

# DA Form 1 – Development application details

Approved form (version 1.3 effective 28 September 2020) 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)	Kate Agrums
Contact name (only applicable for companies)	c/- GMA Certification, Patrick Clifton
Postal address (P.O. Box or street address)	PO Box 831
Suburb	Port Douglas
State	QLD
Postcode	4877
Country	Australia
Contact number	0438 755 374
Email address (non-mandatory)	Patrick.c@gmacert.com.au
Mobile number (non-mandatory)	0438 755 374
Fax number (non-mandatory)	
Applicant's reference number(s) (if applicable)	20210602

2) Owner's consent	
2.1) Is written consent of the owner required for this development application?	
<input type="checkbox"/> Yes – the written consent of the owner(s) is attached to this development application	
<input checked="" type="checkbox"/> 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
		30	Murphy Street	Port Douglas
	Postcode	Lot No.	Plan Type and Number (e.g. RP, SP)	Local Government Area(s)
	4877	1	RP729453	Douglas Shire Council
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)
		<input type="checkbox"/> WGS84 <input type="checkbox"/> GDA94 <input type="checkbox"/> Other:	

- ☐ Coordinates of premises by easting and northing

Easting(s)	Northing(s)	Zone Ref.	Datum	Local Government Area(s) (if applicable)
		<input type="checkbox"/> 54 <input type="checkbox"/> 55 <input type="checkbox"/> 56	<input type="checkbox"/> WGS84 <input type="checkbox"/> GDA94 <input type="checkbox"/> 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:

<input type="checkbox"/> Listed on the Environmental Management Register (EMR) under the <i>Environmental Protection Act 1994</i>
EMR site identification: <input type="text"/>
<input type="checkbox"/> Listed on the Contaminated Land Register (CLR) under the <i>Environmental Protection Act 1994</i>
CLR site identification: <input type="text"/>

**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):*

Driveway construction

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

## Section 2 – Further development details

7) Does the proposed development application involve any of the following?	
Material change of use	<input type="checkbox"/> Yes – complete division 1 if assessable against a local planning instrument
Reconfiguring a lot	<input type="checkbox"/> Yes – complete division 2
Operational work	<input checked="" type="checkbox"/> Yes – complete division 3
Building work	<input type="checkbox"/> Yes – complete <i>DA Form 2 – Building work details</i>

### 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 <sup>2</sup> ) (if applicable)
8.2) Does the proposed use involve the use of existing buildings on the premises?			
<input type="checkbox"/> Yes			
<input type="checkbox"/> No			

### 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)	
<input type="checkbox"/> Subdivision (complete 10))	<input type="checkbox"/> Dividing land into parts by agreement (complete 11))
<input type="checkbox"/> Boundary realignment (complete 12))	<input type="checkbox"/> 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?				
<input type="checkbox"/> Yes – provide additional details below				
<input type="checkbox"/> 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 <sup>2</sup> )	Lot on plan description	Area (m <sup>2</sup> )
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?	
<input type="checkbox"/> Road work <input type="checkbox"/> Drainage work <input type="checkbox"/> Landscaping <input type="checkbox"/> Other – please specify:	<input type="checkbox"/> Stormwater <input checked="" type="checkbox"/> Earthworks <input type="checkbox"/> Signage Driveway Construction
<input type="checkbox"/> Water infrastructure <input type="checkbox"/> Sewage infrastructure <input type="checkbox"/> Clearing vegetation	
14.2) Is the operational work necessary to facilitate the creation of new lots? (e.g. subdivision)	
<input type="checkbox"/> Yes – specify number of new lots:	
<input checked="" type="checkbox"/> No	
14.3) What is the monetary value of the proposed operational work? (include GST, materials and labour)	
\$TBC	

## PART 4 – ASSESSMENT MANAGER DETAILS

15) Identify the assessment manager(s) who will be assessing this development application
Douglas Shire Council
16) Has the local government agreed to apply a superseded planning scheme for this development application?
<input type="checkbox"/> Yes – a copy of the decision notice is attached to this development application <input type="checkbox"/> The local government is taken to have agreed to the superseded planning scheme request – relevant documents attached <input checked="" type="checkbox"/> 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
- ☐ 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*)

<input type="checkbox"/> Heritage places – Local heritage places
Matters requiring referral to the <b>Chief Executive of the distribution entity or transmission entity:</b>
<input type="checkbox"/> Infrastructure-related referrals – Electricity infrastructure
Matters requiring referral to:
<ul style="list-style-type: none"> <li>• The <b>Chief Executive of the holder of the licence</b>, if not an individual</li> <li>• The <b>holder of the licence</b>, if the holder of the licence is an individual</li> </ul>
<input type="checkbox"/> Infrastructure-related referrals – Oil and gas infrastructure
Matters requiring referral to the <b>Brisbane City Council:</b>
<input type="checkbox"/> Ports – Brisbane core port land
Matters requiring referral to the <b>Minister responsible for administering the <i>Transport Infrastructure Act 1994</i>:</b>
<input type="checkbox"/> Ports – Brisbane core port land <i>(where inconsistent with the Brisbane port LUP for transport reasons)</i>
<input type="checkbox"/> Ports – Strategic port land
Matters requiring referral to the <b>relevant port operator</b> , if applicant is not port operator:
<input type="checkbox"/> Ports – Land within Port of Brisbane's port limits <i>(below high-water mark)</i>
Matters requiring referral to the <b>Chief Executive of the relevant port authority:</b>
<input type="checkbox"/> Ports – Land within limits of another port <i>(below high-water mark)</i>
Matters requiring referral to the <b>Gold Coast Waterways Authority:</b>
<input type="checkbox"/> Tidal works or work in a coastal management district <i>(in Gold Coast waters)</i>
Matters requiring referral to the <b>Queensland Fire and Emergency Service:</b>
<input type="checkbox"/> Tidal works or work in a coastal management district <i>(involving a marina (more than six vessel berths))</i>

<b>18) Has any referral agency provided a referral response for this development application?</b>		
<input type="checkbox"/> Yes – referral response(s) received and listed below are attached to this development application		
<input type="checkbox"/> 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 <i>(if applicable)</i> .		

## PART 6 – INFORMATION REQUEST

<b>19) Information request under Part 3 of the DA Rules</b>
<input checked="" type="checkbox"/> I agree to receive an information request if determined necessary for this development application
<input type="checkbox"/> I do not agree to accept an information request for this development application
<b>Note:</b> By not agreeing to accept an information request I, the applicant, acknowledge: <ul style="list-style-type: none"> <li>• 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</li> <li>• Part 3 of the DA Rules will still apply if the application is an application listed under section 11.3 of the DA Rules.</li> </ul> Further advice about information requests is contained in the <a href="#">DA Forms Guide</a> .

## 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
<input type="checkbox"/> Approval <input type="checkbox"/> Development application			
<input type="checkbox"/> Approval <input type="checkbox"/> 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](http://www.qld.gov.au). An ERA requires an environmental authority to operate. See [www.business.qld.gov.au](http://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 69: Notification of a facility exceeding 10% of schedule 15 threshold is attached to this development application  
☒ No

**Note:** See [www.business.qld.gov.au](http://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](http://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.des.qld.gov.au](http://www.des.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 Natural Resources, Mines and Energy at [www.dnrme.qld.gov.au](http://www.dnrme.qld.gov.au) for further information.

DA templates are available from <https://planning.dsdmp.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 Form 1 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 <https://planning.dsdmp.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](http://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 Natural Resources, Mines and Energy at [www.dnrme.qld.gov.au](http://www.dnrme.qld.gov.au) and [www.business.qld.gov.au](http://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 and Science at [www.des.qld.gov.au](http://www.des.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.dnrme.qld.gov.au](http://www.dnrme.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.des.qld.gov.au](http://www.des.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.des.qld.gov.au](http://www.des.qld.gov.au) for information requirements regarding development of Queensland heritage places.

Name of the heritage place:		Place ID:	
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### **Brothels**

23.14) Does this development application involve a **material change of use for a brothel**?

- ☐ Yes – this development application demonstrates how the proposal meets the code for a development application for a brothel under Schedule 3 of the *Prostitution Regulation 2014*  
☒ No

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

23.15) 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

23.16) 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.dsdmip.qld.gov.au](http://www.planning.dsdmip.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

☒ Yes

**Note:** See the Planning Regulation 2017 for referral requirements

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	



GMA Certification  
Group

*Leaders in  
Building Certification Services*



## **PLANNING STATEMENT**

---

For: Kate Agrums  
Development: Operational Works (Driveway)  
At: 30 Murphy Street, Port Douglas (Lot 1 RP729453)  
Prepared by: GMA Certification Group  
File Ref: 20210602  
Revision: A

# Table of Contents

1.0	Introduction.....	3
2.0	Development Summary .....	4
3.0	Site and Locality .....	6
4.0	Proposal .....	7
5.0	Statutory Planning Considerations.....	8
5.1	Planning Act 2016 .....	8
5.1.1	Categorisation of Development .....	8
5.1.2	Assessment Manager .....	8
5.1.3	Level of Assessment .....	8
5.1.4	Statutory Considerations for Assessable Development.....	8
5.1.5	State Planning Policy .....	8
5.1.6	Regional Plan.....	9
5.1.7	Referral Agencies .....	9
5.1.8	State Development Assessment Provisions .....	9
6.0	Local Planning Considerations .....	10
6.1	Douglas Shire Council Planning Scheme .....	10
6.1.1	Statement of Compliance – Benchmark Assessment .....	11
7.0	Summary and Conclusion.....	14
	Appendix 1. ....	15
	Appendix 2. ....	16
	Appendix 3. ....	17

## 1.0 Introduction

This report has been prepared on behalf of Kate Agrums in support of a Development Application to Douglas Shire Council for a Development Permit for Operational Works for the purpose of the construction of a driveway on land located at 30 Murphy Street, Port Douglas, and described as Lot 1 on RP729453.

The application site contains an area of 800m<sup>2</sup> and has frontage to Murphy Street of approximately 25 metres. The land is currently vacant and is covered with dense vegetation with a topography that slopes from the north to the Murphy Street frontage to the south and with a fall of approximately 10 metres over the 30 metre depth of the site. An existing building pad has historically been created in the western side of the site. It is understood that this was created at the time of the original subdivision. Access to the site is obtained by a shared driveway within the road reserve that also provides access to the lots to the east and west.

The area surrounding the site is characterised by large single detached dwelling to the north and vacant hillside allotment to the east and west. To the south, on the opposite side of Murphy Street are multiple dwelling developments.

A significant overland flow path is located immediately adjacent the eastern side boundary of the site. This drainage path has recently been augmented by the council following a recent and significant rain event that caused sedimentation issues within the Murphy Street road reserve.

It is proposed to establish a driveway access to the existing house pad and to undertake earthworks to improve the house pad to facilitate the construction of a dwelling in the near future. The driveway would be located adjacent the existing overland flow path and would connect to the existing concrete driveway from Murphy Street. The driveway would traverse the length of the site and would terminate at the northern end of the existing house pad.

The application is identified as being Code Assessable and consideration can only be given to the applicable planning Assessment Benchmarks contained in the Douglas Shire Planning Scheme.

The proposed development is considered to be consistent with the Assessment Benchmarks contained within the Planning Scheme and is able to be accommodated on the site without adverse impact on the amenity of the area or the stability of the site.

The application is submitted for approval, subject to reasonable and relevant conditions.

## 2.0 Development Summary

<b>Address:</b>	30 Murphy Street, Port Douglas
<b>Real Property Description:</b>	Lot 1 RP729453
<b>Easements &amp; Encumbrances:</b>	Nil
<b>Site Area/Frontage:</b>	Area: 800m <sup>2</sup> Frontage: 25 metres
<b>Registered Owner:</b>	Kate Agrums
<b>Proposal:</b>	Operational Works (Driveway)
<b>Approval Sought:</b>	Development Permit
<b>Level of Assessment:</b>	Code Assessment
<b>State Interests – State Planning Policy</b>	<ul style="list-style-type: none"> <li>• Environment and Heritage:               <ul style="list-style-type: none"> <li>○ MSES – Wildlife Habitat (endangered or vulnerable);</li> <li>○ MSES – Wildlife Habitat (special least concern animal);</li> <li>○ MSES Regulated Vegetation (Category B);</li> <li>○ MSES Regulated Vegetation (essential Habitat); and,</li> </ul> </li> <li>• Safety and Resilience to Hazards – Bushfire Prone Area – Very High Potential Bushfire Intensity.</li> </ul>
<b>State Interests – SARA Mapping:</b>	<ul style="list-style-type: none"> <li>• Native Vegetation Clearing:               <ul style="list-style-type: none"> <li>○ Category A containing of concern regional ecosystems on the Regulated Vegetation Management Map; and,</li> <li>○ Essential Habitat.</li> </ul> </li> </ul>
<b>Referral Agencies:</b>	Nil (Exempt Clearing Work – Schedule 21, Part 1 1 (1) (b) , <i>Planning Regulations 2017</i> )
<b>State Development Assessment Provisions:</b>	Not applicable
<b>Regional Plan Designation:</b>	Urban Footprint
<b>Zone:</b>	Environmental Management Zone

**Local Plan Designation:**

Port Douglas Craiglie Local Plan, Precinct  
1f – Flagstaff Hill.

---

**Overlays:**

- Bushfire Hazard Overlay – Very High Potential Bushfire Intensity;
  - Hillslopes Overlay – Hillslopes Area;
  - Landscape Values Overlay – High Landscape Value & Scenic Buffer Area; and,
  - Potential Landslide Hazard Overlay – High and Medium Hazard Risk.
-

### 3.0 Site and Locality

The application site is a single residential allotment located at 30 Murphy Street, Port Douglas, and described as Lot 1 on RP729453. The site contains an area of 800m<sup>2</sup> and has frontage to Murphy Street of approximately 25 metres.

The site is a vacant site and is covered with dense vegetation with a topography that slopes from the north to the Murphy Street frontage to the south and will a fall of approximately 10 metres over the 30 metre depth of the site. An existing building pad has historically been created in the western side of the site. It is understood that this was created at the time of the original subdivision; however, the stability of this pad is not known. Access to the site is obtained by a shared driveway within the road reserve that also provides access to the lots to the east and west.

The area surrounding the site is characterised by large single detached dwelling to the north and vacant hillside allotment to the east and west. To the south, on the opposite side of Murphy Street are multiple dwelling developments.

A significant overland flow path is located immediately adjacent the eastern side boundary of the site. This drainage path has recently been augmented by the council following a recent and significant rain event that caused sedimentation issues within the Murphy Street road reserve.

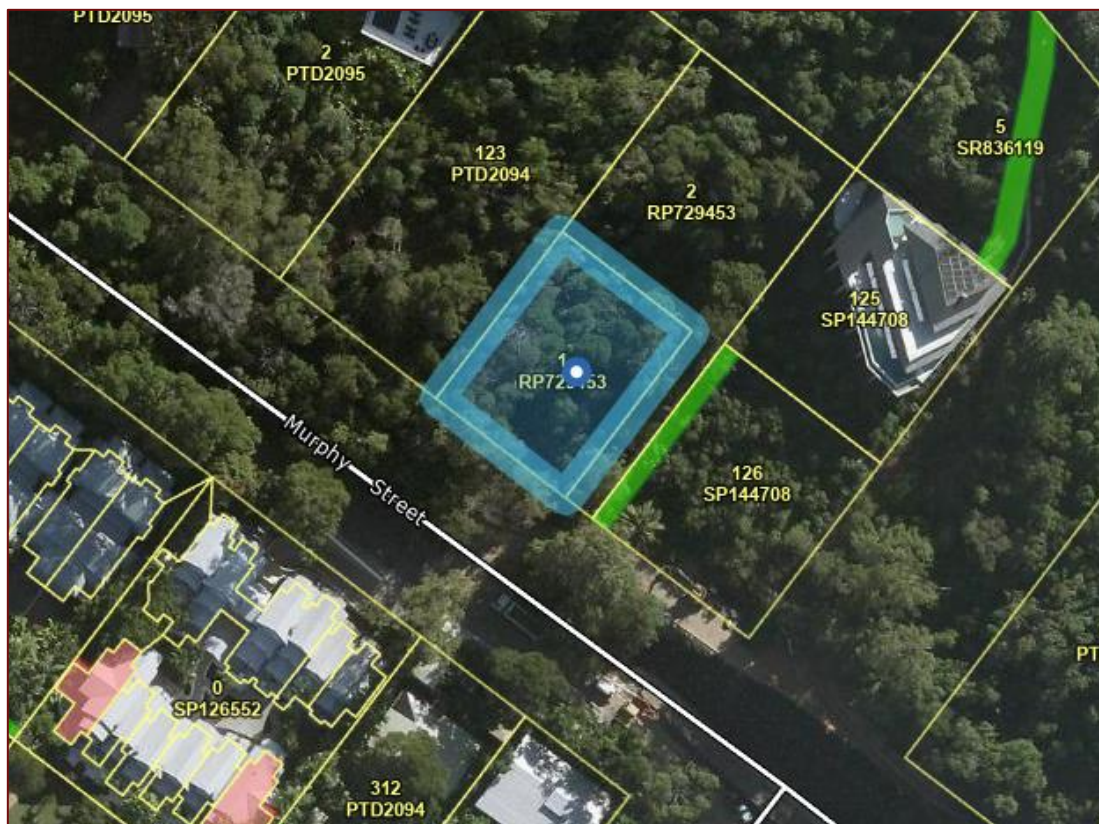


Photo 1 – Site Location (Source Queensland Globe)

## 4.0 Proposal

It is proposed to establish a driveway access to the existing house pad and to undertake earthworks to improve the house pad to facilitate the construction of a dwelling in the near future. The driveway would be located adjacent the existing overland flow path and would connect to the existing concrete driveway from Murphy Street. The driveway would traverse the length of the site and would terminate at the northern end of the existing house pad.

The driveway would be a concrete driveway established on a benched area created through a cut and fill exercise. Where required, the cut would be retained through the use of gabion baskets that have been engineer designed and determined to be suitable following a detailed geotechnical analysis.

The design of the driveway would enable vehicles to safely access and exit the site in a forward gear. To facilitate the driveway, an existing tree adjacent the overland flow path would need to be removed and works would be required within the elevated portion of the Murphy Street Road Reserve.

Proposal Plans and the geotechnical assessment and report are attached at **Appendix 2**.

## 5.0 Statutory Planning Considerations

This section provides a summary of the legislative framework affecting the application pursuant to the Planning Act 2016.

### 5.1 Planning Act 2016

#### 5.1.1 Categorisation of Development

The proposed development is not identified as prohibited development having regard to the relevant instruments that can prohibit development under the *Planning Act 2016*, including

- Schedule 10 of the Planning Regulations 2017
- Relevant Categorising Instruments.

The development is made assessable under the Douglas Shire Council Planning Scheme, which is a categorising instrument for the purpose of s43 of the *Planning Act 2016*.

#### 5.1.2 Assessment Manager

Pursuant to Schedule 8 of the *Planning Regulations 2017*, the Assessment Manager for the application is the Douglas Shire Council.

#### 5.1.3 Level of Assessment

The application involves operational works. The table below identifies the level of assessment and the categorising section of the Douglas Shire Council Planning Scheme.

Development	Categorising Section	Level of Assessment
Operational Works (driveway)	Table 5.6.d Environmental Management Zone	Code Assessable

#### 5.1.4 Statutory Considerations for Assessable Development

As the application is subject to Code Assessment, in deciding the application pursuant to s60 of the *Planning Act 2016*, the Council, as Assessment Manager, can only have regard to the matters established in the relevant planning benchmarks.

This assessment is further discussed in Section 6.0 of this report and a detailed assessment of the proposed development against the assessment benchmarks is provided at [Appendix 3](#).

#### 5.1.5 State Planning Policy

It is understood that the Minister has identified that the State Planning Policy has been appropriately integrated into the Douglas Shire Council Planning Scheme and consequently no further assessment is required in this instance.

### **5.1.6 Regional Plan**

The application site is identified in the Urban Footprint designation of the FNQ Regional Plan. Consistent with the State Planning Policies, it is understood that the Planning Scheme has been determined to appropriately advance the Regional Plan and, on that basis, no further assessment is required in this instance.

### **5.1.7 Referral Agencies**

There are no referral agencies identified in respect of this application.

### **5.1.8 State Development Assessment Provisions**

As there are no referral agencies for the application, no State Development Assessment Provisions Apply to the assessment.

## 6.0 Local Planning Considerations

### 6.1 Douglas Shire Council Planning Scheme

Within the Douglas Shire Council Planning Scheme (2018), the site is identified within the Environmental Management Zone and the Port Douglas Craiglie Local Plan, Precinct 1f – Flagstaff Hill, and is affected by the following overlays:

- Bushfire Hazard Overlay – Very High Potential Bushfire Intensity;
- Hillslopes Overlay – Hillslopes Area;
- Landscape Values Overlay – High Landscape Value & Scenic Buffer Area; and,
- Potential Landslide Hazard Overlay – High and Medium Hazard Risk.

The Table below identifies the applicable Assessment Benchmarks contained within the Planning Scheme.

Assessment Benchmark	Applicability	Compliance
Environmental Management Zone Code	Applies	Consideration of Performance Outcome PO5 is required. refer below.
Port Douglas/Craiglie Local Plan	Applies	Complies with applicable Acceptable Outcomes and Performance Outcomes where no Acceptable Outcome is identified.
Bushfire Hazard Overlay Code	Not applicable	Not identified as an Assessment Benchmark
Hillslopes Overlay Code	Applies	Consideration is required in respect of Performance Outcome PO3. Refer below.
Landscape Values Overlay Code	Not applicable	Not identified as an Assessment Benchmark
Potential Landslide Hazard Overlay Code	Applies	Consideration is required in respect of Performance Outcome PO2. Refer below.
Environmental Performance Code	Applies	Complies or able to comply with the relevant Acceptable Outcomes.

Infrastructure Works Code	Applies	Complies or able to comply with all applicable Acceptable Outcomes.
Landscaping Code	Not applicable	No landscaping is proposed or required for the proposed operational works.

## 6.1.1 Statement of Compliance – Benchmark Assessment

### 6.1.1.1 Environmental Management Zone Code

Performance Outcome PO5 of the Environmental Management Zone Code states:

#### **PO5**

*Development is located, designed, operated and managed to respond to the characteristics, features and constraints of the site and its surrounds.*

The associated Acceptable Outcome states:

#### **AO5.2**

*Buildings and structures and associated infrastructure are not located on slopes greater than 1 in 6 (16.6%) or on a ridgeline.*

The proposed driveway alignment has been selected to achieve the least impact on the features of the site and to respond to the sites constraints. It is considered to represent the least impact option to provide suitable access to an existing house pad. On the basis that the proposed driveway design responds to the characteristics, features and constraints of the site and its surrounds, the proposed development is considered to satisfy Performance Outcome PO5 of the Environmental Management Zone Code.

### 6.1.1.2 Hillslopes Overlay Code

Performance Outcome PO3 of the Hillslopes Overlay Code states:

#### **PO3**

*Excavation or filling does not have an adverse impact on the amenity, safety, stability or function of the site or adjoining premises through:*

- (a) loss of privacy;*
- (b) loss of access to sunlight;*
- (c) intrusion of visual or overbearing impacts;*
- (d) complex engineering solutions.*

The associated Acceptable Outcome states:

### AO3

#### *Excavation or fill:*

- (a) is not more than 1.2 metres in height for each batter or retaining wall;*
- (b) is setback a minimum of 2 metres from property boundaries;*
- (c) is stepped with a minimum 2 metre wide berm to incorporate landscaping in accordance with Planning scheme policy SC6.7 – Landscaping;*
- (d) does not exceed a maximum of 3 batters and 3 berms (i.e. not greater than 3.6 metres in height) on any one lot.*

The proposed driveway would involve the construction of gabion retaining walls with a height of in the order of 1.5 metres. This exceeds the accepted height of 1.2 metres; however, the gabion walls are stepped walls with each element having a height of 0.5 metres.

The proposed walls are considered to represent the simplest engineering solution that has the least impact on the topography and the least visual impact. The walls would blend into the natural environment and would not result in an overbearing visual impact on the surrounding area. The proposed gabion walls are considered to satisfy the performance outcome, notwithstanding that they would have a height greater than the accepted 1.2 metres.

#### **6.1.1.3 Potential Landslide Hazard Overlay Code**

Performance Outcome PO2 of the Potential Landslide Hazard Overlay Code states:

### **PO2**

*The siting and design of necessary retaining structures does not cause an adverse visual impact on landscape character or scenic amenity quality of the area.*

The associated Acceptable Outcome states:

### **AO2**

#### *Excavation or fill:*

- (a) is not more than 1.2 metres in height for each batter or retaining wall;*
- (b) is setback a minimum of 2 metres from property boundaries;*
- (c) is stepped with a minimum 2 metre wide berm to incorporate landscaping in accordance with Planning scheme policy SC6.7 – Landscaping;*
- (d) does not exceed a maximum of 3 batters and 3 berms (i.e. Not greater than 3.6 metres in height) on any one lot.*

Consistent with the response to the Hillslopes Overlay Code, the proposed driveway would involve the construction of gabion retaining walls with a height of in the order of 1.5 metres. This exceeds the accepted height of 1.2 metres; however, the gabion walls

are stepped walls with each element having a height of 0.5 metres.

The proposed walls are considered to represent the simplest engineering solution that has the least impact on the topography and visual amenity of the area. The walls would blend into the natural environment and would not result in an overbearing impact on the landscape character or scenic amenity of the area. The proposed gabion walls are considered to satisfy the performance outcome, notwithstanding that they would have a height greater than the accepted 1.2 metres.

## 7.0 Summary and Conclusion

This report has been prepared on behalf of Kate Agrums in support of a Development Application to Douglas Shire Council for a Development Permit for Operational Works for the purpose of the construction of a driveway on land located at 30 Murphy Street, Port Douglas, and described as Lot 1 on RP729453.

The application site contains an area of 800m<sup>2</sup> and has frontage to Murphy Street of approximately 25 metres. The land is currently vacant and is covered with dense vegetation with a topography that slopes from the north to the Murphy Street frontage to the south and with a fall of approximately 10 metres over the 30 metre depth of the site. An existing building pad has historically been created in the western side of the site. It is understood that this was created at the time of the original subdivision. Access to the site is obtained by a shared driveway within the road reserve that also provides access to the lots to the east and west.

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The application is identified as being Code Assessable and consideration can only be given to the applicable planning Assessment Benchmarks contained in the Douglas Shire Planning Scheme. An assessment has demonstrated that the proposed development is consistent with the Assessment Benchmarks and is able to be accommodated on the site without adverse impact on the amenity of the area or the stability of the site.

The application is submitted for approval, subject to reasonable and relevant conditions.

## Appendix 1.

# CERTIFICATE OF TITLE



Department of Resources  
ABN 59 020 847 551

<b>Title Reference:</b>	<b>21019174</b>	<b>Search Date:</b>	02/06/2021 10:52
<b>Date Title Created:</b>	30/06/1976	<b>Request No:</b>	37409847
<b>Previous Title:</b>	20665056		

#### ESTATE AND LAND

Estate in Fee Simple

LOT 1 REGISTERED PLAN 729453  
Local Government: DOUGLAS

#### REGISTERED OWNER

Dealing No: 719825261 02/01/2020

KATHERINE JEAN AGRUMS

#### EASEMENTS, ENCUMBRANCES AND INTERESTS

1. Rights and interests reserved to the Crown by  
Deed of Grant No. 10366042 (ALLOT 4 SEC 12)
2. MORTGAGE No 719825262 02/01/2020 at 08:59  
AUSTRALIA AND NEW ZEALAND BANKING GROUP LIMITED A.C.N. 005  
357 522

#### ADMINISTRATIVE ADVICES

NIL

#### UNREGISTERED DEALINGS

NIL

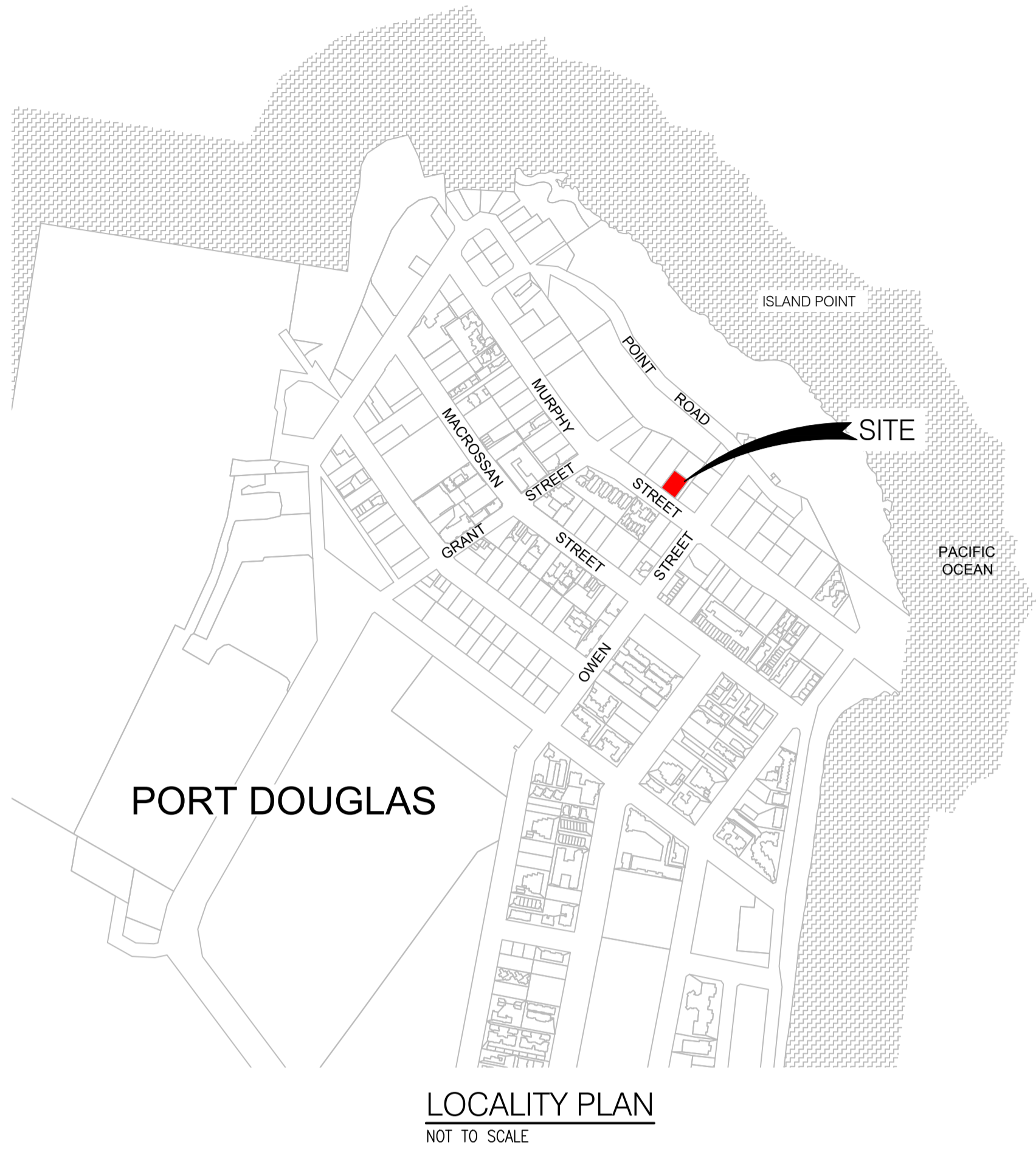
Caution - Charges do not necessarily appear in order of priority

