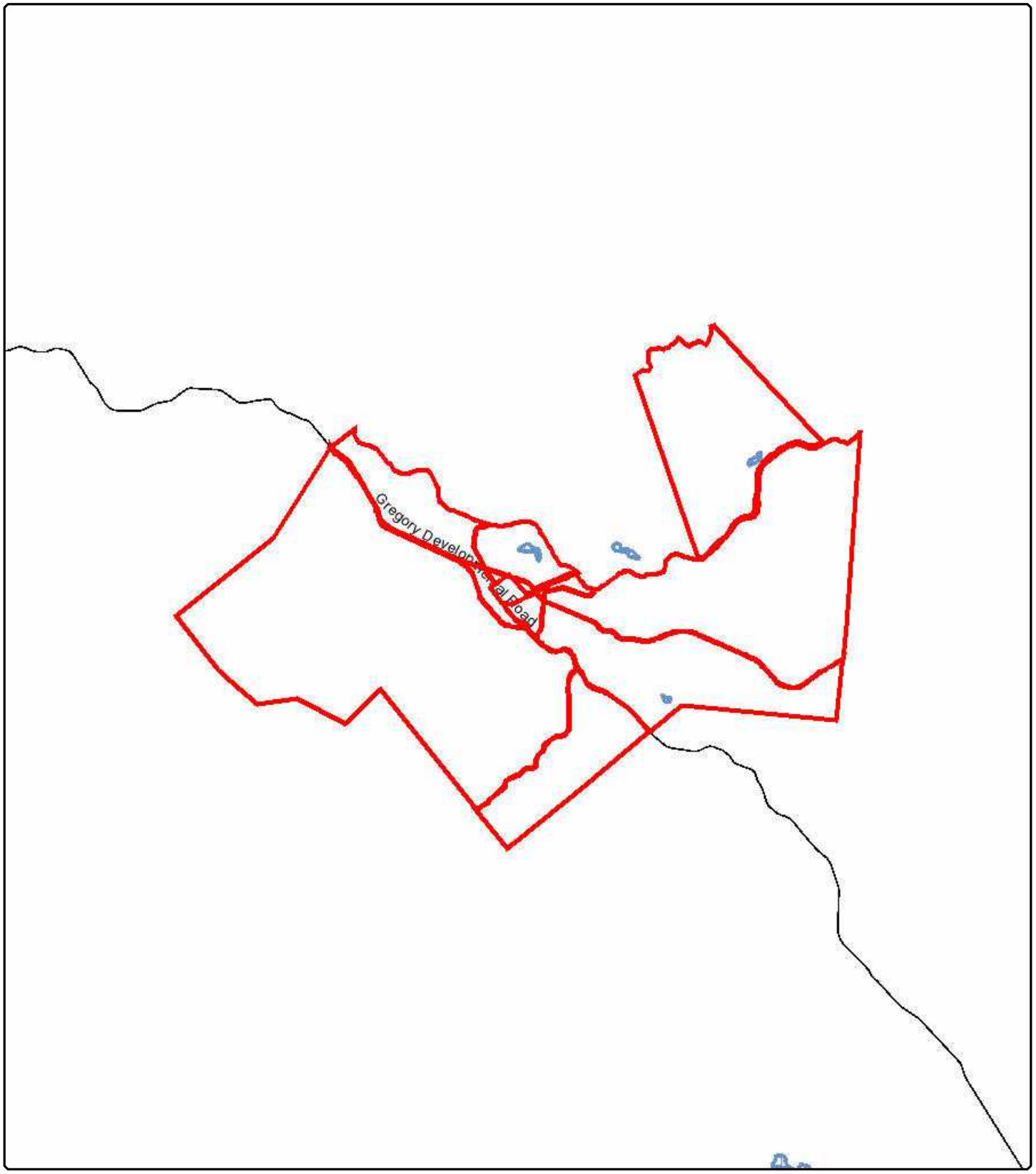
Legend

Wetland protection area trigger area

Wetland protection area trigger area

0 6,200 12,400 18,600 24,800

Metres



State Assessment and Referral Agency

Date: 30/06/2020

Department of State Development
Manufacturing, Infrastructure
and Planning

Queensland Government

N

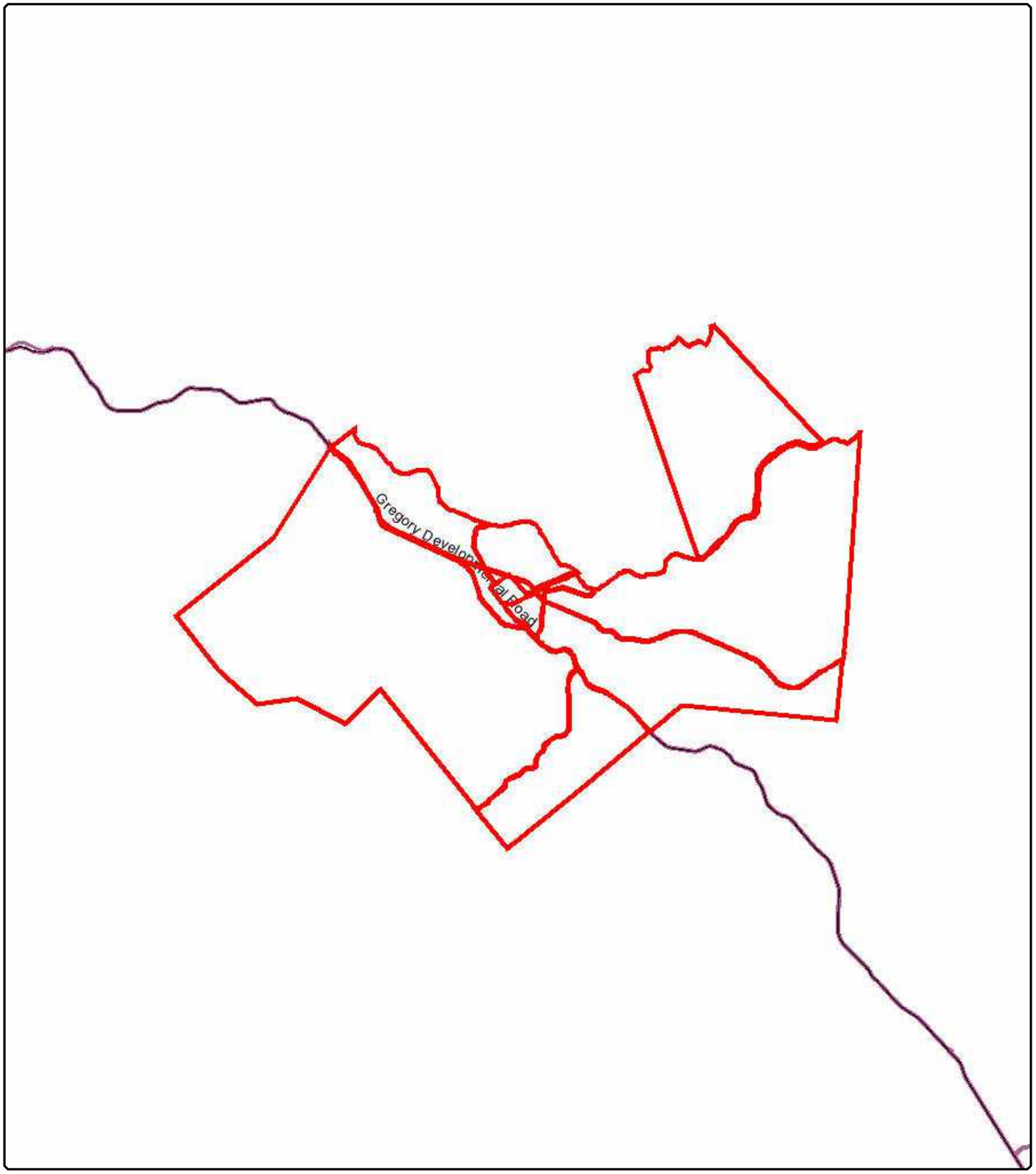
Legend

Wetland protection area wetland

Wetland protection area wetland

0 6,200 12,400 18,600 24,800

Metres



State Assessment and Referral Agency

Date: 30/06/2020

Department of State Development
Manufacturing, Infrastructure
and Planning

Queensland Government

N

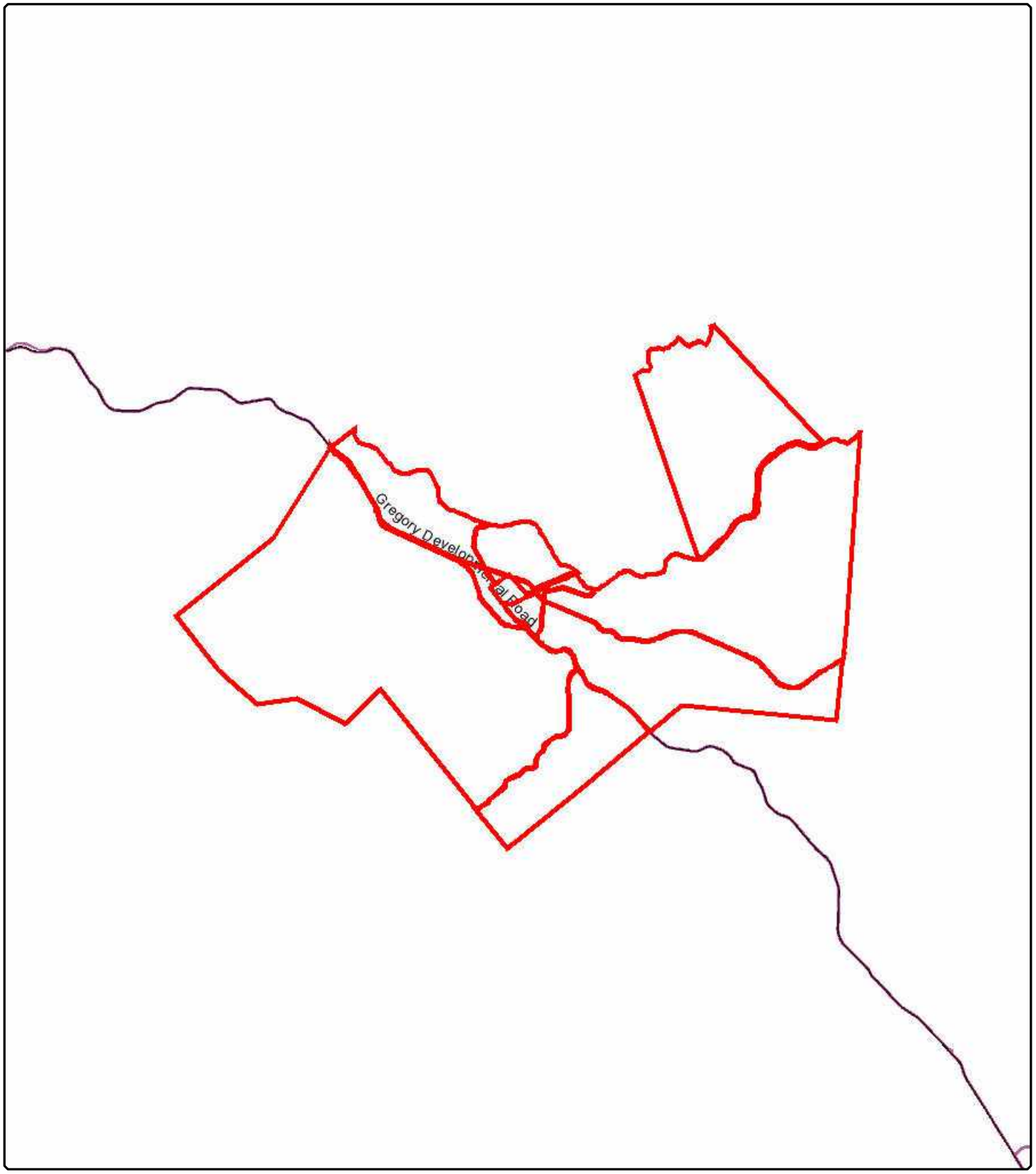
Legend

Area within 25m of a State-controlled road

Area within 25m of a State-controlled road

0 6,200 12,400 18,600 24,800

Metres



State Assessment and Referral Agency

Date: 30/06/2020

Department of State Development
Manufacturing, Infrastructure
and Planning

Queensland Government

N

Legend

State-controlled road

State-controlled road

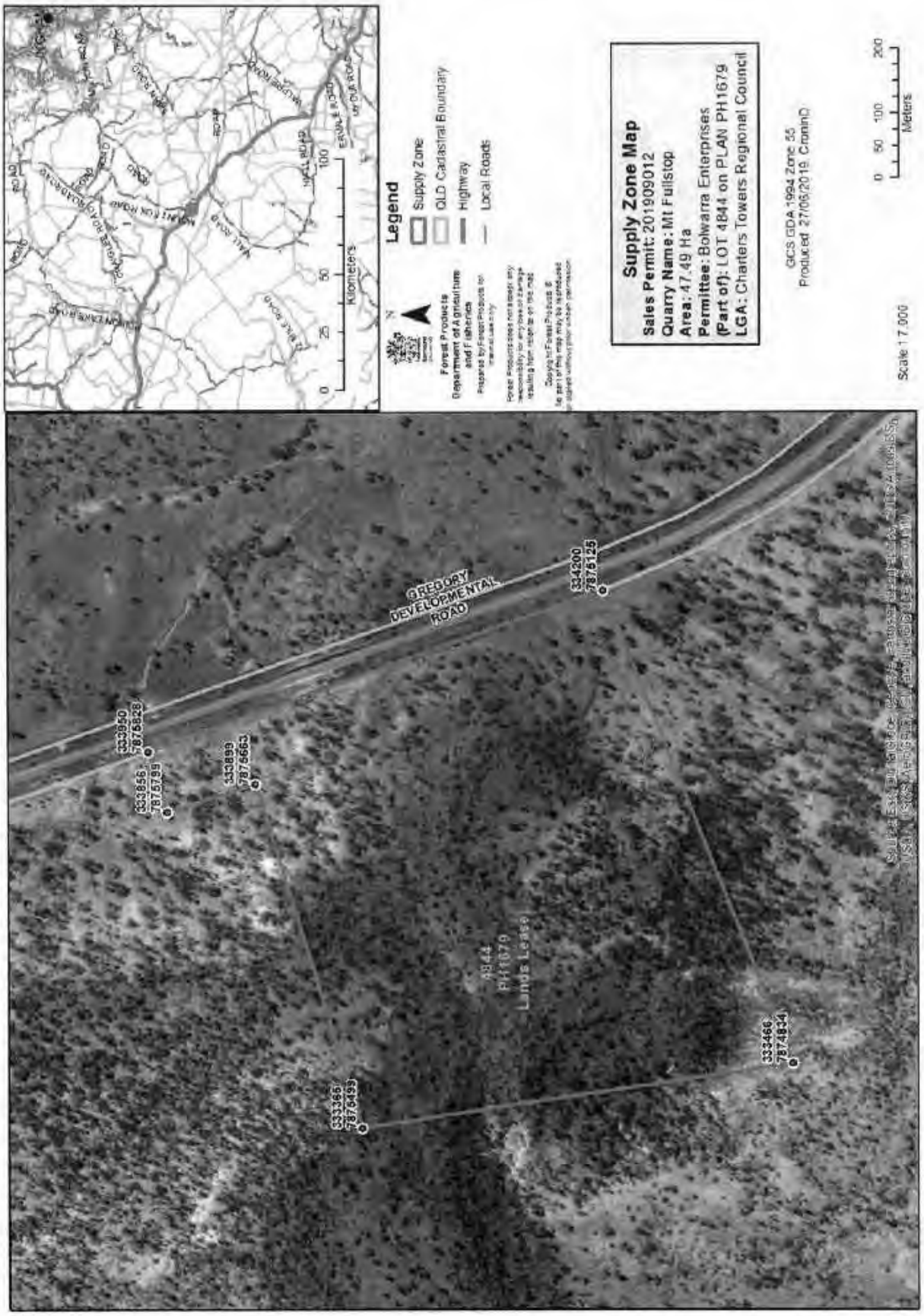
0 6,200 12,400 18,600 24,800

Metres

MILFORD PLANNING

Appendix 3

Schedule 3 **Map/s showing Supply Zone**



MILFORD PLANNING

Appendix 4

CHARTERS TOWERS
REGIONAL COUNCIL

17 July 2025

Our Ref: 5088823
File Ref: MCU2024/0008
Enquiries: Peter Boyd

Bolwarra Enterprises Pty Ltd
C/- Milford Planning Pty Ltd
PO Box 5463
TOWNSVILLE QLD 4810

RECEIVED BY MILFORD PLANNING 18-7-25

Sent via email: *info@milfordplanning.com.au*

Dear Sarah

Amended Decision Notice – Approval
(Given under Section 63 of the *Planning Act 2016*)

This Amended Decision Notice corrects an administrative error regarding the plans attached to the Decision Notice dated 4 July 2025. The assessment manager wishes to advise that the application was approved under delegated authority on 27 June 2025. The approval is subject to reasonable and relevant conditions and supported by a notice of reasons as detailed below:

Applicant details

Applicant name:	Bolwarra Enterprises Pty Ltd C/- Milford Planning Pty Ltd

Location details

Street address:	50186 Gregory Development Road Greenvale
Real property description:	Lot 4844 on PH1679 (limited to the area of the Quarry Material Sales Permit 201909012 only)
Current lawful use:	Grazing

Application details

Application number:	MCU2024/0008
Approval type:	Development Permit
Development type:	Material Change of Use
Category of assessment:	Impact Assessment
Description of development:	Extractive Industry (Up to 100,000 tonnes Extraction and Screening per annum)
Definition of use:	Extractive Industry
Categorising instrument:	Charters Towers Regional Town Plan Version 2

CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823

1. Details of the approval

Details of the approval are listed below in accordance with the *Planning Regulation 2017.*

	Planning Regulation 2017 reference	Development Permit	Preliminary Approval
Development assessable under the planning scheme, a temporary local planning instrument, a master plan or a preliminary approval which includes a variation approval		☒	☐

2. Conditions of approval

Condition Number	Condition	Timing
Approved Plans/Documents		
1.	Development is to be carried out generally in accordance with the submitted application including the following plans and supporting documentation except where amendments are required to satisfy the conditions of this approval: **Drawing Title:** / **Date:** / **Reference No:** Supply Zone Map / 201909012 / 27/06/2019 Site Layout Plan / M2127-SK-01 Sheet 1 / 8/08/2024 Site Amenities Layout / M2127-SK-01 Sheet 2 / 9/01/2024 Flood and Bushfire Hazard Emergency Management Plan / May 2025 / M2127	At all times
General		
2.	a) Comply with all conditions within this Development Permit with conditions prevailing over the approved plan(s) and document(s) in all instances b) Meet the cost of all works associated with the development including any alterations, relocations or repairs to damaged Council infrastructure, and c) All repairs, alterations and relocations of Council infrastructure are to be in accordance with the relevant Council policy and/or Australian Standard. d)	At all times
Currency of approval		
3.	This approval, granted under the provisions of the *Planning Act 2016*, shall lapse six (6) years from the day the approval takes effect in accordance with the provisions of 85 of the *Planning Act 2016*.	At all times
Extent of approved use		
4.	This approval is limited to an Extractive industry defined as: *Extractive industry means the use of premises for –* *(a) extracting or processing extractive resources; and*	At all times

Condition Number	Condition	Timing
	(b) any related activities, including, for example, transporting the resources to market.	
5.	No overnight accommodation is permitted on the site at any time. The use must operate strictly as a day-use activity only. All staff are required to vacate the premises outside of approved operational hours.	At all times
Flood and Bushfire Hazard Emergency Management Plan		
6.	The Flood and Bushfire Hazard Emergency Management Plan must be reviewed annually. Any changes to the Flood and Bushfire Hazard Emergency Management Plan must be approved by Council.	As stated
Environmental		
7.	Ensure that erosion and sedimentation control management is undertaken and maintained to prevent soil erosion and sedimentation runoff to watercourses and Council's storm water drainage system. Erosion and sediment control is to be in accordance with *International Erosion Control Association – Best Practice Erosion & Sediment Control guidelines* and the *Queensland Urban Drainage Manual 2017.*	At all times
8.	Ensure that the development does not cause unreasonable interference with the amenity of adjoining premises because of noise, air or other environmental pollutants.	At all times
Site Rehabilitation Plan		
9.	Prior to the commencement of works, the applicant must submit a Site Rehabilitation Plan to Council for approval. The Plan must be prepared by a suitably qualified professional and must address the area affected by this approval. At a minimum, the Site Rehabilitation Plan must: a) Provide for progressive rehabilitation of disturbed areas; b) Detail erosion, dust, and noise mitigation measures during and post-operations; c) Include final landform profiling to ensure stable and sustainable contours; d) Outline a revegetation strategy using locally appropriate native species to restore ecological function; and e) Ensure the final landform is safe, stable, and fit for its intended future use. The approved Site Rehabilitation Plan, including any conditions or amendments required by Council, must be implemented in full and maintained by the applicant for the duration of the use and until rehabilitation is considered complete by Council.	Prior to commencement of works and at all times

CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823

3. Currency period for the development application approval

In accordance with section 85 of the *Planning Act 2016*, this approval has a currency period of six years.

4. Further development permits

Please be advised that the following development permits are required to be obtained before the development can be carried out:

1. Building Works
2. Plumbing and Drainage Works

5. Referral agencies

The referral agencies for this application are:

Agency:	Trigger:	Address:	Date and Ref:
Department of Housing, Local Government, Planning and Public Works State Assessment and Referral Agency North and Central West Office	Schedule 10, Part 9, Division 4, Subdivision 1, Table 1 – Development impacting on State transport infrastructure (where extracting more than 10,000t per year).	PO Box 5666 TOWNSVILLE QLD 4810 NQSARA@dsdmip.qld.gov.au	6 March 2025 2408-41943 SRA
Department of Housing, Local Government, Planning and Public Works State Assessment and Referral Agency North and Central West Office	Schedule 10, Part 9, Division 4, Subdivision 2, Table 4 – Material change of use of premises near a State transport corridor.	PO Box 5666 TOWNSVILLE QLD 4810 NQSARA@dsdmip.qld.gov.au	6 March 2025 2408-41943 SRA

The conditions imposed by the referral agencies are included as an attachment.

6. Submission(s)

Properly made submissions were not made in relation this development.

7. Notice of reasons

This notice is prepared in accordance with Section 63(5) of the *Planning Act 2016* to inform the public about a decision that has been made in relation to a development application.

CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823

Description of the development:	The proposed development is for Material Change of Use for Extractive Industry (Up to 100,000 tonnes Extraction and Screening per annum)	
Reasons for the decision:	The application for the Material Change of Use has been assessed against the relevant provisions of the North Queensland Regional Plan 2020 and the Charters Towers Regional Town Plan Version 2. It is considered that the proposal is reasonable and is recommended for approval subject to relevant conditions.	
Assessment benchmarks:	The proposed development was assessed against the relevant assessment benchmarks of the Charters Towers Regional Town Plan Version 2 including the: 1) Rural zone Code 2) Bushfire Hazard Overlay Code 3) Environmental Significance Overlay Code 4) Development Works Code 5) Extractive Industry Code	
	The proposed development was assessed against all the assessment benchmarks listed about and complies with all with the exceptions listed and responded to below.	
	Assessment benchmark:	**Reasons for the approval despite non-compliance with benchmark:**
	NA	NA
Relevant matters:	Not applicable.	
Matters raised in submissions:	**Submission Point:**	**Council Response:**
	None received.	Not required.

8. Other requirements under section 43 of the *Planning Regulation 2017*

There are no other requirements.

9. Appeal rights

The rights of an applicant to appeal to a tribunal or the Planning and Environment Court against a decision are set out in Chapter 6, Part 1 of the *Planning Act 2016*. For particular applications, there may also be a right to make an application for a declaration by a tribunal (see Chapter 6, Part 2 of the *Planning Act 2016)*. Information about how to proceed with an appeal to the Planning and Environment Court may be found on the Court's website: http://www.courts.qld.gov.au/courts/planning-and-environment-court.

An applicant may also have a right to appeal to the Development tribunal. For more information, see schedule 1 of the *Planning Act 2016*. The timeframes for starting an appeal in the Planning and Environment Court are set out in Section 229 and Schedule 1 of the *Planning Act 2016*.

Should you wish to discuss this matter, please contact Council on (07) 4761 5300.

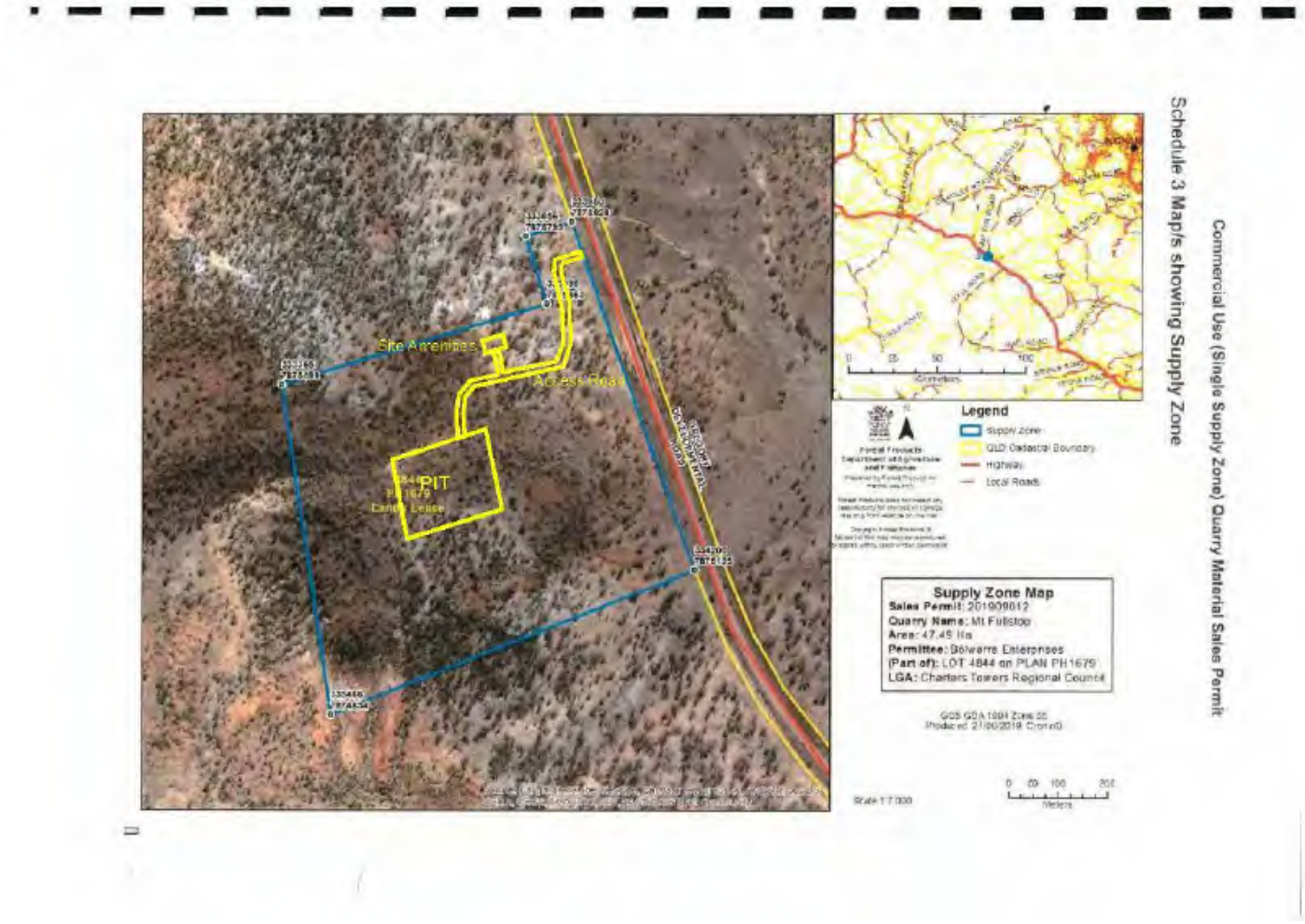
Yours faithfully

Timna Green
Manager Planning & Development

CHARTERS TOWERS
REGIONAL COUNCIL

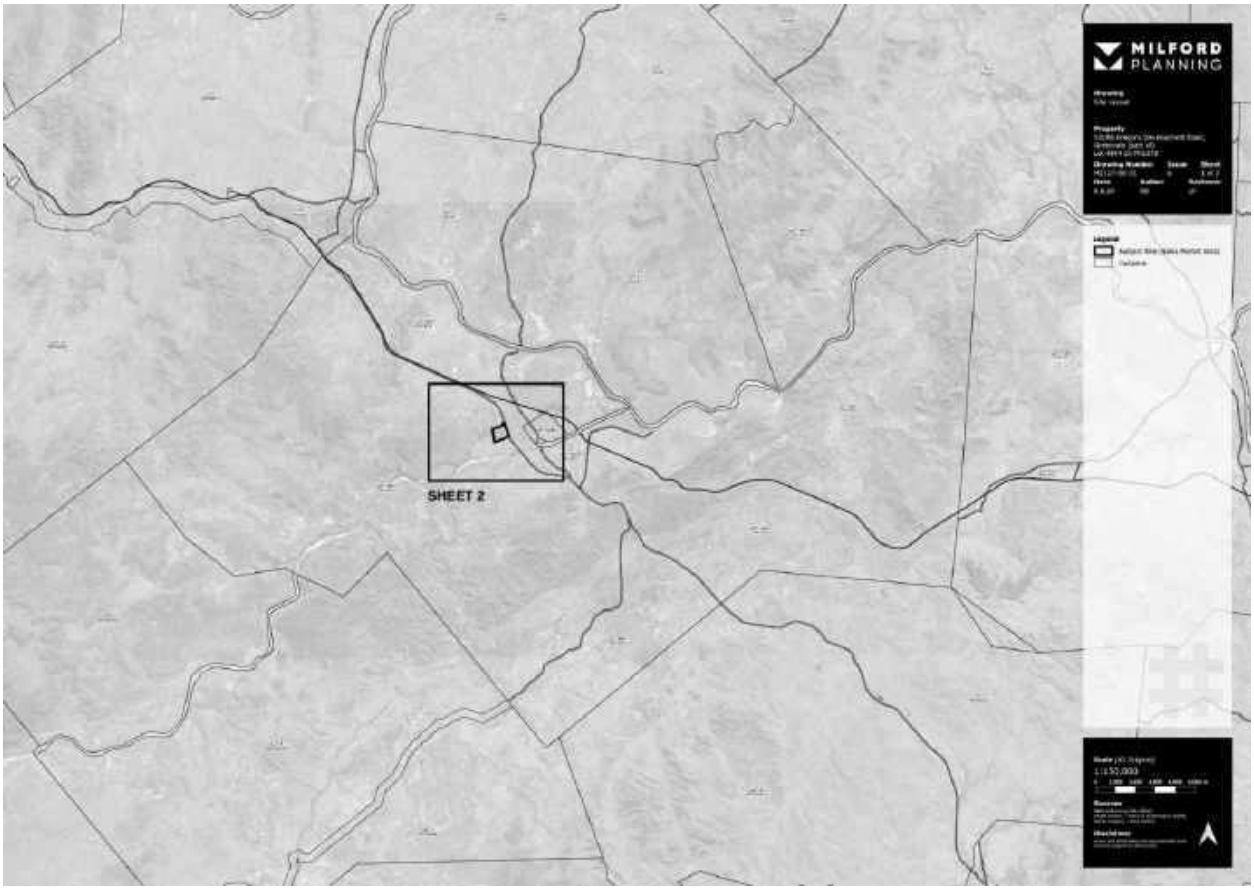
Date: 17 July 2025
Our Ref: 5088823

ATTACHMENT A – APPROVED PLANS/DOCUMENTS



CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823



PO Box 189 Charters Towers Qld 4820
ADMINISTRATION: 12 Mosman Street Charters Towers Qld 4820 Australia
PH. (07) 4761 5300 | **F.** (07) 4761 5344 | **E.** mail@charterstowers.qld.gov.au | **ABN.** 67 731 313 583
www.charterstowers.qld.gov.au

CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823

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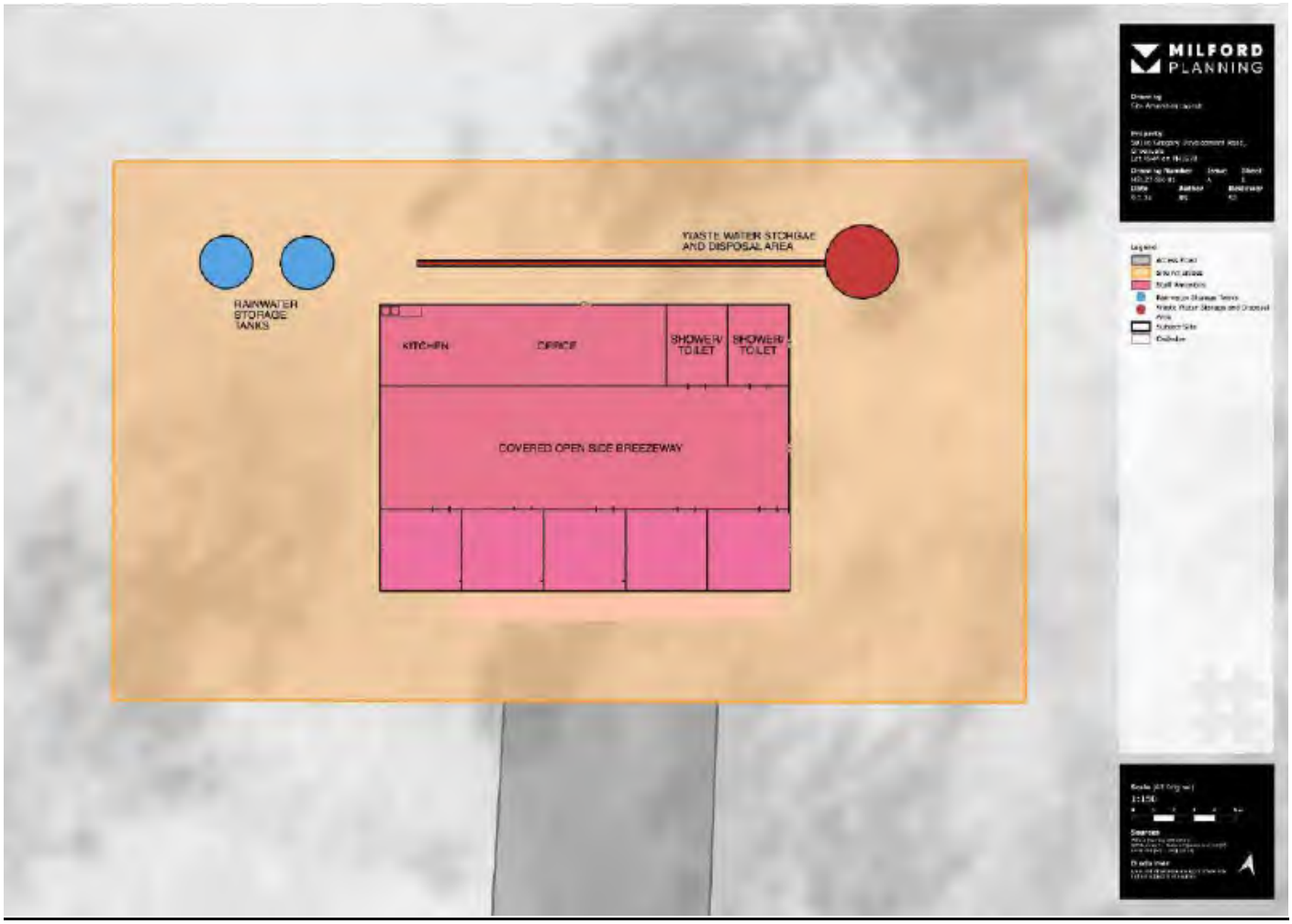
CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823



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CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823

	Material Change of Use of premises near a state-controlled road and a future railway corridor Schedule 10, Part 9, Division 1, Subdivision 1, Table 1, Item 1— Development impacting on state transport infrastructure
SARA reference:	2408-41943 SRA
Assessment manager:	Charters Towers Regional Council
Street address:	50186 Gregory Developmental Road, Greenvale
Real property description:	Lot 4844 on PH1679
Applicant name:	Bolwarra Enterprises Pty Ltd c/- Milford Planning
Applicant contact details:	PO Box 5463 TOWNSVILLE CITY QLD 4810 info@milfordplanning.com.au
State-controlled road access permit:	This referral included an application for a road access location, under section 62A(2) of *Transport Infrastructure Act 1994*. Below are the details of the decision: • Approved • Reference: TMR24-043555 • Date: 30 January 2025 If you are seeking further information on the road access permit, please contact the Department of Transport and Main Roads at North.Queensland.IDAS@tmr.qld.gov.au
Human Rights Act 2019 considerations:	A consideration of the *Human Rights Act 2019* sections 15 to 35 has been undertaken as part of this response. It has been determined that this response does not limit human rights.

Representations

An applicant may make representations to a concurrence agency, at any time before the application is decided, about changing a matter in the referral agency response (s.30 Development Assessment Rules). Copies of the relevant provisions are in **Attachment 4**.

A copy of this response has been sent to the applicant for their information.

For further information please contact Kirsty Geaney, Principal Planning Officer, on (07) 4758 3414 or via email NQSARA@dsdilgp.qld.gov.au who will be pleased to assist.

Yours sincerely

Carl Porter
A/ Manager Planning

cc: Bolwarra Enterprises Pty Ltd c/- Milford Planning, info@milfordplanning.com.au

PO Box 189 Charters Towers Qld 4820
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www.charterstowers.qld.gov.au

CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823

2408-41943 SRA

enc Attachment 1 - Referral agency conditions
Attachment 2 - Advice to the applicant
Attachment 3 - Reasons for referral agency response
Attachment 4 - Representations about a referral agency response provisions
Attachment 5 - Documents referenced in conditions

Attachment 1—Referral agency conditions

(Under section 56(1)(b)(i) of the *Planning Act 2016* the following conditions must be attached to any development approval relating to this application) (Copies of the documents referenced below are found at Attachment 5)

No.	Conditions	Condition timing
Material Change of Use		
Schedule 10, Part 9, Division 4, Subdivision 2, Table 4, Item 1– Material change of use near a state transport corridor & Schedule 10, Part 9, Division 1, Subdivision 1, Table 1, Item 1– Development impacting on state transport infrastructure —The chief executive administering the *Planning Act 2016* nominates the Director-General of Department of Transport and Main Roads to be the enforcement authority for the development to which this development approval relates for the administration and enforcement of any matter relating to the following condition(s):		
1.	The development must be carried out generally in accordance with the following plans: (a) Site Layout, prepared by Milford Planning, dated 8 August 2024, reference M2127-SK-01 (Sheet 1 of 2), revision A. (b) Site Layout, prepared by Milford Planning, dated 9 January 2024, reference M2127-SK-01 (Sheet 2 of 2), revision A. (c) Signs and Linemarking Plan, prepared by SMEC, dated 9 October 2023, reference 300034028-C300, revision A, as amended in red by SARA.	Prior to the commencement of use and to be maintained at all times.
2.	(a) Road works and road access works comprising an access with a BAL and BAR, including line marking, road widening and signage to safely accommodate Type 2 A-Triple Road Train, (at the road access location) must be provided generally in accordance with Signs and Linemarking Plan, prepared by SMEC, dated 9 October 2023, reference 300034028 C300, revision A, as amended in red by SARA. (b) The road access works must be designed and constructed in accordance with: i. Department of Transport and Main Roads' Road Planning Design Manual, Second Edition; ii. Manual of Uniform Traffic Control Devices (MUTCD); iii. Department of Transport and Main Roads' Traffic and Road Use Management Manual (TRUM)	(a) & (b) Prior to the commencement of use and to be maintained at all times
3.	(a) Pay a monetary contribution to the Department of Transport and Main Roads towards protecting and maintaining the safety or efficiency of the Kennedy Developmental road in accordance with section 146(2)(a) of the Planning Act 2016, for the maintenance of the road surface. The amount of the contribution: i. must be calculated at twelve monthly intervals commencing on the first day that material hauled is transported from the site by road; ii. is to be indexed based on the Road and Bridge Construction Index, Queensland – Class 3101, published quarterly by the Australian Bureau of Statistics (ABS Cat No. 6427, Series ID A2333727L) to the date of payment; and	(a) and (c) Within 30 days of the end of December each year until the transportation of material hauled from the site by road under this approval ceases (b) As indicated

	iii. is to be arranged by contacting north.queensland.idas@tmr.qld.gov.au within the Department of Transport and Main Roads. **Annual Haulage Year** / **Contribution – Dollars/Tonne hauled on Kennedy Developmental Road** 2025 – 2032 / $2.58 2033 - Onwards / $1.49 (b) Keep records of the quantity of material hauled on the state-controlled road network. Submit the records required in part (b) of this condition to the Department of Transport and Main Roads via north.queensland.idas@tmr.qld.gov.au. The records must state the application's reference number: 2408-41943 SRA	
4.	Heavy vehicles as defined in the Transport Operations (Road Use Management) Act 1995 associated with haulage for the development are only to use the route identified in Figure 1 of the Pavement Impact Assessment, prepared by SMEC, dated 30 January 2025, reference 30034028 and revision 04 Final as amended in red by SARA, as the haul route.	At all times.
5.	Carry out the stormwater management of the development generally in accordance with: (a) Catchment Plan – Sediment Basin, prepared by Langtree Consulting Engineers, dated 17 December 2024, reference 1314-SMP-SK05, revision A. (b) Sediment Basin Details, prepared by Langtree Consulting Engineers, dated 17 December 2024, reference 1314-SMP-SK06, revision A.	At all times

Attachment 2—Advice to the applicant

General advice	
1.	Terms and phrases used in this document are defined in the *Planning Act 2016*, its regulation or the State Development Assessment Provisions (SDAP) (version 3.0). If a word remains undefined it has its ordinary meaning.

Attachment 3—Reasons for referral agency response

(Given under section 56(7) of the *Planning Act 2016*)

The reasons for the SARA's decision are:

The proposed development is considered to achieve the relevant assessment benchmarks of State code 1 of SDAP. Specifically, the development

- does not increase the likelihood or frequency of accidents, fatalities or serious injury for users of state-controlled road;
- does not adversely impact the structural integrity or physical condition of state-controlled road;
- does not adversely impact road transport infrastructure, public passenger transport infrastructure or active transport infrastructure; and,
- does not adversely impact the function and efficiency of state-controlled road.

The proposed development is considered to achieve the relevant assessment benchmarks of State code 2 of SDAP. Specifically, the development:

- does not result in an increase in the likelihood or frequency of accidents, fatalities or serious injury for users of a railway;
- does not adversely impact the structural integrity or physical condition of railways, rail transport infrastructure or other rail infrastructure within a railway corridor; and,
- does not compromise the operating performance of railway corridors.

The proposed development is considered to achieve the relevant assessment benchmarks of State code 6 of SDAP. Specifically, the development

- does not create a safety hazard for users of state transport infrastructure or public passenger services by increasing the likelihood or frequency of a fatality or serious injury;
- does not result in a worsening of the physical condition or operating performance of the state transport network;
- does not compromise the state's ability to cost-effectively construct, operate and maintain state transport infrastructure;
- provides public passenger transport infrastructure to enable development to be serviced by public passenger transport;
- provides safe and direct access to public passenger transport infrastructure or active transport infrastructure, including access by cycling and walking.

Material used in the assessment of the application:

- the development application material and submitted plans
- *Planning Act 2016*
- Planning Regulation 2017
- the SDAP (version 3.0), as published by SARA
- the Development Assessment Rules
- SARA DA Mapping system
- section 58 of the *Human Rights Act 2019*

Attachment 4—Representations about a referral agency response provisions

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Attachment 5—Documents referenced in conditions

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CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823

Development Assessment Rules—Representations about a referral agency response

The following provisions are those set out in sections 28 and 30 of the Development Assessment Rules[1] regarding **representations about a referral agency response**

Part 6: Changes to the application and referral agency responses

28 Concurrence agency changes its response or gives a late response

28.1. Despite part 2, a concurrence agency may, after its referral agency assessment period and any further period agreed ends, change its referral agency response or give a late referral agency response before the application is decided, subject to section 28.2 and 28.3.

28.2. A concurrence agency may change its referral agency response at any time before the application is decided if—

(a) the change is in response to a change which the assessment manager is satisfied is a change under section 26.1; or

(b) the Minister has given the concurrence agency a direction under section 99 of the Act; or

(c) the applicant has given written agreement to the change to the referral agency response.[2]

28.3. A concurrence agency may give a late referral agency response before the application is decided, if the applicant has given written agreement to the late referral agency response.

28.4. If a concurrence agency proposes to change its referral agency response under section 28.2(a), the concurrence agency must—

(a) give notice of its intention to change its referral agency response to the assessment manager and a copy to the applicant within 5 days of receiving notice of the change under section 25.1; and

(b) the concurrence agency has 10 days from the day of giving notice under paragraph (a), or a further period agreed between the applicant and the concurrence agency, to give an amended referral agency response to the assessment manager and a copy to the applicant.

---

1 Pursuant to Section 68 of the *Planning Act 2016*

2 In the instance an applicant has made representations to the concurrence agency under section 30, and the concurrence agency agrees to make the change included in the representations, section 28.2(c) is taken to have been satisfied.

PO Box 189 Charters Towers Qld 4820
ADMINISTRATION: 12 Mosman Street Charters Towers Qld 4820 Australia
PH. (07) 4761 5300 | F. (07) 4761 5344 | E. mail@charterstowers.qld.gov.au | ABN. 67 731 313 583
www.charterstowers.qld.gov.au

Part 7: Miscellaneous

30 Representations about a referral agency response

30.1. An applicant may make representations to a concurrence agency at any time before the application is decided, about changing a matter in the referral agency response.[3]

[3] An applicant may elect, under section 32, to stop the assessment manager's decision period in which to take this action. If a concurrence agency wishes to amend their response in relation to representations made under this section, they must do so in accordance with section 28.

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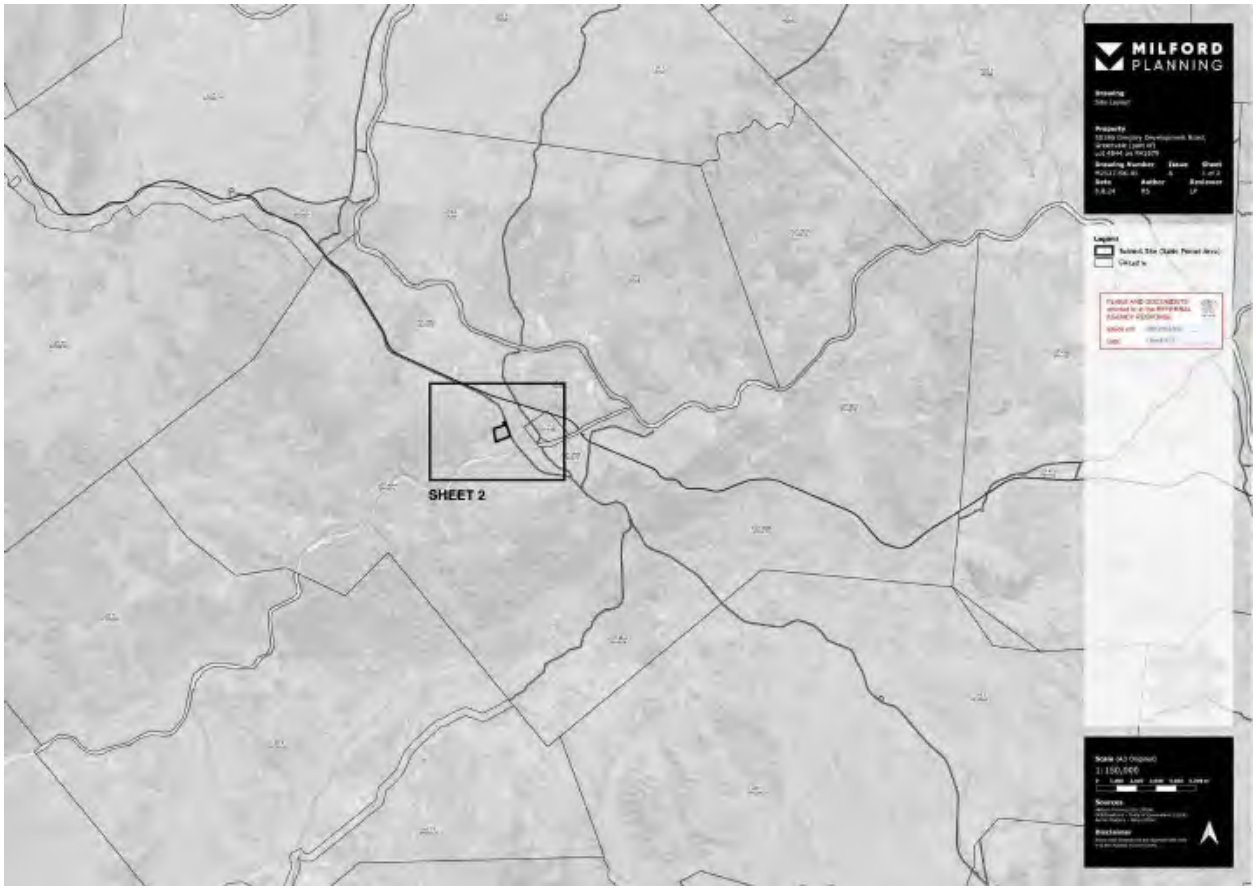
CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823



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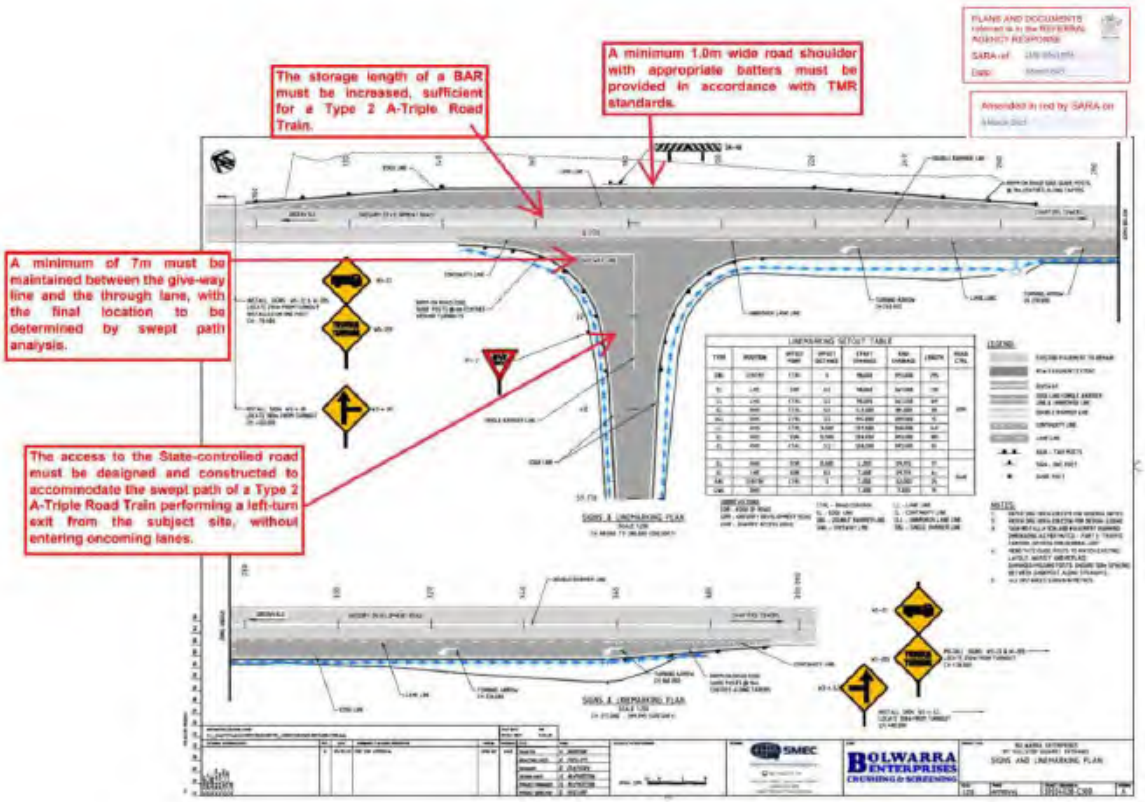

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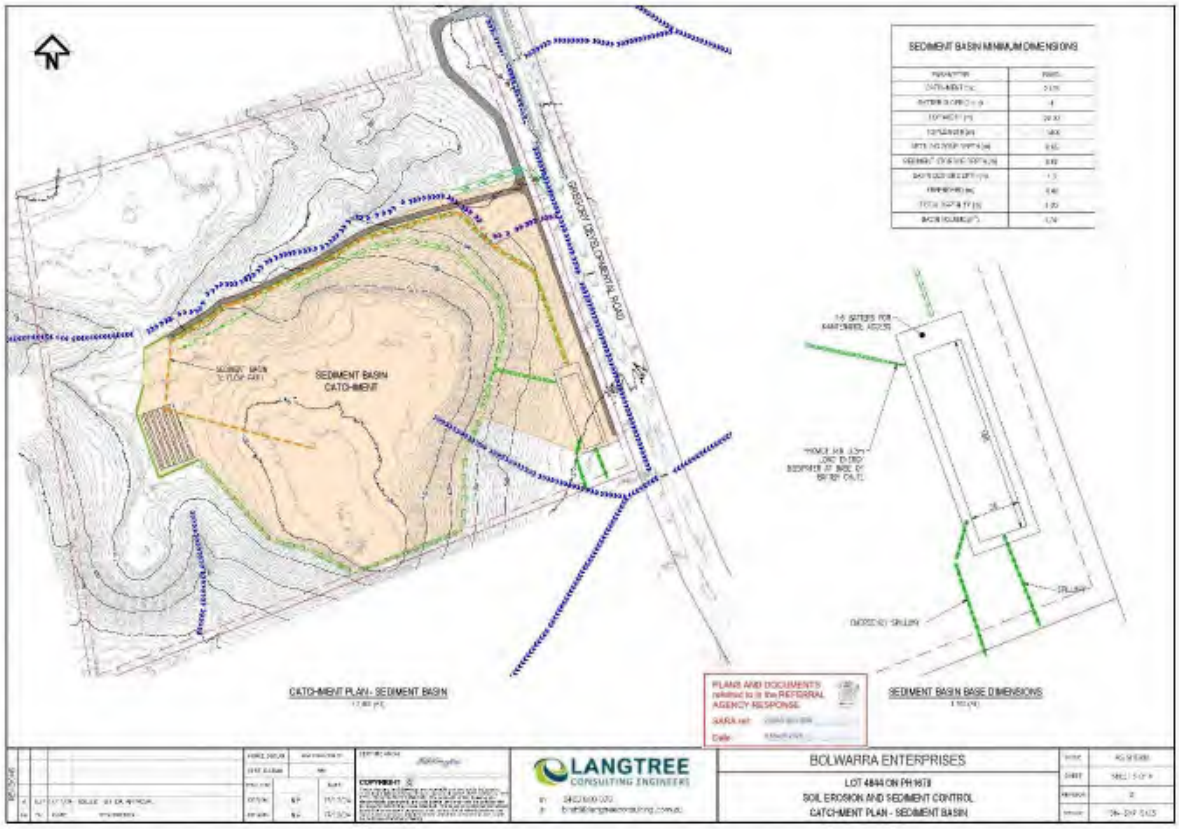

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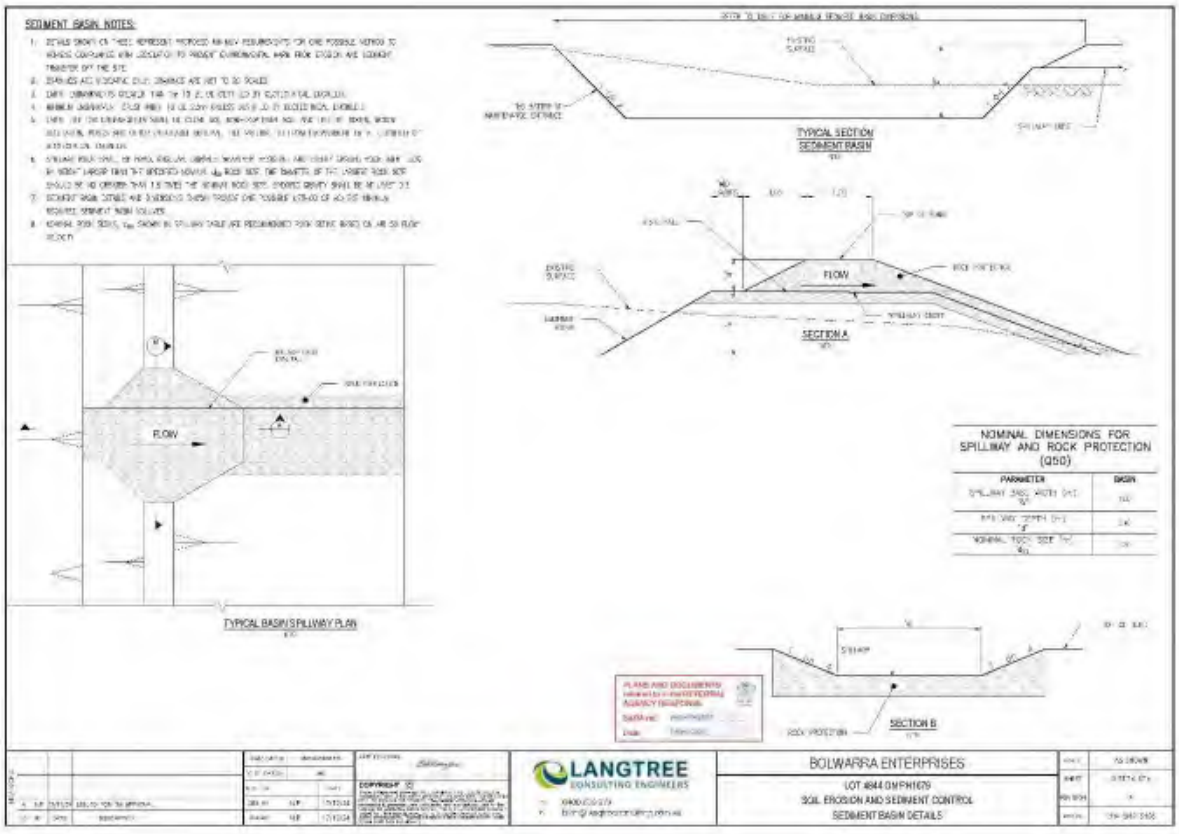

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Figure 1 below depicts the proposed haulage routes highlighted corresponding to the attached legend.

Figure 1: Proposed Haulage Routes

~~2.3 Design Vehicle~~

~~The design vehicle specified for haulage associated with the development is a standard 16 axle A-Triple road train.~~

~~Figure 2 below details the specifications for the design vehicle as per the *National Heavy Vehicle Regulator (NHVR)*.~~

	Description	Maximum Length (metres)	Maximum Regulatory Mass under GML (tonnes)	Maximum Regulatory Mass under CML (tonnes)	Maximum Regulatory Mass under HML (tonnes)
(e)	16 Axle A-triple	≤ 53.5	155.5	117.5	104.5

Figure 2: NHVR Design Vehicle Specifications

Amended in red by SARA on
6 March 2026

PLANS AND DOCUMENTS referred to in the REFERRAL AGENCY RESPONSE
SARA ref: 2408-43913 SRA
Date: 6 March 2026

~~The design vehicle consists of the following axle configuration:~~

- ~~One (1) SAST group~~
- ~~Three (3) TADT groups~~
- ~~Three (3) TRDT groups~~

ATTACHMENT 3 – TMR DECISION NOTICE FOR PERMITTED ROAD ACCESS LOCATION

RECEIVED
BY MILFORD PLANNING
7-3-25

Our ref TMR24-043655
Your ref M2127
Enquiries Magnus Kuttainen

Queensland Government

Department of
Transport and Main Roads

30 January 2025

Decision Notice – Permitted Road Access Location
(s62(1) *Transport Infrastructure Act 1994*)

This is not an authorisation to commence work on a state-controlled road[1]

Development application reference number MCU2024/0008, lodged with Charters Towers Regional Council involves constructing or changing a vehicular access between Lot 4844 on PH1679, the land the subject of the application, and the Gregory Developmental Road (a state-controlled road).

In accordance with section 62A(2) of the *Transport Infrastructure Act 1994* (TIA), this development application is also taken to be an application for a decision under section 62(1) of TIA.

Applicant Details

Name and address	Bolwarra Enterprises Pty Ltd c/- Milford Planning PO Box 5463 TOWNSVILLE CITY QLD 4810

Application Details

Address of Property	50186 Gregory Developmental Road, Greenvale QLD 4816
Real Property Description	Lot 4844 on PH1679
Aspect/s of Development	Development Permit for Material Change of Use for Extractive Industry (Up to 100,000 tonnes Extraction and Screening per annum) on land described as part of Lot 4844 on PH1679 (Sales Permit Area only)

Decision (given under section 67 of TIA)
It has been decided to approve the application, subject to the following conditions:

No.	Conditions of Approval	Condition Timing
1	The Permitted Road Access Location must be in accordance with Site Layout (Sheet 1 of 2), prepared by Milford Planning, dated 9 January 2024, revision A, as amended in red by the Department of Transport and Main Roads.	At all times.

[1] Please refer to the further approvals required under the heading 'Further approvals'

Program Delivery and Operations
North Queensland Region
445 Flinders Street Townsville QLD 4810
PO Box 1089 Townsville QLD 4810

Telephone +61 (07) 4421 8744
Website www.tmr.qld.gov.au
Email North.Queensland.IDAS@tmr.qld.gov.au
ABN: 39 407 690 291

No.	Conditions of Approval	Condition Timing
2	(a) Road works and road access works comprising an access with a BAL and BAR, including line marking, road widening and signage to safely accommodate Type 2 A-Triple Road Train, (at the road access location) must be provided generally in accordance with Signs and Linemarking Plan, prepared by SMEC, dated 9 October 2023, reference 300034028 C300, revision A, as amended in red by SARA. (b) The road access works must be designed and constructed in accordance with: i. Department of Transport and Main Roads' Road Planning Design Manual, Second Edition; ii. Manual of Uniform Traffic Control Devices (MUTCD); iii. Department of Transport and Main Roads' Traffic and Road Use Management Manual (TRUM)	Prior to the commencement of the use of the Road Access Works and to be maintained at all times.
3	Direct access is prohibited between the Gregory Developmental Road and Lot 4844 on PH1679 at any other location other than the Permitted Road Access Location described in Condition 1, unless permitted by the Department of Transport and Main Roads.	At all times.
5	The landowner shall be responsible for maintenance of the road access between the property boundary and the edge of the existing bitumen as required to continue safe and efficient access between the permitted road access point and Gregory Developmental Road.	At all times.

Reasons for the decision

The reasons for this decision are as follows:

a) To ensure access to the State-controlled Road from the property does not compromise the safety and efficiency of the State-controlled Road network.
b) To provide safe access for all vehicles associated with the use.

Please refer to **Attachment A** for the findings on material questions of fact and the evidence or other material on which those findings were based.

Information about the Decision required to be given under section 67(2) of TIA

1. There is no guarantee of the continuation of road access arrangements, as this depends on future traffic safety and efficiency circumstances.

2. In accordance with section 70 of the TIA, the applicant for the planning application is bound by this decision. A copy of section 70 is attached as **Attachment B**, as required, for information.