\*\* End of Current Title Search \*\*

## Appendix 2.

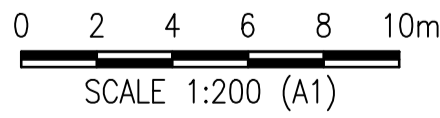
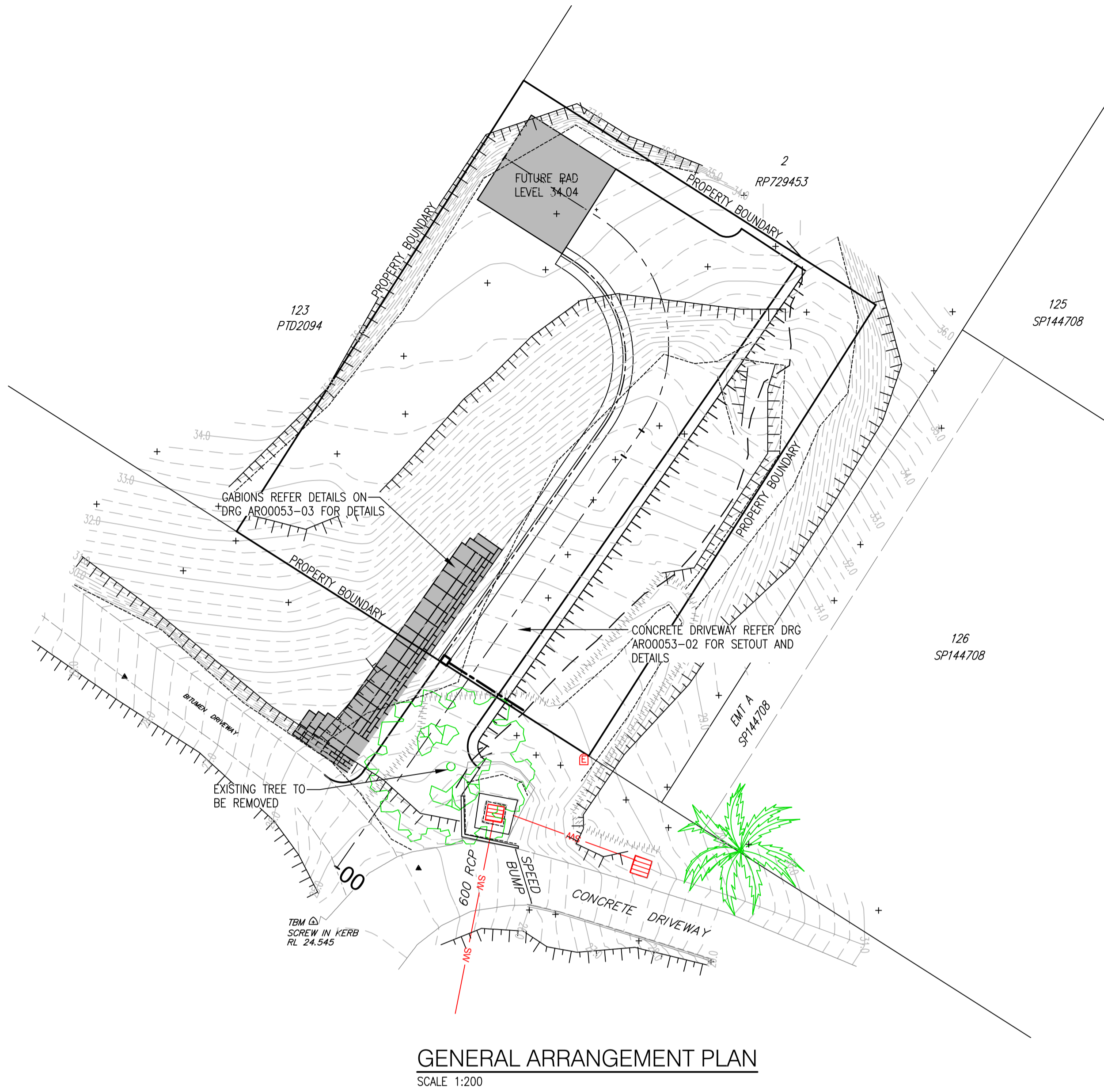
# PROPOSAL PLANS AND GEOTECHNICAL ASSESSMENT

Printed: 27 May 2021, 2:46 PM (MichelleStevenson) File: C:\Users\MichelleStevenson\ARO Industries Pty Ltd\Staff - Documents\TotalSynergy\ARO0053 30 Murphy Street Geotech\3. Documentation\Drawings\ARO0053-C01(1).dwg



## SCHEDULE OF PROJECT DRAWINGS

ARO0053-C01	LOCALITY PLAN, DRAWING SCHEDULE AND GENERAL ARRANGEMENT PLAN
ARO0053-C02	DRIVEWAY LAYOUT PLAN, CONTROL LINE SETOUT AND LONGITUDINAL SECTION
ARO0053-C03	DRIVEWAY TYPE SECTIONS AND DETAILS
ARO0053-C04	GABION WALL ELEVATION AND DETAILS
ARO0053-C05	DRIVEWAY ANNOTATED CROSS SECTIONS - SHEET 1 OF 2
ARO0053-C06	DRIVEWAY ANNOTATED CROSS SECTIONS - SHEET 2 OF 2



### ORIGIN OF SURVEY

LEVELS DATUM : AHD(D)  
ORIGIN OF LEVELS : PSM 500028, RL4.241  
SURVEY CARRIED OUT BY VERIS, REFER DRG No. 401394-001  
SURVEY DATED 8TH MARCH 2021

PRELIMINARY ISSUE

No.	Description	Reviewed	Approved	Date
1	PRELIMINARY ISSUE	-	-	27/05/2021

Client Logo

Client	KATE & LUCAS AGRUMS
Project	30 MURPHY STREET, PORT DOUGLAS
Title	LOCALITY PLAN, DRAWING SCHEDULE AND GENERAL ARRANGEMENT PLAN

Drawing No.

ARO0053-C01

Drawn	MS	Designed	MS	Approved		Scale (A1 size)	1:200
Drawing Check		Design Check		RPEQ	Date	Drawing is not to be used for construction unless approved.	



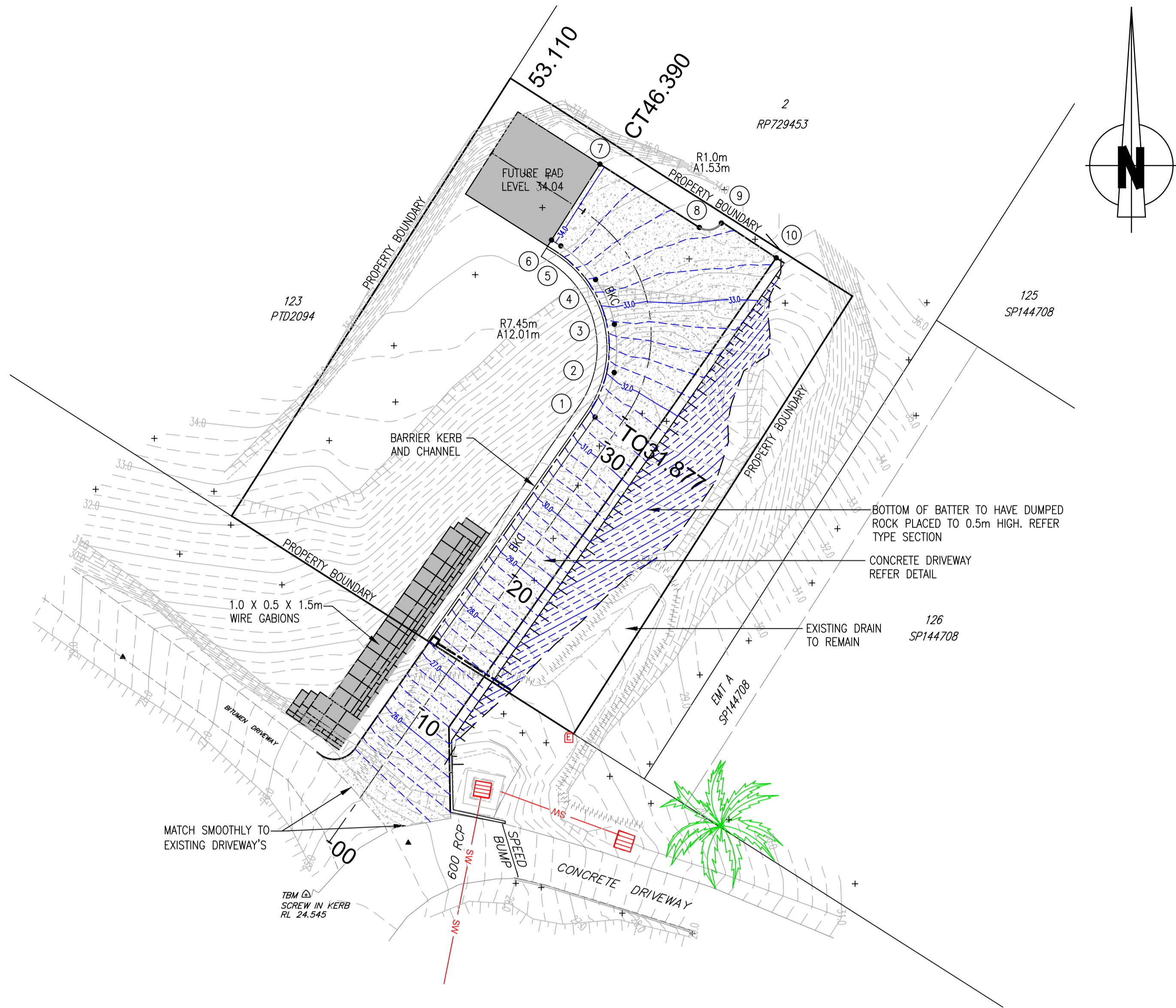
ARO

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W www.arointdustries.com.au  
ABN: 49 641 461 298

Revision

1

Printed: 27 May 2021, 2:48 PM (MichelleStevenson) File: C:\Users\MichelleStevenson\ARO Industries Pty Ltd\Staff - Documents\TotalSynergy\ARO0053 30 Murphy Street Geotech\3. Documentation\Drawings\ARO0053-C02(1).dwg



DRIVEWAY LAYOUT PLAN  
SCALE 1:200

CONCRETE DRIVEWAY ALIGNMENT SETOUT TABLE

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
0.000	336270.237	8177049.424	34°53'23.92"	R = -9.000	14.513	92°23'23.92"
TC 31.877	336288.471	8177075.572	34°53'23.92"			
CT 46.390	336293.838	8177083.269	302°30'00.00"			
	336285.924	8177088.310	302°30'00.00"			
53.110	336280.257	8177091.921	302°30'00.00"			

LEGEND

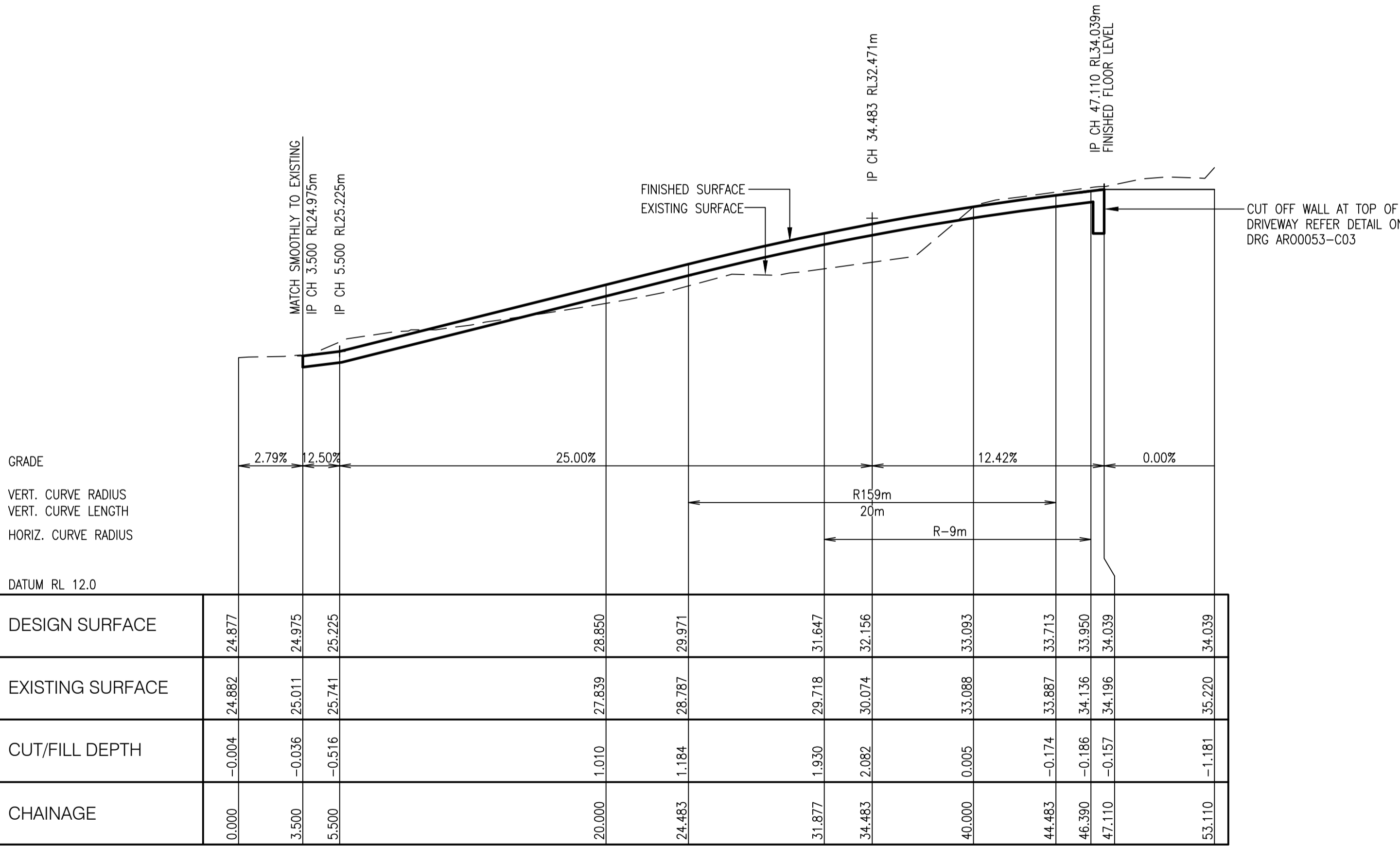
	BKC	BARRIER KERB AND CHANNEL
	-33.0	EXISTING SURFACE CONTOUR (0.25m INTERVAL)
	33.0	DESIGN SURFACE CONTOUR (0.2m INTERVAL)
		PROPOSED TOP OF BATTER
		PROPOSED TOE OF BATTER
		EXISTING TOP OF BATTER
		EXISTING TOE OF BATTER
		EDGE OF EXISTING SEALED ROAD
	E E	EXISTING OVERHEAD ELECTRICITY
	SW SW	EXISTING STORMWATER
	8	KERB SETOUT POINT
	R10.00	RADIUS
	A15.75	ARC LENGTH

DRIVEWAY TURNOUT SETOUT TABLE

POINT No.	EASTING	NORTHING	LEVEL
1	336286.627	8177075.637	31.409
2	336287.809	8177078.376	32.092
3	336287.822	8177081.359	32.765
4	336286.663	8177084.108	33.376
5	336284.519	8177086.182	33.949
6	336283.947	8177086.547	34.039
7	336286.929	8177091.227	34.039
8	336293.059	8177087.322	33.464
9	336294.416	8177087.594	33.457
10	336297.799	8177085.452	33.255

NOTES

- ALL WORKS AND MATERIALS TO BE IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL GUIDELINES AND SPECIFICATIONS.
- DESIGN SURFACE LEVELS SHOWN ARE AFTER ALL EARTHWORKS ARE COMPLETED, INCLUDING 75mm TOPSOILING.
- BATTERS SHALL BE (UNLESS NOTED OTHERWISE):
  - DRIVEWAY: 1 ON 2 (MAX.)
  - TEMPORARY BATTERS: 1 ON 1
- ALL DESIGN SURFACES ARE TO BE GRADED EVENLY BETWEEN SHOWN LEVELS UNLESS OTHERWISE SHOWN.
- REFER TO FNQROC STANDARD DRAWINGS:
  - S1000 : CONCRETE KERB & CHANNEL
  - S1110 : CONCRETE DRIVEWAY FOR ALLOTMENT ACCESS
- NEW ROADWORKS AND KERBING TO JOIN SMOOTHLY TO EXISTING WORKS. PROVIDE CUT BACK TO EXISTING DRIVEWAYS WHERE NECESSARY.
- LOCATION OF ALL EXISTING SERVICES TO BE CONFIRMED PRIOR TO CONSTRUCTION BY CONTRACTOR THROUGH LIAISON WITH RELEVANT AUTHORITIES.
- TRIM AND DRILL SEED ALL FOOTPATHS/ROAD VERGES. BATTERS >0.5m TO BE HYDROMULCHED AFTER FINAL EARTHWORKS AND TOPSOILING IS COMPLETED.



DRIVEWAY LONGITUDINAL SECTION  
HORIZONTAL SCALE 1:200

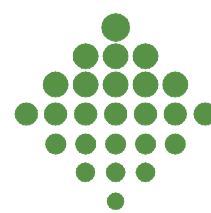
PRELIMINARY ISSUE

No.	Description	Reviewed	Approved	Date
1	PRELIMINARY ISSUE	-	-	27/05/2021

Client Logo
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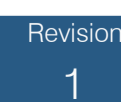
Client	KATE & LUCAS AGRUMS
Project	30 MURPHY STREET, PORT DOUGLAS
Title	LOCALITY PLAN, DRAWING SCHEDULE AND GENERAL ARRANGEMENT PLAN

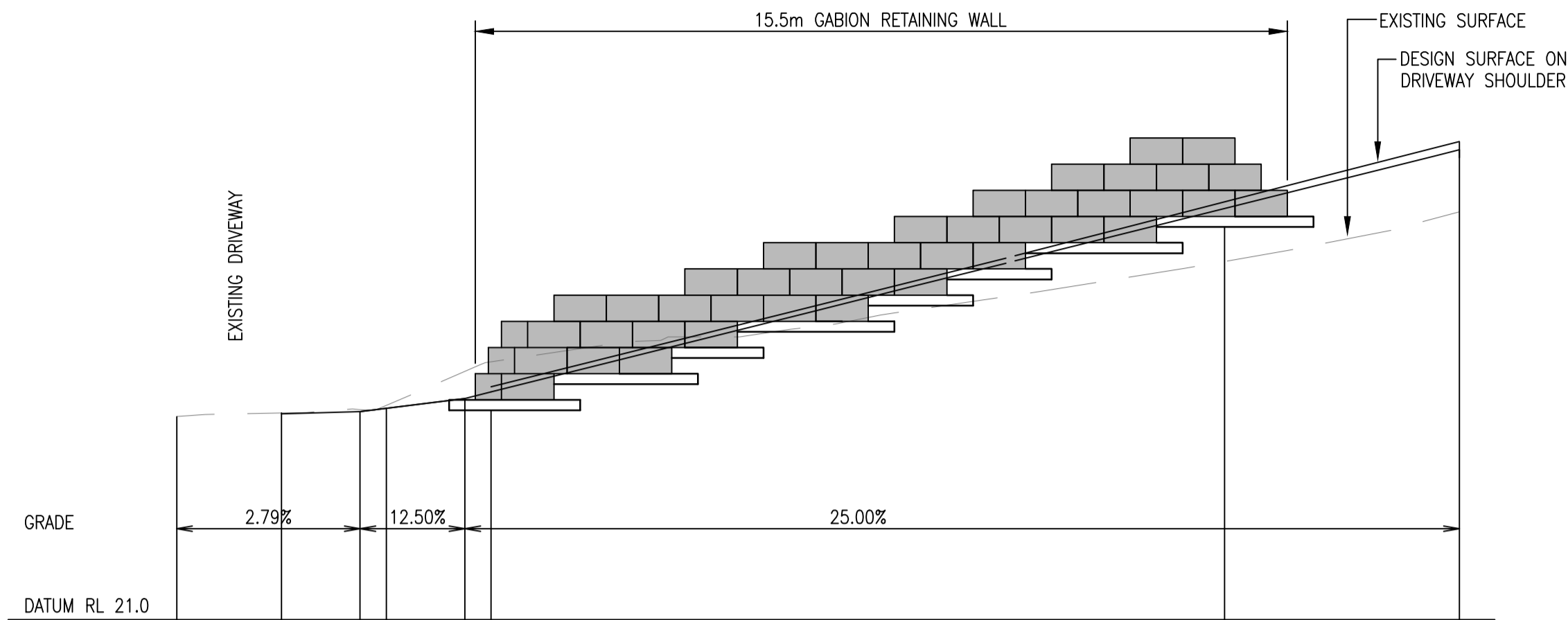
Drawn	MS	Designed	MS	Approved		Scale (A1 size)	AS SHOWN
Drawing Check		Design Check		RPEQ	Date		Drawing is not to be used for construction unless approved.



ARO

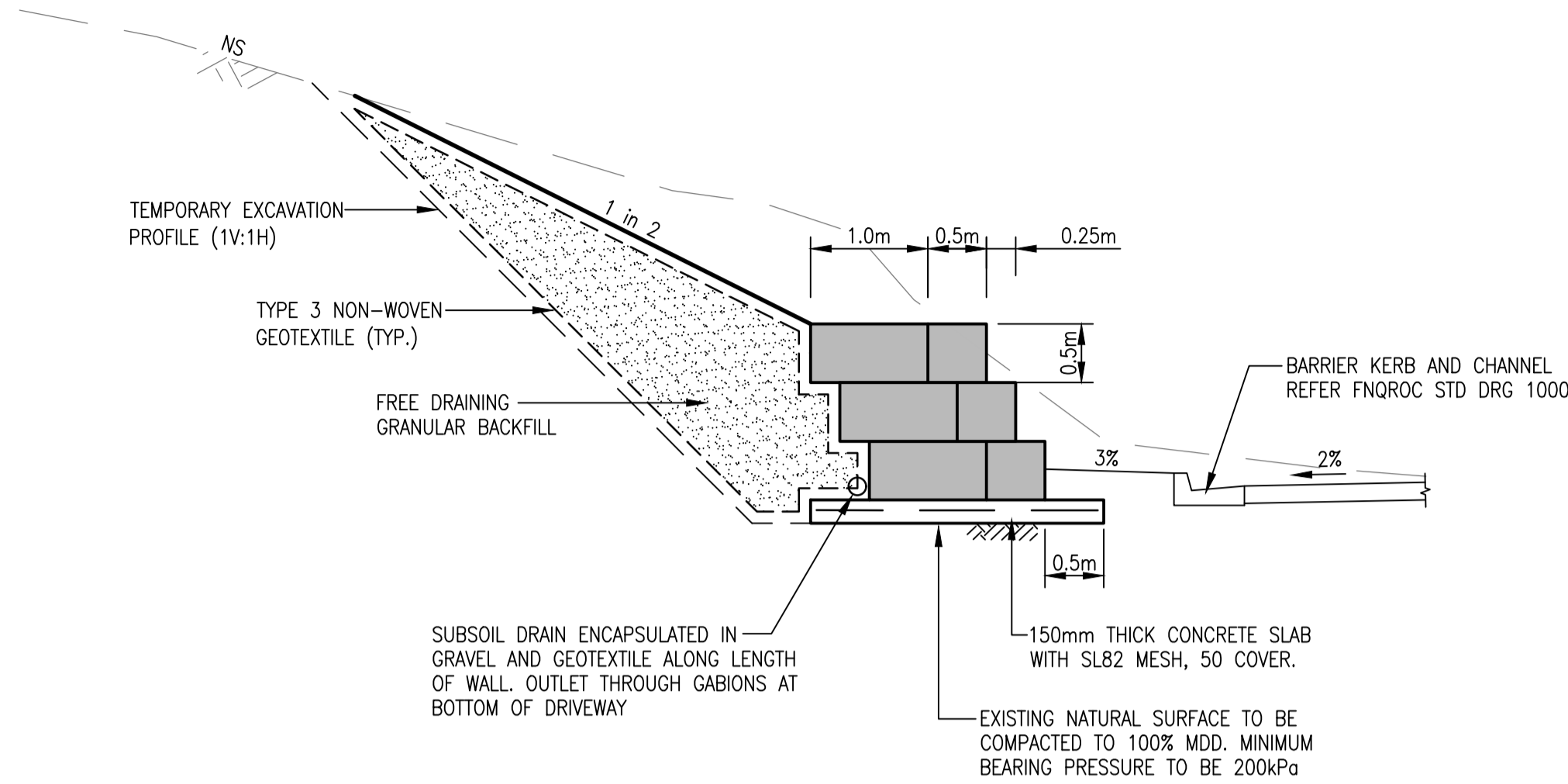
44 McLeod Street  
Cairns Qld 4870  
T (07) 4281 6897  
E admin@arindustries.com.au  
W www.arindustries.com.au  
ABN: 49 641 461 298





GABION RETAINING WALL ELEVATION

SCALE 1:100



GABION TYPICAL SECTION

SCALE 1:50

GABION NOTES

MATERIALS

WIRE GABIONS

GENERAL: COMPLY WITH AS 2423. GALVANISE ALL WIRE TO AS 4534. COAT ALL COMPONENTS WITH POLYVINYL CHLORIDE TO A MINIMUM THICKNESS OF 0.5mm.

GABIONS: USE MESH WITH A WIRE DIAMETER NOT LESS THAN 2mm. PROVIDE APPROPRIATE MESH SIZE TO RETAIN THE ROCK FILLING. PROVIDE SELVEDGE WIRES WITH A DIAMETER NOT LESS THE 3.15mm AND BINDING WIRE WITH A DIAMETER NOT LESS THAN 2.5mm.

ROCK FILL

GENERAL: CLEAN, HARD, DURABLE CRUSHED ROCK, ROCK SPALLS OR RIVER GRAVEL, WITH MINIMUM SIZE LARGER THAN THE MAXIMUM OPENING SIZE OF THE MESH OR FABRIC FORMING THE BASKET. ROCKS MUST BE CUBICAL WHERE POSSIBLE. THE SMALLEST DIMENSION MUST NOT BE LESS THAN HALF THE GREATEST DIMENSION.

PROPERTIES: WET/DRY STRENGTH VARIATION TESTED IN ACCORDANCE WITH QUEENSLAND DEPARTMENT OF TRANSPORT AND MAIN ROADS TEST METHOD Q205C OR AS 1141.22 MUST NOT EXCEED 35%. TEN PERCENT FINES VALUE TESTED IN ACCORDANCE WITH QUEENSLAND DEPARTMENT OF TRANSPORT AND MAIN ROADS TEST METHOD Q205B OR AS 1141.22 MUST NOT BE LESS THAN 140 KN.

GABIONS: PROVIDE ROCK OF NOMINAL SIZE BETWEEN 120mm AND 200mm. ROCK MUST BE UNIFORMLY GRADED, WITH GREATER THAN 80% BY NUMBER EXCEEDING THE 150mm NOMINAL SIZE.

EXECUTION

GABIONS

GENERAL: CONSTRUCT GABION PROTECTION WORK IN THE LOCATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS.

SURFACE PREPARATION: TRIM AREAS ON WHICH GABIONS ARE TO BE POSITIONED TO THE SPECIFIED SHAPES WITHIN A TOLERANCE OF ± 50mm. TRIMMED SURFACES MUST BE FREE OF ROOTS, STUMPS, BRUSH, ROCKS AND THE LIKE PROTRUSIONS.

GEOTEXTILE FABRIC: PLACE TYPE 3 GEOTEXTILE BEHIND ALL GABIONS.

ASSEMBLY: ASSEMBLE TO COMPLY WITH THE DRAWINGS AND RECOMMENDATIONS OF THE MANUFACTURER. POSITIONING: POSITION ASSEMBLED GABIONS EMPTY IN THE WORKS. SECURELY POSITION THE FIRST ROW OF GABIONS AND FILL BEFORE GABIONS IN OTHER ROWS ARE POSITIONED.

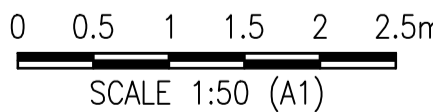
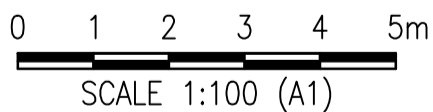
ROCK FILL: HAND PACK THE EXPOSED FACES OF THE BASKET. THE REMAINDER MAY BE FILLED USING MACHINE METHODS. PLACE THE ROCK TO PRODUCE A DENSE, EVENLY DISTRIBUTED FILLING WITH A MINIMUM OF VOIDS. MAINTAIN THE TOLERANCES AND SHAPE SPECIFIED. TIE TOGETHER THE OUTER AND INNER PANELS OF THE GABIONS DURING THE PLACING OPERATION TO MINIMISE DISTORTIONS WHERE NECESSARY.

DAMAGE: DURING THE PLACING, DO NOT DAMAGE THE GABION MESH OR GEOTEXTILE.

CONSTRUCTION TOLERANCES

GENERAL: CONSTRUCT GABIONS AND MATTRESSES IN THE LOCATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS.

PRELIMINARY ISSUE



Revisions	No.	Description	Reviewed	Approved	Date
	1	PRELIMINARY ISSUE	-	-	27/05/2021

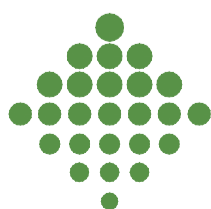
Client Logo	

Client	KATE & LUCAS AGRUMS
Project	30 MURPHY STREET, PORT DOUGLAS
Title	GABION LAYOUT AND DETAILS

Drawing No.

ARO0053-C04

Drawn	Designed	Approved	Scale (A1 size)
MS	MS		AS SHOWN
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ABN: 49 641 461 298

Revision

1

CENTRELINE SETOUT  
F 336277.101  
N 8177059.268  
RL 26.85

DATUM RL 24.0

DESIGN SURFACE LEVEL		30.252				26.947	26.929					
NATURAL SURFACE LEVEL		30.252				27.786	27.327	26.819				
DESIGN OFFSET		-9.361				-2.750	-2.150	-1.550	0.000	2.000	2.600	3.390

CH 12

CENTRELINE SETOUT  
F 336275.957  
N 8177057.627  
RL 26.35

DATUM RL 24.0

DESIGN SURFACE LEVEL		29.649				26.447	26.429					
NATURAL SURFACE LEVEL		29.649				26.715	26.625	26.319				
DESIGN OFFSET		-9.154				-2.750	-2.150	-1.550	0.000	2.000	2.600	2.981

CH 10

CENTRELINE SETOUT  
F 336274.813  
N 8177055.986  
RL 25.85

DATUM RL 24.0

DESIGN SURFACE LEVEL		28.865				25.947	25.929					
NATURAL SURFACE LEVEL		28.865				26.590	26.494	25.819				
DESIGN OFFSET		-8.587				-2.750	-2.150	-1.550	0.000	2.000	2.600	3.111

CH 8

CENTRELINE SETOUT  
F 336273.669  
N 8177054.346  
RL 25.35

DATUM RL 24.0

DESIGN SURFACE LEVEL		28.213				25.447	25.429					
NATURAL SURFACE LEVEL		28.213				26.024	25.856	25.319				
DESIGN OFFSET		-8.241				-2.750	-2.150	-1.550	0.000	2.000	2.600	3.206

CH 6

CENTRELINE SETOUT  
F 336281.677  
N 8177065.83  
RL 28.85

DATUM RL 26.0

DESIGN SURFACE LEVEL		28.978										
NATURAL SURFACE LEVEL		28.978				28.004	27.936					
DESIGN OFFSET		-3.785				-2.150	-1.550	0.000	2.000	2.600		4.975

CH 20

CENTRELINE SETOUT  
E 336280.533  
N 8177064.189  
RL 28.35

DATUM RL 26.0

DESIGN SURFACE LEVEL		28.461										
NATURAL SURFACE LEVEL		28.461				27.828	27.590					
DESIGN OFFSET		-3.211				-2.150	-1.550	0.000	2.000	2.600		4.452

CH 18

CENTRELINE SETOUT  
E 336279.389  
N 8177062.549  
RL 27.85

DATUM RL 25.0

DESIGN SURFACE LEVEL		27.948										
NATURAL SURFACE LEVEL		27.948				27.660	27.400					
DESIGN OFFSET		-2.790				-2.150	-1.550	0.000	2.000	2.600		4.118

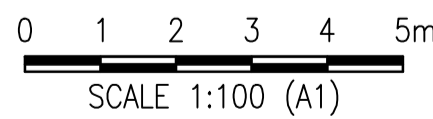
CH 16

CENTRELINE SETOUT  
F 336278.245  
N 8177060.908  
RL 27.35

DATUM RL 25.0

DESIGN SURFACE LEVEL		30.821				27.447	27.429					
NATURAL SURFACE LEVEL		30.821				27.856	27.596	27.319				
DESIGN OFFSET		-9.498				-2.750	-2.150	-1.550	0.000	2.000	2.600	3.668

CH 14



PRELIMINARY ISSUE

No.	Description	Reviewed	Approved	Date
1	PRELIMINARY ISSUE	-	-	27/05/2021

Client Logo
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Client	KATE & LUCAS AGRUMS
Project	30 MURPHY STREET, PORT DOUGLAS
Title	DRIVEWAY ANNOTATED CROSS SECTIONS - SHEET 1 OF 2

Drawn	Designed	Approved	Scale (A1 size)
MS	MS		1:100
Drawing Check	Design Check	RPEQ	Date

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CENTRELINE SETOUT  
E 336285.109  
N 8177070.751  
RL 30.343

DATUM RL 26.0

DESIGN SURFACE LEVEL		30.506		30.422	30.312		30.343		30.383	30.395		28.413
NATURAL SURFACE LEVEL		30.506		29.292	29.268		29.197		28.965	28.893		28.413
DESIGN OFFSET		-4.972		-2.150	-1.550		0.000		2.000	2.600		6.563

CH 26

CENTRELINE SETOUT  
E 336283.965  
N 8177069.111  
RL 29.85

DATUM RL 25.0

DESIGN SURFACE LEVEL		30.007		29.929	29.819		29.850		29.890	29.902		28.336
NATURAL SURFACE LEVEL		30.007		28.777	28.749		28.656		28.445	28.403		28.336
DESIGN OFFSET		-4.756		-2.150	-1.550		0.000		2.000	2.600		5.732

CH 24

CENTRELINE SETOUT  
E 336282.821  
N 8177067.47  
RL 29.35

DATUM RL 25.0

DESIGN SURFACE LEVEL		29.495		29.429	29.319		29.350		29.390	29.402		28.048
NATURAL SURFACE LEVEL		29.495		28.319	28.282		28.203		28.123	28.103		28.048
DESIGN OFFSET		-4.350		-2.150	-1.550		0.000		2.000	2.600		5.309

CH 22

REFER LAYOUT PLAN FOR  
DRIVEWAY SETOUT

CENTRELINE SETOUT  
E 336288.541  
N 8177075.673  
RL 31.672

DATUM RL 27.0

DESIGN SURFACE LEVEL		31.848		31.750	31.640		31.672		31.712	31.724		29.643
NATURAL SURFACE LEVEL		31.848		30.033	29.921		29.734		29.853	29.809		29.643
DESIGN OFFSET		-5.501		-2.231	-1.631		0.000		2.001	2.601		6.763

CH 32

CENTRELINE SETOUT  
E 336287.397  
N 8177074.032  
RL 31.254

DATUM RL 26.0

DESIGN SURFACE LEVEL		31.429		31.333	31.223		31.254		31.294	31.306		29.187
NATURAL SURFACE LEVEL		31.429		29.809	29.696		29.493		29.406	29.379		29.187
DESIGN OFFSET		-5.352		-2.150	-1.550		0.000		2.000	2.600		6.838

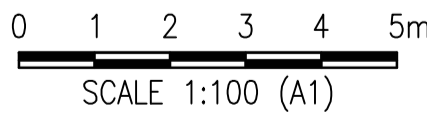
CH 30

CENTRELINE SETOUT  
E 336286.253  
N 8177072.392  
RL 30.811

DATUM RL 26.0

DESIGN SURFACE LEVEL		30.979		30.890	30.780		30.811		30.851	30.863		28.756
NATURAL SURFACE LEVEL		30.979		29.623	29.562		29.394		29.034	28.981		28.756
DESIGN OFFSET		-5.110		-2.150	-1.550		0.000		2.000	2.600		6.813

CH 28



No.	Description	Reviewed	Approved	Date
1	PRELIMINARY ISSUE	-	-	27/05/2021

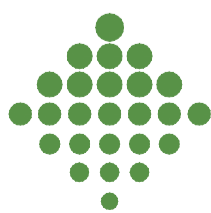
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Client	KATE & LUCAS AGRUMS
Project	30 MURPHY STREET, PORT DOUGLAS
Title	DRIVEWAY ANNOTATED CROSS SECTIONS - SHEET 2 OF 2

Drawing No.

ARO0053-C06

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Revision

1

# ARO INDUSTRIES

30 MURPHY STREET,  
PORT DOUGLAS  
GEOTECHNICAL  
ASSESSMENT REPORT



## DOCUMENT CONTROL SHEET


<b>Title:</b>	30 Murphy, Port Douglas Geotechnical Assessment Report	<b>ARO Industries Pty Ltd</b>
<b>Document No:</b>	ARO0053	44 McLeod Street
<b>Project Director:</b>	Rudd Rankine	Cairns, QLD, 4870
<b>Author:</b>	Shaun Booth	
<b>Client:</b>	Kate & Lucas Agrums	PO Box 6490
<b>Client Contact:</b>	Patrick Clifton	Cairns QLD 4870
<b>Client Reference:</b>	30 Murphy Street	Phone: (07) 4281 6897
<b>Purpose:</b>	A geotechnical assessment of the site stability and proposed construction of a dwelling and driveway.	www.aroindustries.com.au

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Recommendations contained in this report are based largely on our understanding of the information that has been supplied to us and should be balanced against additional information that you may hold or seek. The client is cautioned to exercise due commercial diligence in the interpretation of any material herein and accept our findings as suggestions given in good faith requiring interpretation within the context of the client's own enterprise environment.

Distribution	Document Revision Number								
	0	1	2	3	4	5	6	7	8
GMA Certification Group	1								
Kate & Lucas Agrums	1								
ARO Industries Record	1								

Revision History					
Revision No.	Author	Reviewer	Approved For issue		
			RPEQ No.	Signature	Date
0	S. Booth	R. Rankine	8452		27/5/2021

## TABLE OF CONTENTS

1.	INTRODUCTION .....	3
2.	PREVIOUS GEOTECHNICAL STUDIES .....	4
3.	SITE UNDERSTANDING .....	4
3.1	Site Inspection .....	4
3.2	Surface Condition .....	4
3.3	Site Geology .....	5
3.4	Subsurface Conditions .....	5
3.5	Slope Geometry .....	6
4.	GEOTECHNICAL ASSESSMENT OF PROPOSED SLOPE STABILISATION OPTIONS .....	8
4.1	Risk Assessment (AGS 2007) .....	8
4.2	Limit State Analysis .....	9
5.	OPTIONS ASSESSMENT .....	11
6.	ENGINEERING ADVICE .....	13
6.1.	Drainage .....	13
6.2.	Site Preparation and Earthworks .....	13
6.3.	Footings & Site classification .....	13
6.4.	Uncontrolled Fill .....	14
6.5.	Retaining Walls .....	14
7.	SPECIFICATIONS .....	15
7.1.	Compaction Procedure and Specifications .....	15
8.	GABIONS .....	15
8.1.	Baskets .....	15
8.2.	Rockfill .....	15
9.	GEOSYNTHETIC REINFORCEMENT .....	15
9.1.	Geogrid .....	15
9.2.	Geofabric .....	15
10.	MATERIAL USAGE .....	16
11.	PERMITS AND APPROVALS .....	16
12.	CONSTRUCTION INSPECTIONS .....	17
13.	SUMMARY .....	17
14.	LIMITATIONS AND ASSUMPTIONS .....	17
14.1.	Limitations include: .....	17
14.2.	Assumptions .....	17
APPENDIX A	PROPOSED DEVELOPMENT PLAN	
APPENDIX B	MODELLING OUTPUTS	
APPENDIX C	PRELIMINARY FEASIBILITY MODELLING OUTPUTS OF SLOPE REMEDIATION OPTIONS	
APPENDIX D	STORMWATER CONSTRAINTS AND OPPORTUNITIES FILE NOTE	
APPENDIX E	DETAILED SURVEY OF SITES	

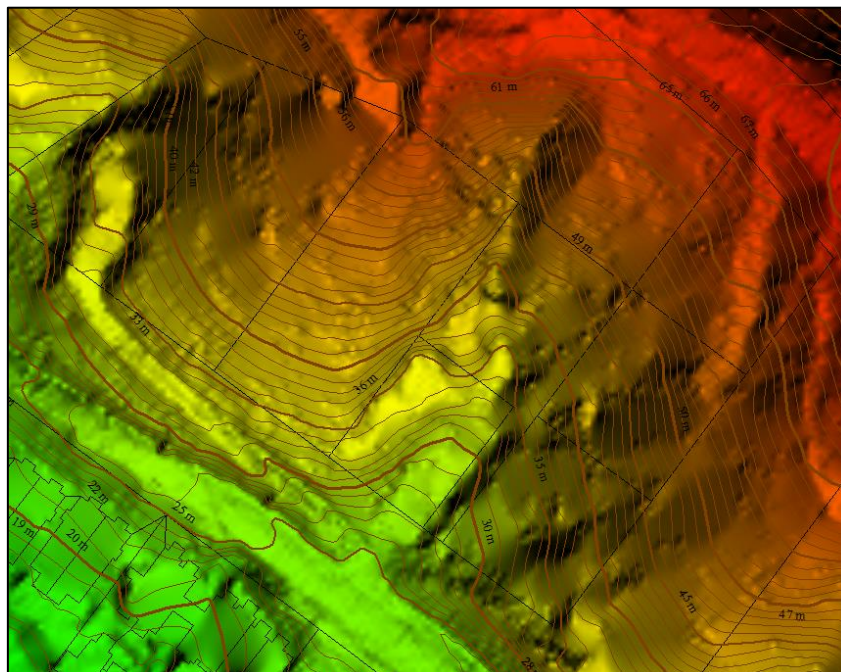
## 1. INTRODUCTION

This report has been prepared as supporting information for the geotechnical design of a building pad and driveway for 30 Murphy Street, Port Douglas. The report has been commissioned by Kate and Lucas Agrums. The report has been prepared to assess the existing geotechnical conditions of the sites and details how the proposed driveway and dwelling structure can be safely constructed regarding geotechnical stability.

The location of the site is identified in Figure 1, and localised topographical information in Figure 2.



*Figure 1 – Locality Plan of Sites (Queensland Globe)*



*Figure 2 – Site topography (source: Geoscience Australia)*

A comprehensive assessment of the sites has been undertaken, including.

- Review of existing geotechnical investigations of sites near site under investigation by ARO Industries Pty Ltd.
- An assessment of risk according to the Australian Geomechanics Society (AGS) (2007c) guidelines; and
- A limit state analysis (or 'slip circle') assessment of stability.

## 2. PREVIOUS GEOTECHNICAL STUDIES

There have been no previous geotechnical assessments completed on the site. However, there are multiple geotechnical studies that have been conducted on the adjacent land parcels and other properties along Murphy Street.

## 3. SITE UNDERSTANDING

### 3.1. Site Inspection

A site inspection was undertaken by a senior geotechnical engineer and consisted of a site walk-over in early 2021. The site is currently unoccupied and is heavily vegetated with a natural gully running along the south-eastern boundary of the allotment. It is proposed that a dwelling be constructed along the north-western area of the property on an existing benched area and will be accessed by a driveway traversing the eastern side of the property up to the benched area.

### 3.2. Surface Condition

The site is located on Murphy Street, Port Douglas (Flagstaff Hill) and is mapped on the Douglas Shire Planning Scheme as within the hillslopes overlay (Figure 3). The site is well vegetated and has notably steep slopes. The slopes adjacent to the proposed building pad appear to have been cut and cast aside to form the approximate 1.75H:1V downslope batter and approximate 1H:1V upslope batter. It is considered that the downslope batter assumed to be created with the uncontrolled fill (won cut material) has not been adequately compacted.

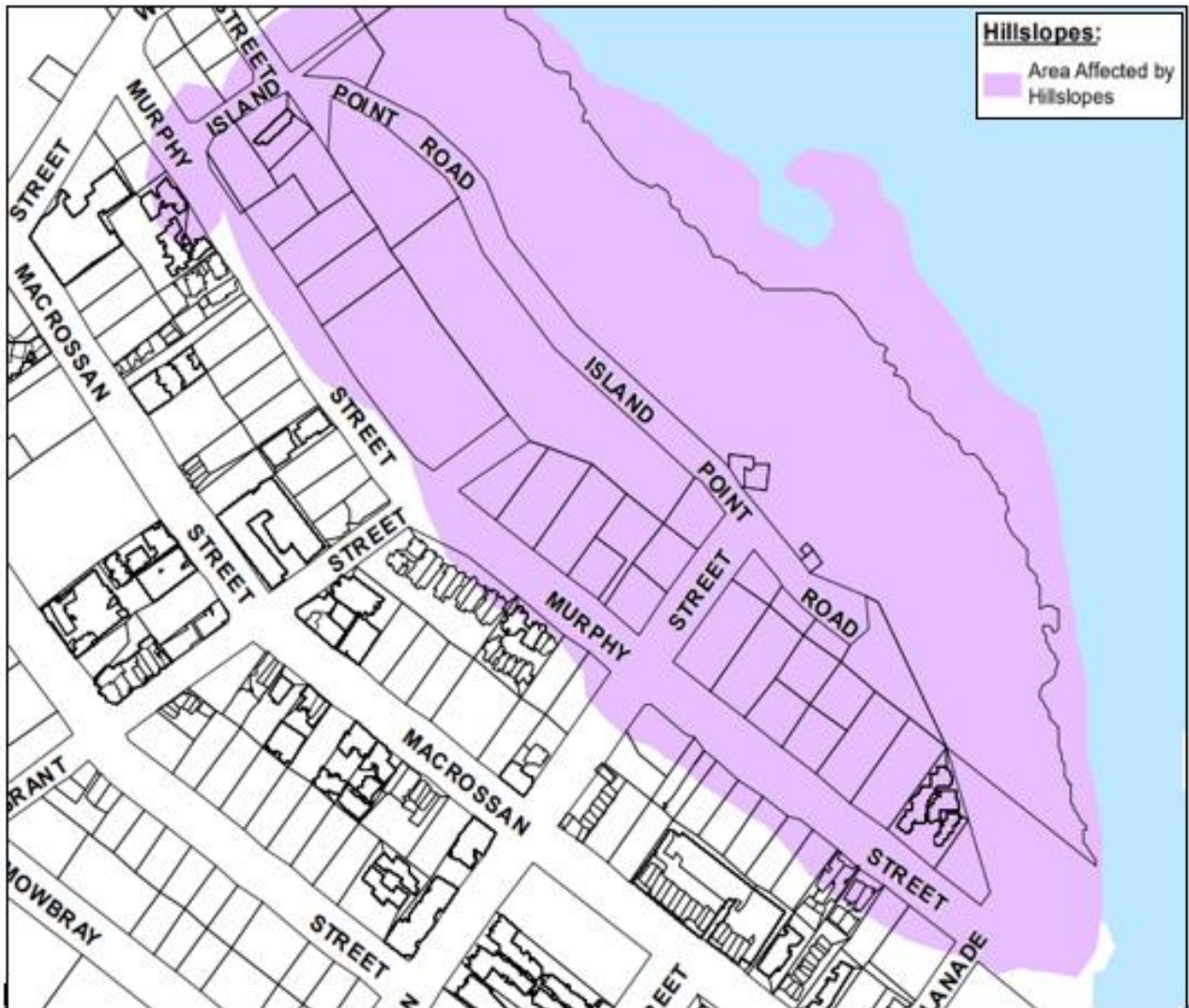
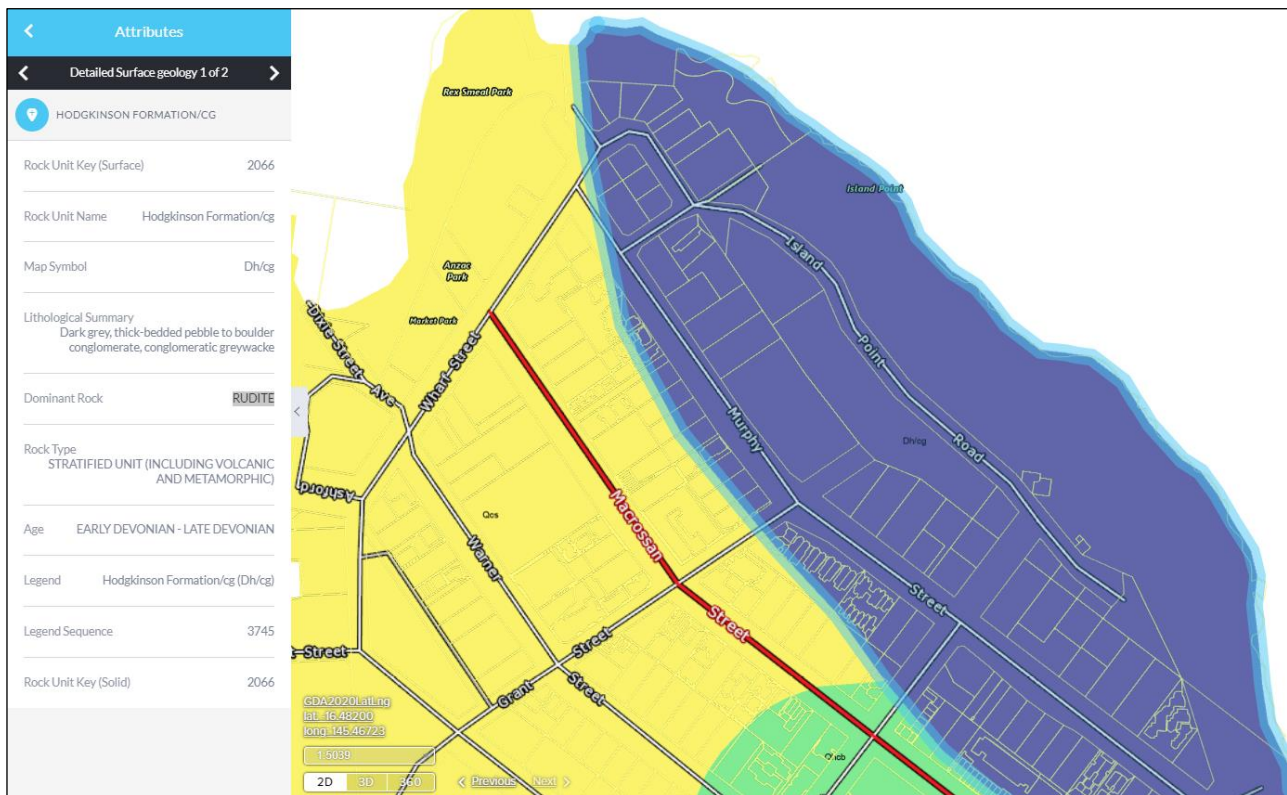


Figure 3- Location of the site relative to the Hillslopes Overlay from Douglas Shire Council's Planning Scheme.

### 3.3. Site Geology

The Geological Survey of Queensland's 1:100,000 series map indicates that the site is underlain primarily by Hodgkinson Formation/cg; Dark grey, thick-bedded pebble to boulder conglomerate, conglomeratic greywacke. An extract of the map from Queensland Globe has been included as *Figure 4* below.



*Figure 4 – Geological Survey of Queensland's 1:100,000 series map*

The previous geotechnical reports on surrounding properties indicate that test-pits identified materials consistent with those mapped.

### 3.4. Subsurface Conditions

During the initial walk-over, it was noted that the existing pad that has been cut along the north-western boundary of the site, provided excellent visibility of the subsurface conditions on site. The subsurface conditions from multiple previous studies were investigated to compare and validate the subsurface conditions observed at the 30 Murphy Street site. A summary has been detailed in *Table 1*.

*Table 1 – Previous studies existing subsurface conditions*

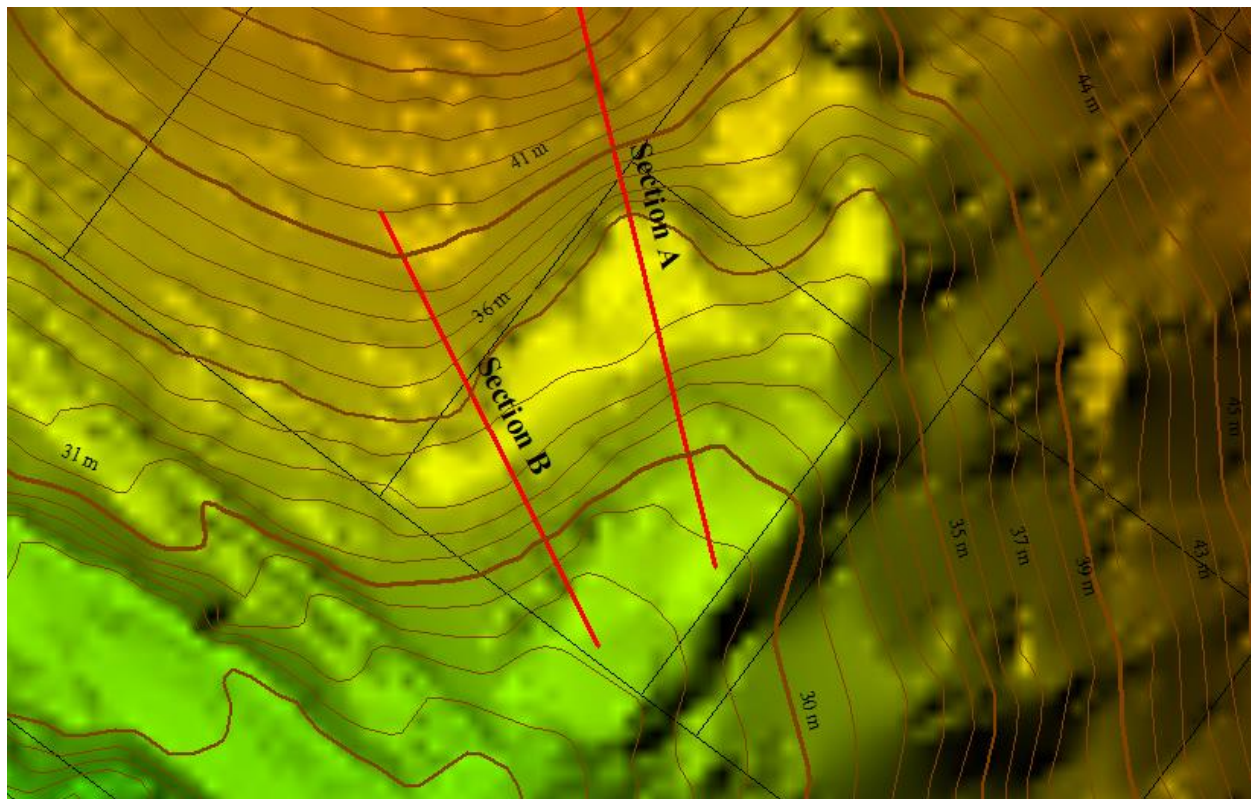
Soil Condition	Depth of Layer			
	34 Murphy Street	24 Murphy Street	69-73 Murphy Street	30 Murphy Street
Topsoil: Very loose to loose silty sand	GL to 0.4/1.9m	-	-	GL to 0.4/1.5m
Colluvium/Residual soil: Very dense silty clayey sand	1.9 to 2.9m	GL to 1.3/1.6m	GL to 0.6/1.0m	0.4/1.5-2.5-3.m
Extremely weather to highly weather rock (phyllite), extremely low to low and low to medium strength	Deeper than 0.4/2.9m	Deeper than 1.5 to 2.5m	0.6/1.0m to 5.8/6.0m	Deeper than 2.5-3m

Soil Condition	Depth of Layer			
	34 Murphy Street	24 Murphy Street	69-73 Murphy Street	30 Murphy Street
Fresh, high to very high strength Grewacke rock	-	-	5.8/6.0m to 8.0/8.8m	

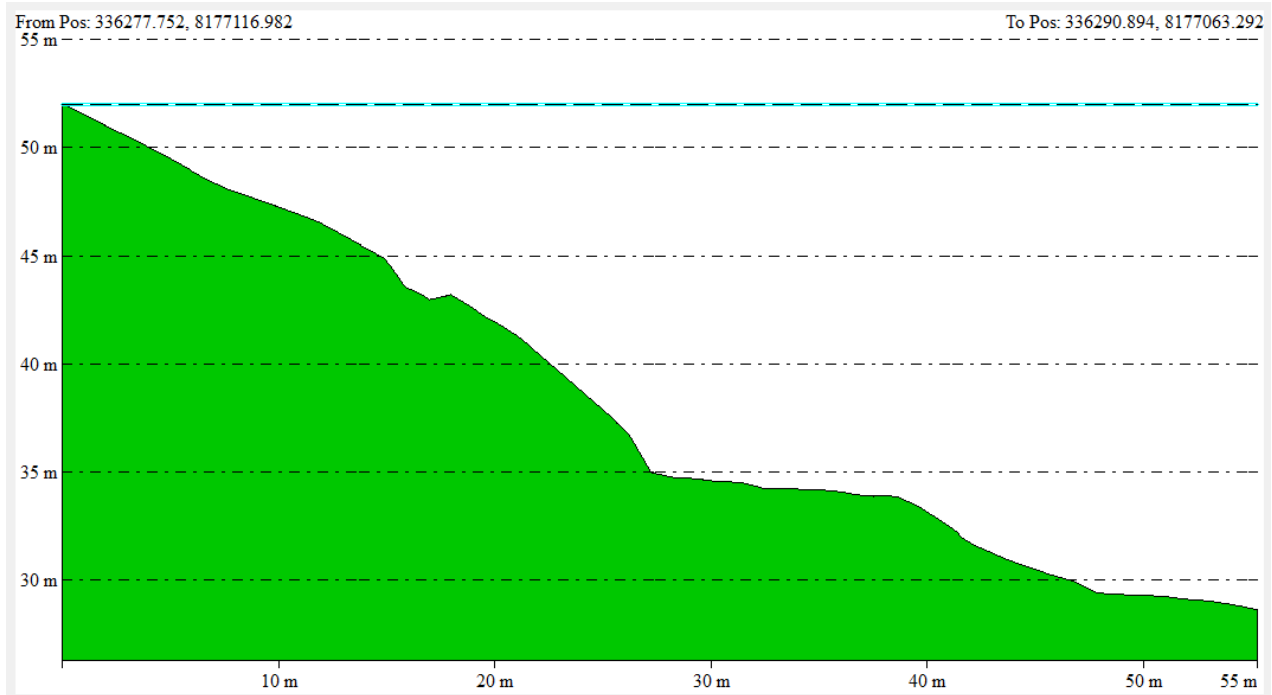
It is noted that these findings compare favourably with the site geology identified in previous reports for surrounding sites.

### 3.5. Slope Geometry

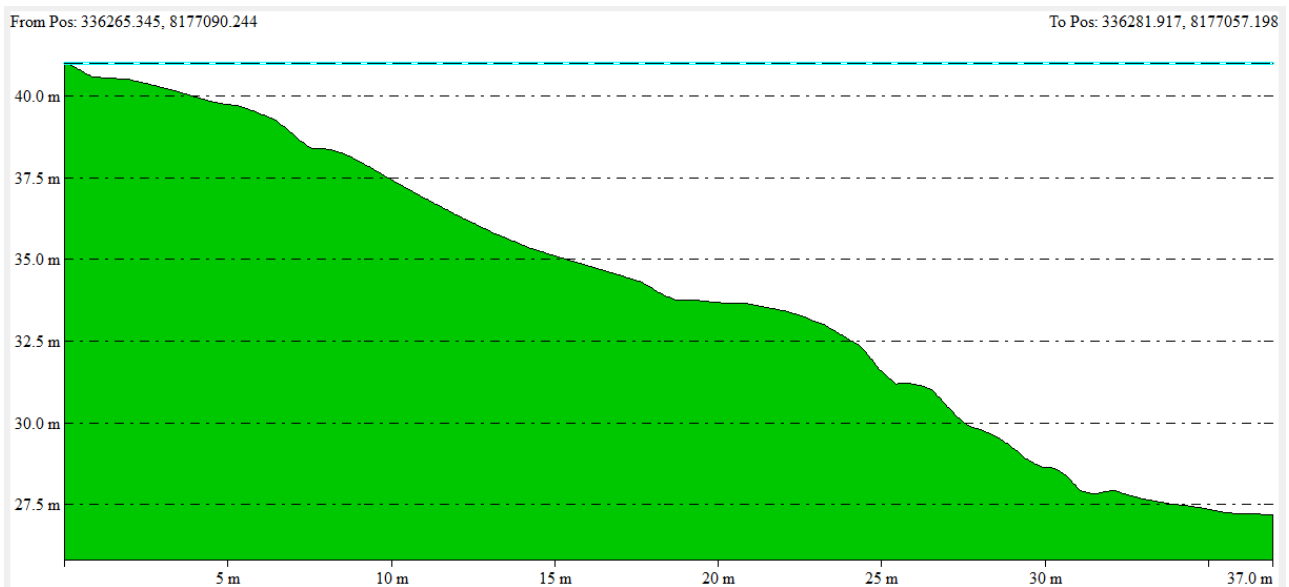
Initially a topographical profiles were extracted from site LiDAR. Sections across two of the steepest portions of the site were taken and used for the geotechnical assessments. The Sections have been referred to as A and B respectively. Figure 4 shows where the sections have been taken, and Figures 5 and 6 the cross sections of each cut.



*Figure 4 – Locality of Cross-Sections*



*Figure 5 – Geometry of the slope Section A*



*Figure 6 – Geometry of the slope Section B*

A detailed site survey was undertaken by Veris Surveyors. A copy has been included in Appendix E.

#### 4. GEOTECHNICAL ASSESSMENT OF PROPOSED SLOPE STABILISATION OPTIONS

##### 4.1. Risk Assessment (AGS 2007)

A risk assessment of the site(s) was undertaken in accordance with the Australian Geomechanics Society (AGS) 2007 Guidelines for landslide risk assessment. *Table 2* summarises the findings of the assessment.