Further information about the decision

1. In accordance with section 67(7) of TIA, this decision notice:
    a) starts to have effect when the development approval has effect; and
    b) stops having effect if the development approval lapses or is cancelled; and
    c) replaces any earlier decision made under section 62(1) in relation to the land.

2. In accordance with section 485 of the TIA and section 31 of the *Transport Planning and Coordination Act 1994* (TPCA), a person whose interests are affected by this decision may apply for a review of this decision only within 28 days after notice of the decision was given under the TIA. A copy of the review provisions under TIA and TPCA are attached in **Attachment C** for information.

3. In accordance with section 485B of the TIA and section 35 of TPCA a person may appeal against a reviewed decision. The person must have applied to have the decision reviewed before an appeal about the decision can be lodged in the Planning and Environment Court. A copy of the Appeal Provisions under TIA and TPCA is attached in **Attachment C** for information.

Further approvals

The Department of Transport and Main Roads also provides the following information in relation to this approval:

1. Road Access Works Approval Required – Written approval is required from the department to carry out road works that are road access works (including driveways) on a state-controlled road in accordance with section 33 of the TIA. This approval must be obtained prior to commencing any works on the state-controlled road. The approval process may require the approval of engineering designs of the proposed works, certified by a Registered Professional Engineer of Queensland (RPEQ). Please contact the department to make an application.

2. General advice:
    a) This approval does not permit works to occur within the State-controlled Road reserve. Further approval is required from the Department of Transport and Main Roads prior to any works occurring.
    b) Road Works Approval Required – In addition to the Road Access Works Approval, a Road Works approval is required pursuant to section 33 of the TIA. Written approval is required from the Department to carry out road works, including the conditioned line marking, on a state-controlled road in accordance with section 33 of the TIA. This approval must be obtained prior to commencing any works on the state-controlled road. The approval process may require the approval of engineering designs of the proposed works, certified by a Registered Professional Engineer of Queensland (RPEQ). Please contact the department to make an application.

If further information about this approval or any other related query is required, Magnus Kuttainen, Town Planner should be contacted by email at north.queensland.idas@tmr.qld.gov.au or on (07) 4421 8744.

CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823

Yours sincerely

Aidan Colahan
A/Senior Town Planner

Attachments: Attachment A – Decision evidence and findings
Attachment B - Section 70 of TIA
Attachment C - Appeal Provisions
Attachment D - Permitted Road Access Location Plan
Attachment E - Road Works Described in Condtion 2

CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823

Attachment A

Decision Evidence and Findings

Findings on material questions of fact:

- The objective of the Transport Infrastructure Act 1994 requires the establishment of a road regime that is safe and efficient.
- Section 62 of the Transport Infrastructure Act 1994 allows the Department of Transport and Main Roads to make decisions about permitted road access locations between
- particular/adjacent land and a state-controlled road.
- The proposed development is for a Development Permit – Material Change of Use, Extractive Industry, located at 50186 Gregory Developmental Road, Greenvale QLD 4816, formally described as Lot 4844 on PH1679.
- Where proximate to the subject site, the State Controlled Road (SCR) has a speed limit of 100km/hr.
- Where proximate to the subject site, the Gregory Developmental Road (Road ID: 98C) is not a Limited Access Road (LAR).
- The proposal involves:
    - A new extractive industry (stone quarry) use, with an ancilliary staff amenities building.
    - A design vehicle consisting of a Type 2 A-Triple Road Train, taking four (4) trips per day, being two (2) egress and two (2) ingress trips.
    - A new access to the premises, featuring a BAL and BAR turn treatment, involving road widening, line-marking and signage.
- The access arrangement proposed is considered to retain the safety and efficiency of the
- State-controlled Road.
- The property owner will be responsible for ongoing maintenance of the driveway between the property boundary and the pavement edge of the State-controlled Road.

Evidence or other material on which findings were based:

Title of Evidence / Material	Prepared by	Date	Reference no.	Version/Issue
Traffic Impact Assessment	Langtree Consulting Engineers	13 Dec 2024	R-NP320	C
Site Layout	Milford Planning	8 Aug 2024	M2127-SK-01	1 of 2 A
Signs and Linemarking Plan	SMEC	9 Oct 2023	30034028-C300	A
A-Triple Swept Path (Sheet 1 of 2)	Langtree Consulting Engineers	12 Dec 2024	1314-SK05	B
A-Triple Swept Path (Sheet 2 of 2)	Langtree Consulting Engineers	12 Dec 2024	1314-SK06	B

Attachment B

Section 70 of TIA

Transport Infrastructure Act 1994
Chapter 6 Road transport infrastructure
Part 5 Management of State-controlled roads

---

70 Offences about road access locations and road access works, relating to decisions under s 62(1)

(1) This section applies to a person who has been given notice under section 67 or 68 of a decision under section 62(1) about access between a State-controlled road and adjacent land.

(2) A person to whom this section applies must not—

(a) obtain access between the land and the State-controlled road other than at a location at which access is permitted under the decision; or

(b) obtain access using road access works to which the decision applies, if the works do not comply with the decision and the noncompliance was within the person's control; or

(c) obtain any other access between the land and the road contrary to the decision; or

(d) use a road access location or road access works contrary to the decision; or

(e) contravene a condition stated in the decision; or

(f) permit another person to do a thing mentioned in paragraphs (a) to (e); or

(g) fail to remove road access works in accordance with the decision.

Maximum penalty—200 penalty units.

(3) However, subsection (2)(g) does not apply to a person who is bound by the decision because of section 68.

Attachment C

Appeal Provisions

Transport Infrastructure Act 1994
Chapter 16 General provisions

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485 Internal review of decisions

(1) A person whose interests are affected by a decision described in schedule 3 (the ***original decision***) may ask the chief executive to review the decision.

(2) The person is entitled to receive a statement of reasons for the original decision whether or not the provision under which the decision is made requires that the person be given a statement of reasons for the decision.

(3) The *Transport Planning and Coordination Act 1994*, part 5, division 2—

(a) applies to the review; and

(b) provides—

(i) for the procedure for applying for the review and the way it is to be carried out; and

(ii) that the person may apply to QCAT to have the original decision stayed.

485B Appeals against decisions

(1) This section applies in relation to an original decision if a court (the appeal court) is stated in schedule 3 for the decision.

(2) If the reviewed decision is not the decision sought by the applicant for the review, the applicant may appeal against the reviewed decision to the appeal court.

(3) The Transport Planning and Coordination Act 1994, part 5, division 3—

(a) applies to the appeal; and

(b) provides—

(i) for the procedure for the appeal and the way it is to be disposed of; and

(ii) that the person may apply to the appeal court to have the original decision stayed.

(4) Subsection (5) applies if—

(a) a person appeals to the Planning and Environment Court against a decision under section 62(1) on a planning application that is taken, under section 62A(2), to also be an application for a decision under section 62(1); and

(b) a person appeals to the Planning and Environment Court against a decision under the Planning Act on the planning application.

(5) The court may order—

(a) the appeals to be heard together or 1 immediately after the other; or

(b) 1 appeal to be stayed until the other is decided.

(6) Subsection (5) applies even if all or any of the parties to the appeals are not the same.

(7) In this section—

original decision means a decision described in schedule 3.

reviewed decision means the chief executive's decision on a review under section 485.

31 Applying for review

(1) A person may apply for a review of an original decision only within 28 days after notice of the original decision was given to the person under the transport Act.

(2) However, if—

(a) the notice did not state the reasons for the original decision; and

(b) the person asked for a statement of the reasons within the 28 days mentioned in subsection (1)

the person may apply within 28 days after the person is given the statement of the reasons.

(3) In addition, the chief executive may extend the period for applying.

(4) An application must be written and state in detail the grounds on which the person wants the original decision to be reviewed.

32 Stay of operation of original decision

(1) If a person applies for review of an original decision, the person may immediately apply for a stay of the decision to the relevant entity.

(2) The relevant entity may stay the original decision to secure the effectiveness of the review and any later appeal to or review by the relevant entity.

(3) In setting the time for hearing the application, the relevant entity must allow at least 3 business days between the day the application is filed with it and the hearing day.

(4) The chief executive is a party to the application.

(5) The person must serve a copy of the application showing the time and place of the hearing and any document filed in the relevant entity with it on the chief executive at least 2 business days before the hearing.

(6) The stay—

(a) may be given on conditions the relevant entity considers appropriate; and

(b) operates for the period specified by the relevant entity; and

(c) may be revoked or amended by the relevant entity.

(7) The period of a stay under this section must not extend past the time when the chief executive reviews the original decision and any later period the relevant entity allows the applicant to enable the applicant to appeal against the decision or apply for a review of the decision as provided under the QCAT Act.

(8) The making of an application does not affect the original decision, or the carrying out of the original decision, unless it is stayed.

(9) In this section—

relevant entity means—

(a) if the reviewed decision may be reviewed by QCAT—QCAT; or

(b) if the reviewed decision may be appealed to the appeal court—the appeal court.

35 Time for making appeals

(1) A person may appeal against a reviewed decision only within—

(a) if a decision notice is given to the person—28 days after the notice was given to the person; or

(b) if the chief executive is taken to have confirmed the decision under section 34(5)—56 days after the application was made.

(2) However, if—

(a) the decision notice did not state the reasons for the decision; and

(b) the person asked for a statement of the reasons within the 28 days mentioned in subsection (1)(a);

the person may apply within 28 days after the person is given a statement of the reasons.

(3) Also, the appeal court may extend the period for appealing.

CHARTERS TOWERS
REGIONAL COUNCIL

Date: 17 July 2025
Our Ref: 5088823

Attachment D
Permitted Road Access Location Plan

Program Delivery and Operations
North Queensland Region
445 Flinders Street Townsville QLD 4810
PO Box 1089 Townsville QLD 4810

Telephone +61 (07) 4421 8744
Website www.tmr.qld.gov.au
Email North.QueenslandIDAS@tmr.qld.gov.au
ABN: 39 407 690 291

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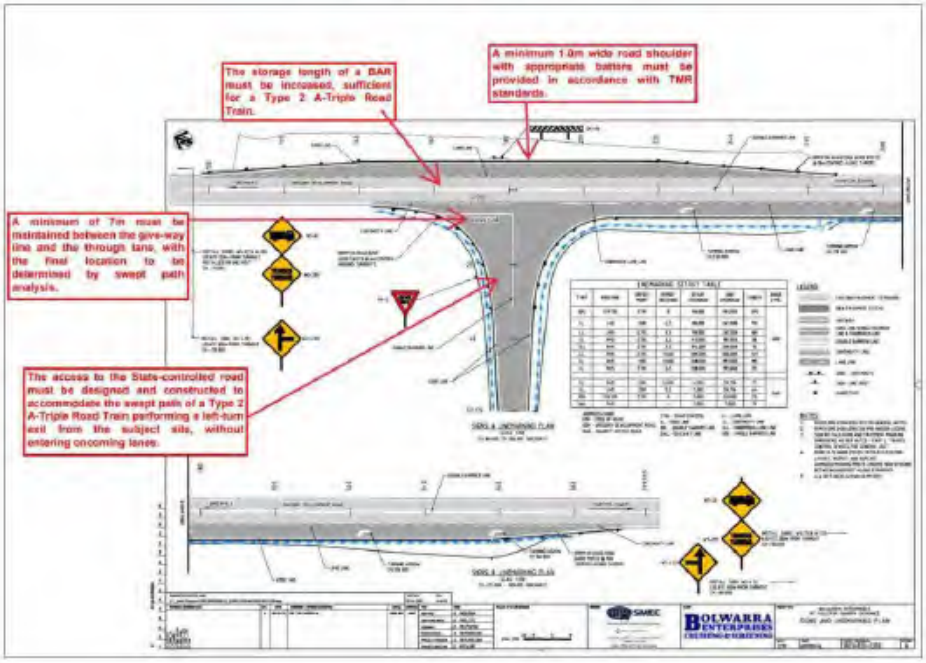
Attachment E
Road Works Described in Condtion 2



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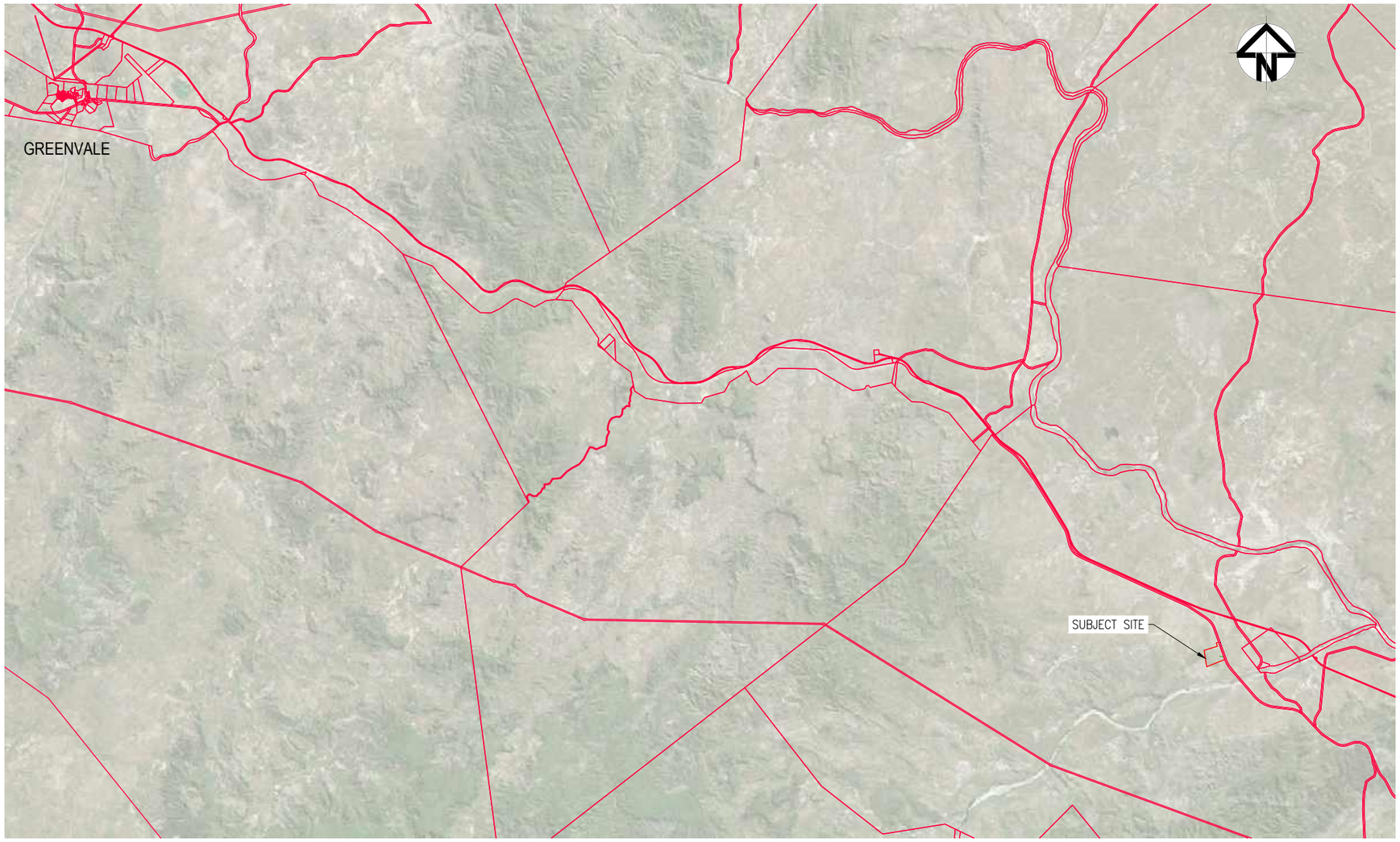
MILFORD PLANNING

Appendix 5

MOUNT FULLSTOP QUARRY
LOT 4844 ON PH1679
SOIL EROSION & SEDIMENT CONTROL



LOCALITY PLAN
1:10,000

DRAWING SCHEDULE

DRAWING NO.	REV	DESCRIPTION
1314-SMP-SK01	A	COVER SHEET, SITE PLAN & DRG SCHEDULE
1314-SMP-SK02	A	EXISTING SITE DRAINAGE
1314-SMP-SK03	A	GENERAL ARRANGEMENT PLAN
1314-SMP-SK04	A	CATCHMENT PLAN - DIVERSION CHANNELS
1314-SMP-SK05	A	CATCHMENT PLAN - SEDIMENT BASIN
1314-SMP-SK06	A	SEDIMENT BASIN DETAILS

REVISIONS

No.	BY	DATE	DESCRIPTION
A	N.P	17/11/24	ISSUED FOR DA APPROVAL

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION

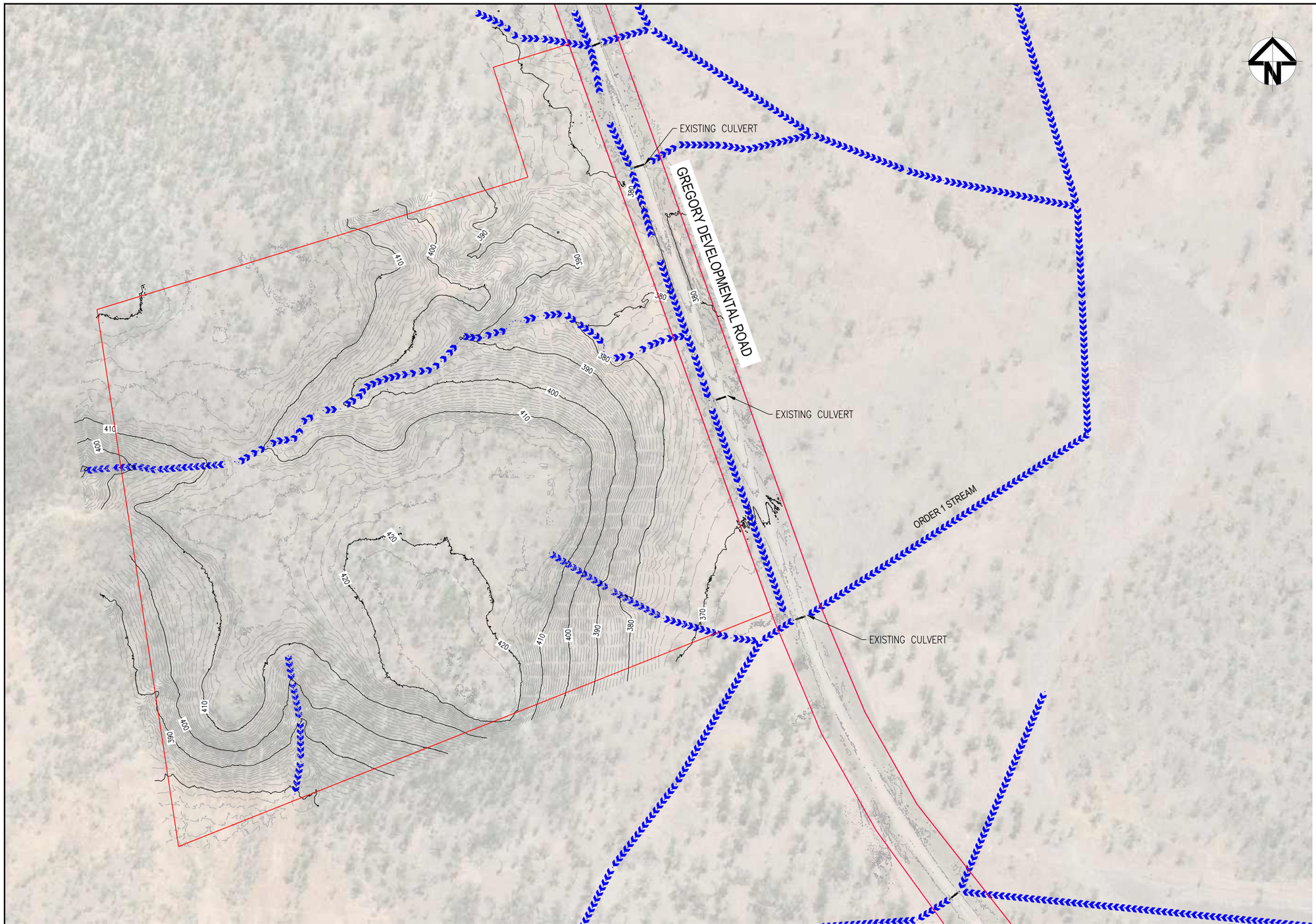
BRETT LANGTRAEE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES

LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
LOCALITY PLAN, DRAWING SCHEDULE

SCALE	AS SHOWN
SHEET	SHEET 1 OF 6
REVISION	A
DRG No.	1314-SMP-SK01



Reviewed by OSE Group and existing drainage paths verified

LEGEND:

EXISTING CULVERT

EXISTING DRAINAGE PATH

EXISTING DRAINAGE

1:2,500 (A1)

REVISIONS				
No.	BY	DATE	DESCRIPTION	
A	N.P	17/11/24	ISSUED FOR DA APPROVAL	

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION

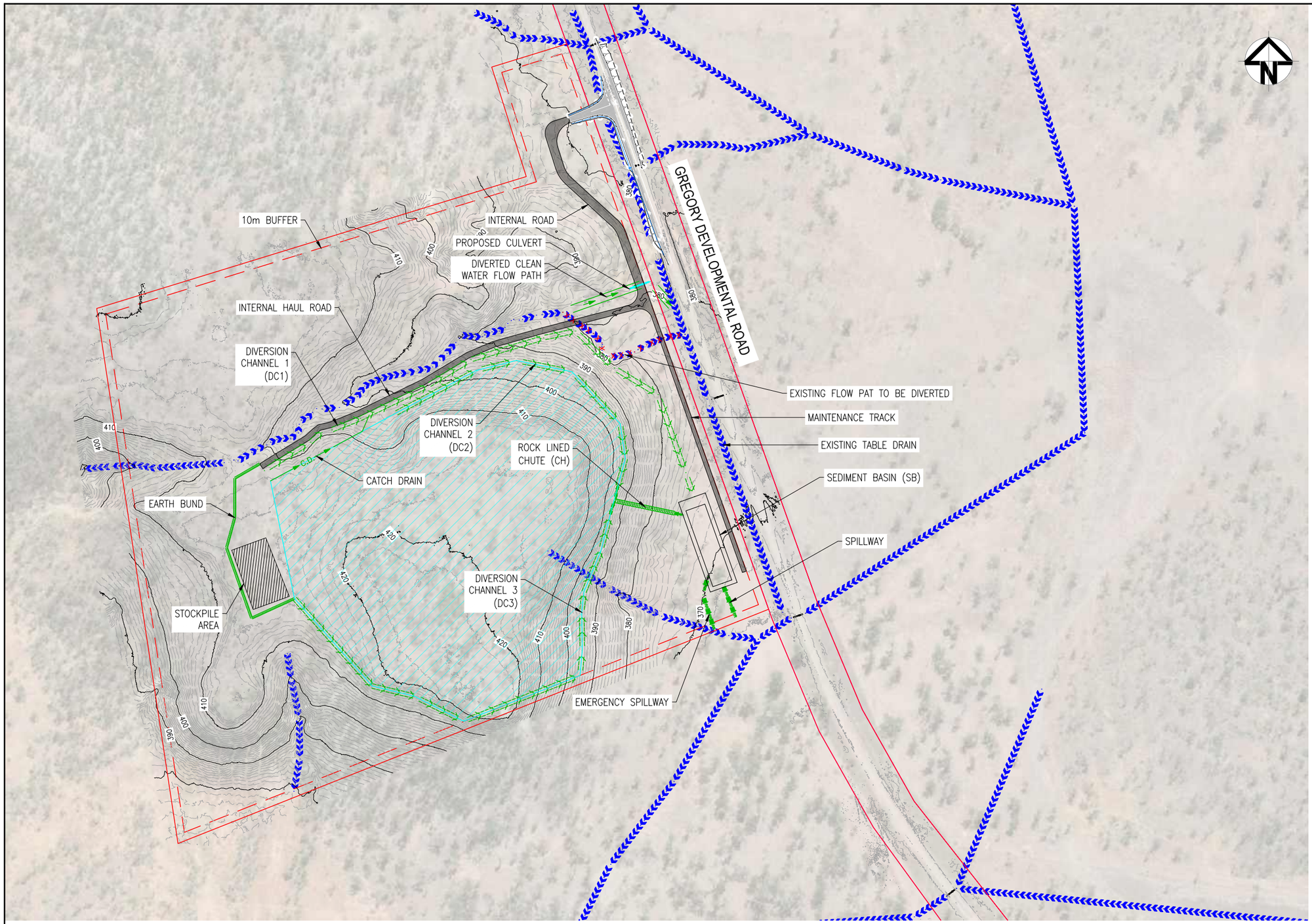
BRETT LANGTREE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES

LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
EXISTING SITE DRAINAGE

SCALE	AS SHOWN
SHEET	SHEET 2 OF 6
REVISION	A
DRG No.	1314-SMP-SK02



GENERAL ARRANGEMEN PLAN

1:2,500 (A1)

NOTES:

1. DETAILS SHOWN ON THESE REPRESENT PROPOSED MINIMUM REQUIREMENTS FOR ONE POSSIBLE METHOD TO ACHIEVE COMPLIANCE WITH LEGISLATION TO PREVENT ENVIRONMENTAL HARM FROM EROSION AND SEDIMENT TRANSFER OFF THE SITE.
2. DRAWINGS ARE INDICATIVE ONLY. DO NOT SCALE DRAWINGS.
3. ROAD WIDTHS HAVE BEEN SHOWN INDICATIVELY ONLY.
4. ENERGY DISSIPATER TO BE INSTALLED AT BASE OF ROCK LINED BATTER CHUTE.

Reviewed by OSE Group and accepted

LEGEND:

- EXISTING CULVERT
- EXISTING DRAINAGE PATH
- EARTH BUND
- DIVERSION DRAIN
- REMOVE DRAIN
- REMOVE DRAIN
- ULTIMATE EXTRACTION AREA
- STOCKPILE AREA
- PROPOSED ROADS

REVISIONS

No.	BY	DATE	DESCRIPTION
A	N.P	17/11/24	ISSUED FOR DA APPROVAL

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION

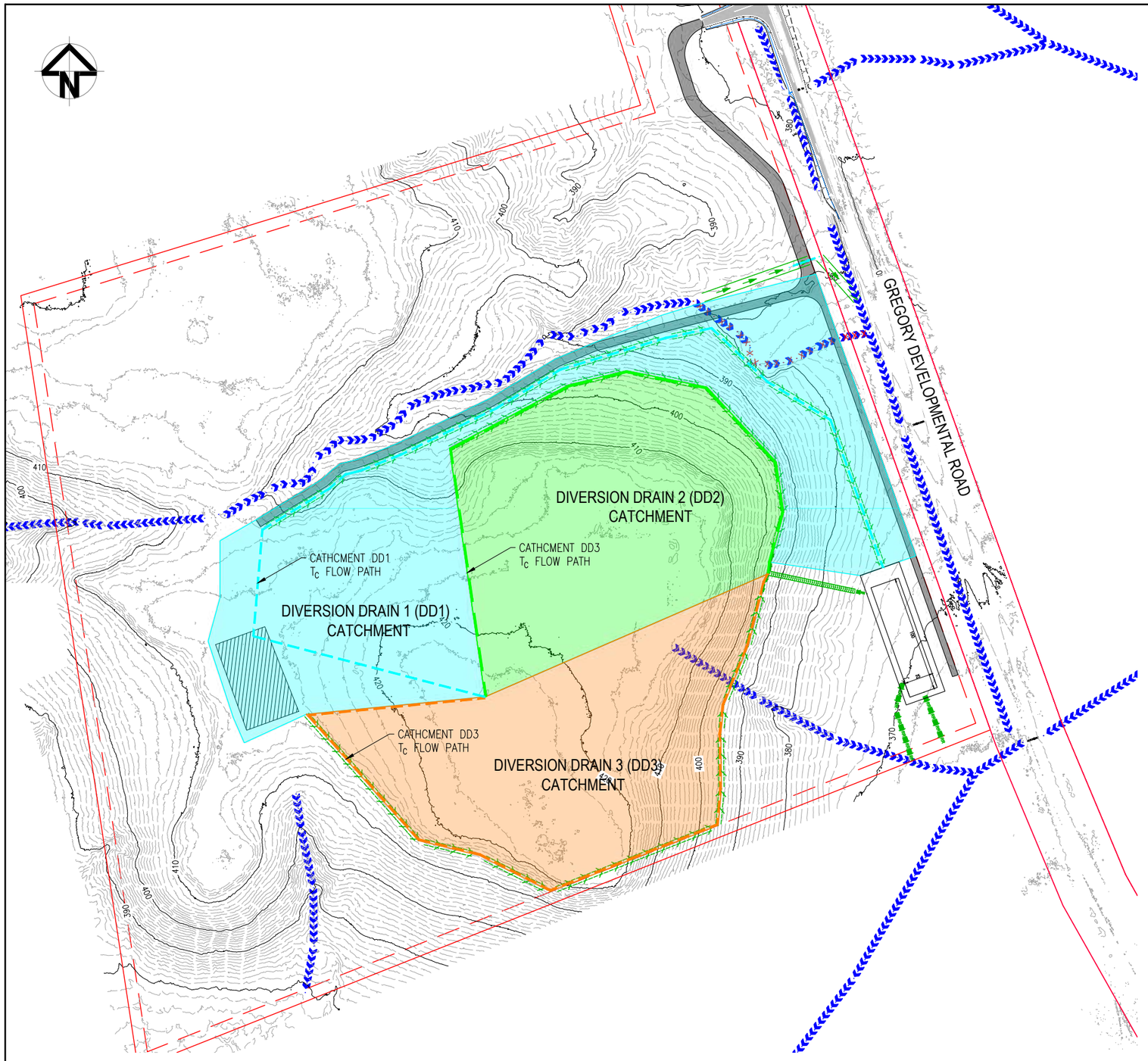
BRETT LANGTRAEE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES

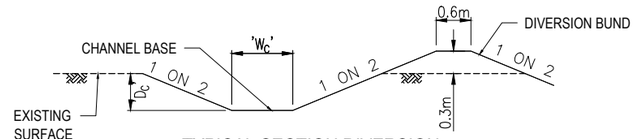
LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
GENERAL ARRANGEMENT PLAN

SCALE	AS SHOWN
SHEET	SHEET 3 OF 6
REVISION	A
DRG No.	1314-SMP-SK03



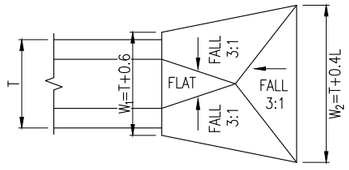
CATCHMENT PLAN - DIVERSION DRAINS
1:2,000 (A1)

DIVERSION CHANNEL & BATTER CHUTE DIMENSIONS (Q5)				
PARAMETER	DC1	DC2	DC3	CH
BATTER SLOPE (1 IN X)	2	2	2	2
BASE WIDTH (m) 'Wc'	1.50	1.00	1.00	2.00
DEPTH (m) 'Dc'	0.25	0.25	0.25	0.25
MINIMUM SLOPE (%)	0.50	0.50	0.50	25.00



TYPICAL SECTION DIVERSION CHANNEL WITH BANK
NTS

CHUTE OUTLET DIMENSIONS					
PARAMETER	T	L	W_1	W_2	d_{50}
CH1	3.6m	4.3m	4.2m	5.3m	300mm



CHUTE OUTLET
NTS

Reviewed by OSE Group - Design intent correct. Line and levels of drain drain 3 (DD3) to be certified prior to construction