*Table 2 - Qualitative assessment of risk to property due to future site works*

	Potential Hazard	Risk to	Condition	WITHOUT Engineering Controls			Engineering Controls to Reduce Risk	WITH Engineering Controls		
				Consequence	Likelihood	Qualitative Risk		Consequence	Likelihood	Qualitative Risk
Existing	Earth slides in 1V:3H to 1V:1.5H (20-34 degree) slopes on site	House (Property)	Dry	Minor	Rare	Very Low	Provide adequate drainage and erosion protection, including lined drains at the crest of batters. No other engineering controls recommended.	Minor	Rare	Very Low
			Wet	Minor	Possible	Moderate		Minor	Unlikely	Low
	Earth slides in 1V:1.5H to 1V:1H (34-45 degree) slopes on site up to 2.5 meters	House (Property)	Dry	Medium	Unlikely	Low	Provide adequate drainage and erosion protection, including lined drains at the crest of batters. No other engineering controls recommended.	Medium	Rare	Low
			Wet	Medium	Likely	High		Medium	Unlikely	Low
	Earth slides in 1V:1.5H to 1.75V:1H (45-60 degree) slopes on site and 1V:1.5H to 1V:1H (34-45 degree) slopes on site greater than 2.5 meters	House (Property)	Dry	Medium	Likely	High	Positive retention of the slope is recommended to reduce risk of slope failure	See Below		
			Wet	Medium	Almost Certain	Very High				
Future/ Proposed	Earth slide in future cut batters less than 1V:1.5H (~34 degrees)	House (Property)	Dry	Minor	Rare	Very Low	Provide adequate drainage and erosion protection, including lined drains at the crest of batters. No other engineering controls recommended.	Minor	Rare	Very Low
			Wet	Minor	Unlikely	Low		Minor	Rare	Very Low
	Earth slide in future cut batters greater than 1V:1.5H (~34 degrees)	House (Property)	Dry	Medium	Unlikely	Low	Limit batter/bench heights to appropriate heights or provide positive support/retention. Provide adequate drainage and erosion protection, including lined drains at the crest and toe of batters along creek banks. Revegetate batters where possible, preferably deep-rooted native varieties	Medium	Rare	Low
			Wet	Medium	Possible	Moderate		Medium	Rare	Low
	Earth slides in future fill batters	House (Property)	Dry	Medium	Unlikely	Low	Limit batter/bench heights to appropriate heights or provide positive support/retention. Provide adequate drainage and erosion protection, including lined drains at the crest and toe of batters along creek banks. Revegetate batters where possible, preferably deep-rooted native varieties	Medium	Rare	Low
			Wet	Medium	Possible	Moderate		Medium	Unlikely	Low
	Failure of future retention structure and resulting earth slide	House (Property)	Dry	Major	Barely Credible	Very Low	Suitably designed and certified retention systems to be installed. Provide adequate drainage and erosion protection, including lined drains at the crest and toe of batters. Revegetate batters where possible, preferably deep-rooted native varieties if compatible with retention structure.	Major	Barely Credible	Very Low
			Wet	Major	Rare	Low		Major	Rare	Low
	Degradation of earth batters	House (Property)	Dry	Minor	Likely	Moderate	Provide adequate drainage and erosion protection, including lined drains at the crest of batters and rock protection for faces where erosion prone (e.g., gully). Revegetate batters where possible, preferably deep-rooted native varieties	Minor	Rare	Very Low
			Wet	Minor	Almost Certain	High		Minor	Unlikely	Low

The qualitative risk to property of the existing slope was assessed as between “Very Low” to “Very High” without engineering controls for the scenarios assessed. Normally regulators accept risk levels of “Low” or “Very Low” when assessed in accordance with AGS (2007). Where risks levels are assessed to be above these limits, engineering controls are typically introduced to reduce the risks to acceptable levels. The survey of the sites indicate that the batters are between 1V:1.5H and 2V:1H, the risk assessment shows a very high level of risk in wet conditions. Should the proposed engineering controls recommended be implemented, the qualitative risk to property can be assessed as between “Low” and “Very Low”.

To determine the stability of the site it is considered that further analysis in the form of limit state analysis on the existing and proposed development scenarios. The type and extent of engineering controls required have been determined by modelling the existing conditions and applying increasing levels of support until the required factors of safety have been reached. Section 4.2 describes the process and findings of the modelling.







## 4.2. Limit State Analysis

Limit State Analysis of the sites was undertaken using the proprietary software Rocscience Slide 2. The existing slopes were assessed with the outputs summarised in Table 5, and detailed outputs provided in Appendix A.

### 6.1.1 Material Properties

The material properties identified in Table 3 was adopted for the various soil types used in the slope stability analyses.

Table 3: Material Properties

Material Description		Drained (“Effective”) Soil Parameters			Undrained (“Total”) Soil Parameters	
		Bulk Density	Friction angle	Cohesion	Friction angle	Cohesion
		$\gamma_b$ (kN/m <sup>3</sup> )	$\phi'$ (degrees)	$c'$ (kPa)	$\phi$ (degrees)	$c$ (kPa)
	Uncontrolled Fill	17	26	3	0	35
	Topsoil	17	28	2	0	35
	Colluvium	18	28	3	0	50
	Residual Soils	18	30	5	0	80
	Weathered Rock	22	34	8	0	120
	Engineered Fill	18	30	2	0	50

### 6.1.2 Model Profile

The details of the profiles used for the modelling are shown in *Figures 7 to 9*. A 40 kN loading was applied to account for dead (building) loads applied to the founding material of bored piers or shallow footings. **This is important to note as the loads are transferred directly into the bedrock material and the loads are not applied to the overlying soil layers.**

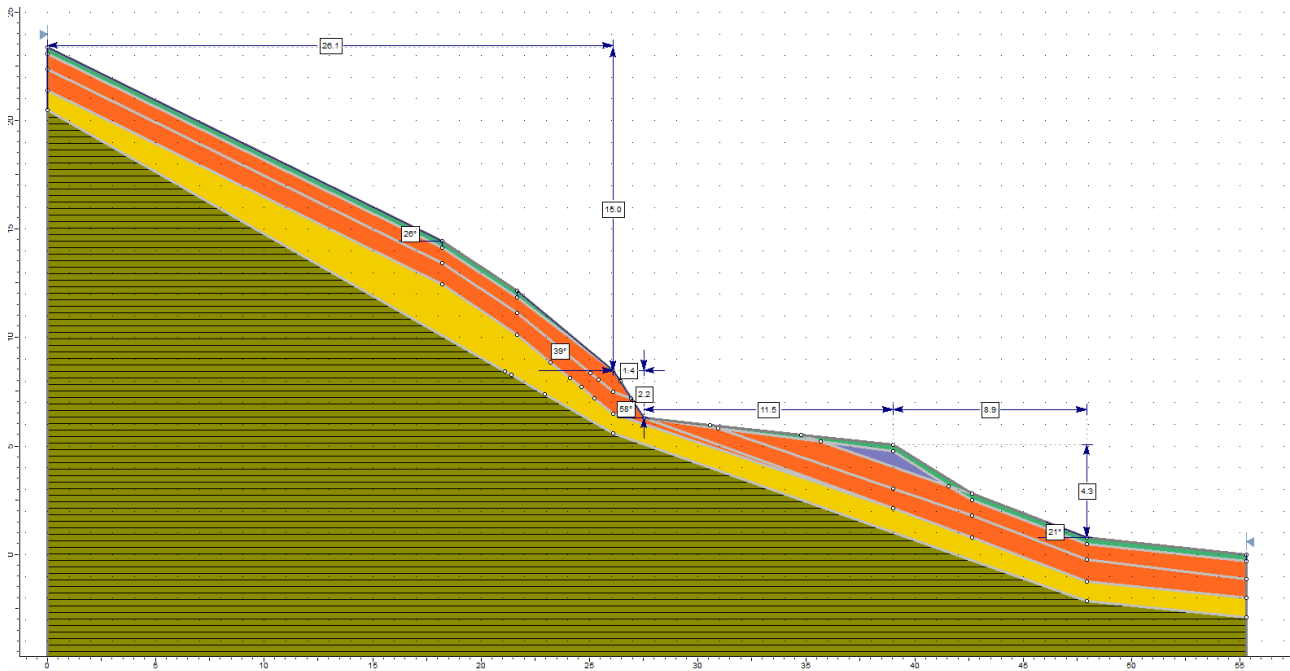


Figure 7 – Model profile of slope of Section A

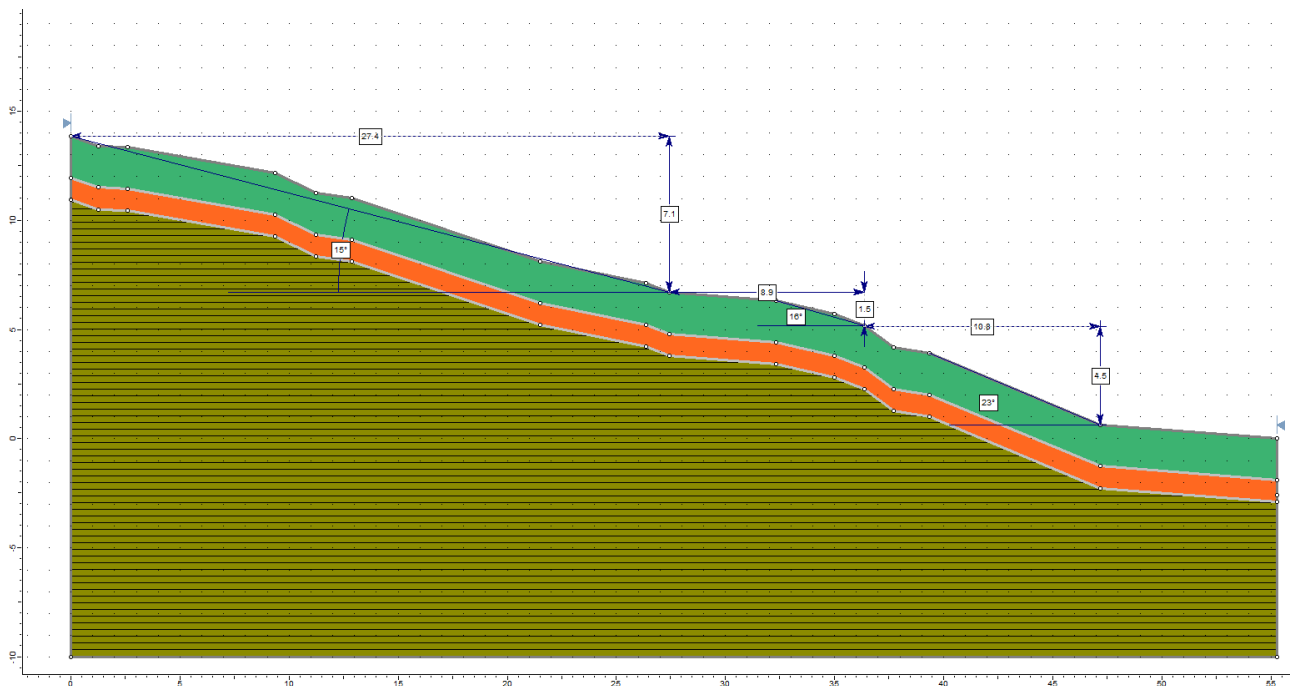


Figure 8 – Model profile of slope of Section B

### 6.1.3 Slope Stability Assessment

The stability analysis for the selected profiles were performed for dry (“normal”) conditions and wet (“extreme”) conditions. The “extreme” wet conditions were modelled by assuming a fully saturated profile, then solving the groundwater conditions to a steady state solution. This is to understand where the phreatic surface (i.e., groundwater) is likely to be in fully saturated conditions. Once this has been determined, it is used as an input to the slope stability assessment for the saturated drained condition. The saturated drained condition represents the condition when the soil is saturated, and loading is applied slowly (no pore pressure build up). The saturated undrained case represents the case where loading is applied to the surface instantaneously, the consequence of which is the build-up of pore pressure (water pressure) in the soil matrix.

For the purposes of assessing stability the following is provided which are considered appropriate to the site:

- A calculated factor of safety  $> 1.5$  indicates that the profile is likely to be stable;
- A calculated factor of safety from 1.0 – 1.5 indicates a marginally stable profile;

- A calculated factor of safety  $< 1.0$  indicates a marginally stable profile.

In general terms, the factor of safety (FoS) is calculated by dividing the forces resisting instability (i.e., strength of the soil) by the forces driving instability (i.e., the weight of the soil, groundwater, and loads on the slope).

Generally, for normal operating conditions a long-term factor of safety of 1.5 is acceptable. For short term or “extreme” conditions, it may be acceptable to design for a reduced factor of safety of 1.2.

Both sections of the site were analysed from cross sections obtained from LiDAR which closely match the detailed survey obtained of the site. The results of the analysis is summarised in *Table 4*.

*Table 4: Existing Stability of Batter*

Section	Calculated Factor of Safety		
	Dry Conditions	Wet Conditions	
		Undrained	Drained (Steady State Groundwater)
<b>A</b>	1.381	0.912	1.648
<b>B</b>	1.737	0.930	2.009

The results of the stability analyses show that the factors of safety are not within the acceptable limits during both wet and dry conditions. These results indicate instability of the batters. The sites are considered unstable and require retention or other remediation works in order to strengthen and stabilise the batters to achieve the required Factor of Safety to allow the construction of a house on the proposed building pad.

Where a batter is unstable various remedial options can be considered. Batter steepness can be reduced to a stable profile, or numerous forms of positive retention or reinforcement can be used. The reinforcement may take the form of soil nails, micropiles or geofabric which act to confine the soil to act as a single mass by increasing the resistive forces along the slip plane. Other types of reinforcement include gravity retaining and cantilever retaining walls, which is generally a passive reinforcement type that provides an inertial resistive force due to self-weight or converts horizontal pressures from behind the wall to vertical pressures on the ground below respectively.

## 5. OPTIONS ASSESSMENT

Various options were considered including, batter back slope (decrease angle), Gabion Retaining Wall, Masonry Retaining Wall, and Horizontal Drains.

*Table 5: Proposed Solutions*

	Proposed Solution			
	Decrease Batter Angle	Gravity Retaining Wall - Gabions	Retaining Wall – Masonry	Insitu Horizontal Drains
<b>Technically Feasible</b>	No	Yes	Yes	Yes
<b>Cost</b>	Low	Medium	High	Relatively low
<b>Constructability</b>	Very simple construction.	Relatively simple to construct.	Simple to construct.	Relatively simple to construct.
<b>Safety</b>	Safe. Can be constructed in a safe manner.	Safe. Can be constructed in a safe manner.	Safe. Can be constructed in a safe manner.	Safe. Can be constructed in a safe manner.
<b>Approvals/ Environmental</b>	Would need to resume land from adjacent property or have permission from upslope landowner.	No approvals envisaged to be required	No approvals envisaged to be required	No approvals envisaged to be required

	Proposed Solution			
	Decrease Batter Angle	Gravity Retaining Wall - Gabions	Retaining Wall – Masonry	Insitu Horizontal Drains
<b>Comment</b>	Not considered an appropriate solution due to the need for works in adjacent properties. Not considered further.	Considered a good solution to retain batters up to 3m with suitable global stability.	Considered a good solution larger retain larger batters with suitable global stability. Best for use within the building design. I.e., masonry wall of the building to be the retaining wall.	Considered a good solution in conjunction with the other proposed solutions to relieve buildup of pore water pressure.

Discussions with the Client informed that the gabion is the preferred retaining structure for any batters adjacent the driveway. Based on the modelling results of the existing condition, it is considered that the corner of the north western boundary (i.e., the existing building pad) would need to be retained by a masonry retaining wall due to the large cut required in close proximity to the northern and western property boundary. It is proposed to utilise gabion basket gravity retaining walls to locally support the batter adjacent the driveway below the building pad.

The large batter that has been formed as part of the building pad, is unstable and will need to be supported. It is envisaged that the retention of the batter may well be in the form of a design response. That is, one of the walls of the building may also be designed as a retaining wall as well as part of the house structure.

As the proposed dwelling structure is unknown at the current time, modelling required to retain the north western corner of the allotment has not been included. It is noted that modelling was undertaken which demonstrates that retaining the batter to a suitable factor of safety is possible.

The options were further explored through modelling using proprietary software Rocscience Slide 2. The modelling showed that the proposed options are all technically feasible to provide a suitably stable batter profile. It should be noted that the critical case, for all sections analysed, is the saturated drained scenario. This denotes importance of reducing pore water pressure within the batter, to ensure fully saturated conditions are avoided. It is considered that horizontal drains may be installed as part of the proposed solution to address this. The importance of providing adequate erosion control on exposed batters is also emphasised.

Table 6: Summary of Batter Stability Analysis - excluding house pad batter

Section	Calculated Factor of Safety		
	Dry Conditions	Wet Conditions	
		Undrained	Drained (Steady State Groundwater)
<b>A</b>	1.909	2.213	1.266
<b>B</b>	2.200	2.060	1.401

The proposed solution includes multiple elements including, gabion baskets, geofabric, geogrids, rock scour protection, and native vegetation. The analysis shows that the design provides suitable factors of safety to enable the provision of the access and turning bay to the site. The limit state analysis demonstrates that the potential for failure is reduced to within normally acceptable limits and would be considered a “low” risk in accordance with the AGS (2007) guidelines.

The detail design of the gabions used is included in Appendix C.

## 6. ENGINEERING ADVICE

### 6.1. Drainage

It is recommended that the natural flow path of the property be maintained so that runoff continues to discharge lawfully to the Murphy Street road frontage into the existing field inlet pit. A file note which documents the sites stormwater constraints and opportunities has been created by ARO Industries and included in Appendix D.

This should be considered when designing the footprint of the dwelling and any paved areas that could impact on the effectiveness of the natural drainage topography. All stormwater runoffs should be collected and directed away from the site foundations and batter faces.

### 6.2. Site Preparation and Earthworks

It is anticipated that excavation of existing site material will be able to be completed with traditional earthmoving equipment. If excavation beyond the uncontrolled fill is required (assumed to be at a depth of approximately 0.4m) some specialist earthmoving equipment such as rock breaker attachments may be required.

Previous studies indicate that the excavated material will be a colluvium/residual soil of very dense silty clayey sand.

If onsite filling is required, the following site preparation measures should be considered:

- Stripping and grubbing of site to remove all vegetation from the site surface. Environmentally significant vegetation should be noted, and advice sought regarding their removal if deemed necessary. Depressions in the surface from removal of vegetation should be filled and compacted in layers with clean fill.
- Excavate and removal of structurally poor material. Compaction of subgrade level will aid in identification of poor material.
- Fill should be placed and compacted in layers not exceeding 200mm in thickness.

Using the standard compaction method, a density ratio of at least 95% is recommended. Imported clean fill should have a CBR greater than 15% and a plasticity index of less than 10.

Earthworks are completed in accordance with AS3798-2011 and the works are supervised by a suitably qualified person.

### 6.3. Footings & Site classification

No details of the footings or the structural loading for the proposed development have been provided to ARO at the present time. All geotechnical comments provided in this report should be considered preliminary in nature and should be reviewed and, if necessary, revised once the final design details are available.

A site-specific geotechnical report will be required as part of the building design due to the detailing the proposed retaining solution for the retaining the unstable boundary batters, with the critical location being the north western corner. All footing excavations should be inspected by a geotechnical engineer to confirm the ground conditions are consistent with those on which these design guidelines are based.

The site under investigation is identified as a "Class P" in accordance with AS2870-1996 'Residential slabs and footings – Construction.' Footing design should consider the below recommendations.

#### Shallow Footings

For pads and footings supporting residency vertical loads, shallow footings shall be founded at least 0.5m into low strength (or better) rock as specified in Table 7. Ancillary footings should be founded into bedrock where achievable. When this is not achievable, allowable vertical bearing pressure of material can be assumed as per Table 7

Table 7: Shallow footing design parameters

Material	Unit Weight (kN/m <sup>3</sup> )	Friction Angle (°)	Modulus of Elasticity (MPa)	Allowable Vertical Bearing Pressure (kPa)
Dense to very dense silty sand	18	35	15-20	120
Medium dense to dense silty sands	18	30	10-15	80

Material	Unit Weight (kN/m <sup>3</sup> )	Friction Angle (°)	Modulus of Elasticity (MPa)	Allowable Vertical Bearing Pressure (kPa)
Engineered fill	18	30	10-20	100
Very low strength extremely weathered rock	22	34	100	600

Whilst residency shallow footings may be founded on low strength (or better) rock, previous data suggests that this may not be achievable due to depth of. It is recommended that deep footings be the primary load bearing structure for residency loads.

#### Deep Footings

It is recommended that bored cast *in situ* piles be used to support all residency vertical loads.

Where shallow foundations are not achievable, bored piers, micropiles or cast in-situ piles could be considered. For preliminary design purposes, piles must extend into the weather rock by a minimum depth of three times the pile diameter. Detail design of the piles shall be in accordance with AS2159-2009 'Piling – Design and installation'. Preliminary design of piles can be undertaken using the allowable capacities in Table 8 below.

Table 8: Deep footing design parameters

Material	Allowable End Bearing (kPa)	Allowable Shaft Adhesion (kPa)
Low strength weathered rock	600	50

#### 6.4. Uncontrolled Fill

Existing site material is assumed to be uncontrolled fill. Consequently, all foundations are to be embedded into underlying rock layers to allow direct transmission of the loads into competent substrate.

#### 6.5. Retaining Walls

Retaining structures should be bedded into underlying rock or have an embedment into medium dense to dense or dense to very dense silty sands of at least 0.5m.

It is recommended that drainage be provided behind the retaining wall to adequately mitigate the development of pore water pressure. Regardless of prescription of drainage, the designer should allow for a build-up of pore water pressure behind to wall if drainage becomes obstructed or ineffective.

Design parameters for retaining walls are provided in Table 9 below.

Table 9: Geotechnical Design Parameters for Retaining Walls

Material	Active Earth Pressure Coefficient ( $k_a$ )	At Rest Earth Pressure Coefficient ( $k_o$ )	Passive Earth Pressure Coefficient ( $k_o$ )	Unit Weight (kN/m <sup>3</sup> )
Engineered fill/Colluvium	0.3*	0.47	3.0	18
Very Low and Low Strength Weathered Road	0.3	0.5	-	22

\*Assuming horizontal backfill behind wall

## 7. SPECIFICATIONS

### 7.1. Compaction Procedure and Specifications

Provided the placement moisture content of the imported fill or select in-situ material approximates the Optimum Moisture Content (OMC) for compaction, suitable compaction levels should be achievable using typical compaction machinery (5-10t vibrating sheepsfoot roller or compactor, vibrating plate compactors and compaction wheels).

For the above plant, the fill material should be compacted in layers not exceeding 300mm loose thickness lifts. This is more than typical compaction requirements – but has been specified by the manufacturer to ensure that the damage to the geogrid during installation is minimised. Final maximum placement layer thickness will need to be determined by a geotechnical engineer when the compaction plant as well as the material type and conditions are known.

Minimum requirements for compaction have been outline in Table 10.

Table 10: Minimum compaction requirements

Soil Types	Test Method	Trafficable Areas	Non-Trafficable Areas	
		Embankment/ Embedment Material (%)	Embedment Material (%)	Embankment Material (%)
<b>Cohesionless</b>	Density Index	70	60	Compaction will depend on site requirements
<b>Cohesive</b>	Standard Dry Density Ration, Hilf Density Ratio	95	90	

Field density testing should be carried out to check the standard of compaction achieved and the placement moisture content. The frequency and location of testing should be as specified in AS/ NZS 2566.2, Section 5.6.4.

## 8. GABIONS

### 8.1. Baskets

Maccaferri Galmac + Polimac coated Gabion baskets (filled without securing the internal diaphragms) are specified as the scour protection solution to be placed at the toe of the batters. This product is recommended due to its high life expectancy to be in excess of 100 years. The gabion baskets are to be installed with the manufacture's specifications.

### 8.2. Rockfill

Rocks to be used for gabions shall be hard, angular to round, durable and of such quality that they shall not break down on exposure to water or weathering during the life of the structure. Rock to be nominal size between 120mm and 200mm. Rock must be uniformly graded, with greater than 80% by number exceeding the 150mm nominal size.

Rock must be manually placed to form a dense matrix and minimise voids. The exposed faces should be carefully hand placed to give a neat flat and compact appearance. The cells shall be filled in stages so that local deformation is avoided. At no time, shall any cell be filled to a depth exceeding 0.3 m higher than the adjoining cell.

## 9. GEOSYNTHETIC REINFORCEMENT

### 9.1. Geogrid

TenCate Miragrid GX 35/35 or approved equivalent has been specified as a suitable geogrid.

The geogrid is required to have;

- a design life of 100 years in the environment proposed to be installed.
- the same or better short- and long-term strength parameters.
- the same or better installation damage factor.

### 9.2. Geofabric

Bidim Green A34 or approved equivalent is recommended for use behind the gabion structures as a separation and filtration fabric.

In accordance with the Main Roads Technical Specifications (MRTS27) The geofabric is required to;

- have a design life of 100 years in the environment proposed to be installed.
- meet geotextile strength Class C requirements in accordance with table 6.2 of MRTS 27
- meet geotextile filtration Class III requirements in accordance with table 6.3 of MRTS 27

## 10. MATERIAL USAGE

The following recommendations apply to the materials on site and any imported materials intended for use during construction.

- The surficial fill materials encountered are considered suitable for re-use as general embankment fill.
- The insitu natural soils, where free from organic and deleterious material, may be used for embankment fill, provided the moisture content of the soils on placement approximates the optimum moisture content (OMC) required for compaction. This will require conditioning to bring the soil to optimum. However, it should be noted that the on-site soils could be expected to provide difficulties in handling, placement and compaction if the appropriate moisture content could not be achieved, particularly if the soils are overly moist.
- A moisture content within the range of OMC -2% to OMC +2% (Standard compaction) is recommended.
- Rock, or cobbles over 63mm greatest dimension, which cannot be broken down should be removed.
- Any imported fill, if required to make up embankment deficiencies should be fair to good quality and conform to the following general specifications:
  - Minimum soaked CBR = 10%
  - Maximum Aggregate size = 63mm
  - Shrink/ Swell Index Maximum of 1.0%
- Embankment Materials should conform to the material quality specifications in AS/ NZS 2566:2002.
- Pavement Gravels should comply with the appropriate TMR quality specifications for base, sub-base and sub-grade materials.

## 11. PERMITS AND APPROVALS

It is noted that the site is mapped as containing Category B regulated vegetation, a Category A or B Area containing of concern regional ecosystems, a coastal bioregion and sub-region, and essential habitat.

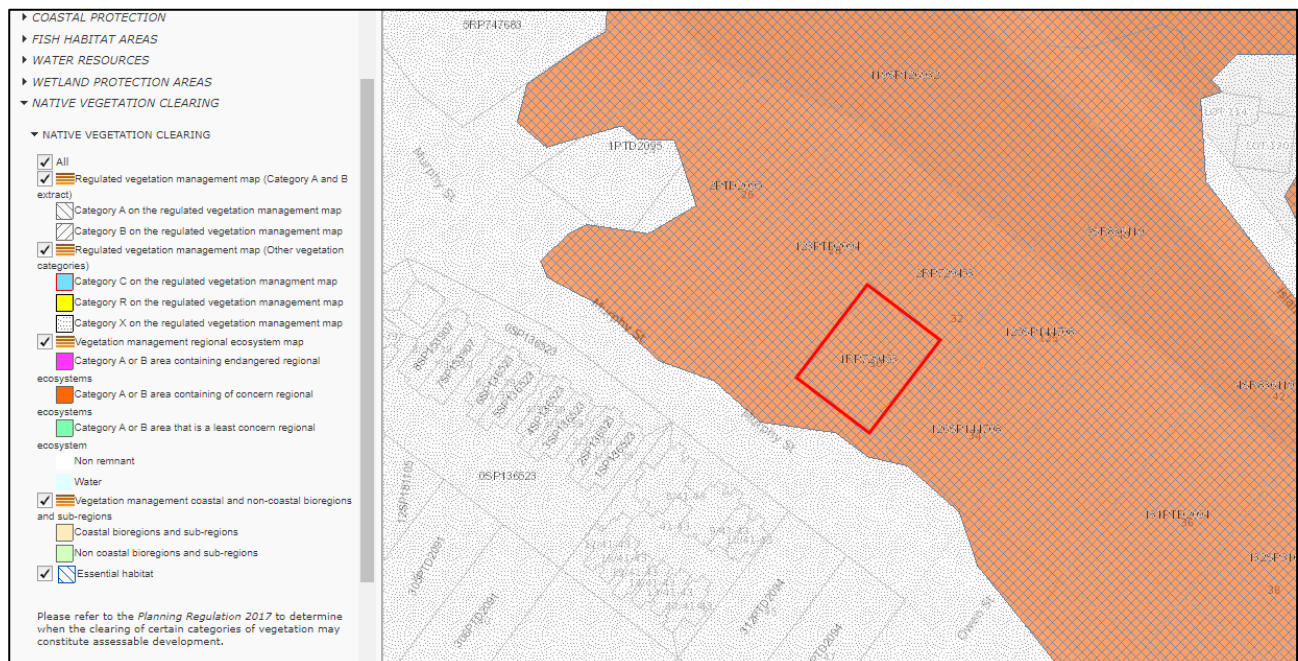


Figure 6 – Snippet from Queensland Government Development Assessment Mapping System.

## 12. CONSTRUCTION INSPECTIONS

Through the construction of the proposed reconstruction work, inspections by a suitably qualified and experienced geotechnical engineer are required to be undertaken to confirm design assumptions.

Localised landslips may occur during construction activities. All works should aim to minimise disturbance of the natural slope outside of the immediate earthworks zone. Where possible, all earthworks should be completed in the dry season. Construction activities should not take place in heavy or prolonged rainfall due to the potential reduction of slope stability. Works should be protected prior to forecast rainfall.

The proposed works ensure that the batter will remain geotechnically stable.

## 13. SUMMARY

Kate and Lucas Agrums have requested a geotechnical assessment of the site (30 Murphy Street), to confirm the access arrangements to the existing building pad, giving due consideration to the constraints and opportunities of the site.

A driveway access and turning area has been designed to allow vehicles to access and leave the site in a forward gear. A geotechnical assessment of the site has also been undertaken to confirm the appropriateness of the site and proposed access.

The findings can be summarised as:

- 1) The site is considered geotechnically suitable for the proposed development (driveway access and turnaround);
- 2) The site is considered low risk in accordance with the AGS (2007) guidelines for Landslide risk assessment;
- 3) A gabion wall is required to retain the existing batter profile at the access point to the driveway for approximately 20m.
- 4) The batter to the rear of the existing building pad (adjacent to lot 123 PTD2094) needs to be retained. It is assumed that this will be using a masonry block retaining wall, which will also form part of the house structure.
- 5) The proposed structure will need to be piled or use footing which allow the transfer of load directly to the competent bedrock strata., so that no further loads are applied to the existing pad.
- 6) Further geotechnical testing and investigations shall be required to determine the form, size, and location of the footings.

## 14. LIMITATIONS AND ASSUMPTIONS

Limitations include:

- Soil substructure are interpreted from previous geotechnical studies completed in the area and from observations from the existing cuts on site. Actual ground conditions will need to be confirmed during the construction period and the designs confirmed, prior to being certified by a suitably experienced and qualified RPEQ (geotechnical)<sup>1</sup>.
- The modelling of the site does not include the existing batter that has been created on the building platform. Given the proximity to the boundary and the size of the cut, and the constraints of the site, it is expected that the batter will be retained using a masonry block retaining wall (or approved equivalent). The retaining structure shall be designed and certified by a suitably qualified and experienced RPEQ (structural).
- The subsurface conditions have been interpreted from the site inspection and correlation with previous geotechnical reports of investigations in the immediate area.
- The analysis performed has been based on the information obtained, and the assumptions outlined below.

Assumptions

- ARO Industries Pty Ltd have prepared this report for the use of the Clients, for design and construction purposes in accordance with generally accepted geotechnical engineering practices. No other warranty, expressed or implied, is made as to the professional advice included in this report.

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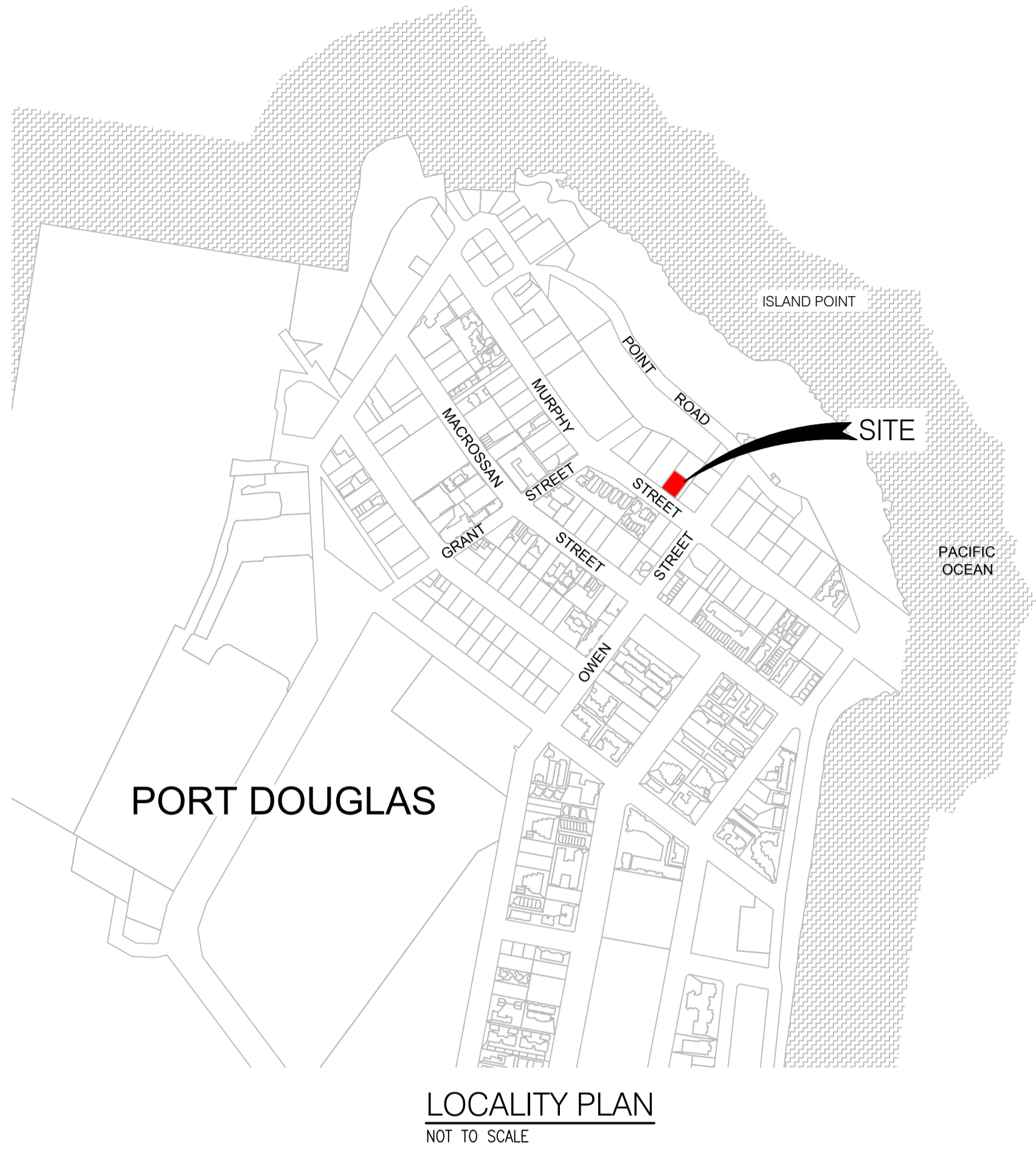
<sup>1</sup> Registered Professional Engineer of Queensland

- This report has not been prepared for use by parties other than the Client or their design consultants, i.e., Architect & Civil/Structural Engineers.
- The report has been based on project details as provided to us at the time of the commission. It therefore applies only to the site investigated and to a specific set of project requirements as understood by ARO Industries Pty Ltd.
- If there are changes to the project, you need to advise us in order that the effect of the changes on the report recommendations can be adequately assessed.
- It is important to remember that the subsurface conditions described in the report represent the state of the site at the time of investigation, and in the locations tested. Natural processes and the activities of man can result in changes to site conditions. For example, ground water levels can change, or fill can be placed on a site after the investigation is completed. If there is a possibility that conditions may have changed with time, ARO Industries Pty Ltd should be consulted to assess the impact on the recommendations of the report.
- The site investigation only identifies the actual subsurface conditions at the location and time when the samples were taken. Geologists and engineers then extrapolate between the investigation points to provide an assumed three-dimensional picture of the site conditions.
- The report assumes that the site conditions as identified at the investigation locations are representative of the actual conditions throughout an area. This may not be the case and actual conditions may differ from those inferred to exist. This will not be known until construction has commenced. Your geotechnical report and the recommendations contained within it can therefore only be regarded as preliminary. In the event that conditions encountered during construction are different to those described in the report, ARO Industries Pty Ltd should be consulted immediately. Nothing can be done to change the actual site conditions which exist, but steps can be taken to reduce the impact of unexpected findings.
- This report should be retained as a complete document and should not be copied in part, divided or altered in any way.
- It is recommended that ARO Industries Pty Ltd is retained during the construction phase to confirm that conditions encountered are consistent with design assumptions. For example, this may involve assessment of bearing capacity for footings, stability of natural slopes or excavations or advice on temporary construction conditions. This document has been produced to help all parties involve recognise their individual responsibilities.

## **APPENDIX A**

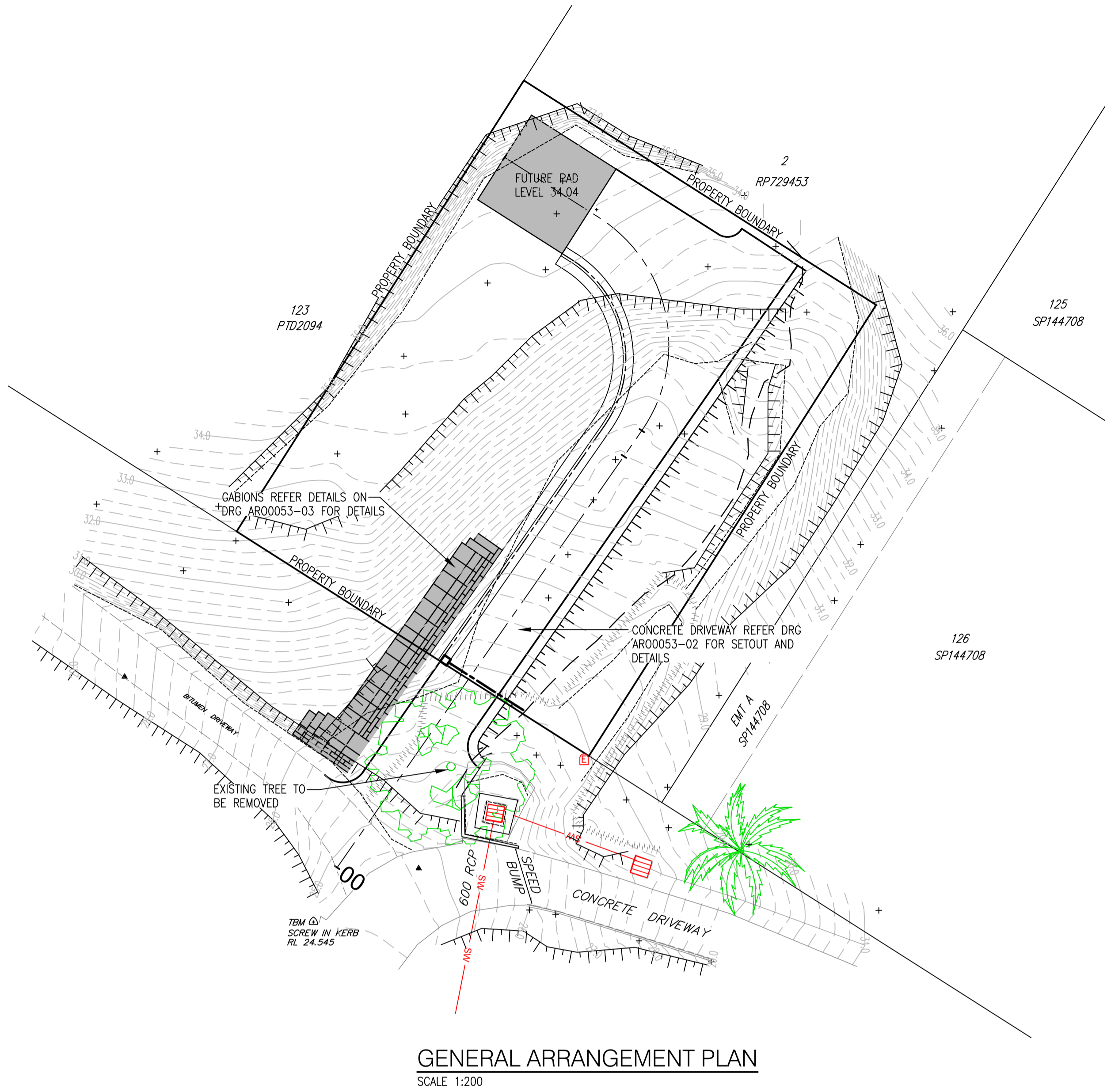
*Proposed Development Plans*

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## SCHEDULE OF PROJECT DRAWINGS

ARO0053-C01	LOCALITY PLAN, DRAWING SCHEDULE AND GENERAL ARRANGEMENT PLAN
ARO0053-C02	DRIVEWAY LAYOUT PLAN, CONTROL LINE SETOUT AND LONGITUDINAL SECTION
ARO0053-C03	DRIVEWAY TYPE SECTIONS AND DETAILS
ARO0053-C04	GABION WALL ELEVATION AND DETAILS
ARO0053-C05	DRIVEWAY ANNOTATED CROSS SECTIONS - SHEET 1 OF 2
ARO0053-C06	DRIVEWAY ANNOTATED CROSS SECTIONS - SHEET 2 OF 2



0 2 4 6 8 10m  
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### ORIGIN OF SURVEY

LEVELS DATUM : AHD(D)  
ORIGIN OF LEVELS : PSM 500028, RL4.241  
SURVEY CARRIED OUT BY VERIS, REFER DRG No. 401394-001  
SURVEY DATED 8TH MARCH 2021

PRELIMINARY ISSUE

No.	Description	Reviewed	Approved	Date
1	PRELIMINARY ISSUE	-	-	27/05/2021

Client Logo

Client	KATE & LUCAS AGRUMS
Project	30 MURPHY STREET, PORT DOUGLAS
Title	LOCALITY PLAN, DRAWING SCHEDULE AND GENERAL ARRANGEMENT PLAN

Drawing No.

ARO0053-C01

Drawn	MS	Designed	MS	Approved		Scale (A1 size)	1:200
Drawing Check		Design Check		RPEQ	Date	Drawing is not to be used for construction unless approved.	



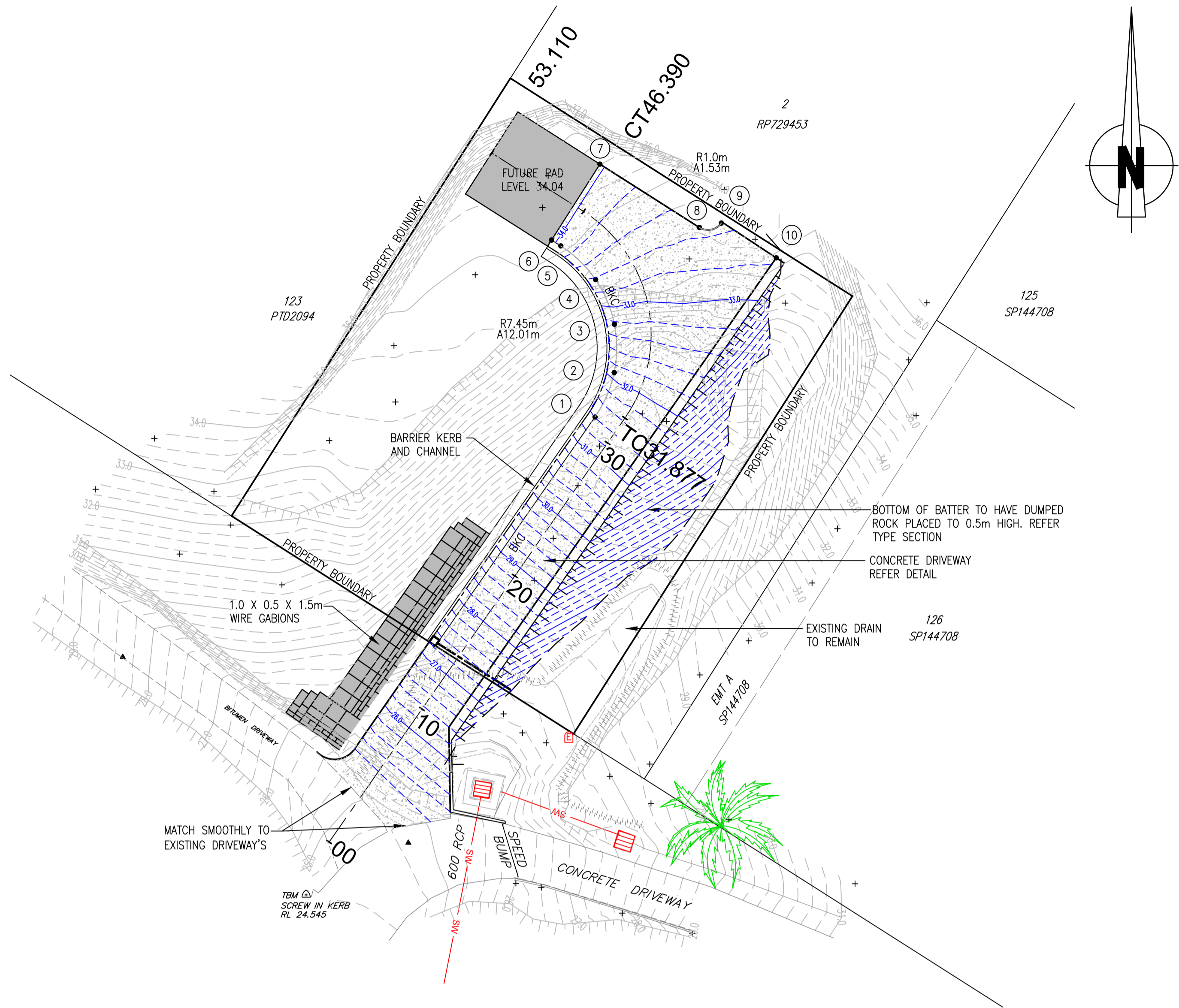
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Revision

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DRIVEWAY LAYOUT PLAN  
SCALE 1:200

CONCRETE DRIVEWAY ALIGNMENT SETOUT TABLE

CHAINAGE	EASTING	NORTHING	BEARING	RAD/SPIRAL	A.LENGTH	DEFL.ANGLE
0.000	336270.237	8177049.424	34°53'23.92"	R = -9.000	14.513	92°23'23.92"
TC 31.877	336288.471	8177075.572	34°53'23.92"			
CT 46.390	336293.838	8177083.269	302°30'00.00"			
	336285.924	8177088.310	302°30'00.00"			
53.110	336280.257	8177091.921	302°30'00.00"			

LEGEND

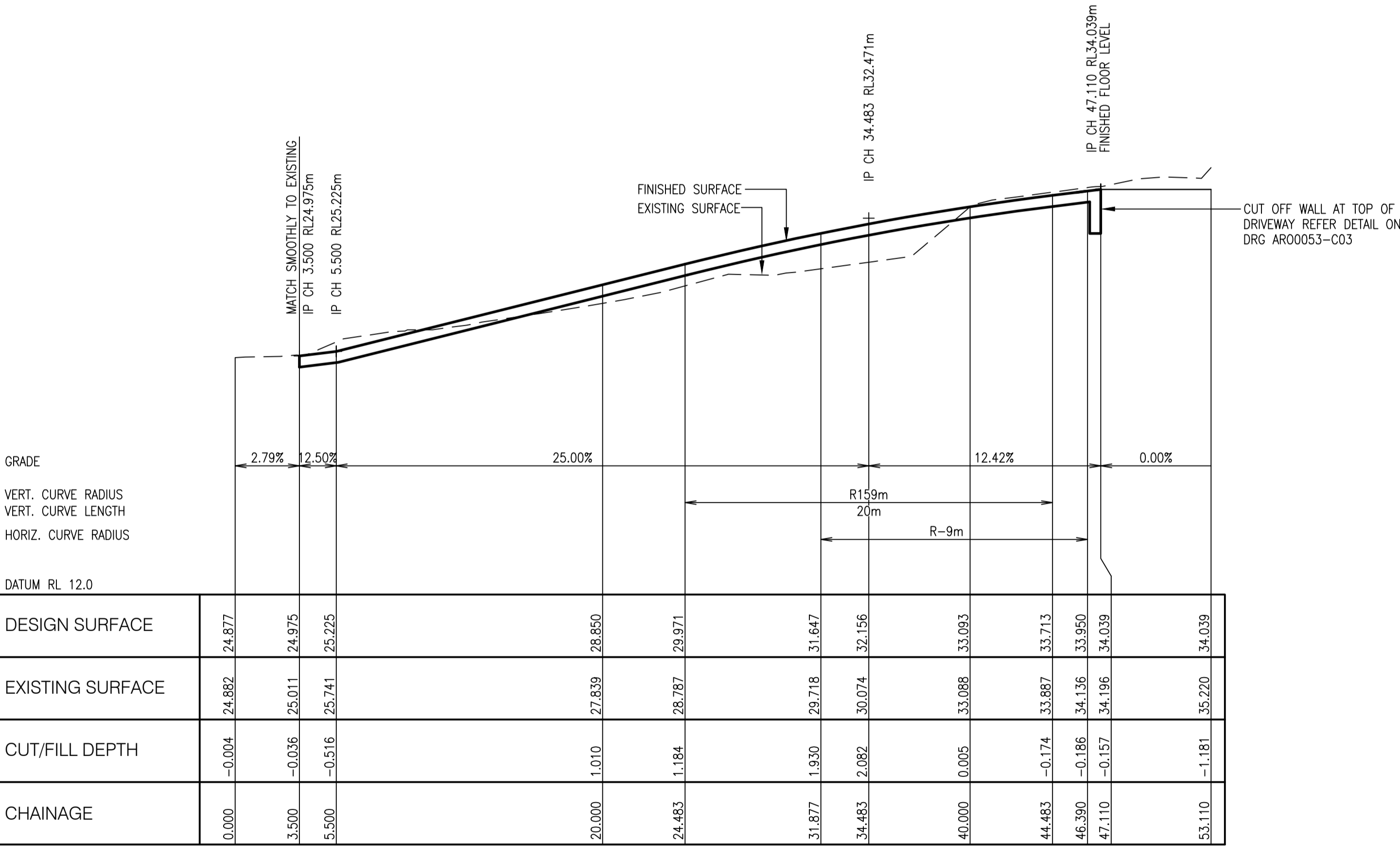
	BARRIER KERB AND CHANNEL
	EXISTING SURFACE CONTOUR (0.25m INTERVAL)
	DESIGN SURFACE CONTOUR (0.2m INTERVAL)
	PROPOSED TOP OF BATTER
	PROPOSED TOE OF BATTER
	EXISTING TOP OF BATTER
	EXISTING TOE OF BATTER
	EDGE OF EXISTING SEALED ROAD
	EXISTING OVERHEAD ELECTRICITY
	EXISTING STORMWATER
	KERB SETOUT POINT
	R10.00
	A15.75

DRIVEWAY TURNOUT SETOUT TABLE

POINT No.	EASTING	NORTHING	LEVEL
1	336286.627	8177075.637	31.409
2	336287.809	8177078.376	32.092
3	336287.822	8177081.359	32.765
4	336286.663	8177084.108	33.376
5	336284.519	8177086.182	33.949
6	336283.947	8177086.547	34.039
7	336286.929	8177091.227	34.039
8	336293.059	8177087.322	33.464
9	336294.416	8177087.594	33.457
10	336297.799	8177085.452	33.255

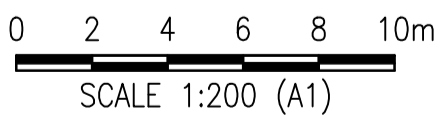
NOTES

- ALL WORKS AND MATERIALS TO BE IN ACCORDANCE WITH FNQROC DEVELOPMENT MANUAL GUIDELINES AND SPECIFICATIONS.
- DESIGN SURFACE LEVELS SHOWN ARE AFTER ALL EARTHWORKS ARE COMPLETED, INCLUDING 75mm TOPSOILING.
- BATTERS SHALL BE (UNLESS NOTED OTHERWISE):
  - DRIVEWAY: 1 ON 2 (MAX.)
  - TEMPORARY BATTERS: 1 ON 1
- ALL DESIGN SURFACES ARE TO BE GRADED EVENLY BETWEEN SHOWN LEVELS UNLESS OTHERWISE SHOWN.
- REFER TO FNQROC STANDARD DRAWINGS:
  - S1000 : CONCRETE KERB & CHANNEL
  - S1110 : CONCRETE DRIVEWAY FOR ALLOTMENT ACCESS
- NEW ROADWORKS AND KERBING TO JOIN SMOOTHLY TO EXISTING WORKS. PROVIDE CUT BACK TO EXISTING DRIVEWAYS WHERE NECESSARY.
- LOCATION OF ALL EXISTING SERVICES TO BE CONFIRMED PRIOR TO CONSTRUCTION BY CONTRACTOR THROUGH LIAISON WITH RELEVANT AUTHORITIES.
- TRIM AND DRILL SEED ALL FOOTPATHS/ROAD VERGES. BATTERS >0.5m TO BE HYDROMULCHED AFTER FINAL EARTHWORKS AND TOPSOILING IS COMPLETED.



DRIVEWAY LONGITUDINAL SECTION

HORIZONTAL SCALE 1:200



SCALE 1:200 (A1)

PRELIMINARY ISSUE

No.	Description	Reviewed	Approved	Date
1	PRELIMINARY ISSUE	-	-	27/05/2021

Client Logo

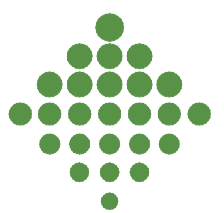
Client	KATE & LUCAS AGRUMS
Project	30 MURPHY STREET, PORT DOUGLAS
Title	LOCALITY PLAN, DRAWING SCHEDULE AND GENERAL ARRANGEMENT PLAN

Drawing No.

ARO0053-C02

Drawn	Designed	Approved	Scale (A1 size)
MS	MS		AS SHOWN
Drawing Check	Design Check	RPEQ	Date

Drawing is not to be used for construction unless approved.

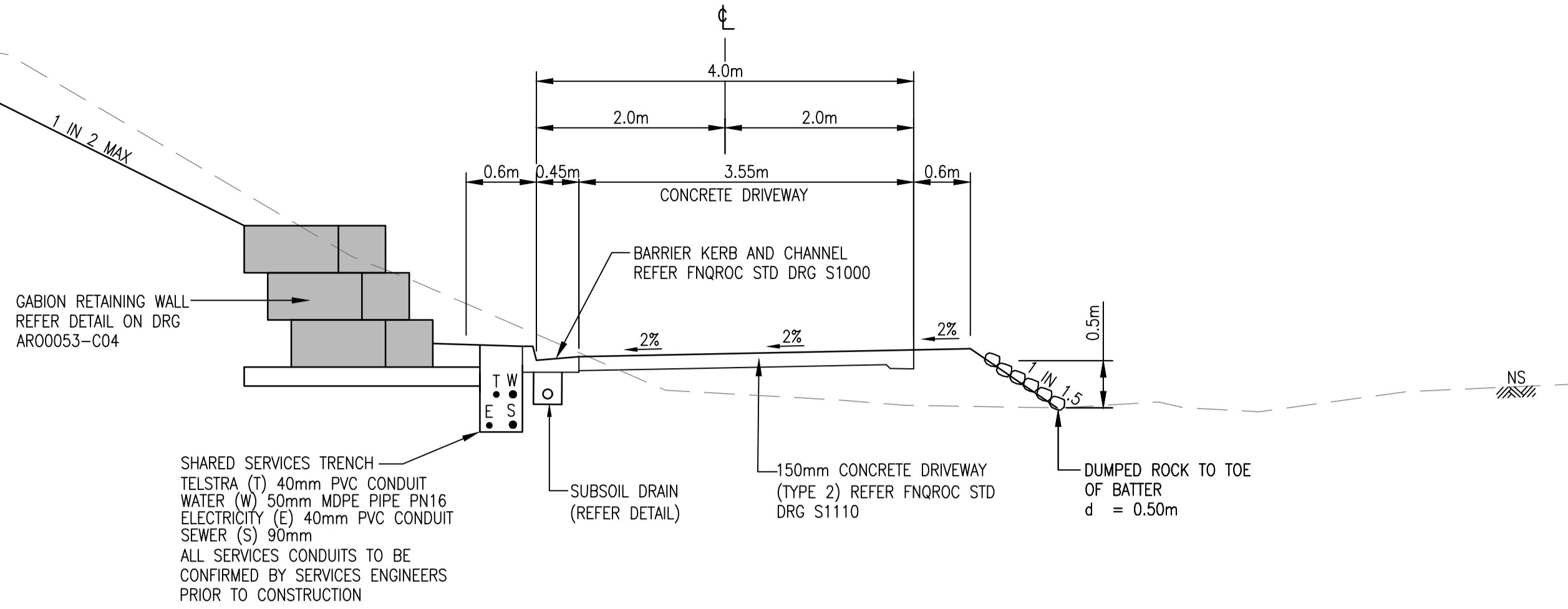


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Revision

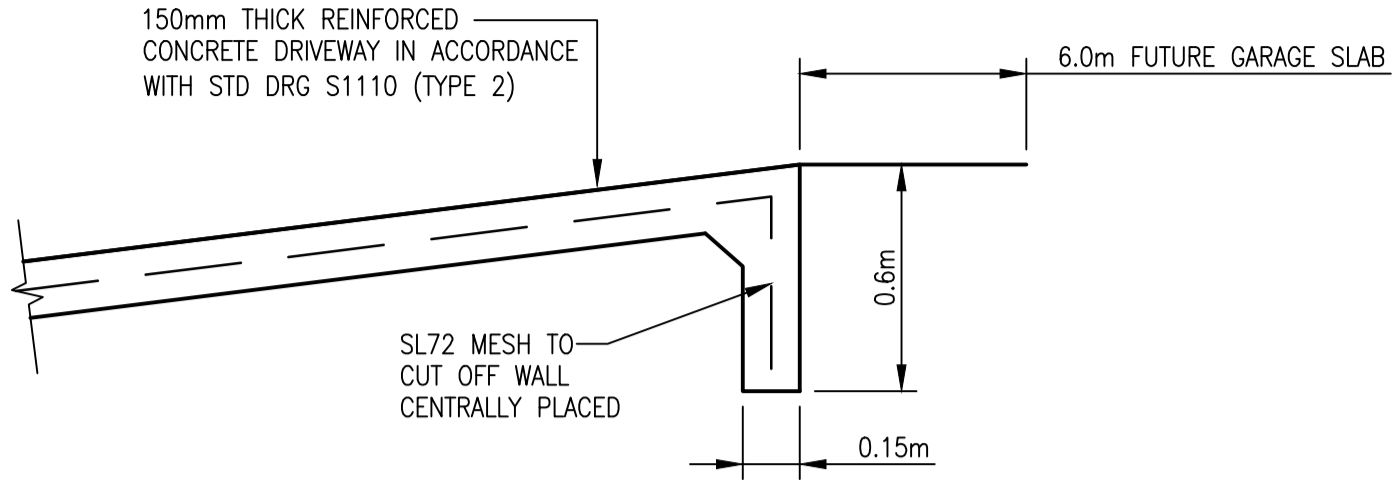
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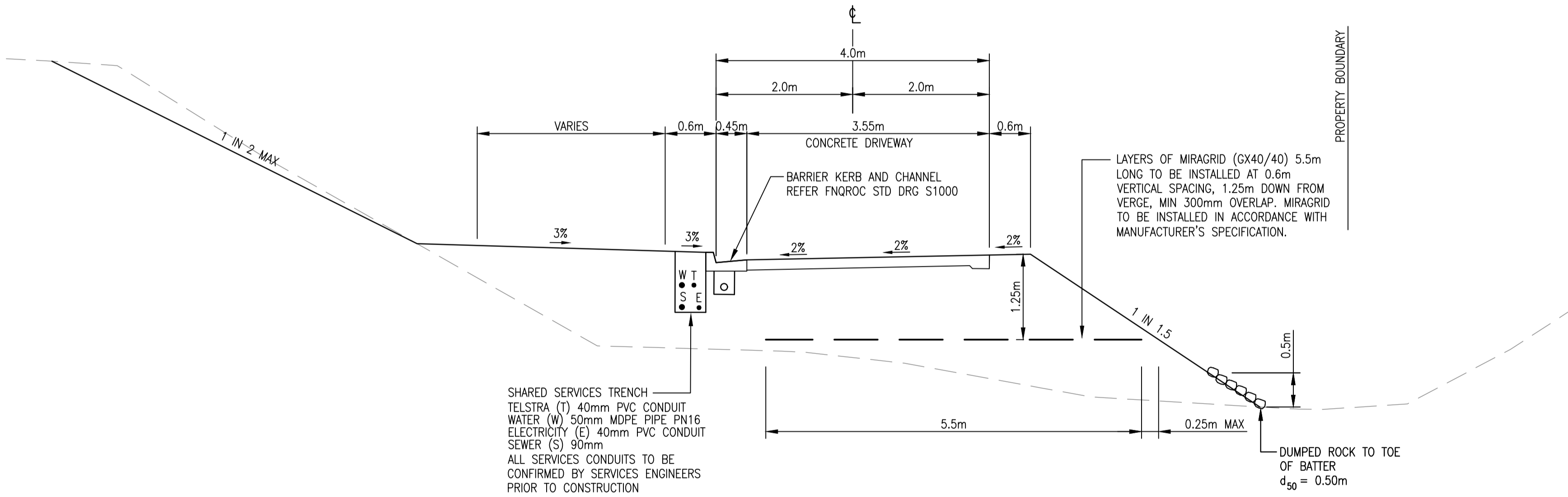
TYPICAL DRIVEWAY CROSS SECTIONS (WITH GABIONS)  
SCALE 1:50

NOTES

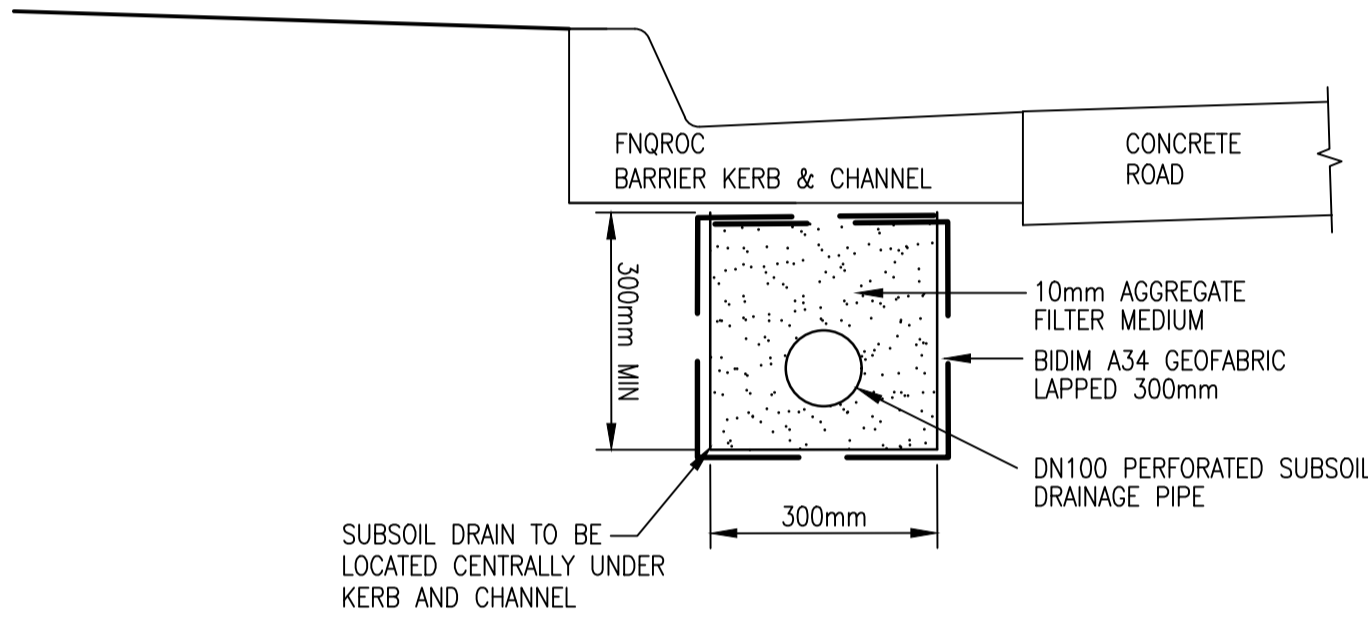
1. ALL WORKS TO BE IN ACCORDANCE WITH FNQROC SPECIFICATIONS.
2. CUT BATTERS ALONG DRIVEWAY TO BE A MAXIMUM OF 3.0m HIGH AND 1 IN 2 SLOPE. FILL BATTERS TO BE LIMITED TO A MAXIMUM OF 2.0m HIGH AND 1 IN 2 BATTER SLOPE. ANY VARIATION IS TO BE CERTIFIED BY A GEOTECHNICAL ENGINEER PRIOR TO CONSTRUCTION.
3. KERBS TO BE CONSTRUCTED AS PER FNQROC STANDARD DRG S1000.
4. SETOUT TABLES ARE TO CONTROL LINE OF DRIVEWAY (AS PER TYPE CROSS SECTIONS).
5. DEPTH OF SUBSOIL DRAIN VARIES. GRADE TO PROVIDE 0.5% MINIMUM FALL WITH OUTLET TO INVERT OF DRAIN. MAINTAIN MINIMUM DEPTH BASED ON GRADING REQUIREMENTS.
6. ALL ASSOCIATED FITTINGS FOR SUBSOIL DRAINS AS PER FNQROC STD DRG S1095.
7. ALL DIMENSIONS IN METRES (m) UNLESS OTHERWISE STATED.
8. REFER TO FNQROC STANDARD DRAWINGS:  
S1000 : CONCRETE KERB & CHANNEL  
S1110 : CONCRETE DRIVEWAY FOR ALLOTMENT ACCESS