REVISIONS				
No.	BY	DATE	DESCRIPTION	
A	N.P	17/11/24	ISSUED FOR DA APPROVAL	

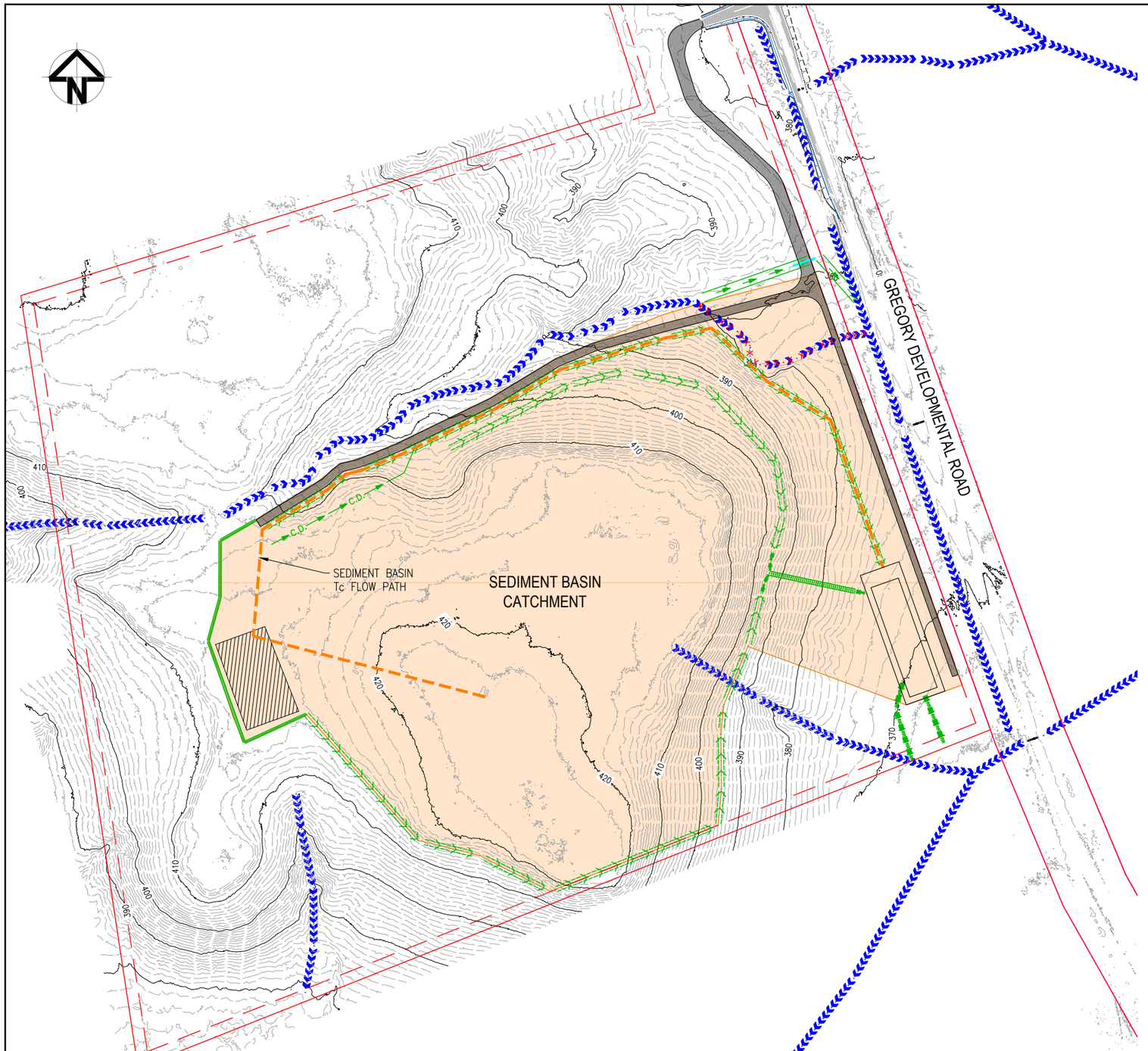
HORIZ. DATUM	MGA GDA94 ZONE 55		
VERT. DATUM	AHD		
DRG. FILE		DATE	
DESIGN	N.P	17/12/24	
DRAWN	N.P	17/12/24	

CERTIFICATION
BRETT LANGTRAEE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES
LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
CATCHMENT PLAN - DIVERSION DRAIN

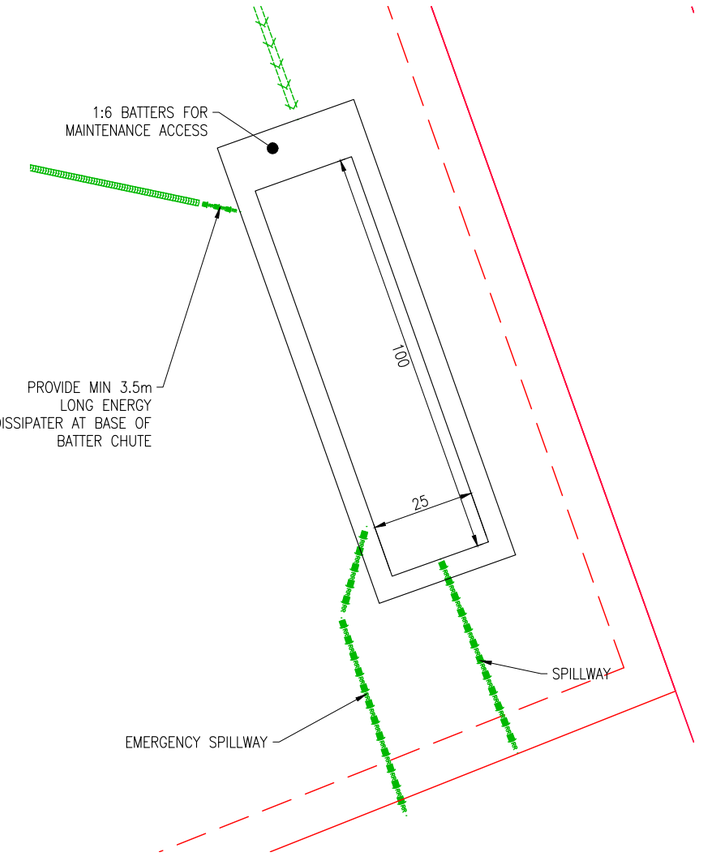
SCALE	AS SHOWN
SHEET	SHEET 4 OF 6
REVISION	A
DRG No.	1314-SMP-SK04



CATCHMENT PLAN - SEDIMENT BASIN

1:2,000 (A1)

SEDIMENT BASIN MINIMUM DIMENSIONS	
PARAMETER	BASIN
CATCHMENT (ha)	21.23
BATTER SLOPE (1 in x)	4
TOP WIDTH (m)	39.00
TOP LENGTH (m)	114.00
SETTLING ZONE DEPTH (m)	0.65
SEDIMENT STORAGE DEPTH (m)	0.65
BASIN DESIGN DEPTH (m)	1.3
FREEBOARD (m)	0.40
TOTAL DEPTH "D" (m)	1.70
BASIN VOLUME (m^3)	3,741



SEDIMENT BASIN BASE DIMENSIONS

1:750 (A1)

Reviewed by OSE Group - Design intent correct and accepted

REVISIONS

No.	BY	DATE	DESCRIPTION
A	N.P	17/11/24	ISSUED FOR DA APPROVAL

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION

BRETT LANGTRAEE MIEAust. NER. RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

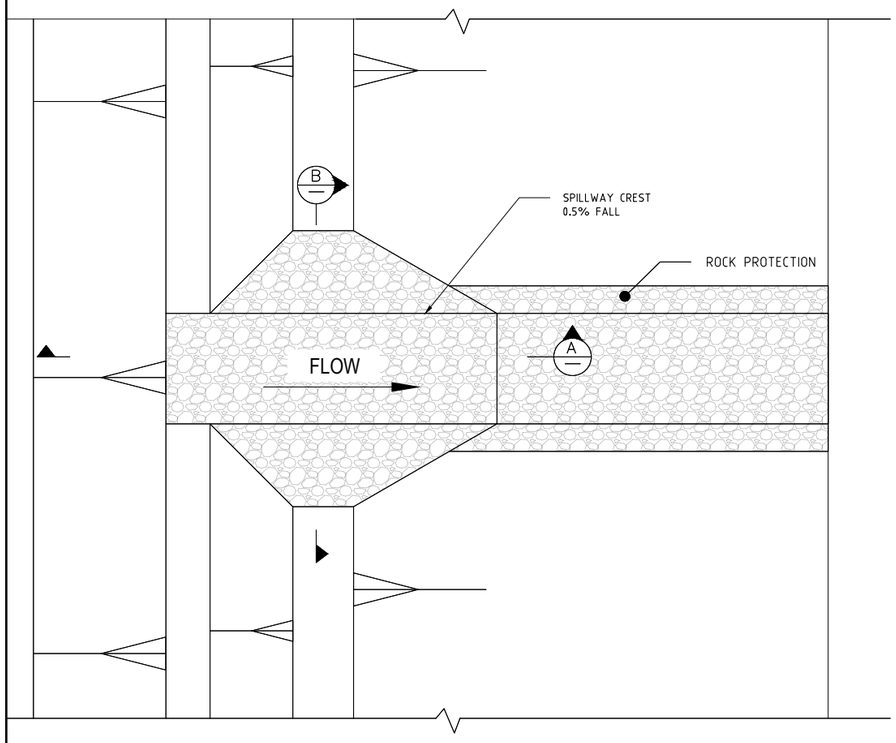
BOLWARRA ENTERPRISES

LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
CATCHMENT PLAN - SEDIMENT BASIN

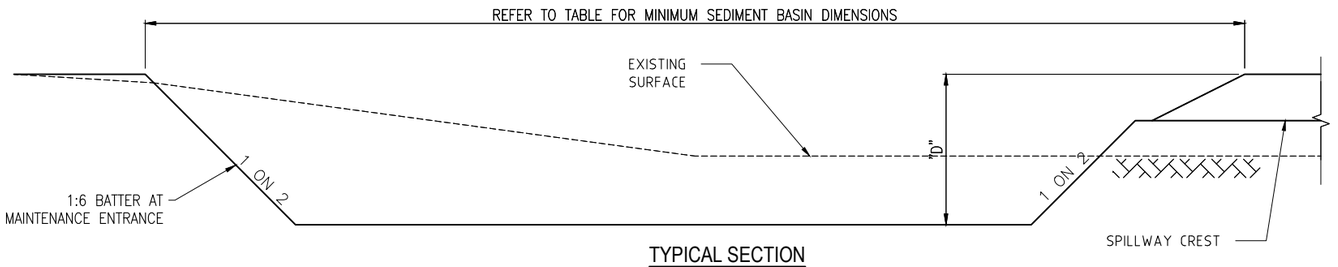
SCALE	AS SHOWN
SHEET	SHEET 5 OF 6
REVISION	A
DRG No.	1314-SMP-SK05

SEDIMENT BASIN NOTES:

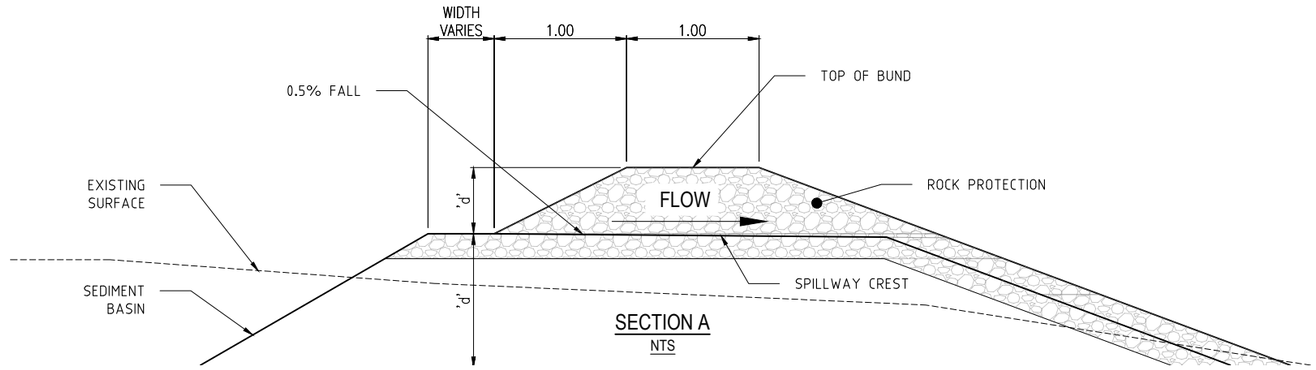
1. DETAILS SHOWN ON THESE REPRESENT PROPOSED MINIMUM REQUIREMENTS FOR ONE POSSIBLE METHOD TO ACHIEVE COMPLIANCE WITH LEGISLATION TO PREVENT ENVIRONMENTAL HARM FROM EROSION AND SEDIMENT TRANSFER OFF THE SITE.
2. DRAWINGS ARE INDICATIVE ONLY. DRAWINGS ARE NOT TO BE SCALED.
3. EARTH EMBANKMENTS GREATER THAN 1m TO BE BE CERTIFIED BY GEOTECHNICAL ENGINEER.
4. MINIMUM EMBANKMENT CREST WIDTH TO BE 2.5m UNLESS JUSTIFIED BY GEOTECHNICAL ENGINEER.
5. EARTH FILL FOR EMBANKMENTS SHALL BE CLEAN SOIL NON–DISPERSIVE SOIL AND FREE OF ROOTS, WOODY VEGETATION, ROCKS AND OTHER UNSUITABLE MATERIAL. FILL MATERIAL TO FROM EMBANKMENT TO BE CERTIFIED BY GEOTECHNICAL ENGINEER.
6. SPILLWAY ROCK SHALL BE HARD, ANGULAR, DURABLE WEARTHER RESISTANT AND EVENLY GRADED ROCK WITH 50% BY WEIGHT LARGER THAN THE SPECIFIED NOMINAL d_{50} ROCK SIZE. THE DIAMETER OF THE LARGEST ROCK SIZE SHOULD BE NO GREATER THAN 1.5 TIMES THE NOMINAL ROCK SIZE. SPECIFIC GRAVITY SHALL BE AT LEAST 2.5.
7. SEDIMENT BASIN DETAILS AND DIMENSIONS SHOWN PROVIDE ONE POSSIBLE METHOD OF ACHIEVE MINIMUM REQUIRED SEDIMENT BASIN VOLUMES.
8. NOMINAL ROCK SIZING, d_{50}, SHOWN IN SPILLWAY TABLE ARE RECOMMENDED ROCK SIZING BASED ON ARI 50 FLOW VELOCITY



TYPICAL BASIN SPILLWAY PLAN
NTS



TYPICAL SECTION
SEDIMENT BASIN
NTS

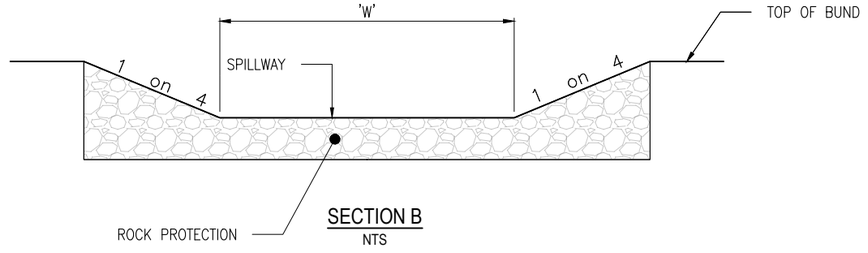


SECTION A
NTS

NOMINAL DIMENSIONS FOR SPILLWAY AND ROCK PROTECTION (Q50)

PARAMETER	BASIN
SPILLWAY BASE WIDTH (m) 'W'	3.50
SPILLWAY DEPTH (m) 'd'	0.40
NOMINAL ROCK SIZE (m) 'd_{50}'	0.30

Reviewed by OSE Group and accepted



SECTION B
NTS

REVISIONS

No.	BY	DATE	DESCRIPTION
A	N.P	17/11/24	ISSUED FOR DA APPROVAL

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION
BRETT LANGTRAEE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES
LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
SEDIMENT BASIN DETAILS

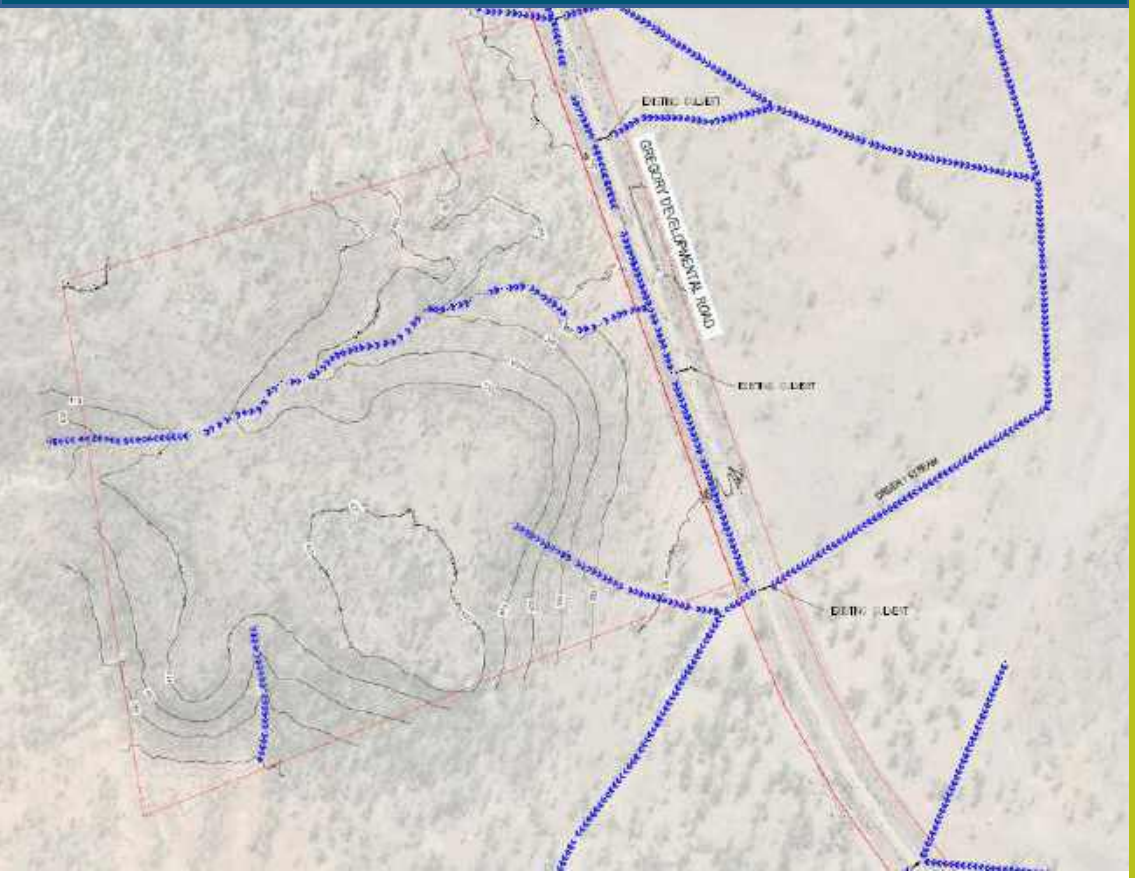
SCALE	AS SHOWN
SHEET	SHEET 6 OF 6
REVISION	A
DRG No.	1314-SMP-SK06

MILFORD PLANNING

Appendix 6

LANGTREE CONSULTING ENGINEERS

MOUNT FULLSTOP QUARRY



STORMWATER MANAGEMENT PLAN

Bolwarra Enterprises Pty Ltd

LANGTREE CONSULTING

Project No.: 1314

Reference No.: R-NP0322

Date: 18/12/2024

Controlled Copy No.: 1

Revisions: B

Revision Record:

Rev	Review Date	Description	Prepared	Checked	Approved
A	18/12/2024	Issued for Client Comment	Natalie Pham	Brett Langtree	Brett Langtree
B	18/12/2024	Issued for Approval	Natalie Pham	Brett Langtree	Brett Langtree

TABLE OF CONTENTS

APPENDICES

1.0 INTRODUCTION

Langtree Consulting has been engaged by Milford Planning on behalf Bolwarra Enterprises Pty Ltd to prepare this Stormwater Management Plan. This assessment has been prepared for Mount Fullstop Quarry in support of a development application (Council MCU ref: 2024/0008, SARA ref:2408-4 1943 SRA) for a Material Change in Use (MCU), Extractive Industry (Quarry up to 100, 000 tonnes).

Mount Fullstop Quarry is located within a land lease area of Lot 4844 on PH1679 with street address of 50486 Gregory Development Road, Greenvale.

This stormwater management plan establishes the principles, criteria and data used in the development of the Sediment and Erosion Control Plan and establishes the location of the various control devices in managing water quality on site. The plan covers the areas that will be used for extraction and processing activities associated with the quarry.

The Stormwater Management Plan is based on the following principles and aims:

1. Retention of on-site runoff from weather events up to an ARI 5, 24-hour weather event;
2. Diversion of clean water runoff from outside the site around the site and into pre-development drainage locations;
3. Retention and treatment of any sediment load within the operational area;
4. Outline of stormwater management targets to ensure that the legislative requirements are adhered to; and
5. Monitoring of the stormwater management control measures and devices to ensure the development any potential environmental harm to the surrounding environment is mitigated.

The plans have been developed using the following documentation as references:

- ***Best Practice Erosion and Sediment Control,*** International Erosion Control Association (IECA), 2018;
- ***Erosion and Sediment Control – A Field Guide for Construction site Managers,*** Catchments & Creeks, Version 4, April 2012;
- ***Queensland Urban Drainage Manual (QUDM),*** IPWEA, Fourth Edition, 2017;
- ***Urban stormwater – Queensland best practice environmental management guidelines 2009,*** prepared for Environmental Protection Agency (EPA) by EDAW;
- ***Guidelines – Stormwater and Environmentally relevant Activities,*** Queensland Government, Department of Environment and Science, dated 01 October 2024;
- ***Urban Stormwater Quality Planning Guidelines,*** DEHP 2021;
- ***Queensland Government, Environmental Protection (Water and Wetland Biodiversity) Policy 2019,*** *Burdekin, Don and Haughton River Basins, Ground water environmental values and water quality objectives, dated June 2022****;*** and
- ***AS/NZS ISO 14001:2016 Environmental Management System***.

2.0 BACKGROUND

The proposed development is located approximately 120km north of Charters Towers township and 50km southeast of the Greenvale township. The development site is located within a land lease area at 50486 Gregory Development Road, Greenvale on land described as Lot 4844 on PH1679. Refer to **Figure 1** and **Figure 2** for site locality.

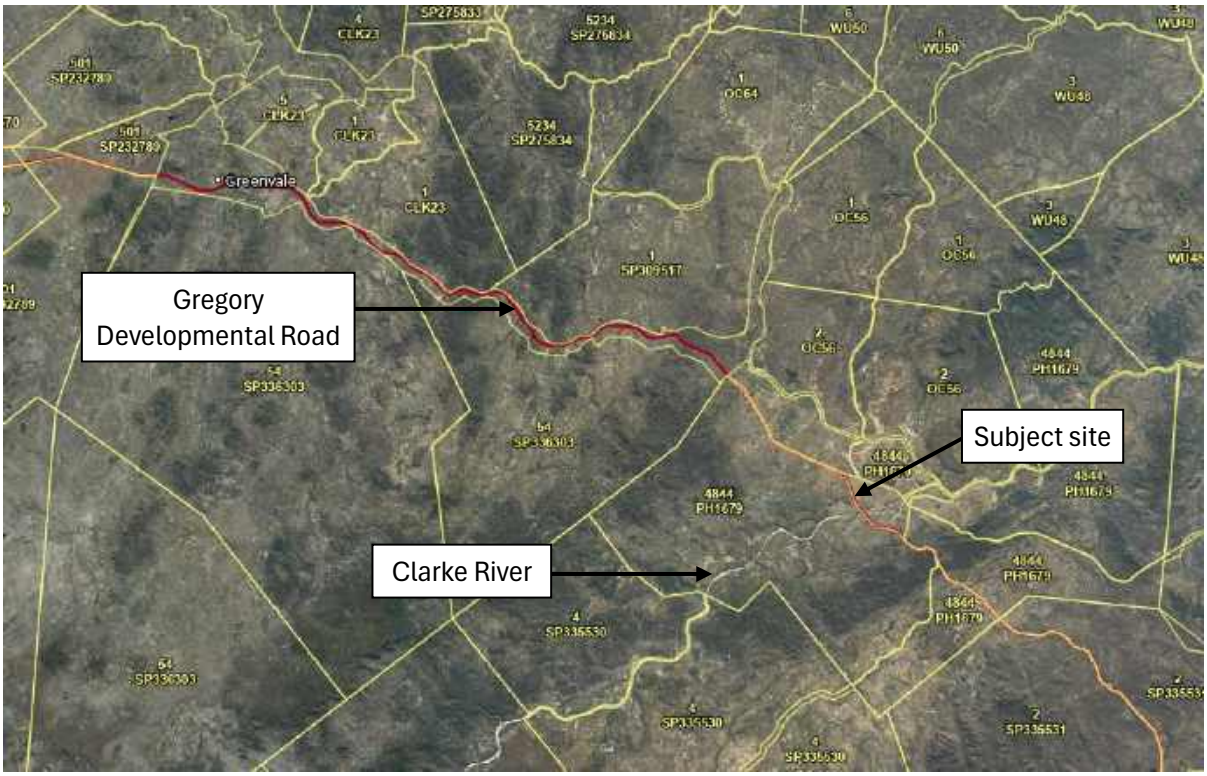


Figure 1. *Site Locality (Source: Queensland Globe)*

Figure 2. *Land Lease area (*

2.1 RAINFALL

The rainfall data used to design the stormwater management system for this site has been downloaded from the Bureau of Meteorology (BOM) website.

From the rainfall intensity chart for a 24-hour ARI 5 weather event, the rainfall is 5.41 millimetres per hour or 130 millimetres for a 24-hr event. Refer to **Figure 3** and **Table 1** below for Rainfall Intensity Chart IFD table at the subject site.

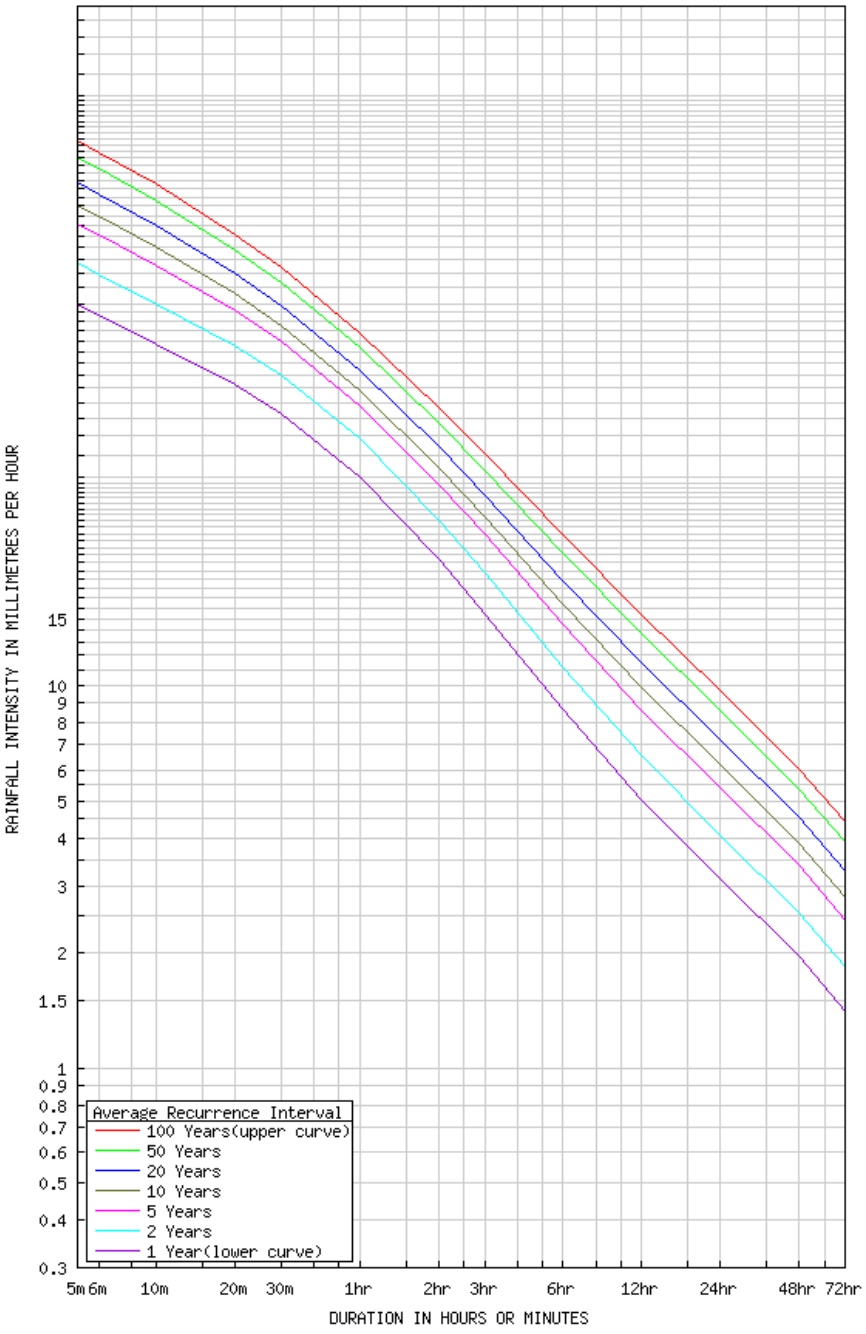


Figure 3. *Rainfall Intensity Chart (Source: BOM)*

Table 1. *Intensity-Frequency-Duration Table*

LOCATION 19.200 S 145.425 E * NEAR., Mt Fullstop Quarry

LIST OF COEFFICIENTS TO EQUATIONS OF THE FORM

$$ln(I) = A + B \times (ln(T)) + C \times (ln(T))^2 + D \times (ln(T))^3 + E \times (ln(T))^4 + F \times (ln(T))^5 + G \times (ln(T))^6$$

T = TIME IN HOURS AND I = INTENSITY IN MILLIMETRES PER HOUR

RETURN PERIOD	A	B	C	D	E	F	G
1	3.554515	-0.63648E+0	-0.11513E+0	0.95103E-2	0.80538E-2	-0.56514E-3	-0.16424E-3
2	3.788170	-0.63494E+0	-0.10883E+0	0.92574E-2	0.75338E-2	-0.53304E-3	-0.15587E-3
5	3.989628	-0.62647E+0	-0.91176E-1	0.86950E-2	0.58310E-2	-0.43093E-3	-0.12696E-3
10	4.084778	-0.62270E+0	-0.81692E-1	0.87819E-2	0.50169E-2	-0.42677E-3	-0.10599E-3
20	4.203999	-0.61966E+0	-0.75794E-1	0.90395E-2	0.42027E-2	-0.45055E-3	-0.78626E-4
50	4.336694	-0.61559E+0	-0.65176E-1	0.88667E-2	0.34003E-2	-0.41648E-3	-0.62434E-4
100	4.428603	-0.61276E+0	-0.59348E-1	0.86926E-2	0.28723E-2	-0.38786E-3	-0.52861E-4

RAINFALL INTENSITY IN mm/h FOR VARIOUS DURATIONS AND RETURN PERIODS

DURATION	RETURN PERIOD (YEARS) 1	2	5	10	20	50	100
5 mins	100.	128.	162.	181.	207.	241.	266.
6 mins	93.4	119.	151	169.	193	225.	249
10 mins	78.4	100.	126.	140.	160	185.	205.
20 mins	61.4	77.8	96.1	106.	120.	138.	152.
30 mins	51.4	65.0	79.7	87.8	99.1	114.	124.
1 hour	35.0	44.2	54.0	59.4	67.0	76.6	83.8
2 hours	21.4	27.1	33.6	37.3	42.2	48.6	53.6
3 hours	15.4	19.7	24.8	27.7	31.5	36.6	40.4
6 hours	8.70	11.2	14.5	16.4	18.9	22.3	24.8
12 hours	5.04	6.56	8.65	9.91	11.5	13.7	15.4
24 hours	3.12	4.07	5.41	6.21	7.26	8.64	9.71
48 hours	1.97	2.56	3.39	3.89	4.53	5.39	6.06
72 hours	1.41	1.84	2.44	2.81	3.29	3.92	4.42