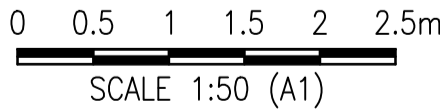
CUT OFF WALL DETAIL  
SCALE 1:20



TYPICAL DRIVEWAY CROSS SECTIONS  
SCALE 1:50



SUBSOIL DRAIN DETAIL  
SCALE 1:10



PRELIMINARY ISSUE

Revisions	No.	Description	Reviewed	Approved	Date
	1	PRELIMINARY ISSUE	-	-	27/05/2021

Client Logo

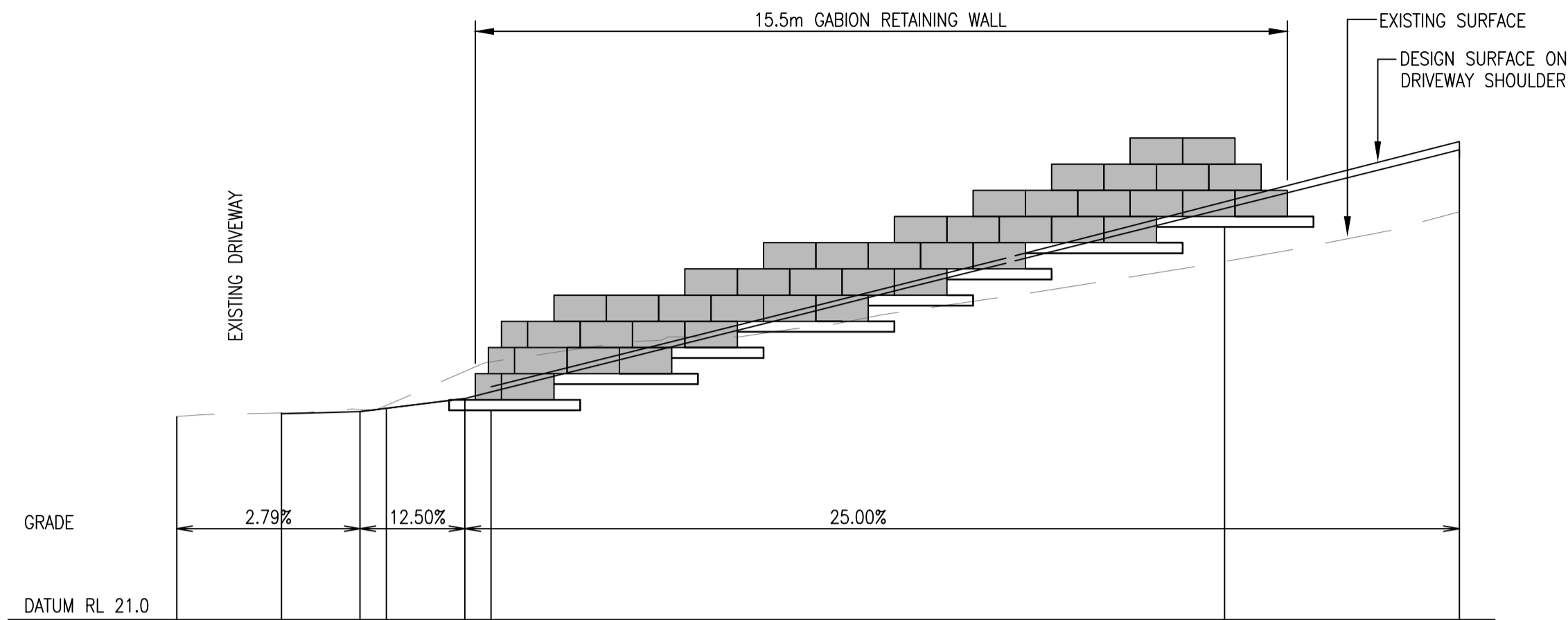
Client	KATE & LUCAS AGRUMS
Project	30 MURPHY STREET, PORT DOUGLAS
Title	DRIVEWAY TYPE SECTION AND CULVERT DETAILS
Drawing No.	ARO0053-C04

Drawn	Designed	Approved	Scale (A1 size)
MS	MS		AS SHOWN
Drawing Check	Design Check	RPEQ	Date
			Drawing is not to be used for construction unless approved.



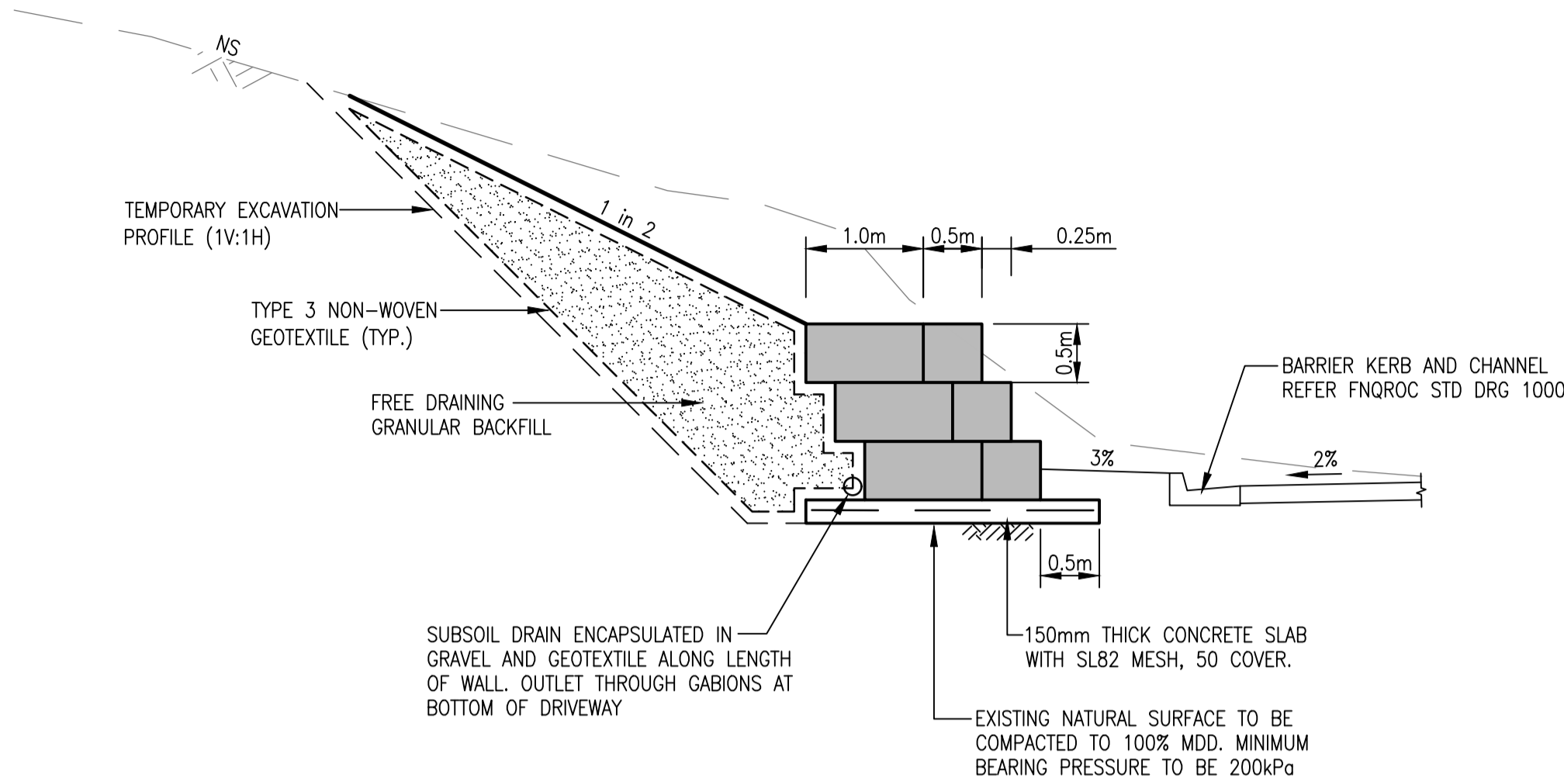
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GABION RETAINING WALL ELEVATION

SCALE 1:100



GABION TYPICAL SECTION

SCALE 1:50

GABION NOTES

MATERIALS

WIRE GABIONS

GENERAL: COMPLY WITH AS 2423. GALVANISE ALL WIRE TO AS 4534. COAT ALL COMPONENTS WITH POLYVINYL CHLORIDE TO A MINIMUM THICKNESS OF 0.5mm.

GABIONS: USE MESH WITH A WIRE DIAMETER NOT LESS THAN 2mm. PROVIDE APPROPRIATE MESH SIZE TO RETAIN THE ROCK FILLING. PROVIDE SELVEDGE WIRES WITH A DIAMETER NOT LESS THE 3.15mm AND BINDING WIRE WITH A DIAMETER NOT LESS THAN 2.5mm.

ROCK FILL

GENERAL: CLEAN, HARD, DURABLE CRUSHED ROCK, ROCK SPALLS OR RIVER GRAVEL, WITH MINIMUM SIZE LARGER THAN THE MAXIMUM OPENING SIZE OF THE MESH OR FABRIC FORMING THE BASKET. ROCKS MUST BE CUBICAL WHERE POSSIBLE. THE SMALLEST DIMENSION MUST NOT BE LESS THAN HALF THE GREATEST DIMENSION.

PROPERTIES: WET/DRY STRENGTH VARIATION TESTED IN ACCORDANCE WITH QUEENSLAND DEPARTMENT OF TRANSPORT AND MAIN ROADS TEST METHOD Q205C OR AS 1141.22 MUST NOT EXCEED 35%. TEN PERCENT FINES VALUE TESTED IN ACCORDANCE WITH QUEENSLAND DEPARTMENT OF TRANSPORT AND MAIN ROADS TEST METHOD Q205B OR AS 1141.22 MUST NOT BE LESS THAN 140 KN.

GABIONS: PROVIDE ROCK OF NOMINAL SIZE BETWEEN 120mm AND 200mm. ROCK MUST BE UNIFORMLY GRADED, WITH GREATER THAN 80% BY NUMBER EXCEEDING THE 150mm NOMINAL SIZE.

EXECUTION

GABIONS

GENERAL: CONSTRUCT GABION PROTECTION WORK IN THE LOCATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS.

SURFACE PREPARATION: TRIM AREAS ON WHICH GABIONS ARE TO BE POSITIONED TO THE SPECIFIED SHAPES WITHIN A TOLERANCE OF ± 50mm. TRIMMED SURFACES MUST BE FREE OF ROOTS, STUMPS, BRUSH, ROCKS AND THE LIKE PROTRUSIONS.

GEOTEXTILE FABRIC: PLACE TYPE 3 GEOTEXTILE BEHIND ALL GABIONS.

ASSEMBLY: ASSEMBLE TO COMPLY WITH THE DRAWINGS AND RECOMMENDATIONS OF THE MANUFACTURER. POSITIONING: POSITION ASSEMBLED GABIONS EMPTY IN THE WORKS. SECURELY POSITION THE FIRST ROW OF GABIONS AND FILL BEFORE GABIONS IN OTHER ROWS ARE POSITIONED.

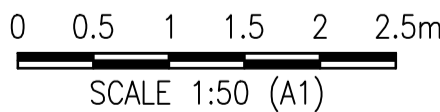
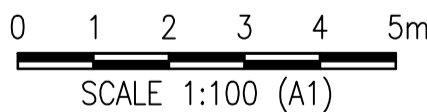
ROCK FILL: HAND PACK THE EXPOSED FACES OF THE BASKET. THE REMAINDER MAY BE FILLED USING MACHINE METHODS. PLACE THE ROCK TO PRODUCE A DENSE, EVENLY DISTRIBUTED FILLING WITH A MINIMUM OF VOIDS. MAINTAIN THE TOLERANCES AND SHAPE SPECIFIED. TIE TOGETHER THE OUTER AND INNER PANELS OF THE GABIONS DURING THE PLACING OPERATION TO MINIMISE DISTORTIONS WHERE NECESSARY.

DAMAGE: DURING THE PLACING, DO NOT DAMAGE THE GABION MESH OR GEOTEXTILE.

CONSTRUCTION TOLERANCES

GENERAL: CONSTRUCT GABIONS AND MATTRESSES IN THE LOCATIONS AND IN ACCORDANCE WITH THE DETAILS SHOWN ON THE DRAWINGS.

PRELIMINARY ISSUE



Revisions	No.	Description	Reviewed	Approved	Date
	1	PRELIMINARY ISSUE	-	-	27/05/2021

Client Logo	

Client	KATE & LUCAS AGRUMS
Project	30 MURPHY STREET, PORT DOUGLAS
Title	GABION LAYOUT AND DETAILS

Drawing No.

ARO0053-C04

Drawn	Designed	Approved	Scale (A1 size)
MS	MS		AS SHOWN
Drawing Check	Design Check	RPEQ	Date
			Drawing is not to be used for construction unless approved.



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ABN: 49 641 461 298

Revision

1

CENTRELINE SETOUT  
F 336277.101  
N 8177059.268  
RL 26.85

DATUM RL 24.0

DESIGN SURFACE LEVEL		30.252				26.947	26.929						
NATURAL SURFACE LEVEL		30.252				27.786	27.327	26.819					
DESIGN OFFSET		-9.361				-2.750	-2.150	-1.550	0.000	2.000	2.600	3.390	

CH 12

CENTRELINE SETOUT  
F 336275.957  
N 8177057.627  
RL 26.35

DATUM RL 24.0

DESIGN SURFACE LEVEL		29.649				26.447	26.429						
NATURAL SURFACE LEVEL		29.649				26.715	26.625	26.319					
DESIGN OFFSET		-9.154				-2.750	-2.150	-1.550	0.000	2.000	2.600	2.981	

CH 10

CENTRELINE SETOUT  
F 336274.813  
N 8177055.986  
RL 25.85

DATUM RL 24.0

DESIGN SURFACE LEVEL		28.865				25.947	25.929						
NATURAL SURFACE LEVEL		28.865				26.590	26.494	25.819					
DESIGN OFFSET		-8.587				-2.750	-2.150	-1.550	0.000	2.000	2.600	3.111	

CH 8

CENTRELINE SETOUT  
F 336273.669  
N 8177054.346  
RL 25.35

DATUM RL 24.0

DESIGN SURFACE LEVEL		28.213				25.447	25.429						
NATURAL SURFACE LEVEL		28.213				26.024	25.856	25.319					
DESIGN OFFSET		-8.241				-2.750	-2.150	-1.550	0.000	2.000	2.600	3.206	

CH 6

CENTRELINE SETOUT  
F 336281.677  
N 8177065.83  
RL 28.85

DATUM RL 26.0

DESIGN SURFACE LEVEL		28.978											
NATURAL SURFACE LEVEL		28.978				28.004	27.936						
DESIGN OFFSET		-3.785				-2.150	-1.550	0.000	2.000	2.600		4.975	

CH 20

CENTRELINE SETOUT  
E 336280.533  
N 8177064.189  
RL 28.35

DATUM RL 26.0

DESIGN SURFACE LEVEL		28.461											
NATURAL SURFACE LEVEL		28.461				27.828	27.590						
DESIGN OFFSET		-3.211				-2.150	-1.550	0.000	2.000	2.600		4.452	

CH 18

CENTRELINE SETOUT  
E 336279.389  
N 8177062.549  
RL 27.85

DATUM RL 25.0

DESIGN SURFACE LEVEL		27.948											
NATURAL SURFACE LEVEL		27.948				27.660	27.400						
DESIGN OFFSET		-2.790				-2.150	-1.550	0.000	2.000	2.600		4.118	

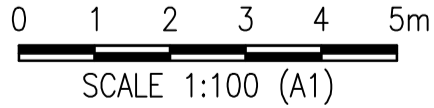
CH 16

CENTRELINE SETOUT  
F 336278.245  
N 8177060.908  
RL 27.35

DATUM RL 25.0

DESIGN SURFACE LEVEL		30.821				27.447	27.429						
NATURAL SURFACE LEVEL		30.821				27.856	27.596	27.319					
DESIGN OFFSET		-9.498				-2.750	-2.150	-1.550	0.000	2.000	2.600	3.668	

CH 14



PRELIMINARY ISSUE

No.	Description	Reviewed	Approved	Date
1	PRELIMINARY ISSUE	-	-	27/05/2021

Client Logo
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Client	KATE & LUCAS AGRUMS
Project	30 MURPHY STREET, PORT DOUGLAS
Title	DRIVEWAY ANNOTATED CROSS SECTIONS - SHEET 1 OF 2

Drawn	Designed	Approved	Scale (A1 size)
MS	MS		1:100
Drawing Check	Design Check	RPEQ	Date
			Drawing is not to be used for construction unless approved.

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CENTRELINE SETOUT  
E 336285.109  
N 8177070.751  
RL 30.343

DATUM RL 26.0

DESIGN SURFACE LEVEL		30.506		30.422	30.312		30.343		30.383	30.395		28.413
NATURAL SURFACE LEVEL		30.506		29.292	29.268		29.197		28.965	28.893		28.413
DESIGN OFFSET		-4.972		-2.150	-1.550		0.000		2.000	2.600		6.563

CH 26

CENTRELINE SETOUT  
E 336283.965  
N 8177069.111  
RL 29.85

DATUM RL 25.0

DESIGN SURFACE LEVEL		30.007		29.929	29.819		29.850		29.890	29.902		28.336
NATURAL SURFACE LEVEL		30.007		28.777	28.749		28.656		28.445	28.403		28.336
DESIGN OFFSET		-4.756		-2.150	-1.550		0.000		2.000	2.600		5.732

CH 24

CENTRELINE SETOUT  
E 336282.821  
N 8177067.47  
RL 29.35

DATUM RL 25.0

DESIGN SURFACE LEVEL		29.495		29.429	29.319		29.350		29.390	29.402		28.048
NATURAL SURFACE LEVEL		29.495		28.319	28.282		28.203		28.123	28.103		28.048
DESIGN OFFSET		-4.350		-2.150	-1.550		0.000		2.000	2.600		5.309

CH 22

REFER LAYOUT PLAN FOR  
DRIVEWAY SETOUT

CENTRELINE SETOUT  
E 336288.541  
N 8177075.673  
RL 31.672

DATUM RL 27.0

DESIGN SURFACE LEVEL		31.848		31.750	31.640		31.672		31.712	31.724		29.643
NATURAL SURFACE LEVEL		31.848		30.033	29.921		29.734		29.853	29.809		29.643
DESIGN OFFSET		-5.501		-2.231	-1.631		0.000		2.001	2.601		6.763

CH 32

CENTRELINE SETOUT  
E 336287.397  
N 8177074.032  
RL 31.254

DATUM RL 26.0

DESIGN SURFACE LEVEL		31.429		31.333	31.223		31.254		31.294	31.306		29.187
NATURAL SURFACE LEVEL		31.429		29.809	29.696		29.493		29.406	29.379		29.187
DESIGN OFFSET		-5.352		-2.150	-1.550		0.000		2.000	2.600		6.838

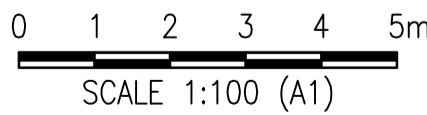
CH 30

CENTRELINE SETOUT  
E 336286.253  
N 8177072.392  
RL 30.811

DATUM RL 26.0

DESIGN SURFACE LEVEL		30.979		30.890	30.780		30.811		30.851	30.863		28.756
NATURAL SURFACE LEVEL		30.979		29.623	29.562		29.394		29.034	28.981		28.756
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CH 28

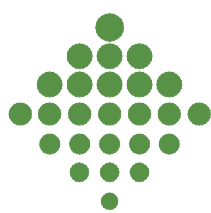


No.	Description	Reviewed	Approved	Date
1	PRELIMINARY ISSUE	-	-	27/05/2021

Client Logo
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Client	KATE & LUCAS AGRUMS
Project	30 MURPHY STREET, PORT DOUGLAS
Title	DRIVEWAY ANNOTATED CROSS SECTIONS - SHEET 2 OF 2

Drawn	MS	Designed	MS	Approved		Scale (A1 size)	1:100
Drawing Check		Design Check		RPEQ	Date	Drawing is not to be used for construction unless approved.	



PRELIMINARY ISSUE

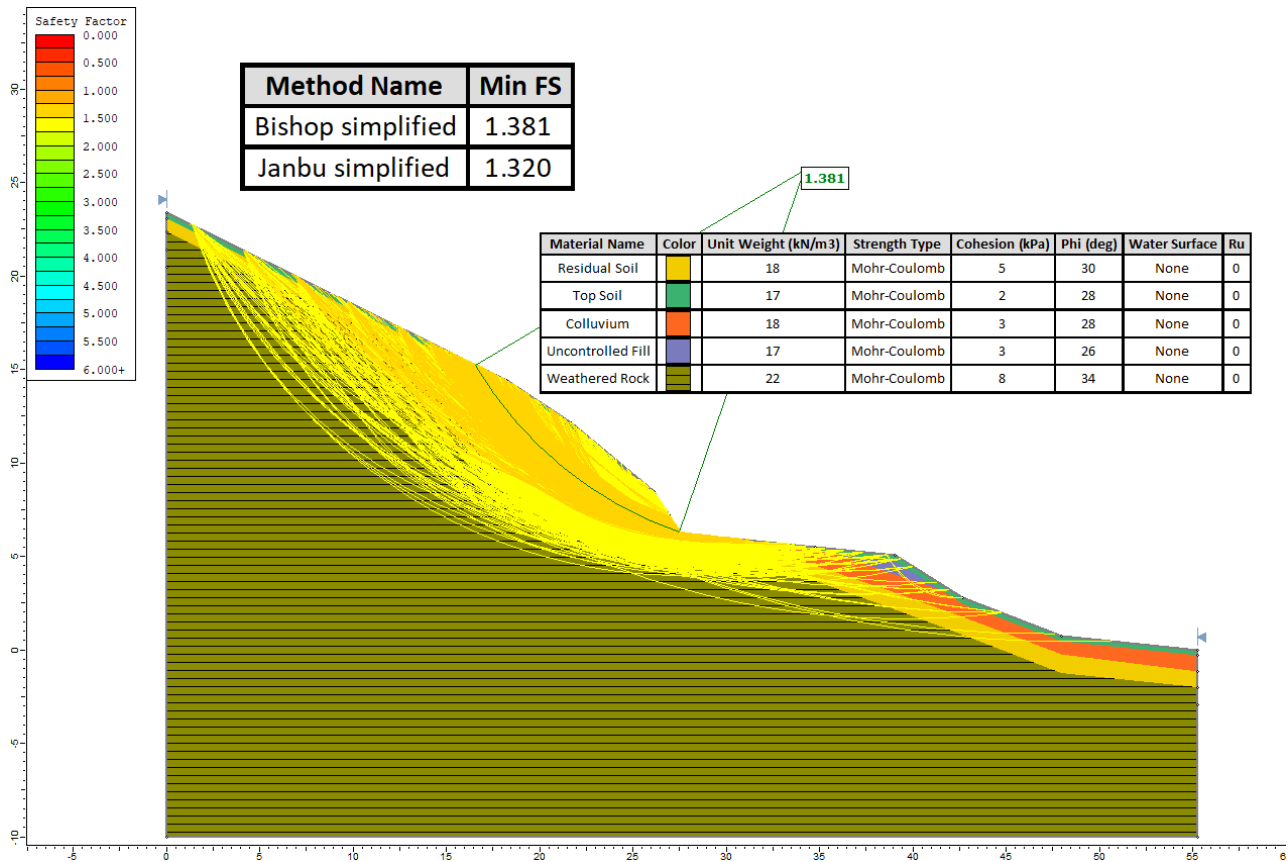
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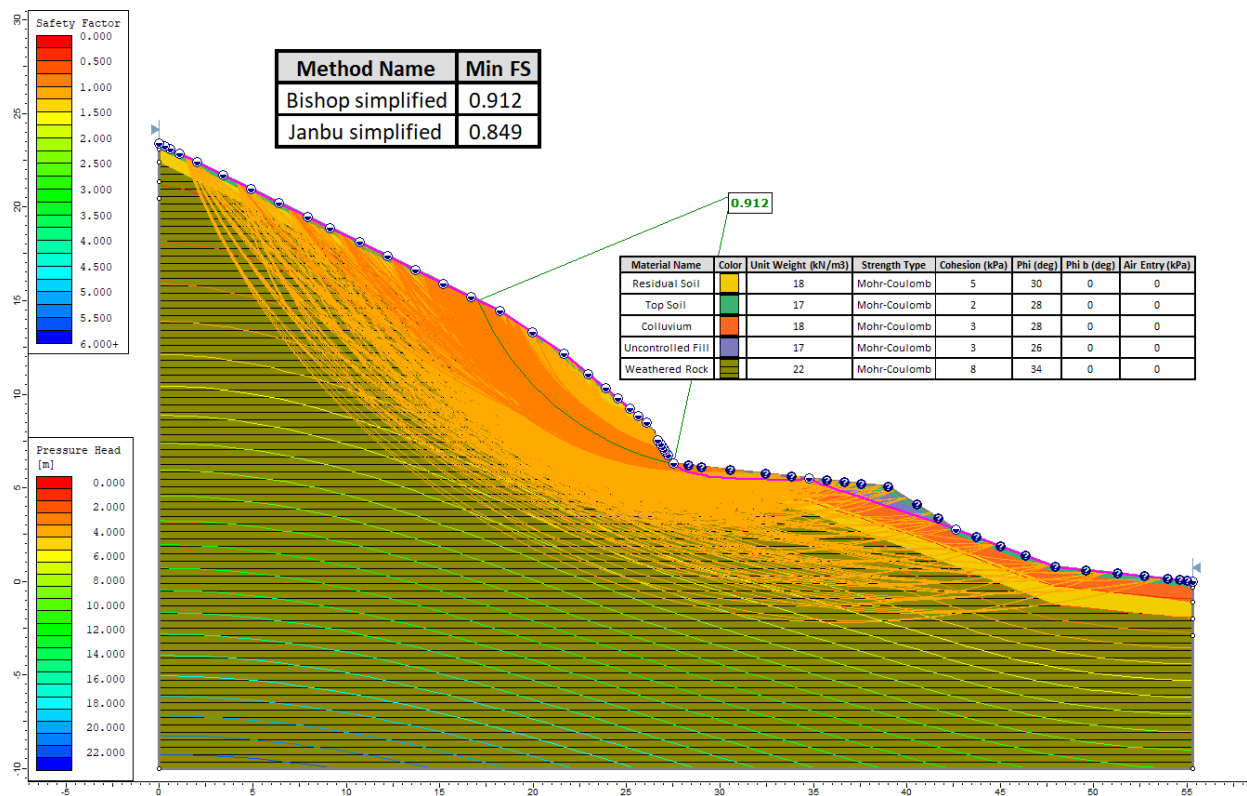
## **APPENDIX B**

*Modelling Outputs*

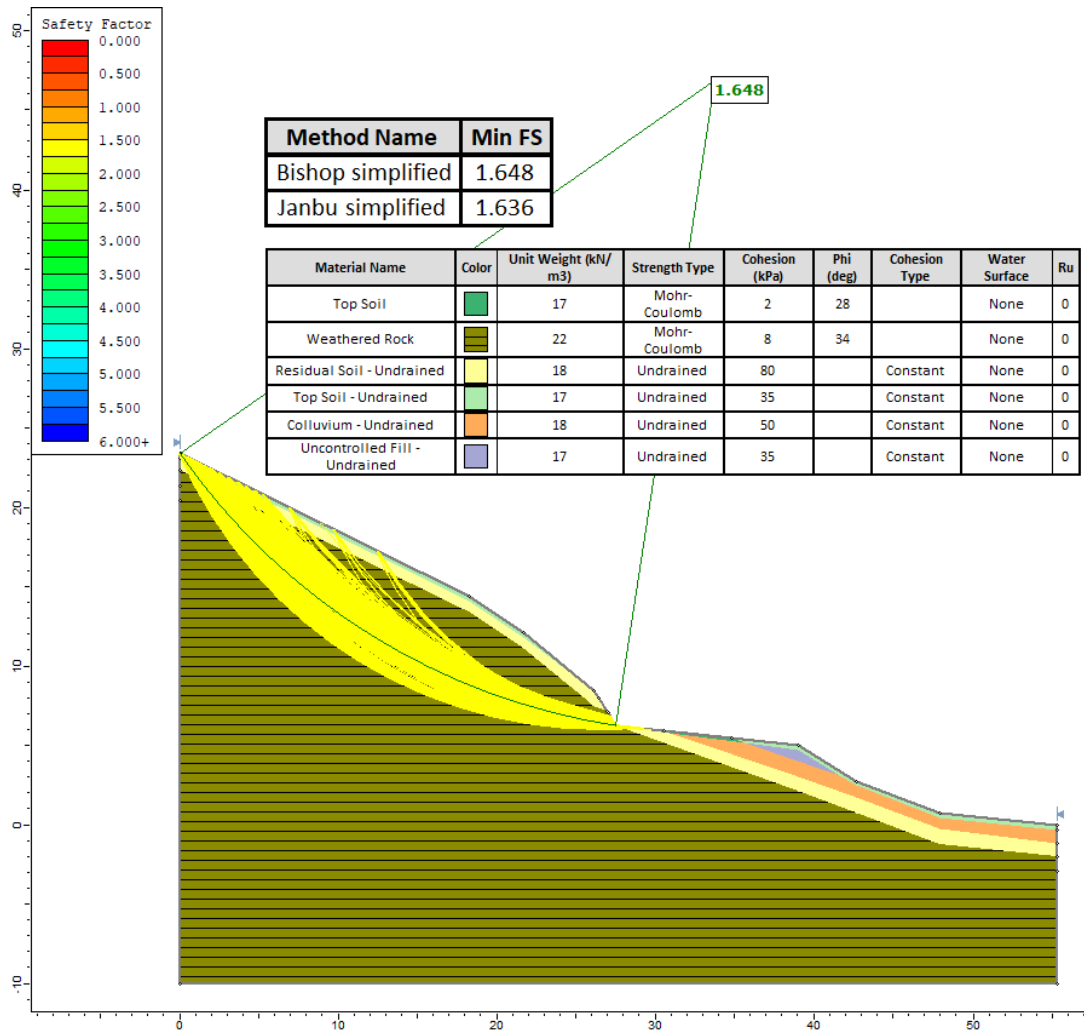
## Slide 2 Modelling Output of Existing Batter Slope Section A