(Raw data: 45.61, 6.54, 1.05, 77.67, 13.04, 3.91,skew= 0.020)

HYDROMETEOROLOGICAL ADVISORY SERVICE

(C) AUSTRALIAN GOVERNMENT, BUREAU OF METEOROLOGY

* ENSURE THE COORDINATES ARE THOSE REQUIRED SINCE DATA IS BASED ON THESE AND NOT LOCATION NAME

Table 2. *Monthly mean rainfall statistics for Capitulation Store, Station 31012 (Source: BOM)*

Station: Blue Range | Number: 32063 | Opened: 1953 | Now: Open
Lat: 19.16° S | Lon: 145.42° E | Elevation: 384 m | Details

Statistic	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Annual
Mean	166.5	142.6	100.0	36.2	27.2	14.9	11.9	8.5	9.2	22.1	51.7	86.9	668.0
Lowest	22.0	1.8	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	2.2	210.1
5th %ile	32.0	20.9	1.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	5.5	322.8
10th %ile	40.9	34.5	10.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.0	8.6	391.9
Median	136.4	128.7	79.4	16.3	12.4	7.4	2.0	0.0	1.8	12.9	35.5	74.1	625.4
90th %ile	332.7	270.0	228.3	78.9	64.2	44.2	33.6	30.1	30.0	66.7	123.2	193.9	975.1
95th %ile	396.8	339.8	277.1	121.8	94.6	53.8	55.8	48.4	41.0	85.0	138.8	225.4	1025.6
Highest	790.1	401.1	388.1	218.2	180.6	123.0	96.4	74.5	105.8	99.9	222.1	361.5	1588.8

2.2 TOPOGRAPHY

Topography of the site and surrounding areas has been extracted from QTopo are shown **Figure 4**

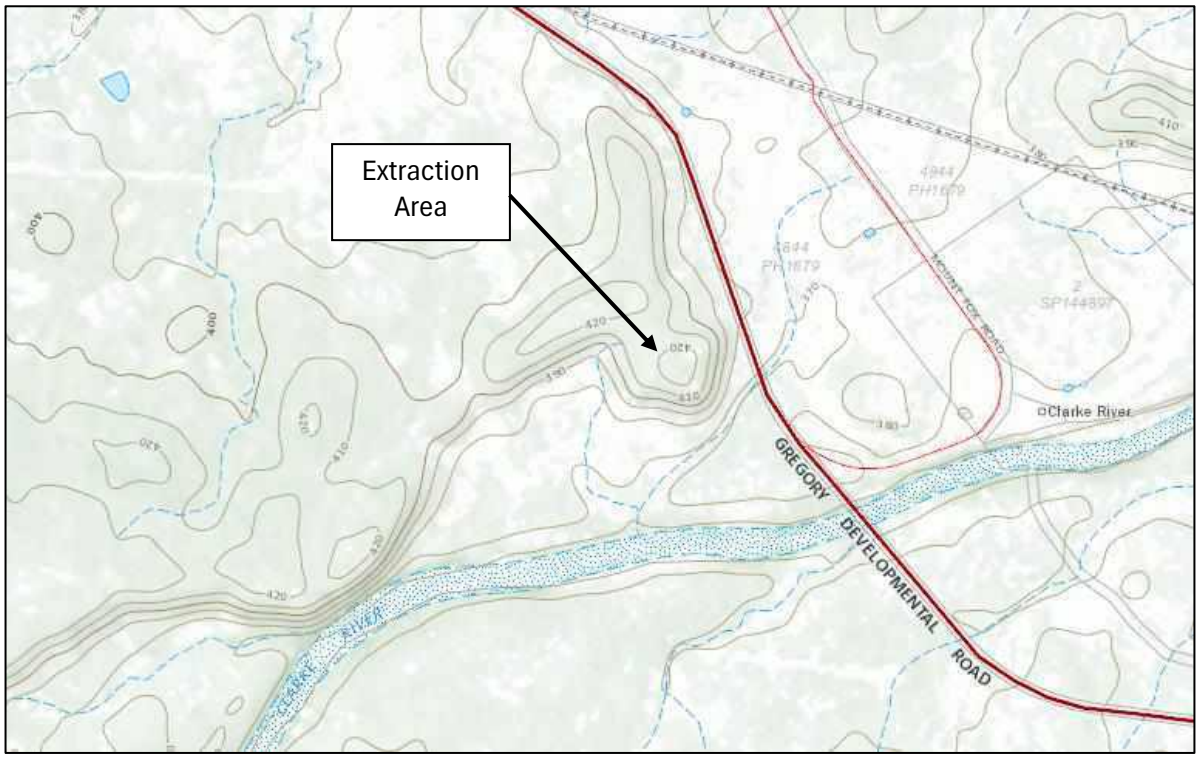


Figure 4. *Site topography (Source: QTopo)*

2.3 WATERWAYS

From available information there are two (2) order 1 streams in proximity to the proposed extraction area. Both streams are unnamed and discharge to the Clarke River, an order 7 stream. The Clarke River discharges into the Burdekin River approximately 7km from where the order 1 streams enter the Clarke River. Refer to **Figure 5** for order 1 streams and **Figure 6** for junction of Clarke River and Burdekin River.

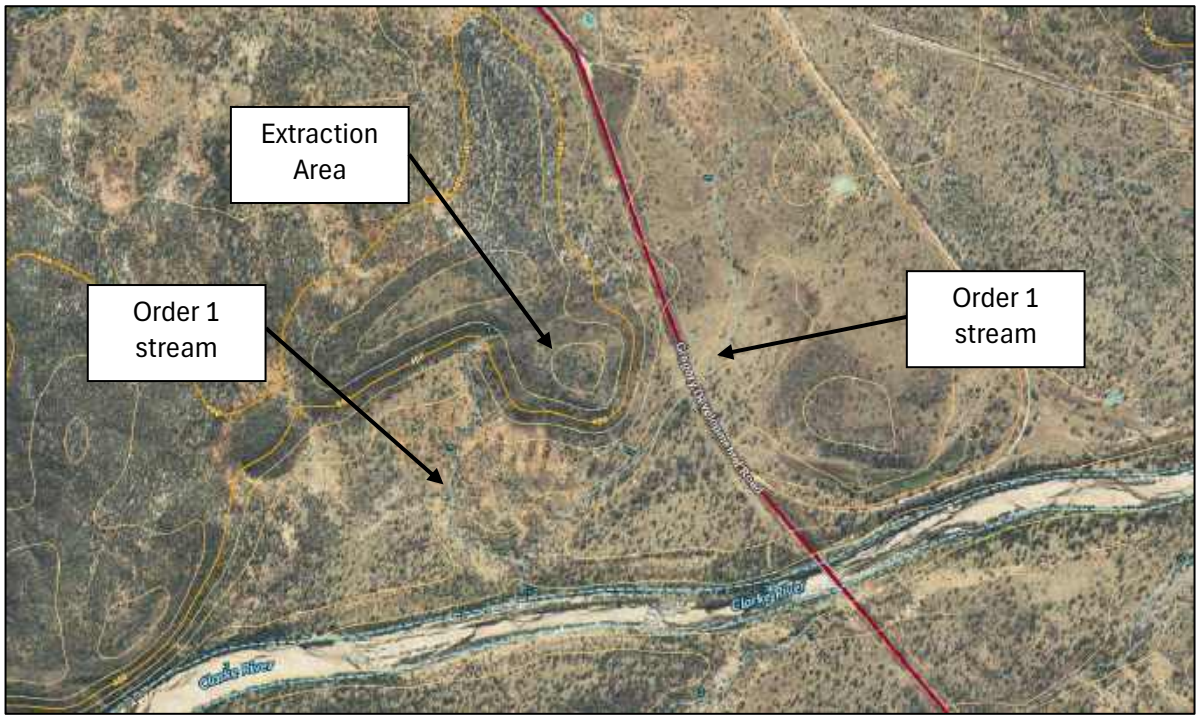


Figure 5. *Site topography (Source: Queensland Globe)*

Figure 6. *Clarke River and Burdekin River junction (Source: Queensland Globe)*

The Burdekin River ultimately releases to the Great Barrier Reef waters. The order 1 streams and Clarke River are considered part of the Upper Burdekin River Sub-basin. Refer to **Figure 6** for Clarke River Catchment and site locality.

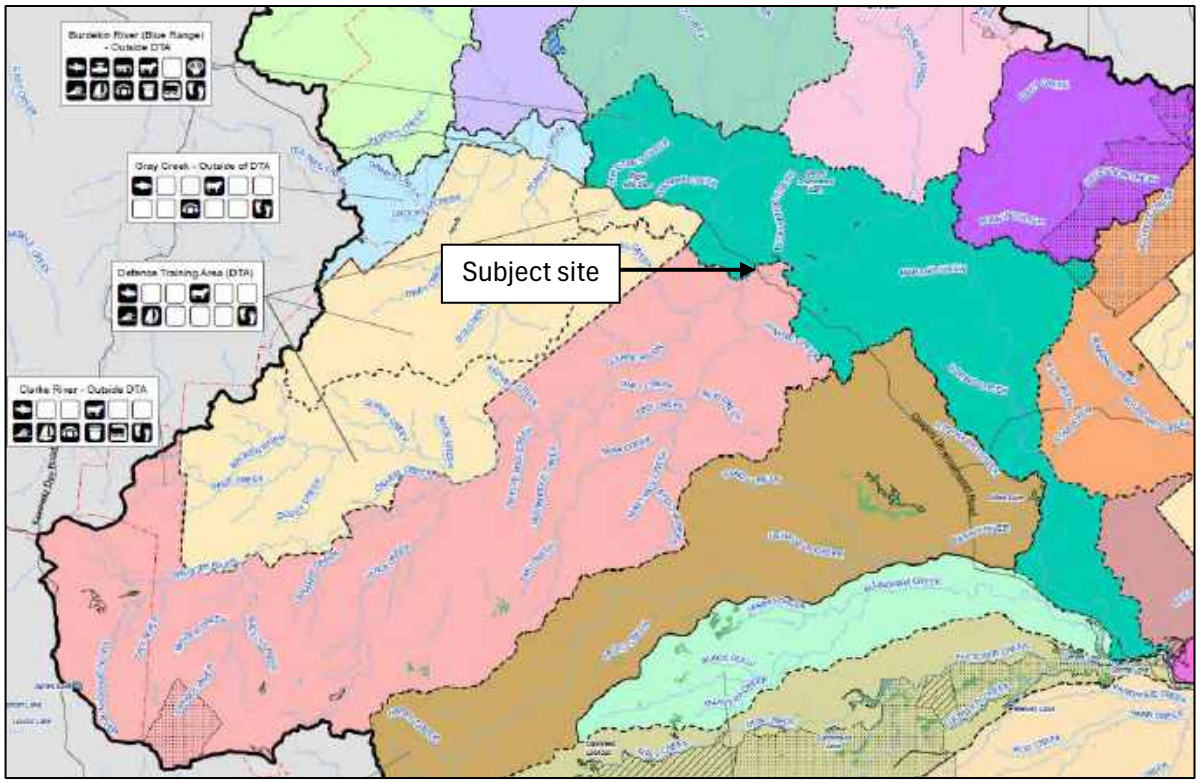


Figure 7. *Clarke River Catchment (Source: QGov WQ1201 Upper Burdekin River Basin)*

Water Quality Objectives (WQO) for the site have been derived from the Queensland Government (QGov) Upper Burdekin River Sub-basin Environmental Values and Water Quality Objectives. Refer to **Figure 8** for WQO.

Water area/type (Source: s1–s4)	Management intent /Level of protection	UPPER BURDEKIN RIVER SUB-BASIN – FRESH WATERS (refer plan WQ1201)[1→] Aquatic ecosystem water quality objectives: physico-chemical (low flow and high flow) Note: WQOs for indicators are shown as a range of 20th, 50th and 80th percentiles to be maintained or achieved (e.g. 3–4–5), lower and upper limits (e.g. pH: 7.2–8.2), or as a single value (e.g. 15). For single value WQOs, medians of test data should be less than or equal to the WQO, unless otherwise indicated (refer to section 3.1.1 for more details). HEV – high ecological value; SD – slightly disturbed; MD – moderately disturbed. Refer to accompanying plan for details; ID – insufficient data Sources: S1: Local datasets/reporting (applies to all WQOs except where indicated); S2: QWQG guidelines and /or data; S3: ANZG (2018); S4: Other sources											
		Amm N (µg/L)	Oxid N (µg/L)	Total N (µg/L)	FRP (µg/L)	Total P (µg/L)	Chl-a (µg/L)	DO (% sat)	Turb (NTU)	TSS (mg/L)	pH	Conductivity (µS/cm)	Sulfate (mg/L as SO_4^{2-})
WESTERN SUB-CATCHMENTS: Allingham Creek, Basalt River, Clarke River, Dry River, Gray Creek, Hann Creek, Lolworth Creek													
HEV and SD waters (national parks, etc.)	HEV	Maintain/achieve effectively unmodified water quality (20th, 50th and 80th percentiles of HEV waters), habitat, biota, flow and riparian areas. There is insufficient information available to establish aquatic ecosystem water quality objectives for these waters. Refer to QWQG for details on how to establish a minimum water quality data set for deriving local 20th, 50th and 80th percentiles.											
Allingham Creek, Basalt River, Clarke River, Dry River, Gray Creek, Hann Creek, Lolworth Creek sub-catchment waters (s1, s2)		**LOW FLOW <175.9 m³/s (cumecs) at gauge 120002C – Burdekin River at Sellheim <4.4 m³/s (cumecs) at gauge 120106B – Basalt River at Bluff Downs <44 m³/s (cumecs) at gauge 120107B – Burdekin River at Blue Range <62.2 m³/s (cumecs) at gauge 120110A – Burdekin River at Mount Fullstop <3.4m³/s (cumecs) at gauge 120108B/C – Fletcher Creek at Fletchervale (CLOSED) <9.5 m³/s (cumecs) at gauge 120113A – Clarke River at Wandovale (CLOSED) <3.3m³/s (cumecs) at gauge 120115A – Gray Creek at Carter's Mill (CLOSED <0.4 m³/s (cumecs) at gauge 120116A Maryvale Creek at Maryvale (CLOSED) <2.4m³/s (cumecs) at gauge 112117A – Wyandotte Creek at Wyandotte (CLOSED) <12.8m³/s (cumecs) at gauge 120121A – Burdekin River at Lake Lucy (CLOSED)**											
		10 (s1)	10 (s1)	290 (s1)	10 (s1)	40 (s1)	5 (s2)	85–110 (s2)	5 (s1)	8 (s1)	6.5–8.5 (s1, s2)	530 (s1)	2 (s1)
		HIGH FLOW ≥175.9 m³/s (cumecs) at gauge 120002C – Burdekin River at Sellheim ≥4.4 m³/s (cumecs) at gauge 120106B – Basalt River at Bluff Downs ≥44 m³/s (cumecs) at gauge 120107B – Burdekin River at Blue Range ≥62.2 m³/s (cumecs) at gauge 120110A – Burdekin River at Mount Fullstop ≥3.4m³/s (cumecs) at gauge 120108B/C – Fletcher Creek at Fletchervale (CLOSED) ≥9.5 m³/s (cumecs) at gauge 120113A – Clarke River at Wandovale (CLOSED) ≥3.3m³/s (cumecs) at gauge 120115A – Gray Creek at Carter's Mill (CLOSED ≥0.4 m³/s (cumecs) at gauge 120116A Maryvale Creek at Maryvale (CLOSED) ≥2.4m³/s (cumecs) at gauge 112117A – Wyandotte Creek at Wyandotte (CLOSED) ≥12.8m³/s (cumecs) at gauge 120121A – Burdekin River at Lake Lucy (CLOSED)											
		10 (s1)	75 (s1)	900 (s1)	20 (s1)	270 (s1)	ID	85–110 (s2)	ID	10 (s1)	6.5–8.5 (s1, s2)	140 (s1)	ID

Figure 8. *Upper Burdekin Fresh Water, Water Quality Objectives (Source: QGov Upper Burdekin River Sub-basin Environmental Values and Water Quality Objectives)*

3.0 PROPOSED DEVELOPMENT

3.1 PROPOSED SITE DRAINAGE

Clean water is proposed to be directed around the extraction via the existing natural drainage path whilst water from disturbed areas is proposed to be directed into a sediment basin for settling and treatment prior to discharge. The sediment basin discharge location is proposed to be in the southeastern corner of the lot. Discharge will enter the unnamed order 1 stream directly south of the subject site. Refer to **Figure 9** for discharge location to order 1 stream and **Figure 10** or **Appendix A** 1314-SK03 for proposed overall site stormwater regime.

Figure 9. *Proposed Discharge Location (Source: Queensland Globe)*

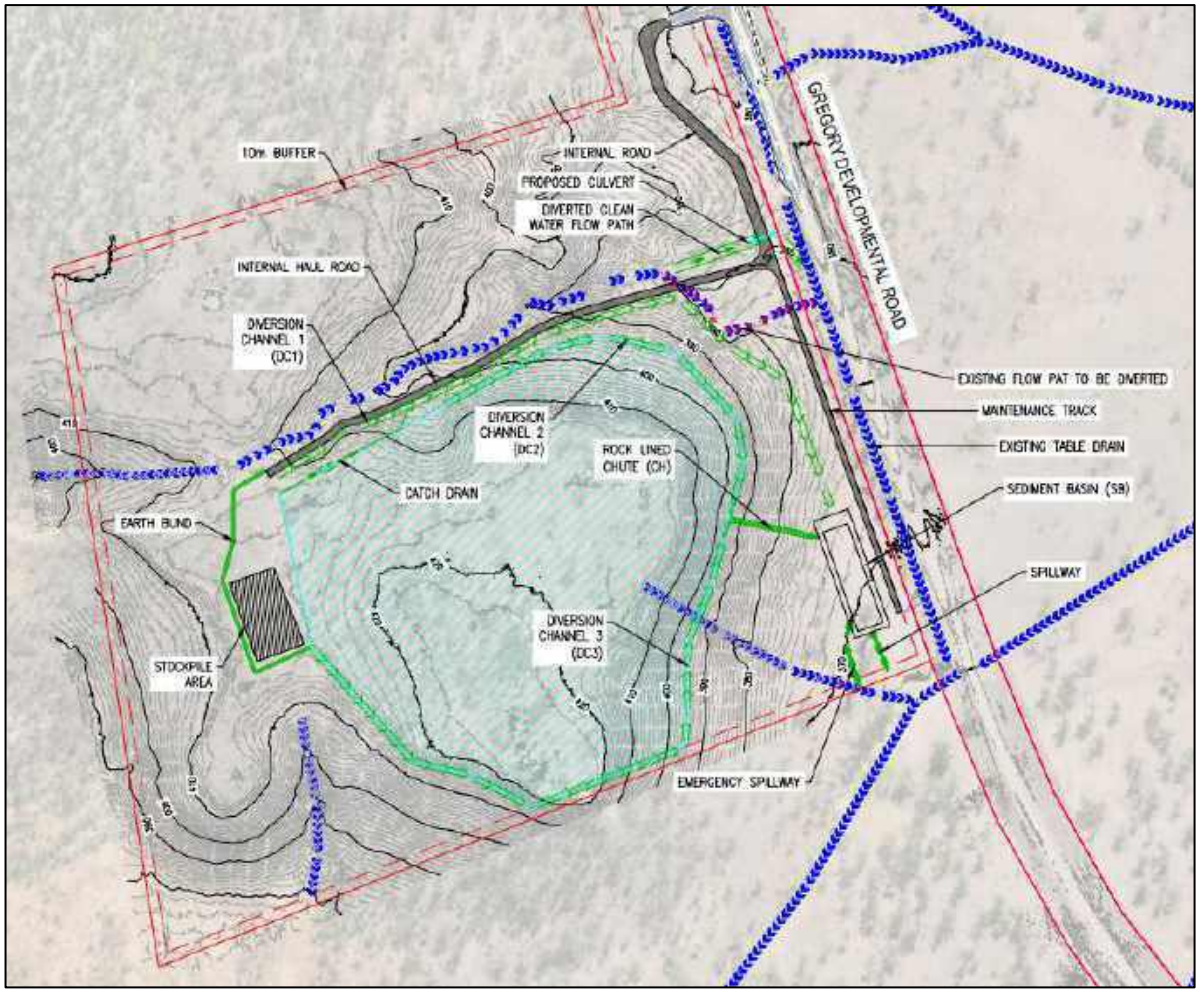


Figure 10. *Proposed site stormwater regime (ultimate extraction area shown in cyan)*

The proposed ultimate extract area shown in cyan proposes to take the surface level of the area down to an approximate RL of 395m AHD with the area graded from west to east towards the sediment basin.

4.0 SITE STORMWATER MANAGEMENT

The subject site is a proposed to be a quarry. Operational activities include the extraction, crushing and screening of rocks presents an ongoing risk of contamination of stormwater at the site. This stormwater management plan has been designed to minimise the disturbance area outside of the active quarry area and divert clean water around the site. Sediment laden water from the operational area will be treated by sediment traps in the form of sediment basins before being discharged from the site.

Stormwater run-off at the site will be managed by:

1. Maintaining original release points from the site, with similar drainage areas, prior to site development;
2. Stormwater management systems so that little to no run-off from outside the quarry area enters the site and no run-off is released from the site prior to treatment;
3. Maintaining a stormwater management system that is suited to the ongoing development of the site;
4. Constructing and maintenance of all the required structures to capture and treat the onsite stormwater (e.g. diversion channels, catch drains, sediment basins and spillways);
5. Minimising disturbed areas that contain materials prone to erosion;
6. Installing sediment and erosion structures that will control the movement of sediment in areas prone to erosion;
7. Regular maintenance inspections of all the associated structures;
8. Using the stormwater captured in the sediment basins for dust suppression;
9. Recycling the water from the sediment basins in the composting process; and
10. Retaining spill kits on site and training of all staff in the use of the kits.

4.1 STORMWATER MANAGEMENT SYSTEM DESIGN

Any upstream stormwater from disturbed areas will be directed to the proposed sediment basins via diversions channels and bunds. The sediment basins will act as a sediment trap for all runoff and will be allowed to settle before releasing the treated water through the spillways and into the downstream Hutchinson Creek. Sediment will be allowed to settle in the sediment basins before being removed and de-watered.

The design of the stormwater management system includes one sediment basin to capture the runoff from a 24 hour, ARI 5 rainfall event. The sediment basin will discharge via spillway which is designed for an ARI 50 rainfall event.

Design of the spillway, catch drains and diversion channels on the site have been analysed using the Rational Method. The guideline utilised for the calculation of the rational method is as per the Queensland Urban Drainage Manual (QUDM) 2017.

$$Q_y = (C_y \,.\, {}^{t}I_y \,.\, A) / 360$$

Where: Q_y = peak flow rate (m3/s) for average recurrence interval (ARI) of ''y' years

C_y = coefficient of discharge (dimensionless) for ARI of 'y' years

A = area of catchment (Hectares)

${}^{t}I_y$ = average rainfall intensity (mm/h) for a design duration of 't' hours and an ARI of 'y' years

t = the nominal design storm duration as defined by the time of concentration

The design ARI rainfall event for the spillway is an ARI 50 and ARI 5 for diversion channels.

The following steps have been undertaken for calculation of peak flow rates:

a) Analysis of possible flow paths based on available contours;
b) Determination of the time of concentration of each flow path;
c) Adoption of the flow path with the longest time of concentration (t_c) for design;
d) Determination of the runoff coefficients; and
e) Calculation of peak flow rate for structure.

For rural creek catchments, the t_c for the flow path has been estimated using Bransby-Williams' equation as given in QUDM 2017 equation 4.9, as follows:

$$t_c = 58\ L/\ (A^{0.1}\ .\ S_e^{0.2})$$

Where: t_c = the time of concentration (min)

L = Length (km) of flow path from catchment divide to outlet

A = Catchment Area (ha)

S_e = equal-area slope of stream flow path (%)

The soil erosion and sediment control design has been based on the following constraints:

1. All runoff will be captured and diverted into a system of drains and banks;
2. All runoff from outside the disturbed areas will be diverted around the site where practicable;
3. Runoff from areas where soil and weathered rock are exposed, will pass through sediment basins prior to entering the stormwater management system;
4. Disturbed soil or extremely weathered rock surfaces will be minimised within the catchment area for the stormwater management system;
5. All sediment basins will be Type D sediment basins;
6. The stormwater storage capacity on site will be greater than a 24 hour, ARI 5-year event;
7. Settling zone has been calculated from the following formula:

$$Vs = A\ .\ Cv\ .\ R_{(1\text{ in }5\text{ year ARI})}$$

8. The sediment storage zone is equal to 50% of the upper settling volume;
9. The release from the catchment basin will be through its respective spillway into the existing table drain;
10. The emergency spillway structure has been designed with a capacity to control an ARI 50 peak flow rate;
11. The subject site has been assumed to be impervious as a worst-case due to the site being heavily trafficked/compacted; and
12. The water level in the basins will be controlled so that at the end of the dry season, the available capacity of the basins is greater than the runoff calculated for a 24 hour, ARI 5 rainfall event.

4.2 WATER QUALITY TESTING

As the use of chemicals, outside of hydrocarbons is limited, exposed soils are the main source of pollutant and as such, water quality testing of release will be restricted to:

1. Total Suspended Solids (TSS) and/or Turbidity; and
2. pH.

All sampling will be conducted in accordance with the Department of Environment and Science's "Monitoring and Sampling Manual" (2018). Sampling will be conducted at the nominated release point/s.

Refer to Section 0 below for Water Quality Objectives (WQO) for the site.

5.0 PRE-DEVELOPMENT STORMWATER

Several key concentrated flow paths have been identified from site contours as shown in Figure 11. Catchments for these flow paths have also been identified. Some catchments have only been identified to the edge of LiDAR or boundary and have shown for comparison purposes to post-development areas (in particular the extraction area). No state LiDAR is available in the area to inform surrounding drainage regime outside of the site.

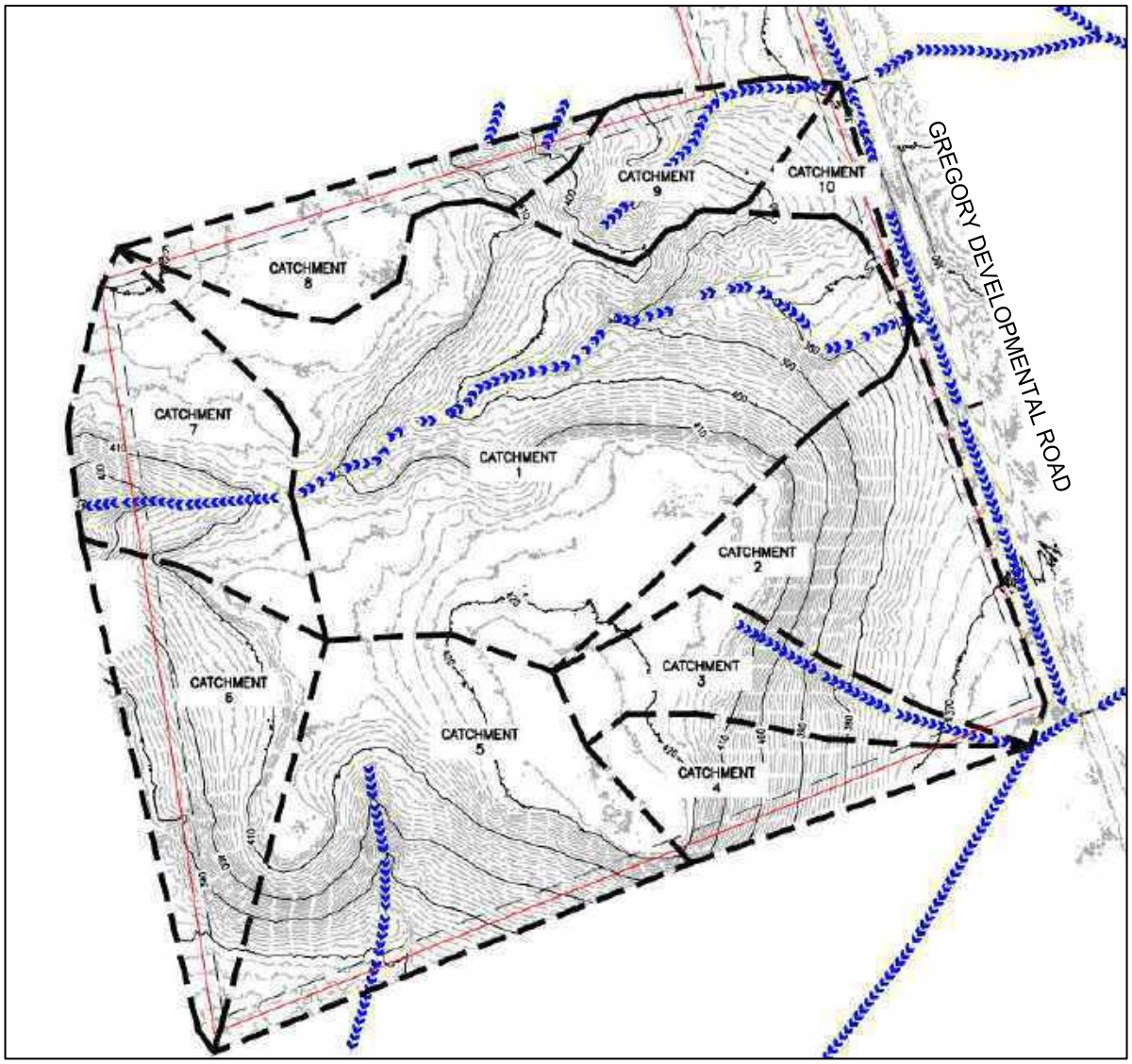


Figure 11. *Pre-development catchments*

6.0 POST-DEVELOPMENT STORMWATER

Post-development site catchments are shown in Figure 12 and a comparison summary the pre- and post-development catchments is provided in Table 3.

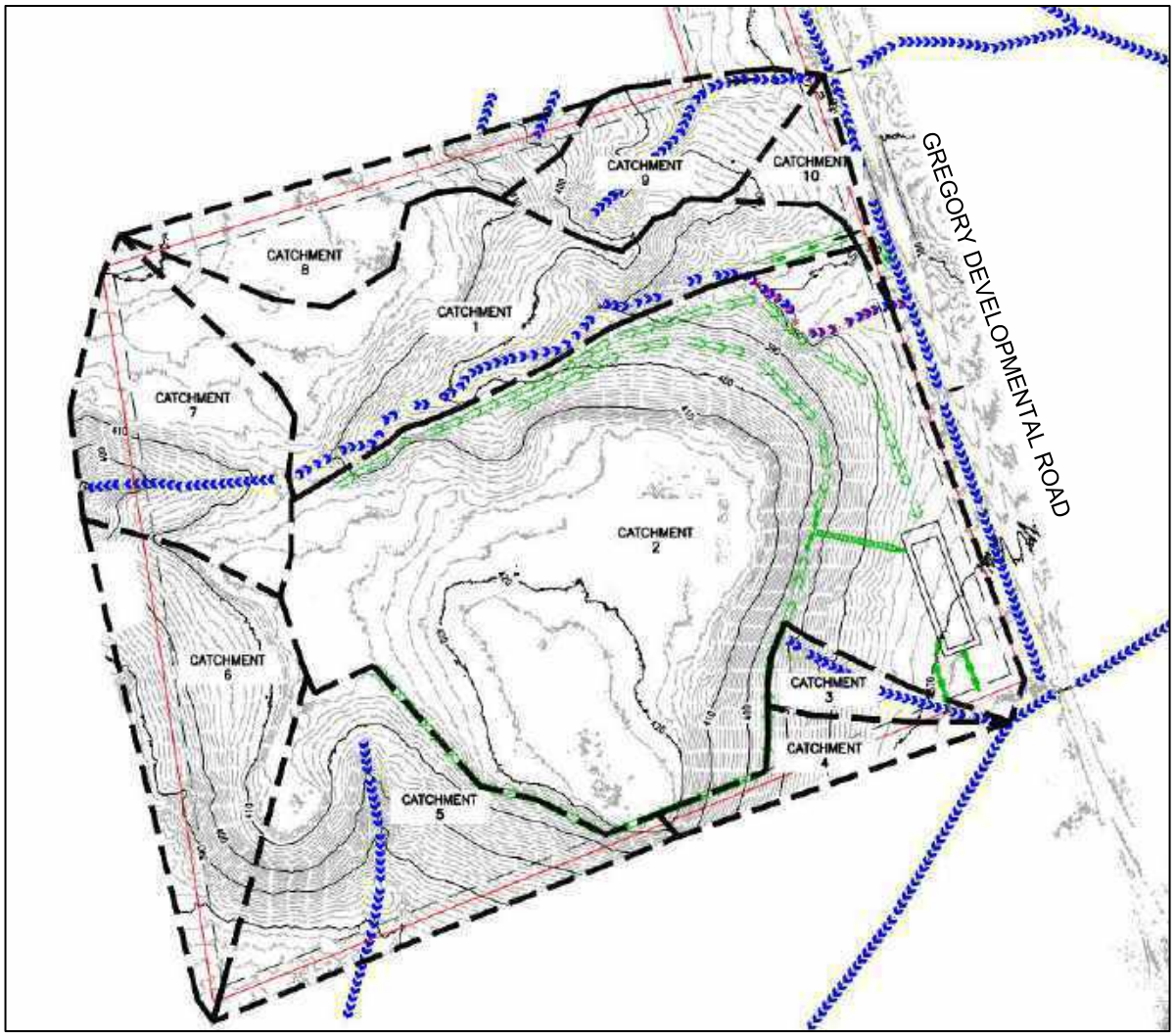


Figure 12. *Post-development catchments*

Table 3. *Pre-development and Post-development catchment area summary*

Catchment	Pre-development Catchment Area	Post-development Catchment Area	Comments
1	16.05ha	6.64ha	Reduction in catchment area. Decrease flow to TMR table drain.
2	5.87ha	21.43ha	Increase in area, however, no longer sheet flows to TMR table drain. Catchment 2 is sediment basin catchment post-development and discharges to order 1 stream to the south of the site.
3	2.61ha	8.6ha	Reduction in catchment area.
4	2.49ha	1.16ha	Reduction in catchment area.
5	8.43ha	5.64ha	Reduction. Insignificant compared to actual overall catchment.
6	4.72ha	4.61ha	Reduction. Insignificant compared to actual overall catchment.
7	4.36ha	4.19ha	Reduction. Insignificant compared to actual overall catchment.
8	2.70ha	2.70ha	No change
9	2.50ha	2.50ha	No change
10	0.84ha	0.84ha	No change

It is noted that there is a proposed increase to Catchment area 2, however, there is an overall reduction in catchment and thus, stormwater to the Gregory Developmental Road table drain. Catchment 2 discharge is proposed to be to the existing order 1 stream south of the subject site. The increase area which previously overland flowed west to the order 1 stream to the west of the site is 3.07ha. The which previously flowed west, proposed to flow east to order 1 stream south of the subject site is shown in magenta in Figure 13. When compared to the overall catchment to this location of the southern order 1 stream, the impact will be negligible.

Please note that the sediment basin will also capture and or attenuate stormwater flow particularly in lower rainfall events. The subject site is located in a rural environment with no development immediate downstream of the subject site.

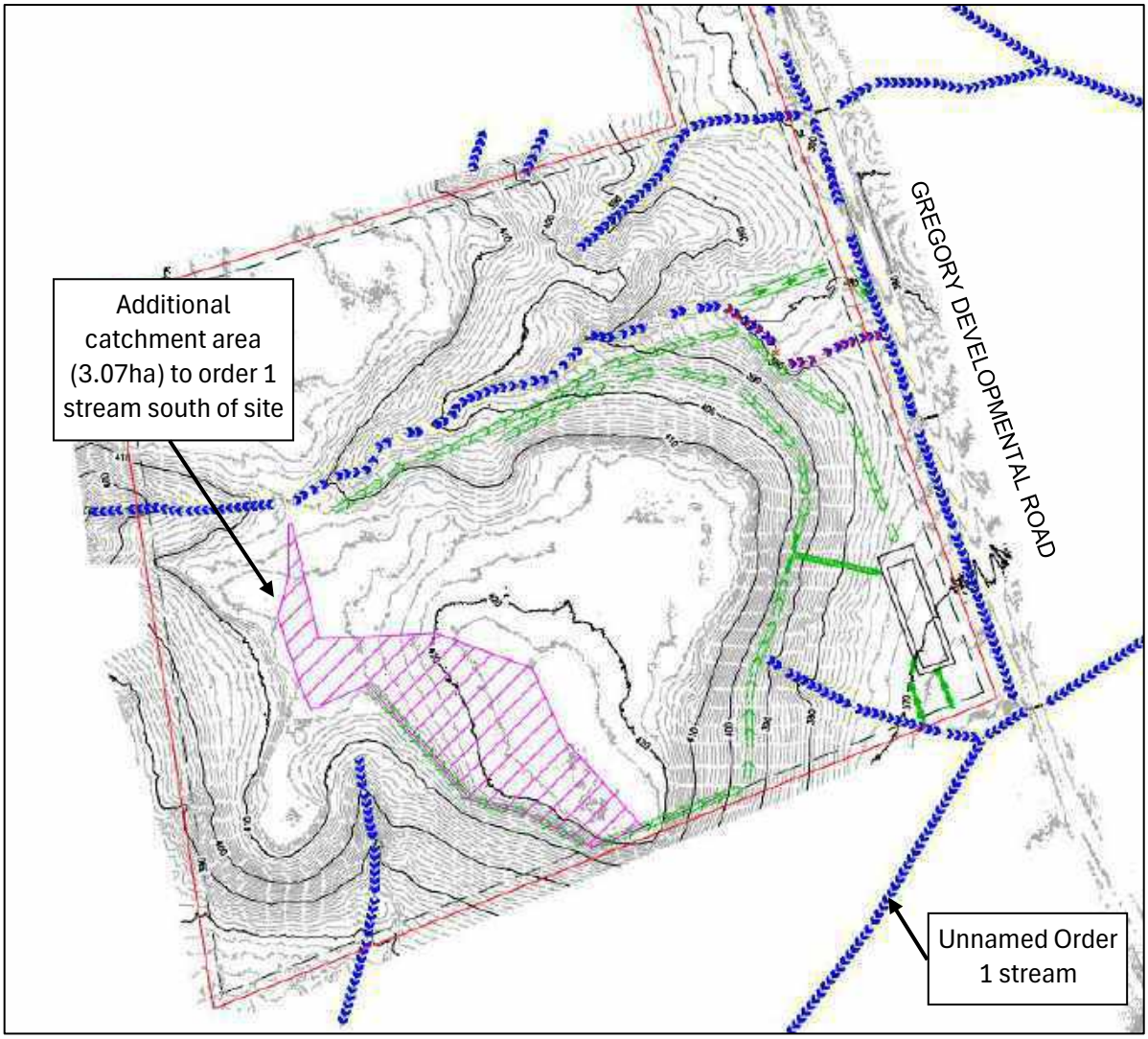


Figure 13. *Post-development catchment increase (shown in magenta) to order 1 stream south of subject site*

6.1 HYDRAULIC ASSESSMENT FOR SEDIMENT BASIN AND DIVERSION DRAINS

Please refer to **Appendix A**, Drawing 1314-SK04 diversion drain catchments and 1314-SK05 for sediment basin catchments and **Appendix B** for stormwater assessment and dimensions of sediment basin and drainage structures.

7.0 SOIL EROSION AND SEDIMENT CONTROL MEASURES

All sediment basins, catch drains, diversion channels and diversion bunds are to be constructed and maintained as outlined in Soil Erosion and Sediment Plan drawing attached in Appendix A. The measures outlined within the plans are consider the minimum requirements for the site and are subject to on-going maintenance and performance criteria's (i.e. WQO).

7.1 WATER REUSE

Water from the sediment basins storage area may be used for dust suppression etc. within the extraction area, however, must be operated as per the maintenance requirements.

7.2 MONITORING AND MAINTENANCE

Regular monitoring and maintenance of the sediment basin and associated systems (which prevent clean water entry into the catchment and deliver soil laden water to the sediment basins) are required to ensure compliance with the Environmental Authority, Development Approval. Compliance assessments are the responsibility of the Site Environmental Officer or delegate.

Appendix C contains an "Site Inspection checklist" that requires completion at the following times:

- Monthly during operational periods;
- After each weather event where the rainfall registered at the office exceeds 51.4 millimetres (30-minute ARI 1 rainfall event);
- At the cessation of activities at the beginning of each wet season; and
- At the commence of work after the wet season.

8.0 SEDIMENT BASINS OPERATING PROCEDURES

In general, all basins onsite have been designed as Type D basins and must be operated with the following parameters:

- The water level in the basins will be controlled so that at the end of the dry season, the available capacity of the basins is greater than the runoff calculated for a 24 hour, ARI 5 rainfall event;
- Within 120 hours of the most recent rainfall event the upper settling volume of all sediment basins must be made available to capture and store stormwater runoff from the next rainfall event;
- Prior to a rainfall event the sediment basin should be fully drained; and
- In between storm events the basin may retain but must be de-watered prior to any storm that is likely to produce runoff.

The following sections outline procedures for review the basin performances and appropriate actions to improve the basins performance should they be necessary. This includes:

- De-watering procedures;
- Decant water quality objectives;
- Sediment basin performance assessment procedures;
- Corrective measures: coagulants and flocculants;
- Sediment basin de-silting procedure; and
- Sediment basin maintenance.

8.1 DE-WATERING PROCEDURES

Type D basins are able to retain water within the basins for use on site, but the basins must be drained prior to any storm that is likely to produce significant (i.e. measurable) basin inflows.

All the primary sediment basins require cleaning out so that their capacity is at the design level, prior to the wet season. Drains that are overgrown with vegetation or silted up require maintenance so that their design capacity is realised. Eroded areas require treatments or the construction of control devices that will prevent that level of erosion occurring again.

8.2 DECANT WATER QUALITY OBJECTIVES

Before water can be discharged from the basin, the water quality being released must comply with all the specified water quality objectives outlined in the Queensland Government, Upper Burdekin River Sub-basin Environmental Values and Water Quality Objectives, Fresh waters (WQ1201). Total Suspended Solids (TSS), water pH, and turbidity have been outlined below in Table 4.

Table 4. *Water Quality Objectives*

	Water Quality Objective
Total suspended soilds (TSS)	6mg/L
pH	6.5 - 8.5
Tubidity	5 NTU

The sediment basin has been designed for up to an ARI 5 weather event and TSS above those outlined in Table 4 may occur during larger rainfall events. During high flow periods objectives outlined in Table 5.

Table 5. *Water Quality Objectives during high flows*

	Water Quality Objective
Total suspended soilds (TSS)	10mg/L
pH	6.5 - 8.5
Tubidity	Insufficient data (ID)

Only TSS, pH and Turbidity have been summarised in this table for all other objectives refer to Figure 8 of this report.

8.3 SEDIMENT BASIN PERFORMANCE ASSESSMENT PROCEDURES

A performance review should be carried out on all basins. Although it is desirable for sediment basins to achieve the desired water quality standard during every storm, circumstances can exist that will cause uncontrolled discharges to exceed these standards.

Sediment basin is not designed to achieve specific water quality; rather, designed to either capture and treat a specific volume of runoff, or to treat discharges up to a specified peak flow.

Sediment basin shall be monitored by the Site Environmental Officer or a suitably trained site personnel. The operator shall regularly inspect the critical design features of the basin and review the basin's performance against its design expectations. If a water quality failure is observed, then the operator should endeavour to take multiple samples during these releases to document the durations of such exceedances. Adjustments to the basin, and the basins operations, should occur after each observed failure. The use of such adaptive management practices is critical to achieving the optimum performance of any sediment basin. Figure 14 below outlines the sediment basin performance assessment process.

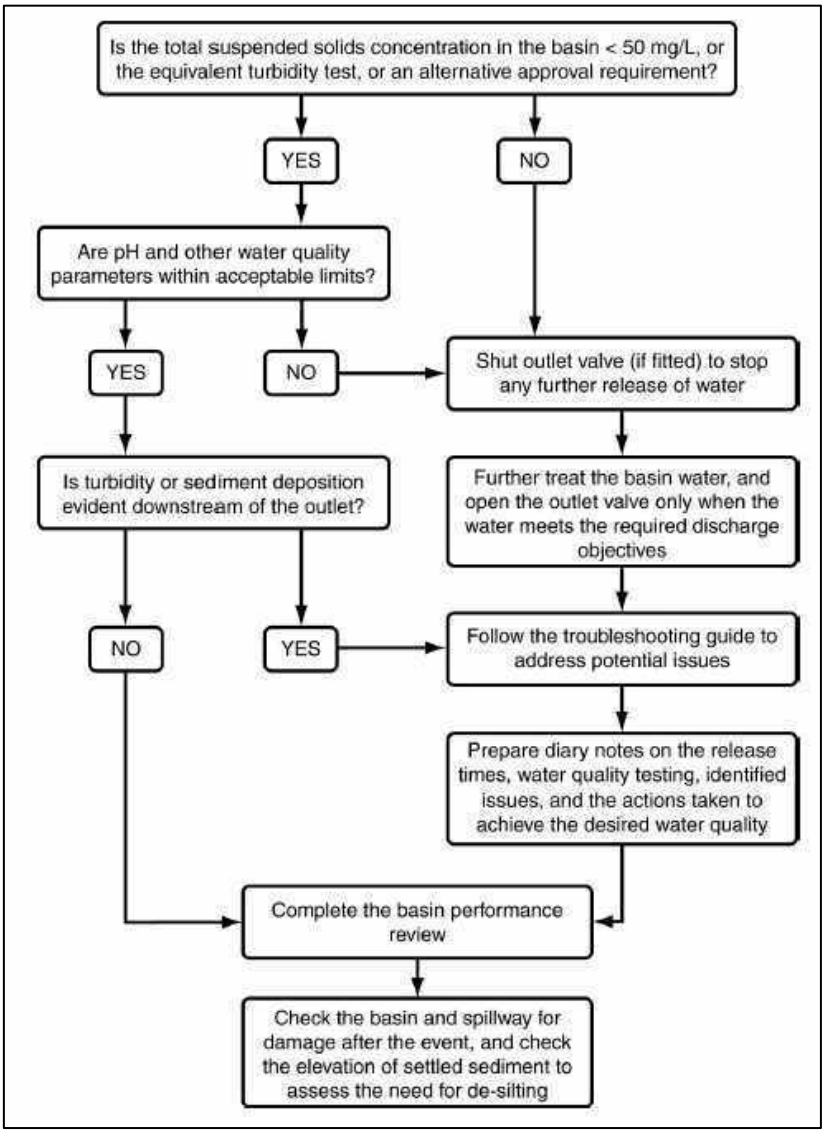


Figure 14. *Basin performance assessment process*

8.4 CORRECTIVE MEASURES: COAGULANTS AND FLOCCULANTS

If the water being discharged does not satisfy the specified water quality objectives, chemical treatments may be used as a means of promoting settling within the sediment basin.

8.4.1 Coagulation

Clay is the predominant particle type found in suspension within runoff captured by sediment basin. Clay particles are extremely small (less than 0.002 mm in size) and will not settle readily, if at all, even in still water.

When negatively charged clay articles and other colloids are suspended in water, they tend to repulse each other. The cumulative effects of the repulsion of a vast number of small particles prevents their aggregation into larger, heavier particles that would settle more readily.

A coagulant is utilised to neutralise or destabilise the charge on clay or colloidal particles. Most clay particles in water are negatively charged and therefore a positive ion (cation) can be used as a coagulant.

Charge neutralisation in water can occur very rapidly; therefore, mixing is important for effective treatment of turbid water. After a short time, the ions form hydroxide gels which trap particles, or bridge between particles, to create a floc that may settle.

There is possibility of overdosing with coagulants and building up excess positive charge, hence complying within the optimum dosage range is critical. When a cationic coagulant is overdosed, the clay and colloidal particles will take on positive charge and repel each other and limit any settling.

The dosage range of a coagulant will vary depending on the site water chemistry. Different coagulants also have an optimum pH range over which they are effective and pH buffering may be required depending on the coagulant and water chemistry.

The flocs generated by coagulation are generally small and compact. They can also be broken down under high velocity or high shear conditions.

8.4.2 *Flocculation*

Flocculation is a process of contact and adhesion whereby the particles of a dispersion form larger-size clusters. Flocculation can occur through the use of coagulant, flocculant, or both. Coagulants achieve flocculation through charge neutralization whereas flocculants physically bind clay and colloidal particles together.

The use of natural and synthetic polymeric flocculants can be used to generate larger more stable flocs and may reduce treatment times. This is achieved by brining dispersed particles together increasing the effective particle size. Flocculants can be used alone, or in combination with coagulants.

It is also noted that, at lower pH, the toxicity increases with an effect of possible major concern being the coagulation of mucus on the gills of fish. Please note, from the Australian and New Zealand Environmental and Conservation council (ANZECC) guideline to protect 99% of species which applies to HEV waters, aluminium must be less than 2.1µg/m.

8.4.3 *Selection of coagulants and/or flocculants - Jar testing*

The purpose of jar testing is to select appropriate coagulants and/or flocculants along with determining their optimum dose rates. The recommended testing procedure is described below.

Jar tests are conducted on a four or six-place gang stirrer. Jars (beakers) with different treatment programs or the same product at different dosages are run side by side, and the results compared to an untreated beaker. Where access to a laboratory is not practicable, field test can be undertaken following a similar process to that described in the procedure with stirring and settling timeframes in different beakers. Testing should be undertaken by a suitably qualified person in the use of coagulants and flocculants.

Preference is given to the use of raw water collected on site which is representative of runoff (including water temperature, which affects settlement characteristics) during the life cycle of the sediment basin. Where raw water is not available, representative soil from the site can be mixed with water to create indicative runoff water chemistry. To create a water sample from soil, a water/soil solution procedure is provided in Appendix D.

Sometimes both a coagulant and flocculant are required to achieve the desired treatment efficiencies. In these situations, the coagulant should be tested first, followed by the flocculant.

For the sediment basin, a Floc Performance Report should be prepared to determine a suitable chemical and dose rate for the sediment basin. A Floc Performance Report template is provided in in Appendix D. A single floc report for multiple sediment basin on a site should only be undertaken when soil properties are uniform for all basins.

8.4.4 Application of coagulants and flocculants

Mixing of coagulants and flocculants is critical to the successful treatment of turbid water. Guidance from chemical supplies or a suitably qualified sediment basin operator shall be sought for appropriate application methods including safety precautions.

8.5 DE-SILTING PROCEDURES

An appropriately marked (e.g. painted) de-silting maker post must be installed in the basin to indicate the top of the sediment storage zone.

The basin must be de-silted if:

- the next storm is likely to cause the settled settlement to rise above this marker point; or
- settled sediment has exceeded 90% of the total nominated sediment storage volume; or
- the settled sediment is already above this marker point.

8.6 SEDIMENT BASIN MAINTENANCE

Sediment basin maintenance shall be carried out as follows:

1. Inspect the sediment basin during the following periods:
    i. During construction to determine whether machinery, falling trees, or construction activity has damaged any components of the sediment basin. If damage has occurred, damaged is to be repaired;
    ii. After each runoff event. Inspect the erosion damage at flow entry and exit points. If damage has occurred, make the necessary repairs;
    iii. At least weekly during the wet season (January to March) otherwise at least fortnightly; and
    iv. Prior to, and immediately after, periods of 'stop work' or site 'shut down'.
2. Clean out accumulated sediment when it reaches the marker board/post and resort the original storage volume. Place sediment in a disposal area or, if appropriate, mix with dry soil on the site.
3. Do not dispose of sediment in a manner that will create an erosion or pollution hazard;
4. Check all visible pipe connections for leaks and repair as necessary;
5. Check fill material in the dam for excess settlement, slumping of the slopes or piping between the conduit and the embankment; make all necessary repairs;
6. Remove all trash and other debris from the basin and rise; and
7. Submerged in flow pipes must be inspected and de-silted (as required) after each inflow event.

9.0 SARA RESPONSE SUMMARY

A summary of the requested information and responses has been provided in Table 6.

Table 6. *SARA information request item responses*

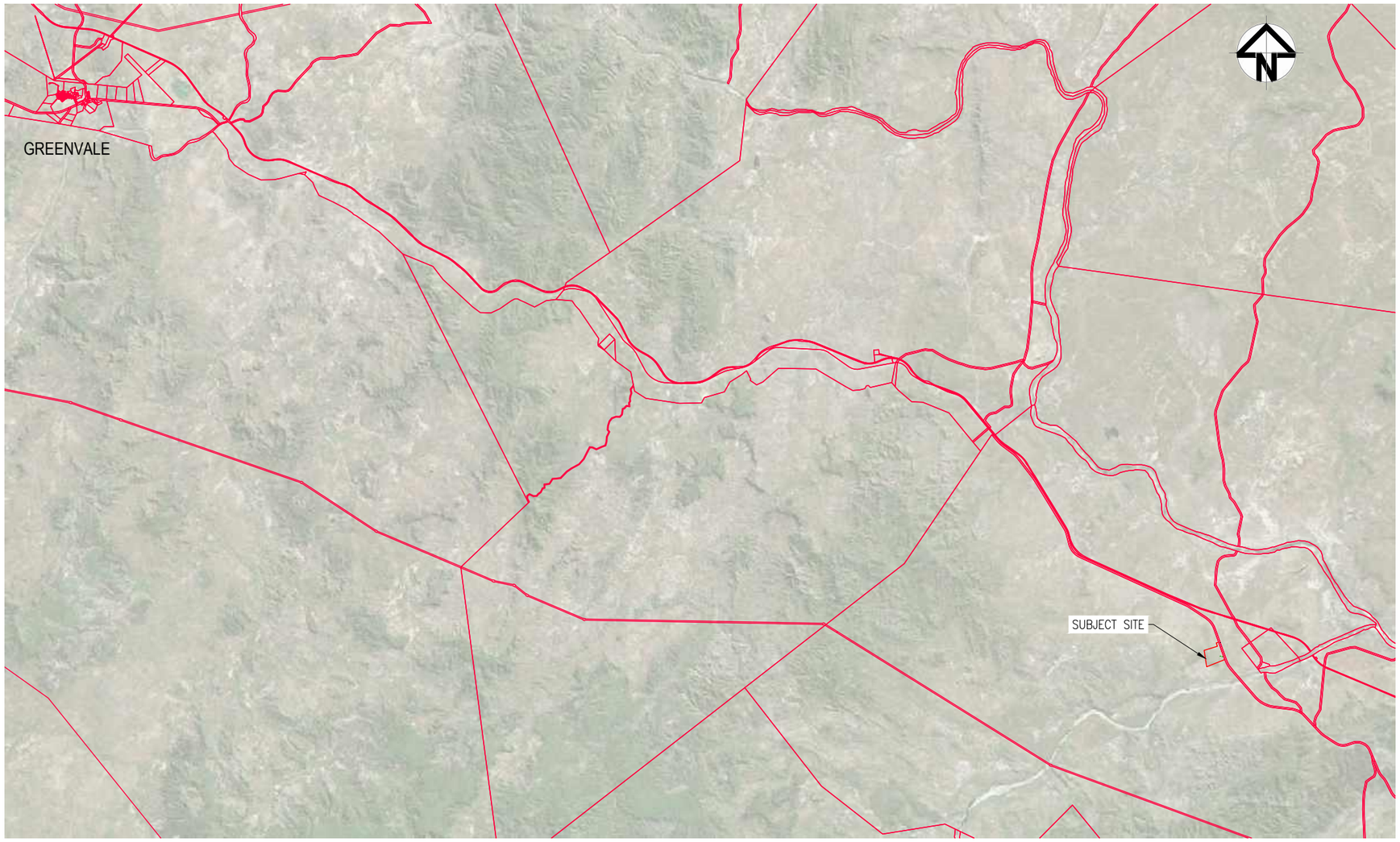
SARA Information Request Item	Response
2. Stormwater Management Plan ***Action:*** *The applicant is required to demonstrate no worsening of stormwater and flooding impacts on the state-controlled road and the existing drainage network through submitting a Stormwater Management Plan (SMP).* *The proposed stormwater management design should be certified by a Registered Professional Engineer of Queensland (RPEQ).* *In order to demonstrate compliance with the above-mentioned requirements, the SMP should provide the following:* *a) Appropriate hydraulic and hydrological analysis to arrive at peak flood discharges from the site for both pre and post development scenarios. This should include flood and stormwater events of 63%,50%, 20%, 10%, 5%, 2% and 1% AEP (equivalent to 1, 2, 5, 10, 20, 50 and 100 years ARI events);*	As per telephone conversation with David Petersen from the Department of Transport and Main Roads, on 28th October 2024, that flood modelling is not required, and rational method calculations are appropriate for this site.
b) Demonstrate that the management of stormwater (quantity and quality) in post development can achieve a no worsening of impacts on the state-controlled road and railway corridors for all of the above flood and stormwater events. Stormwater management for the proposed development must ensure no worsening or actionable nuisance to the state-controlled road corridors and all state transport infrastructure caused by peak discharges, flood levels, frequency/duration of flooding, flow velocities, water quality, sedimentation and scour effects.	Stormwater to Gregory Developmental Road table drain is proposed to be reduced and as such, not envisage to impact the state controlled road. Stormwater from the extract area is to be collected and treated within a sediment basin in the southeastern corner of the subject site. Discharge is to be directly to the order 1 stream directly south of the site. The order 1 stream flows from east to west and discharges to the Clarke River.

c) Ensure the following are addressed, where applicable: i. *The site's topography contours for both pre and post development (finish levels) scenarios are presented;* ii. *All the contributing catchments are identified as well as their contribution to the flow discharge from the subject site;* iii. *All relevant legal points of discharge for the development site are identified. No new discharge points for stormwater will be permitted on the state-controlled road corridor;* iv. *Adequately articulates the flow discharge mechanism (sheet flow or concentrated flow) from the site in pre and post development;* v. *Overland flow paths are identified, and hydraulic conveyance is maintained on the site as part of the proposed development;* vi. *Flood storage capacity is maintained on the site as part of the proposed development;* vii. *Retaining structures, filling/excavation, landscaping, construction activities or any other works to the land have been designed to include provision for drainage so as not to adversely impact on the state-controlled road and railway corridors;* viii. *The proposed development does not impede or interfere with any drainage, stormwater or floodwater flows from the state-controlled road and railway corridors;* ix. *The quality of stormwater discharging onto the state-controlled road and railway corridors is not reduced through erosion and sedimentation;*	i. Extraction area propose to take the area shown in cyan in **Figure 10** down to an approximate RL of 395m AHD with the area graded from west to east. ii. Refer to **Section 5.0** and **6.0** of this report. iii. No new points of discharge are proposed to the state controlled road. Refer to **Figure 9** and **Figure 10** for the proposed sediment basin discharge location post-development. All other discharge locations are existing. One existing flow path is proposed to be relocated 28m north to assist with site access, however, the nuance will be insignificant. iv. Refer to **Appendix A** for proposed drainage site drainage and **Appendix B** for sizing calculations. v. All stormwater conveyance for the site is proposed to be located within the site boundaries. vi. The site is not anticipated to have any flooding issues. vii. Stormwater to the state road table drain is proposed to be decreased. No adverse impact is anticipated. viii. No impact to existing state controlled drainage is anticipated. ix. Stormwater is proposed to be treated via a sediment basin prior to release to waterways.
d) Include details of the mitigation measures proposed to address any potential stormwater impacts (including flooding impacts) of the proposed development.	The only mitigation measures proposed for the development site are erosion and sediment control measures to ensure soil ladened stormwater is treated prior to release from the site to required Water Quality Objectives set out by the State.