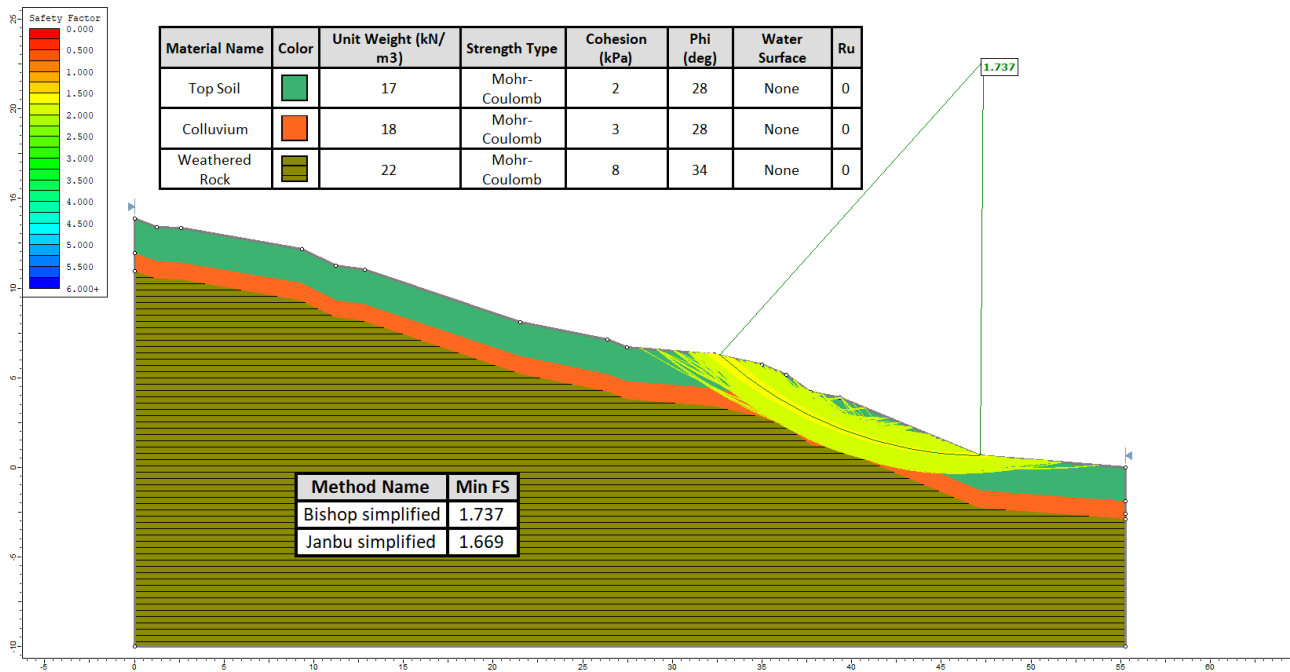
*Existing Batter – Dry Conditions*



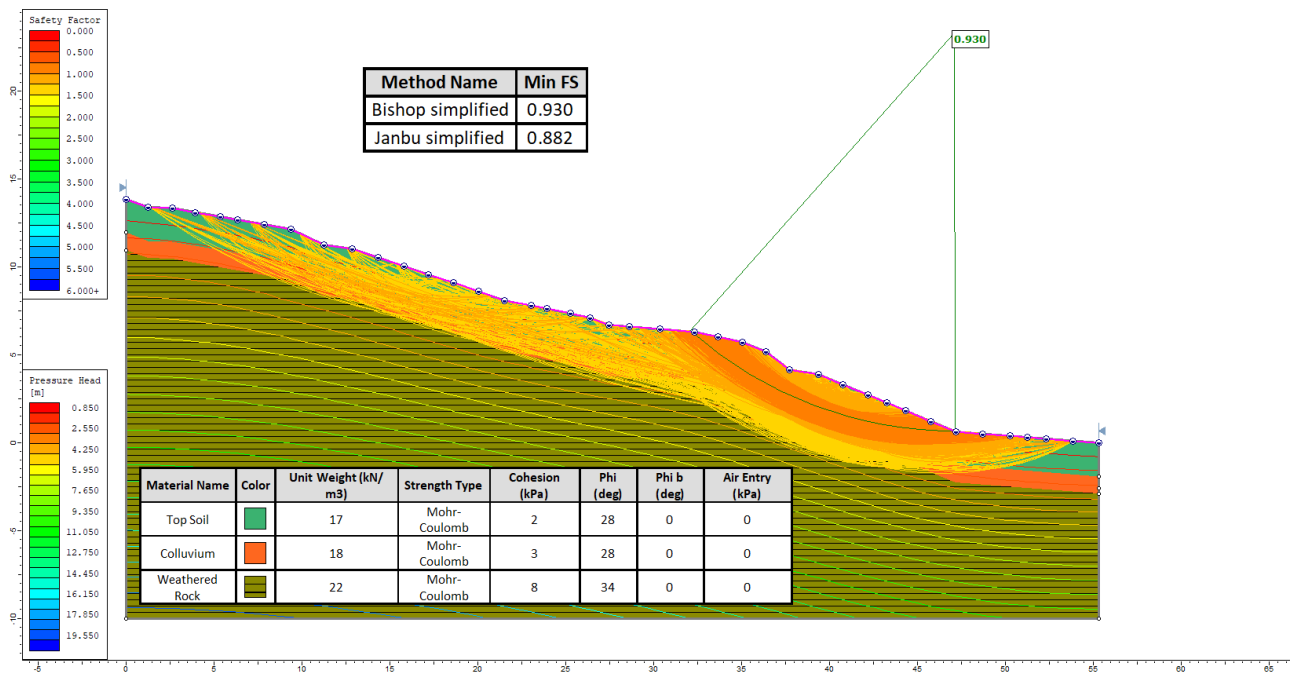
*Existing Batter – Saturated Drained Conditions – SSFEA*



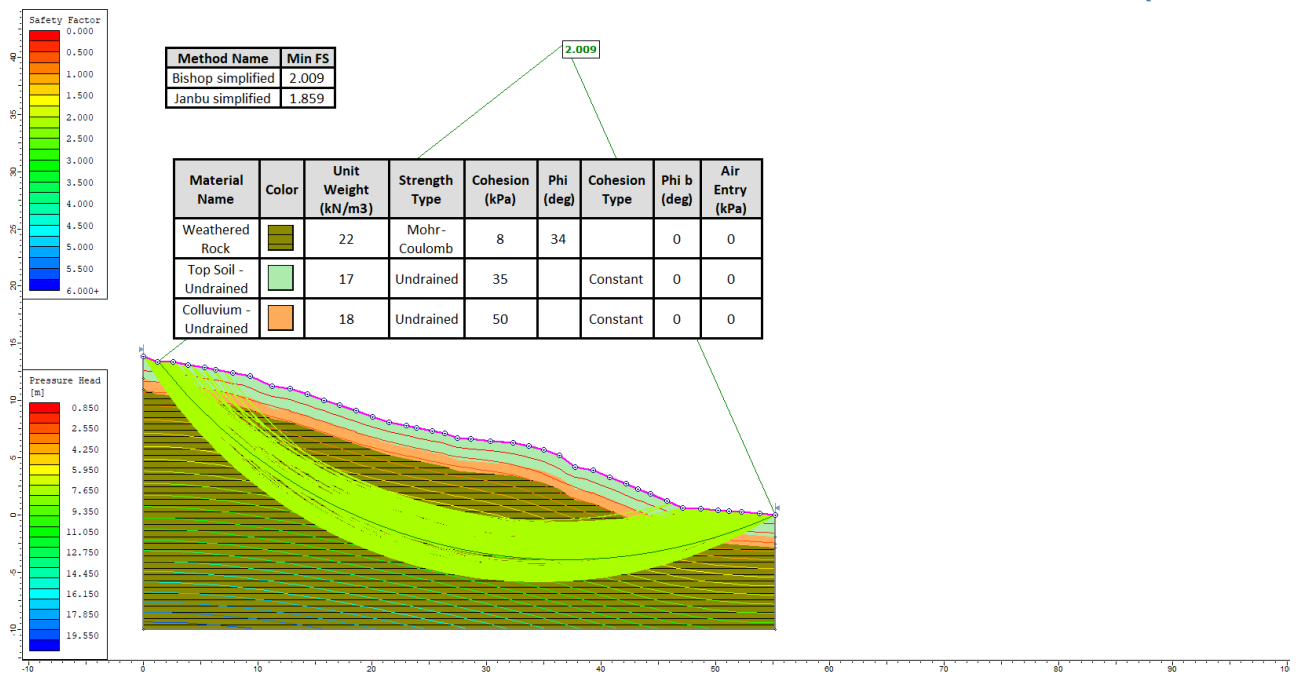
## Slide 2 Modelling Output of Existing Batter Slope Section B



*Existing Batter – Dry Conditions*

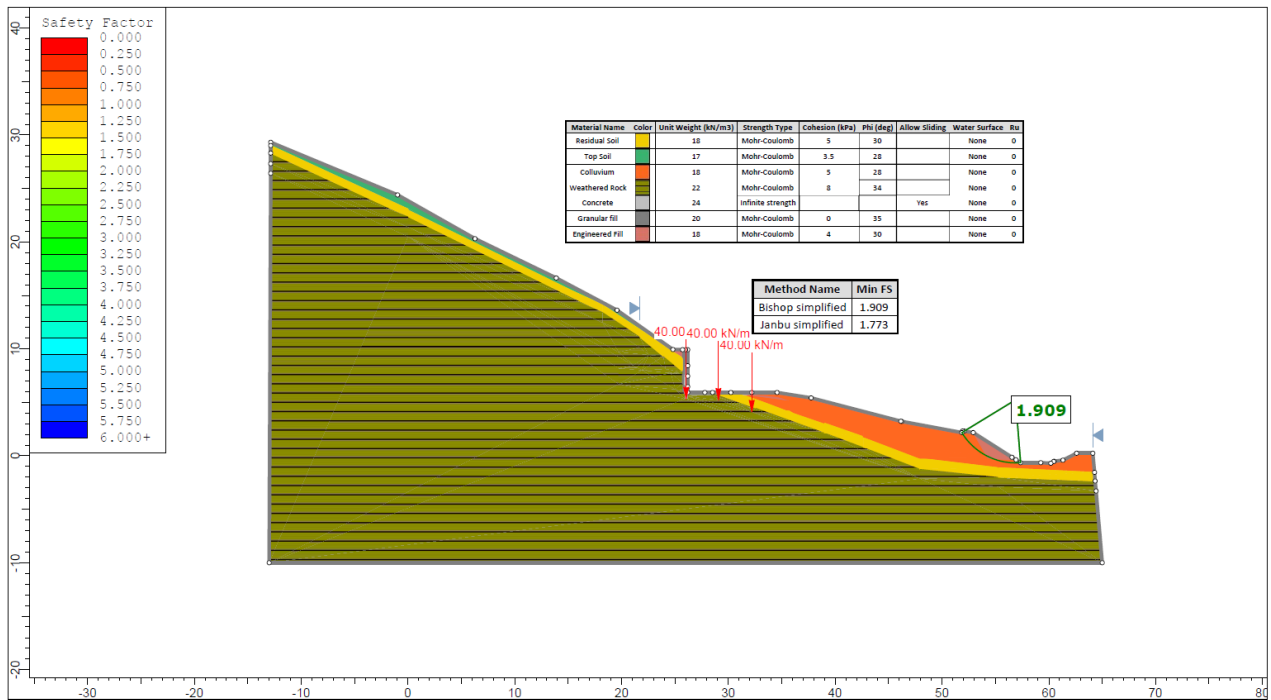


*Existing Batter – Saturated Drained Conditions – SSFEA*

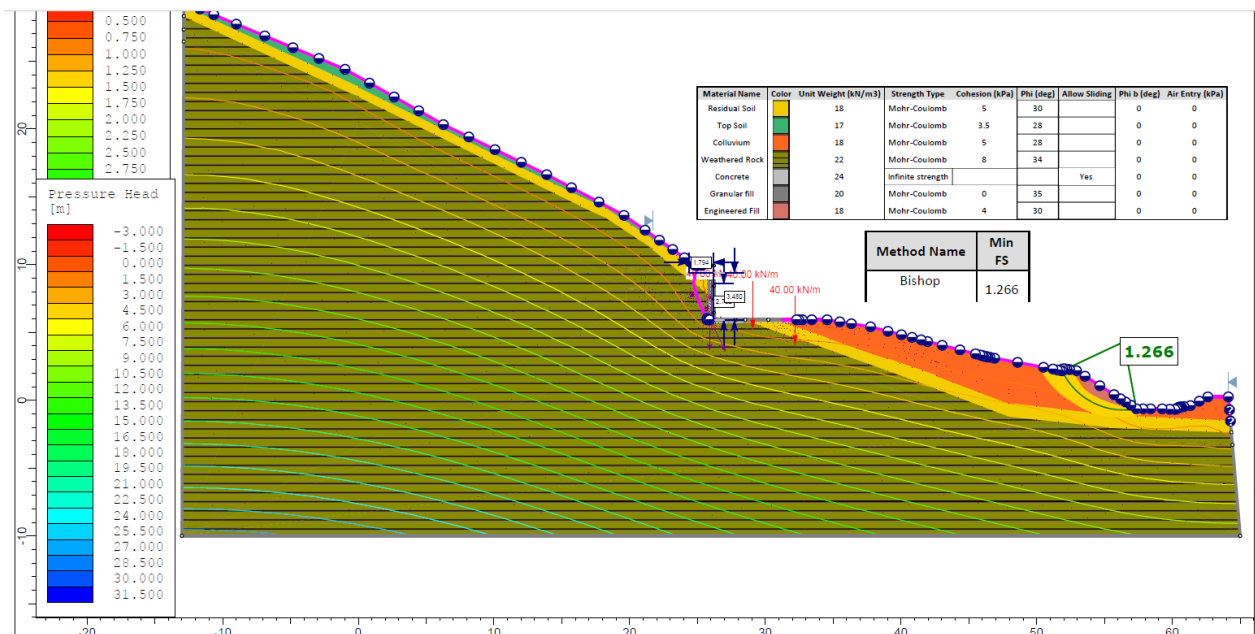


*Existing Batter – Saturated Undrained Conditions*

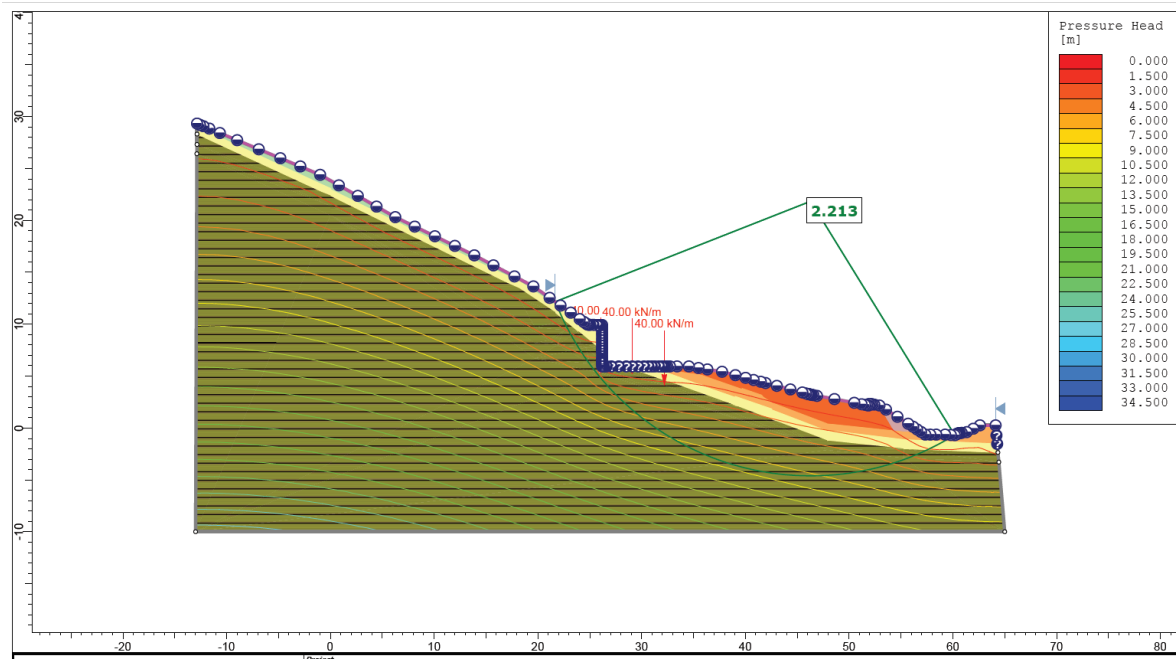
## Slide 2 Modelling Output of Future Batter Slope Section A



**Existing Batter – Dry Conditions**

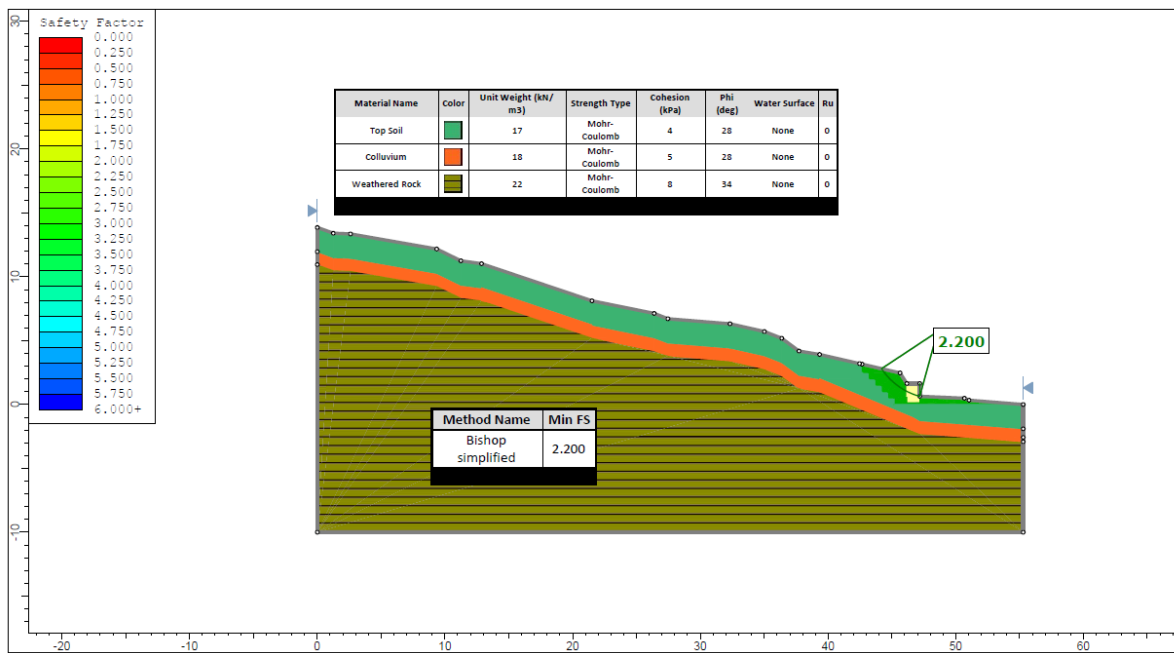


**Existing Batter – Saturated Drained Conditions – SSFEA**

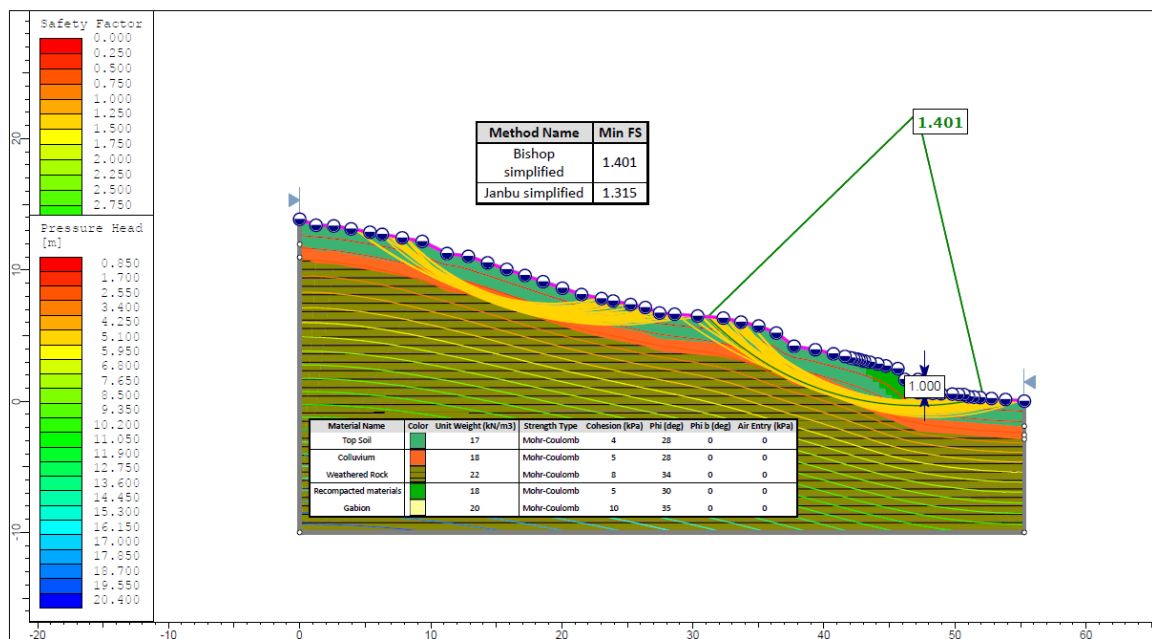


***Future Batter – Saturated Undrained Conditions***

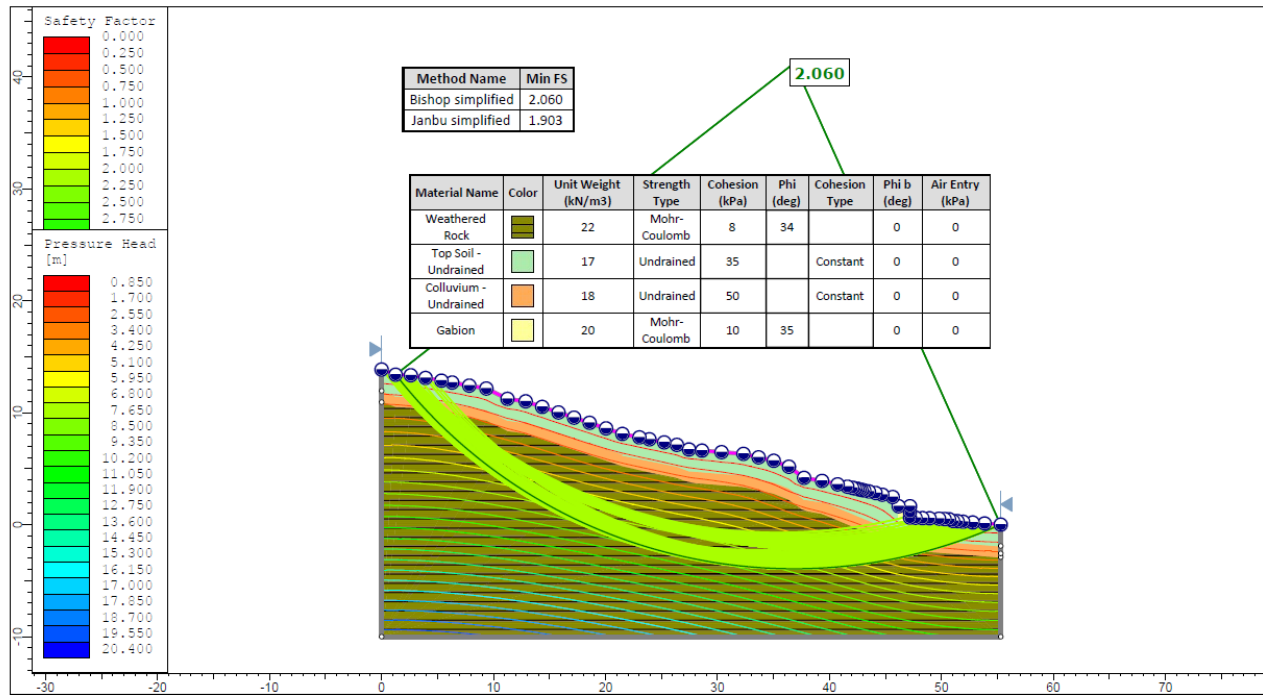
## Slide 2 Modelling Output of Future Batter Slope Section B



**Existing Batter – Dry Conditions**



**Existing Batter – Saturated Drained Conditions – SSFEA**



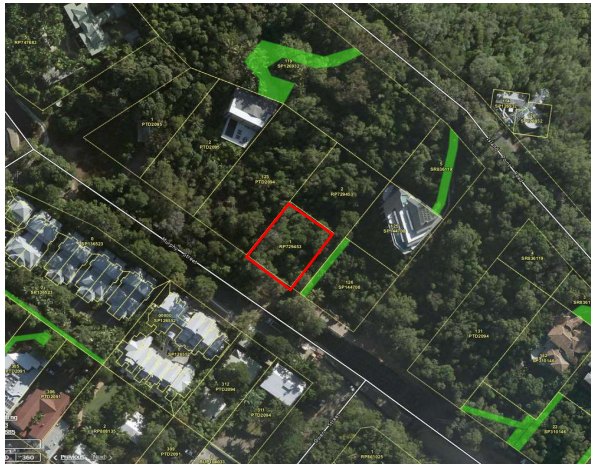
**Existing Batter – Saturated Undrained Conditions**

## **APPENDIX C**

*Gabion Stability Analysis*



**Client** Kate & Lucas Agrums  
**Project** 30 Murphy Street Geotechnical Assessment  
**Location** 30 Murphy Street, Port Douglas



# Design Report

- 1 Problem Definition & Design Assumptions
- 2 Design Standard
- 3 Design Calculations & Compliance Assessment
- 4 Specifications

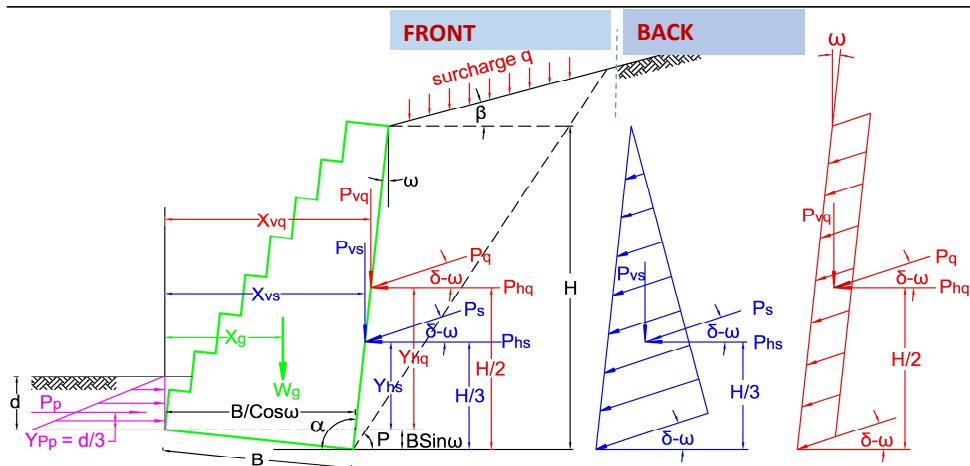
Signed : \_\_\_\_\_  
RPEQ: \_\_\_\_\_  
Date: 28/05/2021

## Section 1 - Problem Definition & Design Assumptions

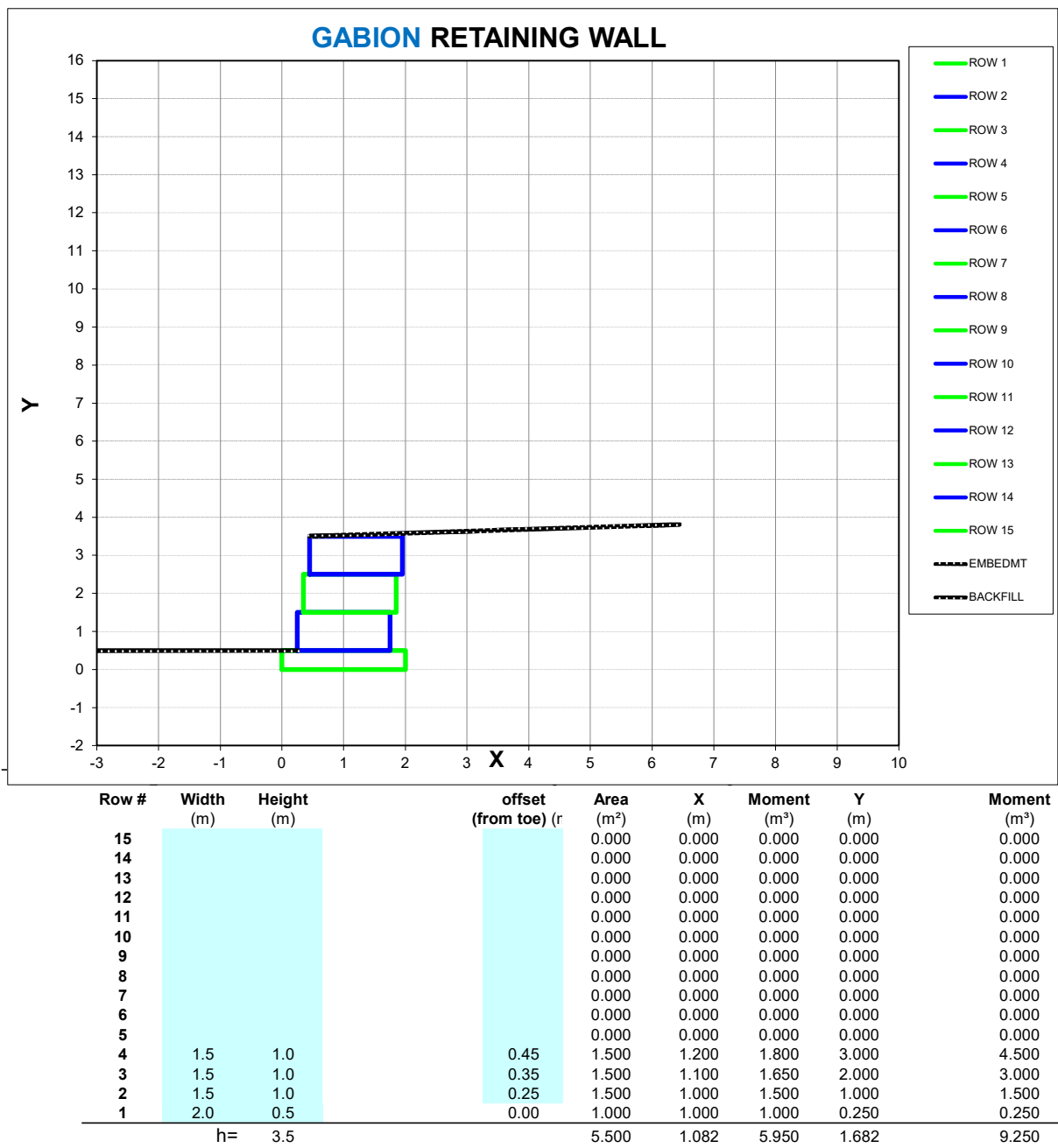
### PROBLEM DESCRIPTION: GRAVITY RETAINING WALL

**TYPE:** GABIONS

PROJECT NAME:	30 Murphy Street Geotechnical Assessment	PROJECT #:	
LOCATION:	30 Murphy Street, Port Douglas	SECTION: CH:	0
GEOTECHNICAL ENGINEER:	Rudd Rankine	REPORT #:	1
NOTES:	Technical Design Checks	DRAWING #:	Gabion - Std
		DATE:	28/05/2021



Descriptions	symbols	Input Values	Units	Notes	Assumptions
Backfill slope angle above wall	$\beta$	3.000	°	$< \Phi$	
Angle of internal friction	$\Phi$	33.000	°		
Wall friction reduction by geotextile	$fr$	33.000	%	Back of wall Assumption	
Angle of wall friction	$\delta$	22.110	°	$\Phi(100-fr)/100$	
Inclination angle to vertical plane	$\omega$	0.000	°	for wall with straight back (no offsets)	
Back of wall angle to horizontal	$\alpha$	90.000	°	$90+\omega$	
Cohesion	$c$	0	kPa		Ignore cohesion (granular soil)
Surcharge	$q$	10.000	kPa		Assumption
Soil density	$\gamma_s$	18.000	kN/m <sup>3</sup>		Assumption
Rock density	$\gamma_r$	23.000	kN/m <sup>3</sup>		Assumption
Void in gabion	$v$	25.000	%		Assumption
Gabion density	$\gamma_g$	17.250	kN/m <sup>3</sup>	$\gamma_r(100-v)/100$	
Actual height of wall	$H$	3.500	m	$(h \cos \omega)$ Corrected for inclination	
Embedment	$d$	0.500	m	Use 0 m to ignore passive thrust	
Width of base	$B$	2.0	m		
Allowable soil bearing capacity	$q_a$	100.000	kPa	determined by Geotechnical Engineer	



## Section 2 -Design Standard

### PROBLEM DESCRIPTION: GRAVITY RETAINING WALL

PROJECT NAME:	30 Murphy Street Geotechnical Assessment	PROJECT #:	
LOCATION:	30 Murphy Street, Port Douglas	SECTION:	
GEOTECHNICAL ENGINEER:	Rudd Rankine	REPORT #:	1
NOTES:		DRAWING #:	
		DATE:	28/05/2021

**Design Standard:** AS4768 - 2002  
Earth Retaining Structures

## Section 3 -Design Calculations & Compliance Assessment

### PROBLEM DESCRIPTION: GRAVITY RETAINING WALL

TYPE: **GABIONS**

PROJECT NAME:	30 Murphy Street Geotechnical Assessment	PROJECT #:	
LOCATION:	30 Murphy Street, Port Douglas	SECTION: CH:	
GEOTECHNICAL ENGINEER:	Rudd Rankine	REPORT #:	1
NOTES:		DRAWING #:	Gabion - Std
		DATE:	28/05/2021

### Design Model:

**COULOMB'S THEORY (1776)**

### Assumptions (General)

- 1 The retaining wall is smooth & Vertical
- 2 No shear Stress generated along the wall at failure
- 3 Assumes controlled backfill
- 4 Assumes no re-inforcing in soil mass - therefore a global (lumped) geotechnical resistance factor may be used in the analysis rather than partial material design factors (AS 4678 Cl: E2.1; Note (a))

### Assumptions (Safety in Design)

- 1 Factor of Safety (Overturning)
- 2 Factor of Safety (Sliding)

2.000
2.000

### Limitations:

- 1 Analysis does not consider flowing water within the analysis
- 2 Analysis does not cover retaining structures supporting excavations in saturated clays or other soil or loading conditions. In these case(s) an undrained analysis may need to be performed to assess critical loading case
- 3 Analysis Does NOT - consider the local or global stability of the site (To be assessed separately)
- 4 Analysis Does NOT - consider the Ultimate limit state capacity of individual components of the retention system
- 5 Analysis Does NOT - consider the Serviceability capacities/ or compliance of the system or individual components of the retention system

### Design Checks

Check	Description	Outcome	Comments
1	Overturning:	Pass	$SF_o = \Sigma Mr / \Sigma Mo$
2	Sliding	Pass	$SF_s = \Sigma Fr / \Sigma Fs$
3	Eccentricity of Resultant Force	Pass	Resultant Force Occurs in middle 1/3
4	Bearing Capacity	Pass	Applied bearing pressure on LHS & RHS toe are less than the defined allowable bearing pressure

## Section 4 - Specifications

### **PROBLEM DESCRIPTION: GRAVITY RETAINING WALL**

**TYPE: GABIONS**

<b>PROJECT NAME:</b>	30 Murphy Street Geotechnical Assessment	<b>PROJECT #:</b>	
<b>LOCATION:</b>	30 Murphy Street, Port Douglas	<b>SECTION: CH:</b>	
<b>GEOTECHNICAL ENGINEER:</b>	Rudd Rankine	<b>REPORT #:</b>	1
<b>NOTES:</b>	<b>DRAWING #:</b> Gabion - Std		
		<b>DATE:</b>	28/05/2021

#### Specific Notes to go on Drawings

### GABIONS AND MATTRESSES

#### MATERIALS

##### Wire, gabions and mattresses

General: Comply with AS 2423 . Galvanise all wire to AS 4534 . Coat all components with polyvinyl chloride to a minimum thickness of 0.5 mm.