APPENDIX A

EROSION AND SEDIMENT CONTROL PLANS

MOUNT FULLSTOP QUARRY
LOT 4844 ON PH1679
SOIL EROSION & SEDIMENT CONTROL



LOCALITY PLAN
1:10,000

DRAWING SCHEDULE

DRAWING NO.	REV	DESCRIPTION
1314-SMP-SK01	A	COVER SHEET, SITE PLAN & DRG SCHEDULE
1314-SMP-SK02	A	EXISTING SITE DRAINAGE
1314-SMP-SK03	A	GENERAL ARRANGEMENT PLAN
1314-SMP-SK04	A	CATCHMENT PLAN - DIVERSION CHANNELS
1314-SMP-SK05	A	CATCHMENT PLAN - SEDIMENT BASIN
1314-SMP-SK06	A	SEDIMENT BASIN DETAILS

REVISIONS

No.	BY	DATE	DESCRIPTION
A	N.P	17/11/24	ISSUED FOR DA APPROVAL

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION

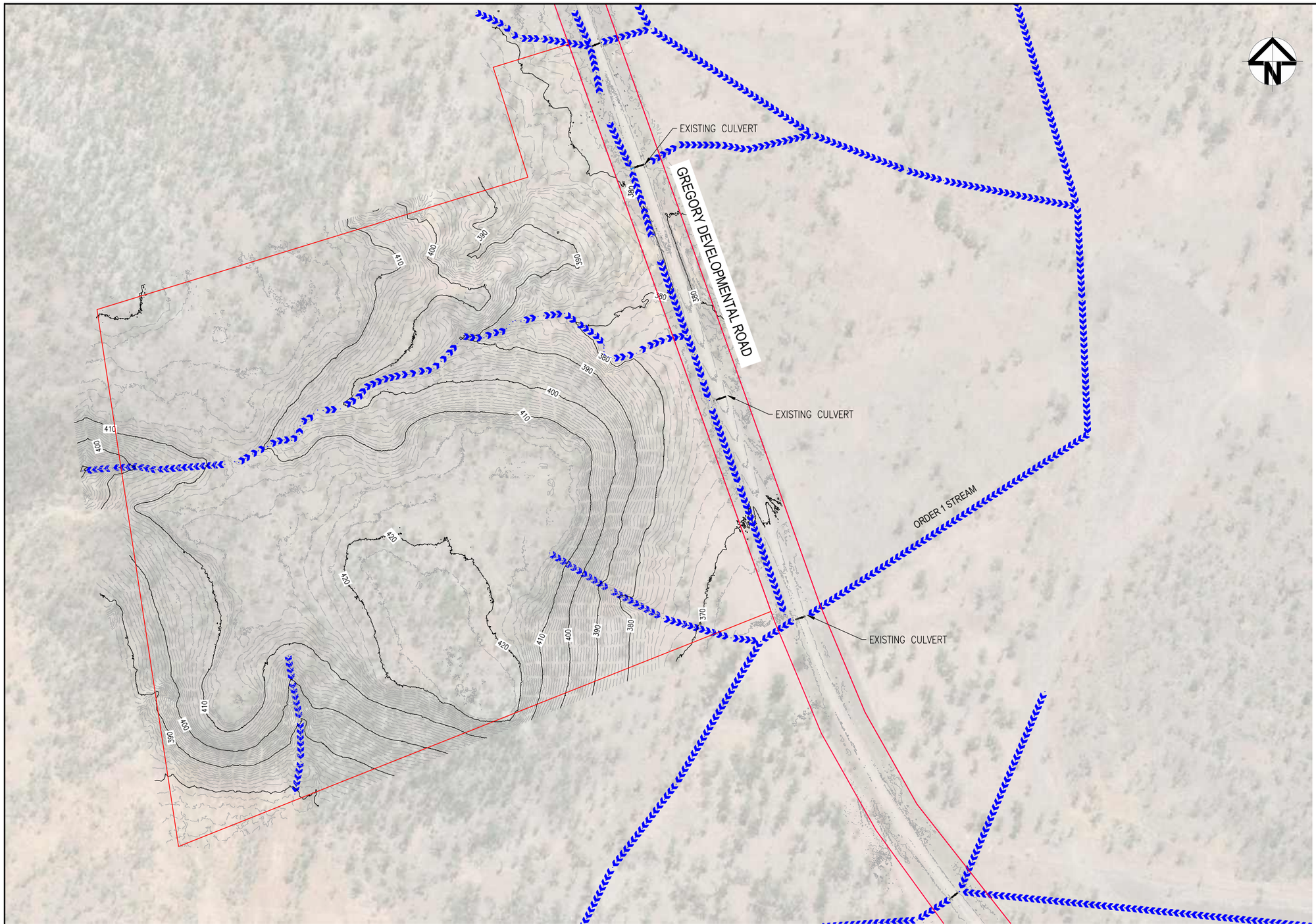
BRETT LANGTRAEE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES

LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
LOCALITY PLAN, DRAWING SCHEDULE

SCALE	AS SHOWN
SHEET	SHEET 1 OF 6
REVISION	A
DRG No.	1314-SMP-SK01



LEGEND:

EXISTING CULVERT

EXISTING DRAINAGE PATH

EXISTING DRAINAGE

1:2,500 (A1)

REVISIONS				
No.	BY	DATE	DESCRIPTION	
A	N.P	17/11/24	ISSUED FOR DA APPROVAL	

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION

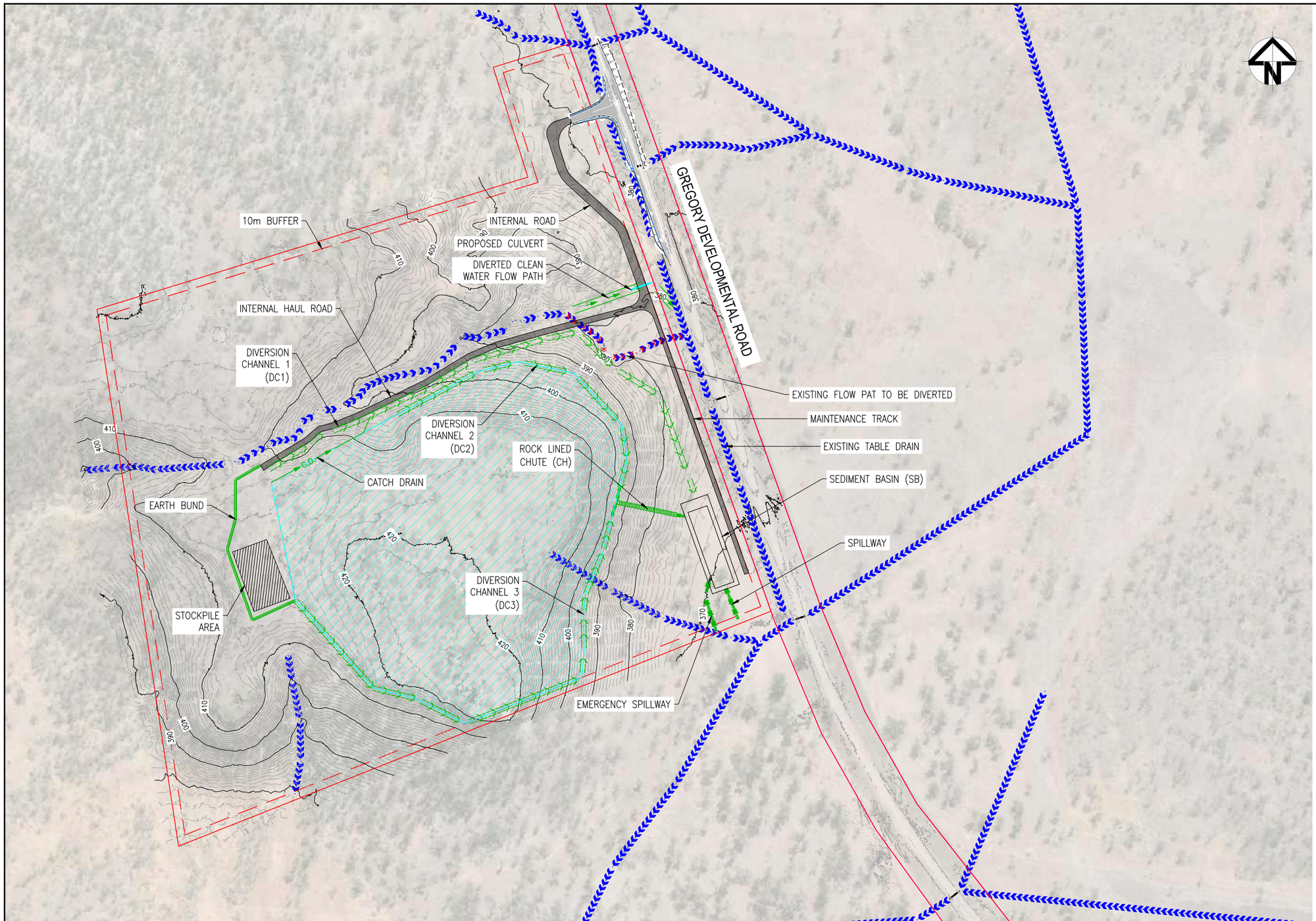
BRETT LANGTREE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES

LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
EXISTING SITE DRAINAGE

SCALE	AS SHOWN
SHEET	SHEET 2 OF 6
REVISION	A
DRG No.	1314-SMP-SK02



NOTES:

1. DETAILS SHOWN ON THESE REPRESENT PROPOSED MINIMUM REQUIREMENTS FOR ONE POSSIBLE METHOD TO ACHIEVE COMPLIANCE WITH LEGISLATION TO PREVENT ENVIRONMENTAL HARM FROM EROSION AND SEDIMENT TRANSFER OFF THE SITE.
2. DRAWINGS ARE INDICATIVE ONLY. DO NOT SCALE DRAWINGS.
3. ROAD WIDTHS HAVE BEEN SHOWN INDICATIVELY ONLY.
4. ENERGY DISSIPATER TO BE INSTALLED AT BASE OF ROCK LINED BATTER CHUTE.

LEGEND:

- EXISTING CULVERT
- EXISTING DRAINAGE PATH
- EARTH BUND
- DIVERSION DRAIN
- REMOVE DRAIN
- REMOVE DRAIN
- ULTIMATE EXTRACTION AREA
- STOCKPILE AREA
- PROPOSED ROADS

GENERAL ARRANGEMEN PLAN

1:2,500 (A1)

REVISIONS

No.	BY	DATE	DESCRIPTION
A	N.P	17/11/24	ISSUED FOR DA APPROVAL

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION

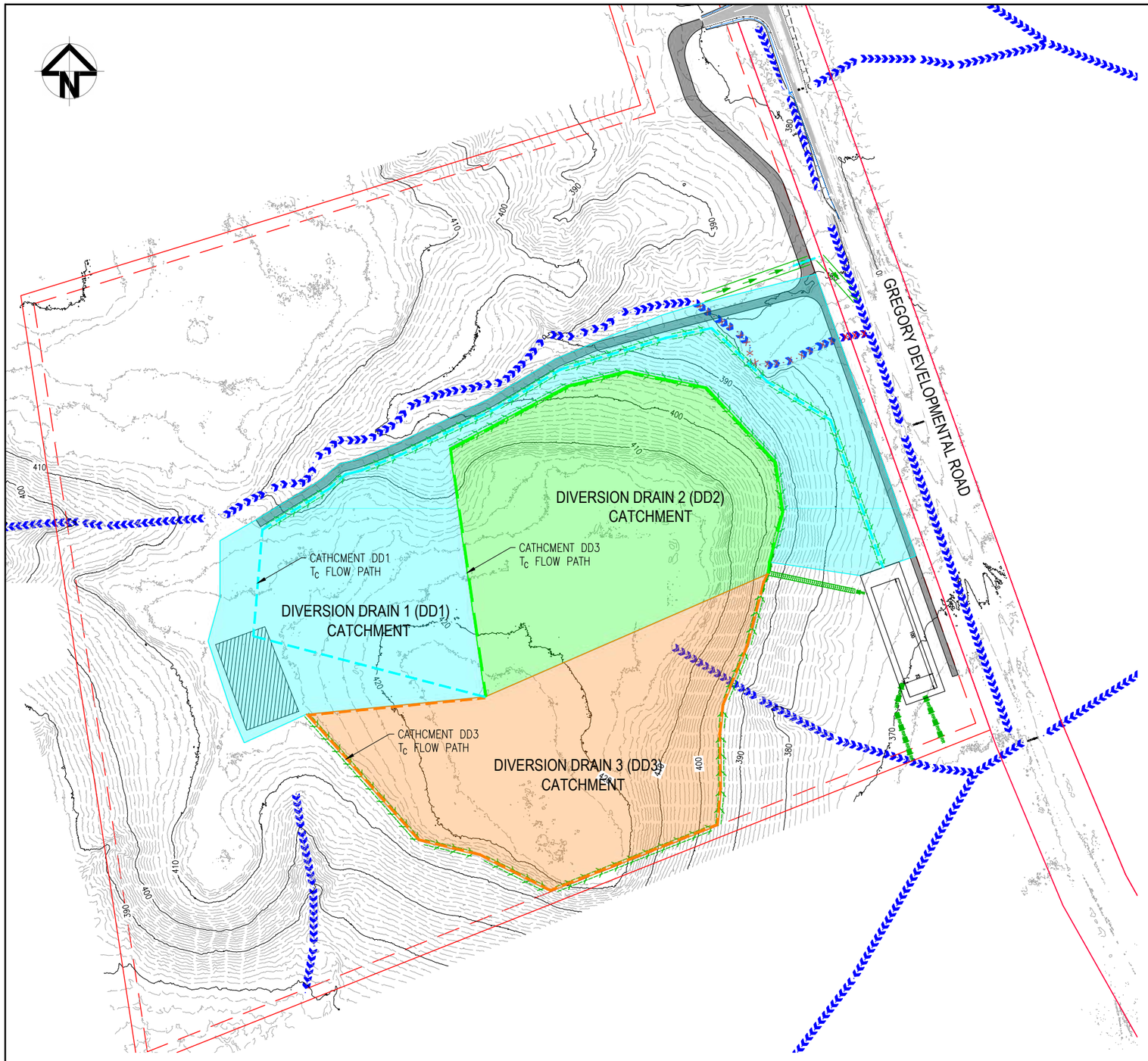
BRETT LANGTRAEE MIEAust. NER. RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES

LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
GENERAL ARRANGEMENT PLAN

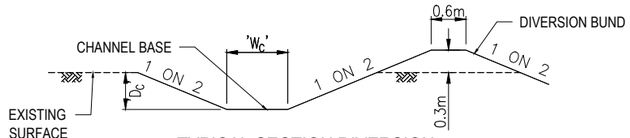
SCALE	AS SHOWN
SHEET	SHEET 3 OF 6
REVISION	A
DRG No.	1314-SMP-SK03



CATCHMENT PLAN - DIVERSION DRAINS

1:2,000 (A1)

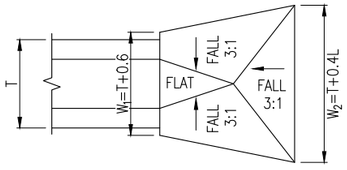
DIVERSION CHANNEL & BATTER CHUTE DIMENSIONS (Q5)				
PARAMETER	DC1	DC2	DC3	CH
BATTER SLOPE (1 IN X)	2	2	2	2
BASE WIDTH (m) 'Wc'	1.50	1.00	1.00	2.00
DEPTH (m) 'Dc'	0.25	0.25	0.25	0.25
MINIMUM SLOPE (%)	0.50	0.50	0.50	25.00



TYPICAL SECTION DIVERSION CHANNEL WITH BANK

NTS

CHUTE OUTLET DIMENSIONS					
PARAMETER	T	L	W_1	W_2	d_{50}
CH1	3.6m	4.3m	4.2m	5.3m	300mm



CHUTE OUTLET

NTS

REVISIONS				
No.	BY	DATE	DESCRIPTION	
A	N.P	17/11/24	ISSUED FOR DA APPROVAL	

HORIZ. DATUM	MGA GDA94 ZONE 55		
VERT. DATUM	AHD		
DRG. FILE		DATE	
DESIGN	N.P	17/12/24	
DRAWN	N.P	17/12/24	

CERTIFICATION

BRETT LANGTREE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

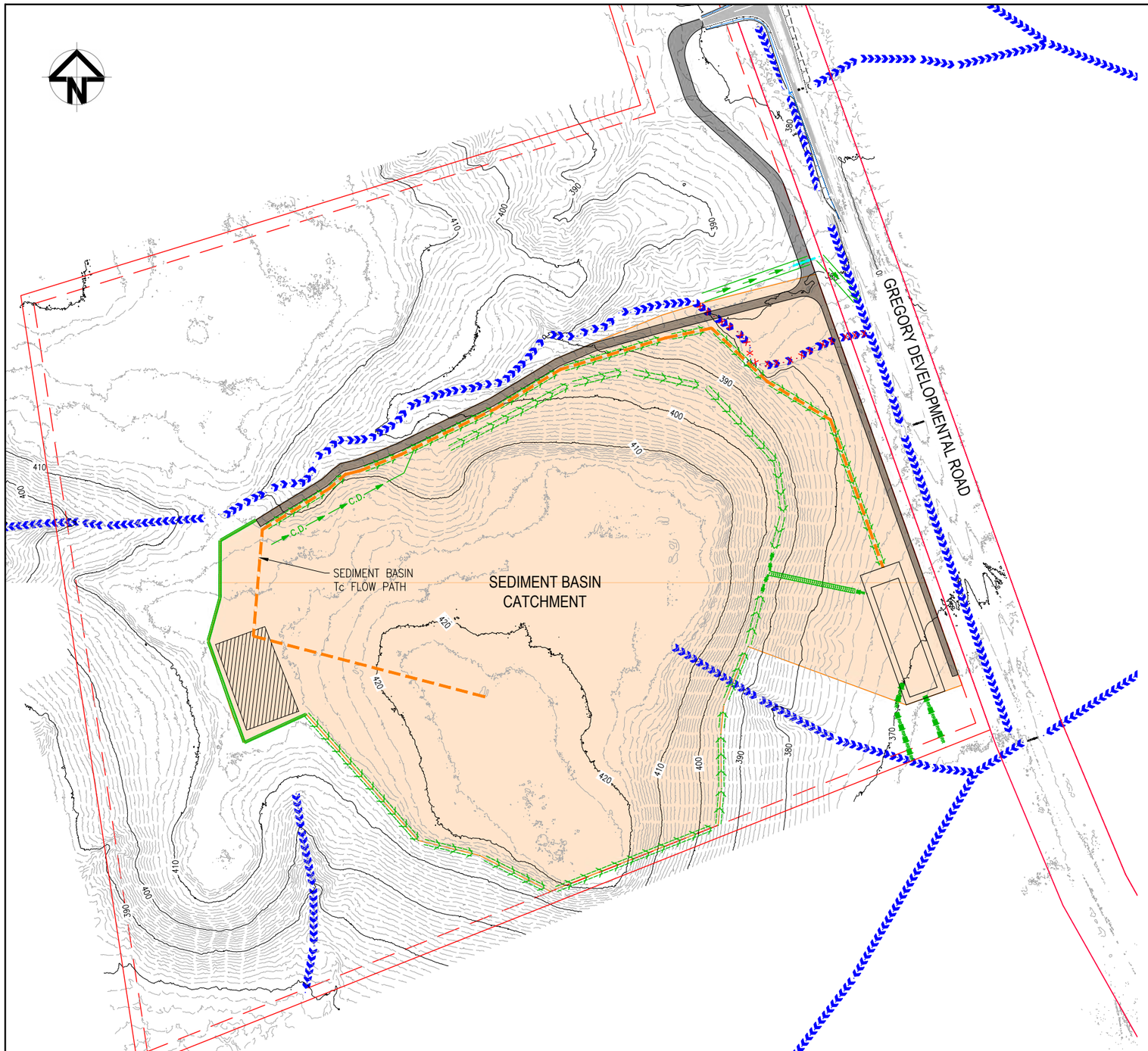
BOLWARRA ENTERPRISES

LOT 4844 ON PH1679

SOIL EROSION AND SEDIMENT CONTROL

CATCHMENT PLAN - DIVERSION DRAIN

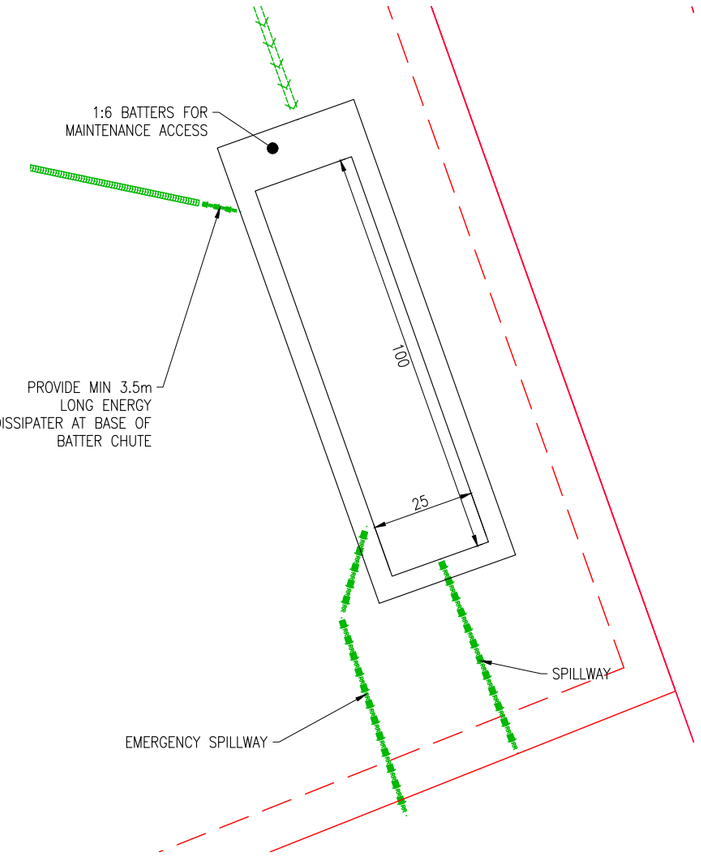
SCALE	AS SHOWN
SHEET	SHEET 4 OF 6
REVISION	A
DRG No.	1314-SMP-SK04



CATCHMENT PLAN - SEDIMENT BASIN

1:2,000 (A1)

SEDIMENT BASIN MINIMUM DIMENSIONS	
PARAMETER	BASIN
CATCHMENT (ha)	21.23
BATTER SLOPE (1 in x)	4
TOP WIDTH (m)	39.00
TOP LENGTH (m)	114.00
SETTLING ZONE DEPTH (m)	0.65
SEDIMENT STORAGE DEPTH (m)	0.65
BASIN DESIGN DEPTH (m)	1.3
FREEBOARD (m)	0.40
TOTAL DEPTH "D" (m)	1.70
BASIN VOLUME (m^3)	3,741



SEDIMENT BASIN BASE DIMENSIONS

1:750 (A1)

REVISIONS				
No.	BY	DATE	DESCRIPTION
A	N.P	17/11/24	ISSUED FOR DA APPROVAL

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

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BRETT LANGTRAEE MIEAust. NER. RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

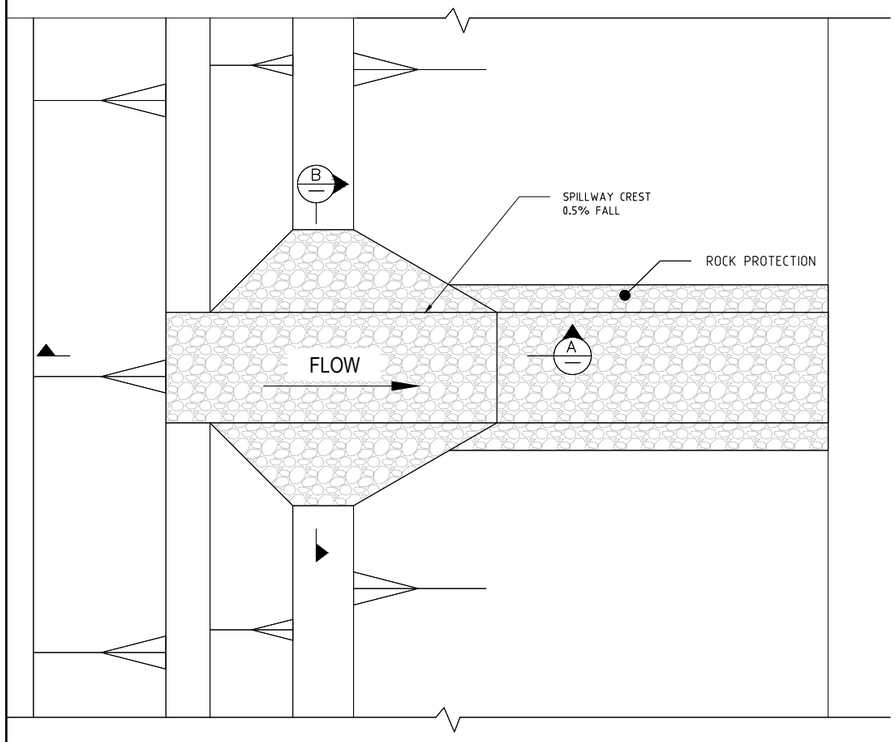
BOLWARRA ENTERPRISES

LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
CATCHMENT PLAN - SEDIMENT BASIN

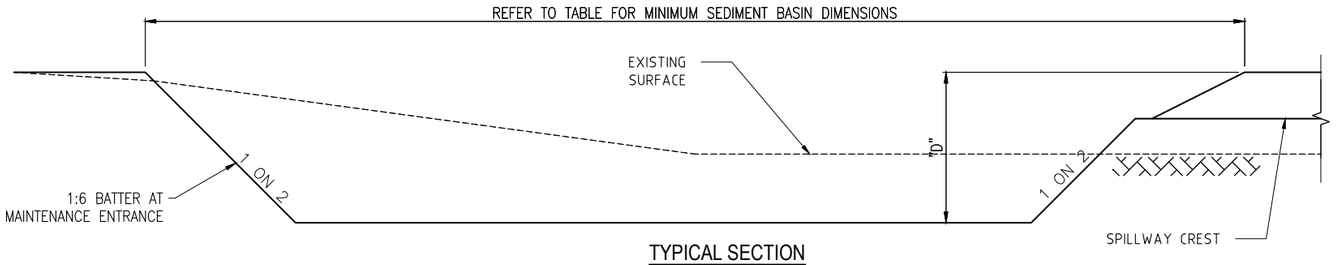
SCALE	AS SHOWN
SHEET	SHEET 5 OF 6
REVISION	A
DRG No.	1314-SMP-SK05

SEDIMENT BASIN NOTES:

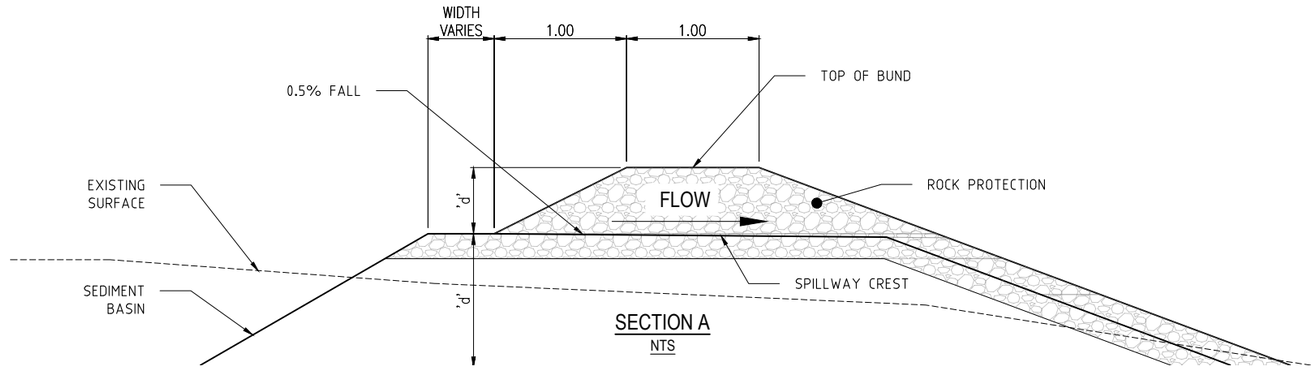
1. DETAILS SHOWN ON THESE REPRESENT PROPOSED MINIMUM REQUIREMENTS FOR ONE POSSIBLE METHOD TO ACHIEVE COMPLIANCE WITH LEGISLATION TO PREVENT ENVIRONMENTAL HARM FROM EROSION AND SEDIMENT TRANSFER OFF THE SITE.
2. DRAWINGS ARE INDICATIVE ONLY. DRAWINGS ARE NOT TO BE SCALED.
3. EARTH EMBANKMENTS GREATER THAN 1m TO BE BE CERTIFIED BY GEOTECHNICAL ENGINEER.
4. MINIMUM EMBANKMENT CREST WIDTH TO BE 2.5m UNLESS JUSTIFIED BY GEOTECHNICAL ENGINEER.
5. EARTH FILL FOR EMBANKMENTS SHALL BE CLEAN SOIL NON–DISPERSIVE SOIL AND FREE OF ROOTS, WOODY VEGETATION, ROCKS AND OTHER UNSUITABLE MATERIAL. FILL MATERIAL TO FROM EMBANKMENT TO BE CERTIFIED BY GEOTECHNICAL ENGINEER.
6. SPILLWAY ROCK SHALL BE HARD, ANGULAR, DURABLE WEARTHER RESISTANT AND EVENLY GRADED ROCK WITH 50% BY WEIGHT LARGER THAN THE SPECIFIED NOMINAL d_{50} ROCK SIZE. THE DIAMETER OF THE LARGEST ROCK SIZE SHOULD BE NO GREATER THAN 1.5 TIMES THE NOMINAL ROCK SIZE. SPECIFIC GRAVITY SHALL BE AT LEAST 2.5.
7. SEDIMENT BASIN DETAILS AND DIMENSIONS SHOWN PROVIDE ONE POSSIBLE METHOD OF ACHIEVE MINIMUM REQUIRED SEDIMENT BASIN VOLUMES.
8. NOMINAL ROCK SIZING, d_{50}, SHOWN IN SPILLWAY TABLE ARE RECOMMENDED ROCK SIZING BASED ON ARI 50 FLOW VELOCITY



TYPICAL BASIN SPILLWAY PLAN
NTS

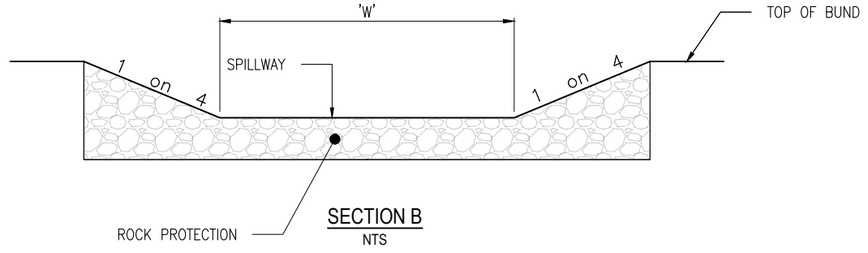


TYPICAL SECTION
SEDIMENT BASIN
NTS



SECTION A
NTS

NOMINAL DIMENSIONS FOR SPILLWAY AND ROCK PROTECTION (Q50)	
PARAMETER	BASIN
SPILLWAY BASE WIDTH (m) 'W'	3.50
SPILLWAY DEPTH (m) 'd'	0.40
NOMINAL ROCK SIZE (m) 'd_{50}'	0.30



SECTION B
NTS

REVISIONS

No.	BY	DATE	DESCRIPTION
A	N.P	17/11/24	ISSUED FOR DA APPROVAL

HORIZ. DATUM	MGA GDA94 ZONE 55	
VERT. DATUM	AHD	
DRG. FILE		DATE
DESIGN	N.P	17/12/24
DRAWN	N.P	17/12/24

CERTIFICATION
BRETT LANGTRAEE MIEAust, NER, RPEQ 11932

LANGTREE CONSULTING ENGINEERS
m 0400 699 979
e brett@langtreeconsulting.com.au

BOLWARRA ENTERPRISES

LOT 4844 ON PH1679
SOIL EROSION AND SEDIMENT CONTROL
SEDIMENT BASIN DETAILS

SCALE	AS SHOWN
SHEET	SHEET 6 OF 6
REVISION	A
DRG No.	1314-SMP-SK06

APPENDIX B

STORMWATER ASSESMENT

Mount Fullstop Quarry

Hydrologic & Hydraulic Assessment

Hydrology Assessment - Time of Concentration, tc

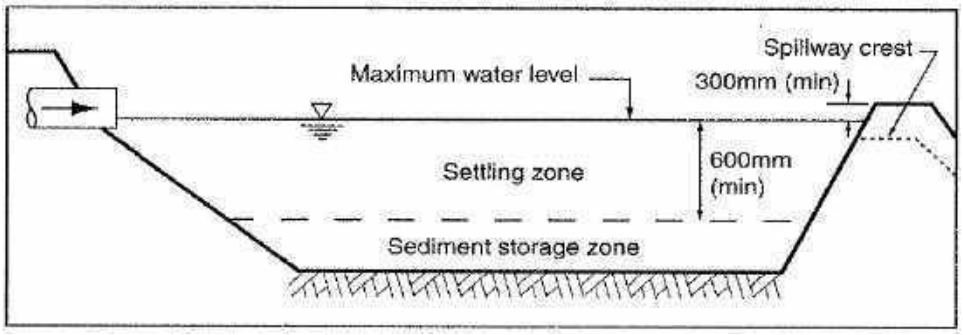
Structure Type	Location ID	Catchment Area	Time of Concentration		
			Bransby Williams Eqt.		
			Flow Path	Slope	t_c
		(ha)	km	(%)	(min)
Spillway	SB	21.23	0.882	5.30	27.0
Diversion Channel 1	DC1	7.83	0.882	5.30	29.8
Diversion Channel 2	DC2	5.46	0.803	3.76	30.1
Diversion Channel 3	DC3	5.33	0.803	3.10	31.4
Rock lined chute	CH1	9.70	0.647	6.90	20.3

Hydrology Assessment - Design Flow, Q

Structure Type	Location ID	Design Flow								
		Design ARI	tc	Rainfall Intensity I	$^1I_{10}$	Fraction Impervious f_i	Frequency Factor F	C_{10}	C_y	Flow Rate Q
		y	(min)	(mm/hr)	(mm/hr)					(m^3/s)
Spillway	SB	50	11.1	119.8	119.78	1	1.15	0.90	1.00	7.069
Diversion Channel 1	DC1	5	29.8	79.9	59.43	0	0.95	0.70	0.67	1.157
Diversion Channel 2	DC2	5	30.1	79.5	59.43	0	0.95	0.70	0.67	0.803
Diversion Channel 3	DC3	5	31.4	77.9	59.43	0	0.95	0.70	0.67	0.768
Rock lined chute	CH1	5	20.3	95.4	59.43	0	0.95	0.70	0.67	1.711

Mount Fullstop Quarry

Sediment Basin Design



INPUT

Catchment (SB1)

1) Proposed Sediment Basin Dimensions

Parameter	Value	Comments
Basin Type	D	To be confirmed upon receive of geotechnical results
Catchment (ha)	21.23	
Batter Slope (1 on x)	4	Assumed batter slope
Top Width (m)	38.6	
Top Length (m)	113.6	IECA Min. desirable length to width ratio 3:1
Bottom Width (m)	25	Assumed dimension
Bottom Length (m)	100	Approx. 4:1 ratio gives top ration of 3:1
Design Water Depth (m)	1.30	
Freeboard (m)	0.4	IECA minimum freeboard;
Total Basin Depth (m)	1.70	Overall depth including freeboard

2) Settling Zone & Sediment Storage Zone

Parameter	Units	Value	Comments
Batter slope	m/m	0.250	
Volumetric runoff coefficient, C_v	-	1.00	Assumed worse case compacted clay
Catchment area, A	ha	21.23	
Constant, K_1	-	17	IECA Appendix B - Table B4 (2008)
Constant, K_2	-	11.2	y% = 80% - Basins with a design life >6 months
Average rainfall itensity, $I_{(5yr,24hr)}$	mm/hr	5.41	Refer IFD
Rainfall depth, $R_{(Y\%,1\text{-}day)}$	-	104.0	$R = K_1.I_{(5yr,24hr)} + K_2$
Settling volume, V_s	m^3	2208	DES Stormwater and evnironmentally relevant activities $V_s = R.C_v.A$
Sediment storage volume	m^3	1104	DES Stormwater and evnironmentally relevant activities, IECA Table B8 - 50% of settling volume
Total Sediment Basin Volume required	m^3	**3312**	

3) Proposed Sediment Basin Dimension Checks

Parameter	Units	Value	Comments
Basin Design Depth	m	1.30	
Top Width	m	35.4	
Top Length	m	110.4	
Bottom Width	m	25	
Bottom Length	m	100	
Proposed Sediment Basin Volume	m^3	**3741**	OK: Equal or greater than total volume required

4) Proposed Settling Zone volume and depth

Parameter	Units	Value	Comments
Proposed Settling Depth	m	0.65	Iterate
Top Width	m	35.4	
Top Length	m	110.4	
Bottom Width	m	30.2	
Bottom Length	m	105.2	
Proposed Settling Volume	m3	**2194**	WARNING: Less than Settling Volume required

5) Trapizoidal Spillway Wier Crest

Parameter	*Units*	*Value*	*Comments*
ARI 50 Flow	m^3/s	7.07	
Water Depth	m	0.32	Not including freeboard
Spillway Slope (1 on x)	m	4	
Spillway Base Width	m	4.5	
Flow (Q)	m^3/s	**7.13**	OK: Equal or greater than ARI 50 Flow

6) Minimum Sediment Basin Sizing

Batter Slope (1 on x)	4	
Basin Top of Bank Width	38.60	m
Basin Top of Bank Length	113.60	m
Settling Zone Depth	0.65	m
Sediment Storage Depth	0.65	m
Basin Design Depth	1.30	m
Freeboard	0.40	m
Overall Basin Depth incl. freeboard	1.70	m
Sediment Basin Storage Capacity	**3741**	m^3

7) Rock Size

SF	1.50		Safety Factor (high risk)
k_1	1		Correction factor for rock grading (angular)
k_2	1.05		Correction factor for rock grading (well graded)
S_O	0.263	m/m	Bed slope
q	1.571	$m^3/s/m$	flow per unit width
Sr	2.600		Specific gravity of rock (granite)
d_{50}	0.300	m	Mean Rock size of which 50% are smaller
Adopted d_{50}			Adopted d_{50}
Minimum thickness	**0.480**	m	Size distribution d50/d90 = 0.8

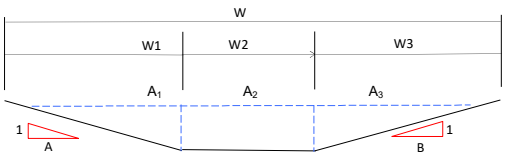
8) Dissapator Length

Length of dissipator	3.86	m	Catchment and Creeks, Energy Dissipators, Table 1 - Energy Dissipators
Recess depth	0.414	m	Catchment and Creeks, Energy Dissipators, Table 2

Mount Fullstop Quarry

Open drain - Trapizoidal Shaped

Mannings



Input
Output

	Channel Flow Properties								Flow Properties						Overall Drain Dimensions					
Location ID	Design flow rate Q_{des} (m^3/s)	LHS Slope A (m)	RHS Slope B (m)	Base width (m)	Material	Manning's n	Channel Slope S (m/m)	Flow depth H (m)	Flow Area A (m^2)	Wetted perimeter P (m)	Hydraulic Radius R (m)	Capacity Q (m^3/s)	Velocity V (m/s)	$D_g \times V_{ave}$	Freeboard (m)	Drain Depth D (m)	LHS Batter width W1 (m)	Base width W2 (m)	RHS Batter width W3 (m)	Total width W (m)
SB	4.24	4.0	4.0	4.5	Rock Lined	0.025	0.100	0.32	1.850	7.139	0.259	9.508	5.141	1.645	0.150	0.470	1.880	4.500	1.880	8.260
DC1	1.16	2.0	2.0	1.5	Excavated earth channel	0.025	0.050	0.25	0.500	2.618	0.150	1.263	2.525	0.631	0.150	0.400	0.800	1.500	0.800	3.100
DC2	0.80	2.0	2.0	1.0	Excavated earth channel	0.025	0.050	0.25	0.375	2.118	0.150	0.947	2.525	0.631	0.150	0.400	0.800	1.000	0.800	2.600
DC3	0.77	2.0	2.0	1.0	Excavated earth channel	0.025	0.050	0.25	0.375	2.118	0.150	0.947	2.525	0.631	0.150	0.400	0.800	1.000	0.800	2.600
CH1	1.71	2.0	2.0	2.0	Rock Lined	0.039	0.250	0.25	0.625	3.118	0.200	2.744	4.391	1.098	0.150	0.400	0.800	2.000	0.800	3.600

d_{50} = 100mm

Note: All channels are to have min 0.15 freeboard. All chutes are to have minimum 0.15m freeboard. All sediment basin spillways are to have 0.3m minimum freeboard. Overall dimensions does not include any required earth bunds

Mount Fullstop Quarry

IFD

Return	A	B	C	D	E	F	G
1	3.554515	-6.38E-01	-1.15E-01	9.51E-03	8.05E-03	-5.63E-04	-1.64E-04
2	3.78817	-6.35E-01	-1.09E-01	9.26E-03	7.54E-03	-5.33E-04	-1.56E-04
5	3.989628	-6.26E-01	-9.12E-02	8.70E-03	5.93E-03	-4.37E-04	-1.29E-04
10	4.084778	-6.23E-01	-8.17E-02	8.78E-03	5.02E-03	-4.27E-04	-1.06E-04
20	4.203999	-6.20E-01	-7.38E-02	9.04E-03	4.20E-03	-4.51E-04	-7.86E-05
50	4.338694	-6.16E-01	-6.52E-02	8.87E-03	3.40E-03	-4.16E-04	-6.24E-05
100	4.428603	-6.13E-01	-5.93E-02	8.69E-03	2.87E-03	-3.88E-04	-5.29E-05

Duration (Hours)	1 Year	2 Years	5 Years	10 Years	20 Years	50 Years	100 Years	Duration (Mins)
0.083	100	128	162	181	207	241	266	5.0
0.100	93	119	151	169	193	225	249	6.0
0.167	78	100	126	140	160	185	205	10.0
0.333	61.4	78	96	106	120	138	152	20.0
0.500	51.4	65.0	80	88	99	114	124	30.0
1.000	35.0	44.2	54.0	59.4	67.0	77	84	60.0
2.000	21.4	27.1	33.6	37.3	42.2	48.6	53.5	120.0
3.000	15.4	19.7	24.8	27.7	31.5	36.6	40.4	180.0
6.000	8.7	11.2	14.5	16.4	18.9	22.3	24.8	360.0
12.000	5.04	6.56	8.7	9.9	11.5	13.7	15.4	720.0
24.000	3.12	4.07	5.41	6.21	7.25	8.6	9.7	1440.0
48.000	1.97	2.56	3.39	3.89	4.53	5.39	6.06	2880.0
72.000	1.41	1.84	2.44	2.81	3.29	3.92	4.42	4320.0
120.000	0.77	1.01	1.38	1.62	1.95	2.36	2.68	7200.0

Calculated t_c		Intensity (mm/hr)							
minutes	Hours	1 Year	2 Years	5 Years	10 Years	20 Years	50 Years	100 Years	
27.0	0.45	54	68	84	93	104	120	131	SB
29.8	0.50	52	65	80	88	99	114	125	DC1
30.1	0.50	51	65	80	88	99	113	124	DC2
31.4	0.52	50	64	78	86	97	111	121	DC3
20.3	0.34	61	77	95	106	119	137	151	CH1

APPENDIX C

INSPECTION CHECK LIST

Site Inspection Checklist

Inspection Date:	Inspection by:		Location: Mount Fullstop Quarry	
Structure	**Status** W – Working R – Requires repairs M – Requires maintenance D – Requires redesign N – Not applicable	**Urgency** U – Urgent M – Maintenance Y – Yearly shutdown	**Action required**	**Action completion date/ details**
Diversion Drain 1 (DD1) Catchment				
Diversion bank and channel around the perimeter				
Diversion bank around the stockpile area/processing area				
Clean water diversion drain at bottom of haul road				
Rubbish/waste around the site				
Haul road				

Structure	Status	Urgency	Action required	Action completion date/ details
Diversion Drain 2 (DD2) Catchment				
Diversion bank and channel around the perimeter				
Diversion bank around the stockpile area/processing area				
Rubbish/waste around the site				
Diversion Drain 2 (DD2) Catchment				
Diversion bank and channel around the perimeter				
Diversion bank around the stockpile area/processing area				
Clean water diversion at top of catchment				
Rubbish/waste around the site				

Structure	Status	Urgency	Action required	Action completion date/ details
Sediment Basin (SB)				
Sediment basin				
Release structures (Spillway, emergency spillway, outlet dissipation)				
Visual quality of water in pond: **a. Other comments** **b. Colour** **c. Smell** **d. Volume (%)** **e. Flora Present** **f. Fauna Present**				
Perimeter bank				
Clean water diversion around basin				
Rubbish/waste around the site				
Maintenance track				

Structure	Status	Urgency	Action required	Action completion date/ details
General				
Weeds infestations or unidentified plants				
Waste volumes on site: **a. used oil** **b. used tyres** **c. steel** **d. general waste**				
Evidence of unauthorised entry onto site				
Signage at entrance to quarry site				
Other Comments				

APPENDIX D

SOIL/WATER SOLUTION PROCEDURE, JAR TEST PROCEDURE, FLOC PERFORMANCE REPORT, SEDIMENT BASIN PERFORMANCE REPORT

Soil / water solution procedure

1. Obtain a soil sample from representative soils to be exposed during the life cycle of the sediment basin. Where multiple soil types are likely to be encountered within the life cycle of the basin, jar test should be undertaken for the range of soil types.
2. Crush the soil (id dry) and shake through a 2mm sieve to remove any excess coarse material.
3. Place approximately 100 grams of soil into 10 litres of water. Ensure the water has the same temperature as the expected water temperature within the sediment basin during the settling phase.
4. Stir rapidly until soil particles are suspended.
5. Leave solution for 10 minutes.
6. Stir rapidly to resuspend any settled material.
7. Decant into beaker.

Jar testing procedure

1. Fill the appropriate number of (matched) 1000mL transparent beakers wit hwell mixed test water, using a 1000mL graduate. Adjust the water temperature to an appropriate value representative of the expected sediment basin water temperature. Record starting pH, temperature and turbidity.
2. Place the filled beaker on the gang stirrer, with the paddles positioned identically in each beaker.
3. Mix the beakers at 40-50 rpm for 30 seconds. Discontinue mixing until coagulant or flocculant addition is completed.
4. Leave the first beaker as a control and add increasing dosages of the first coagulant/ flocculant to subsequent beakers. Inject coagulant/ flocculant solution as quickly as possible, below the liquid level and about halfway between the stirrer shaft and the beaker wall.
5. Increase the mixing speed to 100-125 rpm for 15-30 seconds (rapid mix).
6. Reduce the mixing to 40 rpm and continue the slow mix for up to 5 minutes.
7. Turn the mixer off and allow settling to occur.
8. After settling for a period of time, note clarity and record on Floc Performance Report. Record pH and turbidity.
9. Remove the jars from the gang stirrer, empty the contents and thoroughly clean the beakers.
10. Repeat the procedure as required for different chemicals, dose rates or soil/water mixtures.

Floc Performance Report

BASIN IDENTIFICATION CODE/NUMBER: .....

SITE / PROJECT: .....

PREPARED BY: ..... **DATE:** .....

Chemical name:	Soil description:					
Dose rate:	0.00 Control					
Starting pH						
Starting turbidity						
Clarity[1] after 5 mins (mm)						
Clarity[1] after 15 mins (mm)						
Clarity[1] after 30 mins (mm)						
Clarity[1] after 60 mins (mm)						
Final pH						
Final turbidity						

Chemical name:	Soil description:					
Dose rate:	0.00 Control					
Starting pH						
Starting turbidity						
Clarity[1] after 5 mins (mm)						
Clarity[1] after 15 mins (mm)						
Clarity[1] after 30 mins (mm)						
Clarity[1] after 60 mins (mm)						
Final pH						
Final turbidity						

Note:

[1] For the purposes of a floc report, 'clarity' is defined as a level of turbidity that is likely to meet discharge requirements at a depth from the water level surface in the beaker. Clarity can be estimated visually or with the use of a turbidity meter.

BASIN PERFORMANCE REPORT

Site / basin identification: _____ Inspector: _____

Date / time: _____ Recent rainfall: _____

Water quality in basin: NTU: _____ pH: _____ Water level in basin: _____

Issue Item		Potential Issue / Action Required (Y/N)	Comments/Action Undertaken
Inflow channel	Channel/pipe overtopped		
	Scour in channel		
	Chemical not mixing with inflow runoff		
	Catchment bypassing channel		
	Lateral inflow to main basin cell		
	Other		
Chemical & dosing	Chemical not working		
	No dosing		
	Incorrect dose rate		
	Other		
Fore bay	Sediment re-suspension		
	Other		
Level spreader	Concentrated flow over level spreader		
	Scour on backside of level spreader		
	Other		

Issue Item		Potential Issue / Action Required (Y/N)	Comments/Action Undertaken
Settling pond	Flow short circuiting in main basin		
	Erosion on side of basin batters		
	Other		
In-line baffles	Flow concentrating to one side of baffle		
	Flow conveyed over the top of the baffle		
	Flow restricted through baffle too much		
	Flow passes through baffle too quickly		
	Other		
Decant system	Decant sinks below surface		
	Decant raised above water level		
	Decant dropped on one side		
	Decant blocked		
	Decants concentrating flow in basin		
	Other		
Emergency spillway	Concentrated flow on spillway		
	Spillway too low		
	Spillway too high		
	Other		
Other General Comments			

Refer to troubleshooting guide (Table B43) for details on potential remediation for issue items.

MILFORD PLANNING

Appendix 7

Site Classification

And

Wastewater Management System

For

Bolwarra Enterprises

At

50186 Gregory Development Road

Greenvale

Postal address: Earth Test, PO Box 1042, Tolga, Qld 4882. Phone: 4095 4734
e-mail: info@earthtest.com.au

INTRODUCTION:

Earth Test has been engaged by Bolwarra Enterprises to assess, design and report on Site Classification and a Domestic Wastewater Management System at 50186 Gregory Development Road, Greenvale.
Real Property Description:-
Lot 4844, on PH1679
Local Authority: Charters Towers Regional Council.
It is understood the intention is to construct a workers camp at the site.
A site and soil evaluation was carried out in December 2025.

SITE FACTORS:

The site was identified by the sites address, a photo was taken to confirm the sites identity.
The location of the proposed camp was identified.
The lot has an area of 63200 hectares and is covered with short grass and scattered established trees. The water supply for the site will be from a future bore onsite.
Two Dynamic Cone Penetrometer tests were performed at locations DCP1 and DCP2, two boreholes BH1 and BH2 and one constant head soil permeability test P1 as shown on the site plan.
Atterberg Limits tests were performed on a disturbed sample from Borehole1.

Site testing at 50186 Gregory Development Road, Greenvale.

SITE INVESTIGATION REPORT

BOREHOLE LOG

CLIENT: Bolwarra Enterprises **PROJECT:** 50186 Gregory Development Road, Greenvale. **REPORT DATE:** 21/12/2025	**DATE SAMPLED:** 12/12/2025 **Sampled by:** G. Negri

BOREHOLE No: BH1

DEPTH (m)	DESCRIPTION	COMMENTS
0.0-0.6	CLAY, Black, Dry	Watertable not encountered.
0.6	Refusal	

BOREHOLE No: BH2

DEPTH (m)	DESCRIPTION	COMMENTS
0.0-0.8	CLAY, Black, Dry	Disturbed sample 0.6-0.8m.
0.8	Refusal	Water table not encountered

ATTERBERG LIMITS TEST REPORT

CLIENT: Bolwarra Enterprises

PROJECT: 50186 Gregory Development Road, Greenvale

SAMPLE DETAILS: BH2 0.6-0.8m

REPORT DATE: 21/12/2025

SAMPLE No: SI 1062-25

DATE SAMPLED: 12/12/2025

Sampled by: G. Negri

Tested By: D. Vije

TEST METHOD	RESULT
Liquid Limit: AS 1289.3.1.2	81%
Plastic Limit: AS 1289.3.2.1	32%
Plasticity Index: AS 1289.3.3.1	49%
Linear Shrinkage: AS 1289.3.4.1	13.5%
Length Of Mould:	125mm
Cracking, Crumbling, Curling, Number Of Breaks:	Curled
Sample History:	Oven Dried
Preparation Method:	Dry Sieved
Insitu Moisture Content:	14.7%
% Passing 0.075mm:	

DYNAMIC CONE PENETROMETER REPORT
AS 1289.6.3.2

CLIENT: Bolwarra Enterprises.

PROJECT: 50186 Gregory Development Road, Greenvale.

SAMPLE DETAILS: Sites "DCP1 & DCP2." as per site plan.

REPORT DATE: 21/12/2025

SAMPLE No: SI 1062-25

DATE SAMPLED: 12/12/2025

Tested By: G. Negri
.

DEPTH (Metres)	Site: DCP1	Site: DCP2
	No Blows	No Blows
0.0 – 0.1	5	4
0.1 – 0.2	7	4
0.2 – 0.3	8	9
0.3 – 0.4	9	15
0.4 – 0.5	22/80mm	19
0.5 – 0.6		18
0.6 – 0.7		20/50mm
0.7 – 0.8		
0.8 – 0.9		
0.9 – 1.0		
1.0 – 1.1		
1.1 – 1.2		
1.2 – 1.3		
1.3 – 1.4		
1.4 – 1.5		
1.5 – 1.6		
1.6 – 1.7		
1.7 – 1.8		
1.8 – 1.9		
1.9 – 2.0		

SITE CLASSIFICATION

50186 Gregory Development Road, Greenvale.

The Dynamic Cone Penetrometer test results indicate adequate allowable bearing pressure to 1.0m.

The Atterberg Limits test results indicate a highly reactive soil.

The characteristic surface movement (y_s) is estimated to be in the $40 < y_s \leq 60$mm range. According to TABLE 2.3 of AS 2870-2011 the site must be classified **CLASS-"H1".**

To comply with the "Building Services Board Subsidence Policy" advice should be sought from a Registered Professional Engineer for footing design.

All site works must be carried out in accordance with AS 3798-2007 "Guidelines on earthworks for commercial and residential developments"

If the depth of any cut exceeds 0.5m or uncontrolled fill exceeds 0.4m the classification shall be reconsidered.

Because this investigation is limited in scope and extent, it is possible that areas may exist which differ from those shown on the test hole records and used in the site classification. Should any variation from the reported conditions be encountered during excavation work, this office must be notified immediately so that reappraisal of the classification can be made.

Gavin Negri
Earth Test

SITE AND SOIL EVALUATION

50186 Gregory Development Road, Greenvale.

The site and soil evaluation carried out on 12/12/2025 provided the following results.

Site Assessment

Site Factor	Result
Slope	Level at Pad
Shape	Linear Planar
Aspect	Nil
Exposure	Moderate
Erosion/land slip	Not noted.
Boulders/rock outcrop	Extensive surface cobbles/boulders.
Vegetation	Grass and established trees
Watercourse	>50m from LAA
Water table	Not encountered during investigation.
Fill	None.
Flooding	Not likely.
Channelled run-off	Not found
Soil surface conditions	Firm, Dry
Other site specific factors	Not noted

Soil Assessment

Soil Property	Result
Colour	Black-Brown
Texture	Medium Clay
Structure	Weak structured
Coarse Fragments	<2%
Measured Permeability Ksat (m/d)	Indicative Permeability 0.06-0.12
Dispersion	Slakes
Soil Category	5
Resultant Design Load Rating, DLR (mm/d)	8

WASTEWATER MANAGEMENT SYSTEM

An “All-Waste” septic tank discharging into conventional trenches is considered suitable for this site.

This system has been designed to conform to the requirements of the following codes, acts, regulations and standards. All work to be carried out in accordance with the following codes.

- AS/NZ 1547:2012 On-site domestic-wastewater management.
- Queensland PLUMBING AND DRAINAGE ACT 2018.
- Queensland STANDARD PLUMBING AND DRAINAGE REGULATION 2019.
- Queensland PLUMBING AND WASTEWATER CODE.

SYSTEM SIZING FACTORS.

A population equivalent of five (5) persons has been chosen for the proposed camp.

Standard water-reduction fixtures must be used to ensure the integrity of the system.
They shall include:-

- Dual flush 6/3 litre water closets.
- Shower-flow restrictors.
- Aerator faucets (taps).
- Water-conserving automatic washing machines.

Note: - Garbage grinders are not permitted.

The water supply for the site will be from a future bore.

As per AS/NZ 1547:2012 Appendix H, Table H1 the “Typical wastewater design flow” for a “Reticulated water supply” gives a flow allowance of 150 L/Person/day.

The daily flow for the dwelling (5 persons @ 150 L/person/day) will be 750 L/day.

From AS/NZ 1547:2012 Table J1 the minimum capacity of the All-Waste septic tank required is 3000 L.

The tank must be fitted with an effective outlet filter.

LAND-APPLICATION SYSTEM

DISPOSAL AREA SIZING

From AS/NZ 1547:2012 APPENDIX L, L4 DESIGN AREA SIZING, L4.2 Sizing

L = Q / (DLRxW)

Where:

L = length in m
Q = design daily flow in L/day
DLR = Design Loading Rate in mm/d
W = Width in m

L = 750/8*2.0
= 46.9m

Use two 23m long by 2.0m wide conventional beds for land application area.
See detail cross-section.
1kg gypsum per m² shall be applied to the base before laying the aggregate

SYSTEM INSTALLATION

Avoid compaction by keeping people and machinery off the finished trench or bed floor. The Land Application Area is not able to withstand traffic and must not be driven on. The system shall be installed by a licensed plumber in accordance with the manufacturer's recommendations, local government requirements and the relevant Australian Standards.

Operation and Maintenance

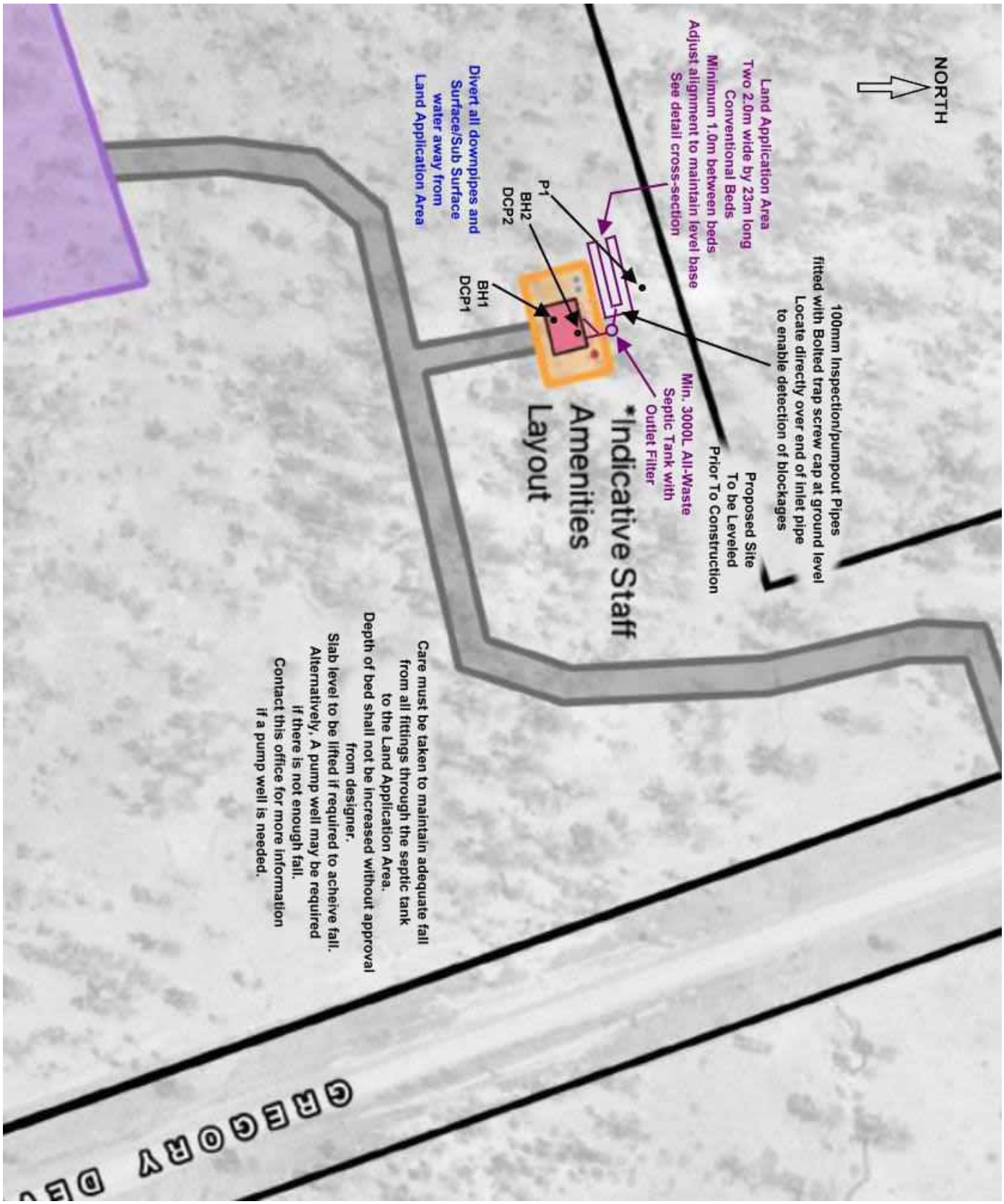
Homeowners should be fully informed of the proper operation and maintenance requirements of the on-site wastewater system.

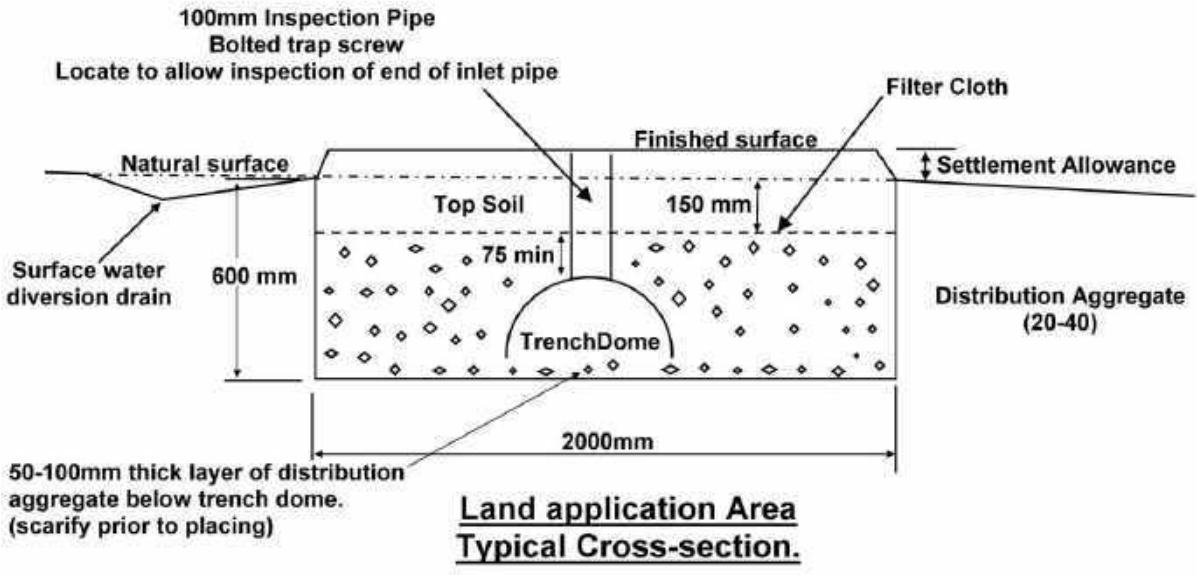
Gavin Negri
Earth Test

SITE PLAN

NOT TO SCALE

50186 Gregory Development Road, Greenvale.





Land application Area
Typical Cross-section.

Land Application Area
Typical Plan

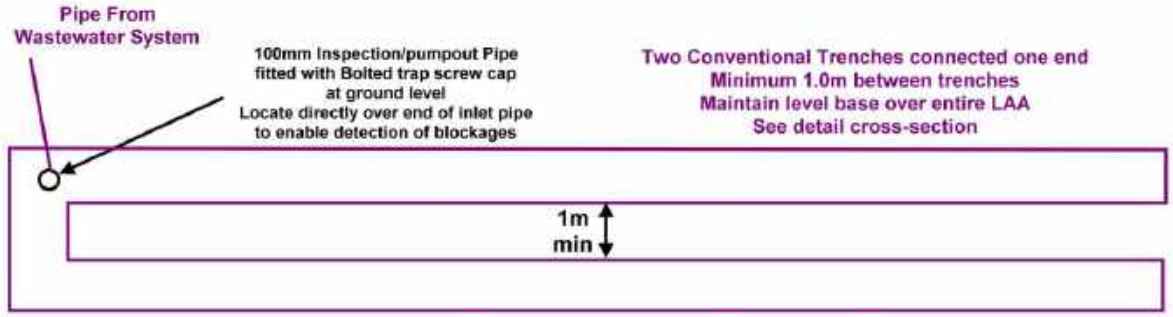


Table T2 – Setback distances for subsurface land application area for a greywater treatment plant or an on-site sewage treatment plant

Feature	Horizontal separation distance❶		
	Up slope	Down slope	Level
Property boundaries, pedestrian paths, walkways, recreation areas, retaining wall, and footings for buildings and other structures.	2	4	2
Inground swimming pools	6	6	6
Inground potable water *tank* not exposed to primary effluent	6	6	6
Inground potable water *tank* exposed to primary effluent	15	15	15

❶ Distances are given in metres and are measured from the edge of trench/bed excavation or subsurface irrigation distribution pipework to the nearest point of the feature

Table T5 - Setback distances for on-site sewerage facilities and greywater use facilities - Protection of surface water and groundwater.

Feature	Separation distance ❶		
For onsite – see Table 2.1 in AS 1546.3			**Primary❷**
For *greywater* – see Table 2.1 in AS 1546.4			**Untreated**
Top of bank of permanent water course			50
Top of bank of intermittent water course			
Top of bank of a lake, bay or estuary			
Top water level of a surface water source used for agriculture, aquaculture or stock purposes			
Open stormwater drainage channel or drain			
Bore or a dam			
Unsaturated soil depth to a permanent water table (vertically)			1.2

❶ Distances are given in metres and are measured from the edge of the irrigated wetted area to any point of the feature.

❷ Note: Primary effluent typically has a (BOD^5) (Biochemical Oxygen Demand) of between 120 -240 mg/L and Total Suspended Solids of between 65 -180 mg/L.