Gabions: Use mesh with a wire diameter not less than 2 mm. Provide appropriate mesh size to retain the rock filling. Provide selvedge wires with a diameter not less than 3.15 mm and binding wire with a diameter not less than 2.5 mm.

Mattress: Use mesh with a wire diameter not less than 2 mm. Provide appropriate mesh size to retain the rock filling. Provide selvedge wires with a diameter not less than 2.5 mm and binding wire with a diameter not less than 1.6 mm.

##### Rock fill

General: Clean, hard, durable crushed rock, rock spalls or river gravel, with minimum size larger than the maximum opening size of the mesh or fabric forming the basket. Rocks must be cubical where possible. The smallest dimension must not be less than half the greatest dimension.

Properties: Wet/dry strength variation tested in accordance with Queensland Department of Transport and Main Roads test method Q205C or AS 1141.22 must not exceed 35%. Ten percent fines value tested in accordance with Queensland Department of Transport and Main Roads test method Q205B or AS 1141.22 must not be less than 140 kN.

Gabions: Provide rock of nominal size between 120 mm and 200 mm. Rock must be uniformly graded, with greater than 80% by number exceeding the 150 mm nominal size.

Mattresses: Provide rock of nominal size between 75 mm and 150 mm. Rock must be uniformly graded, with greater than 80% by number exceeding the 100 mm nominal size.

### EXECUTION

#### Gabions

General: Construct gabion protection work in the locations and in accordance with the details shown on the drawings.

Surface preparation: Trim areas on which gabions are to be positioned to the specified shapes within a tolerance of  $\pm 50$  mm. Trimmed surfaces must be free of roots, stumps, brush, rocks and the like protrusions.

Geotextile fabric: Place type 3 geotextile behind all gabions.

Assembly: Assemble to comply with the drawings and recommendations of the manufacturer.

Positioning: Position assembled gabions empty in the works. Securely position the first row of gabions and fill before gabions in other rows are positioned.

Rock fill: Hand pack the exposed faces of the basket. The remainder may be filled using machine methods. Place the rock to produce a dense, evenly distributed filling with a minimum of voids. Maintain the tolerances and shape specified. Tie together the outer and inner panels of the gabions during the placing operation to minimise distortions where necessary.

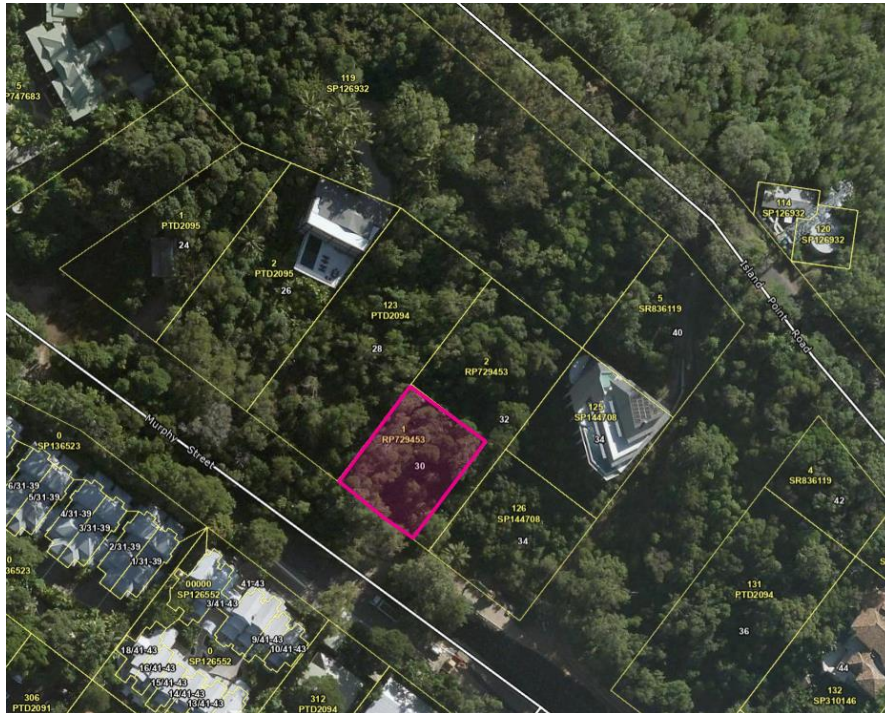
Damage: During the placing, do not damage the gabion mesh or geotextile.

**APPENDIX D**  
*Stormwater Constraints and Opportunities File Note*

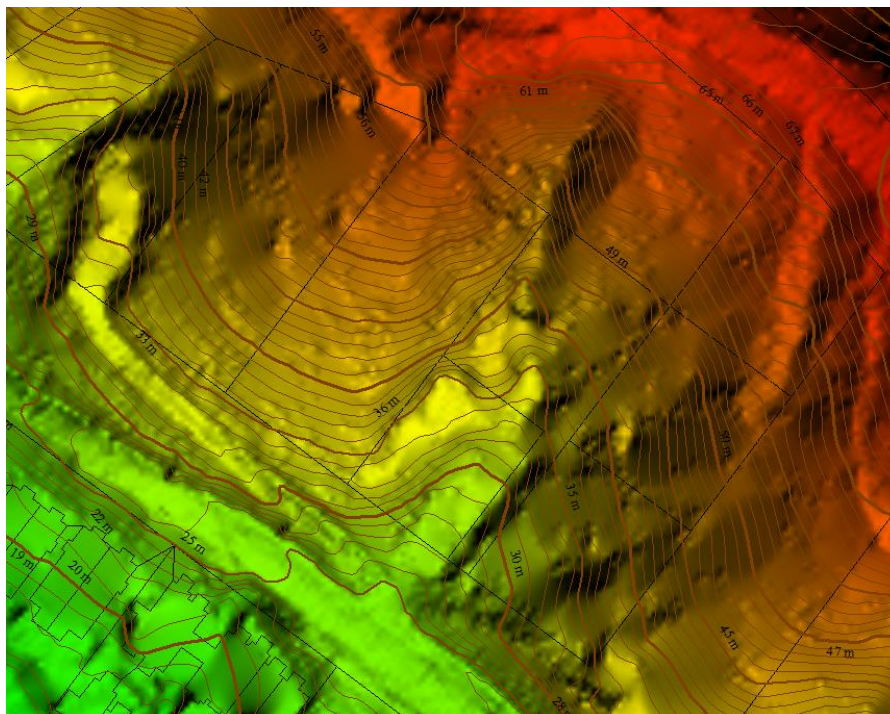
## FILE NOTE

This file note has been prepared as supporting information for the design of a building pad and driveway for 30 Murphy Street, Port Douglas. The investigation has been commissioned by GMA Certification Group on behalf of Kate and Lucas Agrums. The file note has assessed the existing and post development stormwater conditions of the site.

The location of the site is identified in *Figure 1* and the topography of the site in *Figure 2*.



*Figure 1 – Locality Plan of Site (Queensland Globe)*



*Figure 2 – High Quality Digital Elevation Information of Site (Geoscience Australia)*

## FILE NOTE

### Predevelopment and Post Development Flows

A catchment analysis was undertaken for the watershed into property (crossing the northern boundary) and the catchment for the watershed existing the property (through the southern boundary). It is considered that the mentioned catchment boundaries will not be altered by the proposed development.

The proposed development will however increase the fraction impervious of the catchment discharging from the site.

The catchments are shown in Figure 3 and are hillslope catchments. They have an equal area slope of approximately 30%, and a short response time (or "time of concentration"). Table 1 summarises the catchment calculations undertaken for the site.

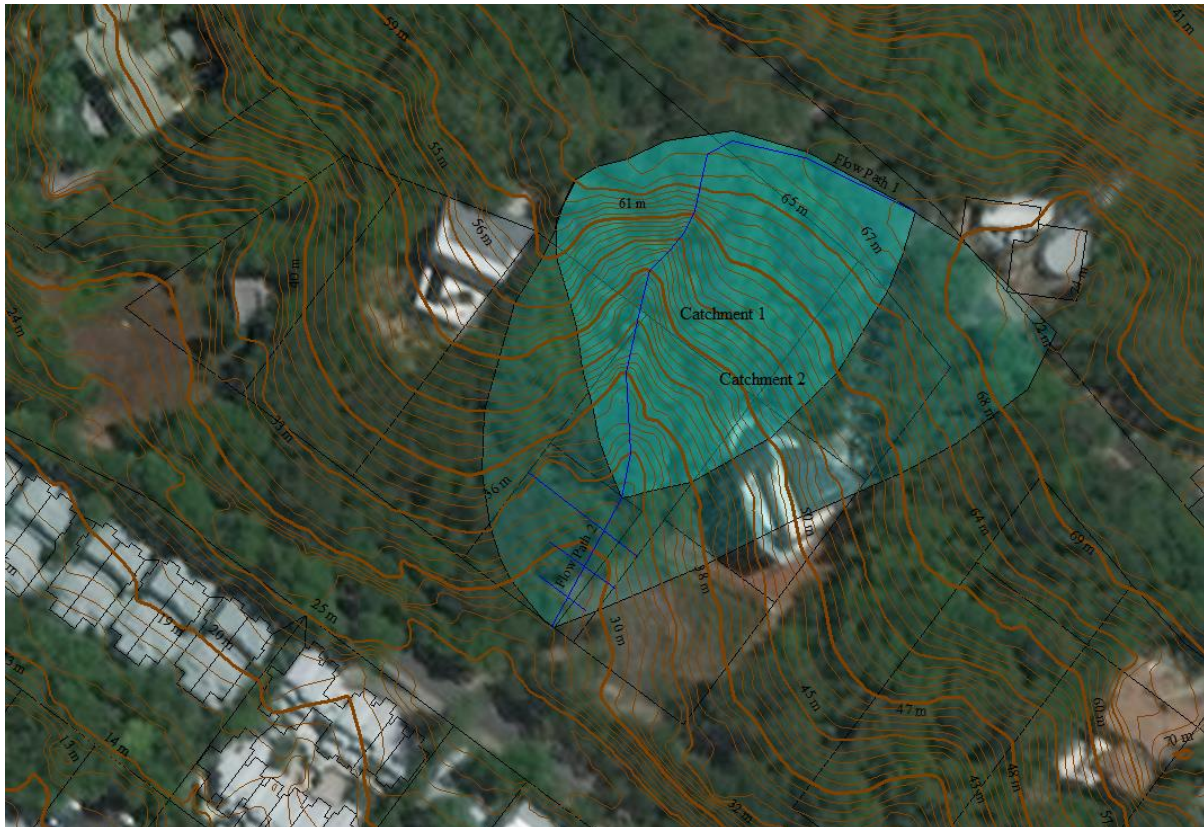


Figure 3 – Catchment areas into site and out of site

Table 1: Predevelopment and Post-development Catchment Peak Flows

Catchment ID	Area (ha)	Time of Concentration (min)	Land Description	Fraction Impervious	Peak Flow Rate (m <sup>3</sup> /s)						
					63% AEP	39% AEP	18% AEP	10% AEP	5% AEP	2% AEP	1% AEP
<b>Catchment 1 Into Property</b>	0.428	10.0	Rainforest and Urban	0.10	0.071	0.096	0.132	0.154	0.183	0.231	0.266
<b>Catchment 2 Pre-development flows out of property</b>	0.870	11.0		0.10	0.140	0.189	0.259	0.301	0.359	0.453	0.522
<b>Catchment 3 Post-development flows out of property</b>	0.870	11.0		0.15	0.142	0.192	0.262	0.305	0.364	0.460	0.529

## FILE NOTE

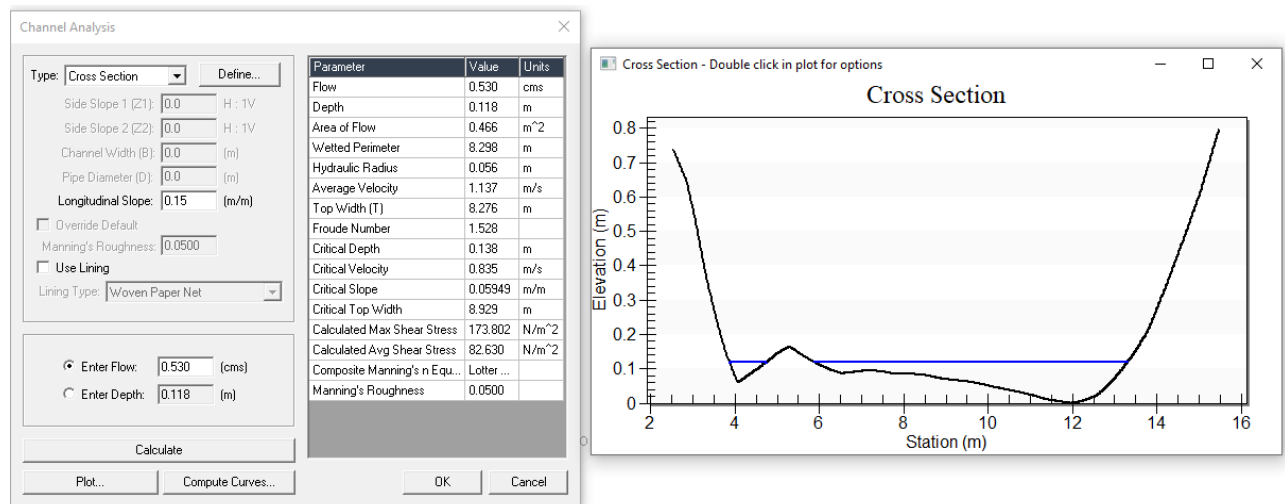
Catchment 1 is the external watershed to the northern boundary of the site, the 1% AEP peak discharge ( $Q_{100}$ ) was calculated as approximately 270l/s. The flows to the site will be unchanged by the proposed development.

Catchment 2 is the watershed to the southern side of the boundary, inclusive of the sites discharge predevelopment whilst Catchment 3 is the same area post-development. The predevelopment 1% AEP peak discharge ( $Q_{100}$ ) is approximately 520l/s, whilst the post-development peak flow was calculated to be 530l/s. This accounts for approximately a 1% increase in runoff. It is considered that the additional ~10l/s (1% increase) is negligible and does not cause an actionable nuisance to the downstream properties.

### Gully Flows

The gully flows through the site were assessed to determine the approximate depth of flow within the gully.

It is understood that the gully is not a mapped waterway for waterway barrier works and hence may be able to be filled as part of the development. The gully is currently in the order of 12m wide and is generally located on the eastern side of the property and into the access leg of 32 Murphy Street (Lot 2 RP729453).



We can convey  $Q_{100}$  flows easily. The issue is capturing this and then safely discharging into the downstream stormwater network, at the inlet pit at the entrance point of the driveway. This field inlet pit has recently been upgraded by Council to intercept and underground the flow from this gully.

## **APPENDIX E**

### *Detailed Survey of Sites*



Drawing No	Issue
401394-001	A

## Appendix 3.

# PLANNING BENCHMARK ASSESSMENT



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

## **6.2.4 Environmental management zone code**

### **6.2.6.1 Application**

- (1) This code applies to assessing development in the Environmental management zone.
- (2) When using this code, reference should be made to Part 5.

### **6.2.4.2 Purpose**

- (1) The purpose of the Environmental management zone code is to recognise environmentally sensitive areas and provide for houses on lots and other low impact activities where suitable.

These areas are protected from intrusion of any urban, suburban, centre or industrial land use.

- (2) The local government purpose of the code is to:
  - (a) implement the policy direction set in the Strategic Framework, in particular:
    - (i) Theme 2 : Environment and landscape values, Element 3.5.3 – Biodiversity, Element 3.5.5 – Scenic amenity.
  - (b) protect and buffer areas of environmental significance from inappropriate development.
- (3) The purpose of the code will be achieved through the following overall outcomes:
  - (a) Development is generally restricted to a dwelling house;
  - (b) Adverse impacts on natural systems, both on-site and on adjoining land are minimised through the location, design and management of development;
  - (c) Development reflects and responds to the natural features and environmental values of the area;



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- (d) Visual impacts are minimised through the location and design of development;
- (e) Development does not adversely affect water quality;
- (f) Development responds to land constraints, including but not limited to topography, vegetation, bushfire, landslide and flooding.

#### 6.2.4.3 Criteria for assessment

**Table 6.2.4.3.a – Environmental management zone – assessable development**

Performance outcomes	Acceptable outcomes	Compliance
<b>For self-assessable and assessable development</b>		
<b>PO1</b> The height of all buildings and structures is in keeping with the natural characteristics of the site. Buildings and structures are low-rise and not unduly visible from external sites	<b>AO1</b> Buildings and structures are not more than 8.5 metres and two storeys in height. Note – Height is inclusive of the roof height.	<b>Not applicable</b> No building works are proposed.
	<b>AO1.2</b> Buildings have a roof height not less than 2 metres	<b>Not applicable</b> No building works are proposed.
<b>PO2</b> Buildings and structures are set back to:	<b>AO2</b>	<b>Not applicable</b> No building works are proposed.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
(a) maintain the natural character of the area; (b) achieve separation from neighbouring buildings and from road frontages	Buildings and structures are set back not less than: <ul style="list-style-type: none"> <li>(a) 40 metres from the frontage of a state controlled road;</li> <li>(b) 25 metres from the frontage to Cape Tribulation Road;</li> <li>(c) 6 metres from any other road;</li> <li>(d) 6 metres from the side and rear boundaries of the site.</li> </ul>	
<b>For assessable development</b>		
<b>PO3</b> Development is consistent with the purpose of the Environmental management zone and protects the zone from the intrusion of inconsistent uses.	<b>AO3</b> Inconsistent uses as identified in Table 6.2.4.3.b are not established in the Environmental management zone.	<b>Not applicable</b> The application is for operation works only.
<b>PO4</b> The site coverage of all buildings and structures and associated services do not have an adverse	<b>AO4</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> No building works are proposed.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
effect on the environmental or scenic values of the site.		
<b>PO5</b> Development is located, designed, operated and managed to respond to the characteristics, features and constraints of the site and its surrounds.  Note - Planning scheme policy – Site assessments provides guidance on identifying the characteristics, features and constraints of a site and its surrounds.	<b>AO5.1</b> Buildings, structures and associated access, infrastructure and private open space are sited: <ul style="list-style-type: none"> <li>(a) within areas of the site which are already cleared; or</li> <li>(b) within areas of the site which are environmentally degraded;</li> <li>(c) to minimise additional vegetation clearing.</li> </ul>	<b>Complies with AO5.1</b> The location of the proposed driveway has been identified to reduce the quantity of earthworks and vegetation clearing required. It is located adjacent the existing overland flow path that is considered to have already been degraded through the drainage augmentation works undertaken by Council.
	<b>AO5.2</b> Buildings and structures and associated infrastructure are not located on slopes greater than 1 in 6 (16.6%) or on a ridgeline	<b>Complies with PO5</b> The proposed driveway alignment has been selected to achieve the least impact on the features of the site and to respond to the sites constraints. It is considered to represent the least impact option to provide suitable access to an existing house pad.
<b>PO6</b>	<b>AO6.1</b>	<b>Not applicable</b>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>Buildings and structures are responsive to steep slope through innovative construction techniques so as to:</p> <ul style="list-style-type: none"> <li>(a) maintain the geotechnical stability of slopes;</li> <li>(b) minimise cut and/or fill;</li> <li>(c) minimise the overall height of development</li> </ul>	<p>Where development on land steeper than 1 in 6 (16.6%) cannot be avoided, development follows the natural contours of the land and single plane concrete slab on-ground methods of construction are not utilised.</p>	<p>No building works are proposed.</p>
	<p><b>AO6.2</b></p> <p>Access and vehicle manoeuvring and parking areas are constructed and maintained to:</p> <ul style="list-style-type: none"> <li>(a) minimise erosion;</li> <li>(b) minimise cut and fill;</li> <li>(c) follow the natural contours of the site.</li> </ul>	<p><b>Complies with AO6.2</b></p> <p>The proposed driveway alignment has been selected to achieve the least impact on the features of the site and to respond to the sites constraints. It is considered to represent the least impact option to provide suitable access to an existing house pad. Where possible the driveway alignment follows the least steep part of the site.</p>
<p><b>PO7</b></p> <p>The exterior finishes of buildings and structures are consistent with the surrounding natural environment</p>	<p><b>AO7</b></p> <p>The exterior finishes and colours of buildings and structures are non-reflective and are moderately dark to darker shades of grey, green, blue and brown or the development is not visible external to the site.</p>	<p><b>Not applicable</b></p> <p>No building works are proposed.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<b>PO8</b> Development does not adversely affect the amenity of the zone and adjoining land uses in terms of traffic, noise, dust, odour, lighting or other physical or environmental impacts.	<b>AO8</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The application is for operational works only.
<b>PO9</b> The density of development ensures that the environmental and scenic amenity values of the site and surrounding area are not adversely affected.	<b>AO9</b> The maximum residential density is one dwelling house per lot.	<b>Not applicable</b> The application is for operational works only.
<b>PO10</b> Lot reconfiguration results in no additional lots. Note - Boundary realignments to resolve encroachments and lot amalgamation are considered appropriate.	<b>AO10</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The application is for operational works only.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

## **7.2.4 Port Douglas/Craigie local plan code**

### **7.2.4.1 Application**

- (1) This code applies to assessing development within the Port Douglas/Craigie local plan area as identified on the Port Douglas/Craigie local plan maps contained in Schedule 2.
- (2) When using this code, reference should be made to Part 5.

### **7.2.4.2 Context and setting**

Editor's note - This section is extrinsic material under section 15 of the *Statutory Instruments Act 1992* and is intended to assist in the interpretation of the Port Douglas/Craigie local plan code.

The Port Douglas/Craigie local plan encompasses the traditional Port Douglas town centre and surrounding tourist and residential areas, including Four Mile Beach and Craigie.

Port Douglas was officially named in 1877. It was initially settled as the port of entry and supply for the Hodgkinson goldfield on the Hann Tableland which was proclaimed in 1876. It was the dominant port in Far North Queensland until a decision was made to establish Cairns as the terminus for a new railway in 1884. This ended the town's dominance, and it gradually became a small centre for local residents and fishing activities. During the 1970s and 1980s, a renewed interest in Far North Queensland as a holiday destination led to a boom in large scale tourism and residential development with Port Douglas re-emerging as a premium destination.

The Captain Cook Highway runs north-south to the west of Port Douglas through Craigie (Four Mile). Craigie caters for the permanent resident population associated with Port Douglas, as well as providing for service industries to support business in the town. The majority of urban development is confined to the eastern side of the highway. The main entrance to Port Douglas at the intersection of Port Douglas Road is accentuated by mature oil palms lining both



sides of the street for almost the entire length of the corridor into the heart of Port Douglas.

Flagstaff Hill is a prominent headland on the northern side of the Port Douglas town centre providing a green tropical backdrop to the town. Island Point Road runs to the top of Flagstaff Hill and provides access to the iconic lookout overlooking the sweep of Four Mile Beach.

Macrossan Street is the main shopping area in Port Douglas running in a general east-west direction at the base of Flagstaff Hill connecting Four Mile Beach to Dickson Inlet. Tourist and commercial development is concentrated towards the western side of Macrossan Street, with marine orientated activity focussed around the inlet. The western side of the inlet provides unspoiled views across mangroves to the distinctive formations and features of the coastal range.

The street pattern in the town centre is based on the original grid pattern survey of 1878. While the town has lost many of its original buildings to cyclones and redevelopment, a number of important built features remain including the Central Hotel, the Court House Hotel, a number of relocated buildings such as St Mary's Church, the former Clink Theatre and the Court House Museum and scattered memorials such as the Carstens memorial in Macrossan Street and the Port Douglas War memorial in Wharf Street. The Sugar Wharf on Dickson Inlet was the original terminus of the tramline to Mossman. The tramline now terminates adjacent to the Port Douglas marina and operates as the Balley Hooley passenger service on four kilometres of track between the Port Douglas Marina and St Crispins Station.

A particular characteristic of the local plan area is its high quality, lush landscaping complementing the tropical resort town atmosphere. This theme will be carried throughout the local plan area with gateways, nodes and corridor planting emphasising the role of the town as a tropical tourist destination.

### 7.2.4.3 Purpose

- (1) The purpose of the Port Douglas/Craigie local plan code is to facilitate development outcomes consistent with community values, the local tropical built-form and protection of the natural environment within the Port Douglas/Craigie local plan area, while providing a platform for investment and prosperity.
  - (a) In addition, the purpose of the code is supported by the Port Douglas Waterfront Master Plan which provides a clear strategic direction for the incremental transformation of the Port Douglas Waterfront, including the following objectives:
  - (b) To set out a vision for revitalisation of the waterfront;



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- (c) To protect and enhance the environmental attributes; and
- (2) To provide a flexible framework, expressed through several key strategies that will assist the Council and community in managing change.
- (3) The purpose of the code will be achieved through the following overall outcomes:
  - (a) Port Douglas will continue to develop as the premium destination for international and domestic tourists in the Far North Queensland Region, while also acting for permanent residents attracted to the associated lifestyle.
  - (b) Major tourist, retail, dining and entertainment facilities will consolidate in the Town Centre and the Waterfront North sub-precincts, with improved pedestrian connections between the town centre and the waterfront.
  - (c) Craiglie will develop as an integrated residential community with some low scale tourism development opportunities in appropriate locations. Craiglie will also function as small scale commercial and light industry node, providing employment opportunities for the Shire's permanent resident population.
  - (d) All forms of development will complement the tropical image of the town through distinctive tropical vernacular, urban design and landscaping.
  - (e) Character will be enhanced through the identification of gateway sites, landmarks, main approach routes and pedestrian thoroughfares and view corridors;
  - (f) The Flagstaff Hill, Dickson Inlet, Four Mile Beach and other areas of scenic and environmental significance will be protected from development. Vegetation cover will dominate over built form.
  - (g) Vegetation, iconic to the character of Port Douglas, including the avenues of Oil Palms, is retained and where appropriate supplemented.
  - (h) Development will be indistinguishable from view from Four Mile Beach. In addition, any development on Flagstaff Hill will be indistinguishable when viewed from vantage points in Port Douglas.
  - (i) Residential areas are designed as pleasant, functional and distinctive, in visually well-defined areas.
- (4) The purpose of the code will be further achieved through the following overall outcomes:
  - (a) Precinct 1 – Port Douglas precinct
    - (i) Sub-precinct 1a – Town Centre sub-precinct
    - (ii) Sub-precinct 1b – Waterfront North sub-precinct



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- (iii) Sub-precinct 1c – Waterfront South sub-precinct
- (iv) Sub-precinct 1d – Limited Development sub-precinct
- (v) Sub-precinct 1e – Community and recreation sub-precinct
- (vi) Sub-precinct 1f – Flagstaff Hill sub-precinct
- (b) Precinct 2 – Integrated Resort precinct
- (c) Precinct 3 – Craiglie Commercial and Light Industry precinct
- (d) Precinct 4 – Old Port Road / Mitre Street precinct
- (e) Precinct 5 – Very Low Density Residential/ Low Scale Recreation/Low Scale Educational/Low Scale Entertainment Uses precinct

### **Precinct 1 – Port Douglas precinct**

- (5) In addition to the overall outcomes, the outcomes sought for the precinct are to ensure that:
  - (a) development will contribute to the incremental transformation of the township, preserving and enhancing maritime activities and environmental areas, delivering tropical open spaces and a high quality public realm, and allowing for tourism opportunities and investment.
  - (b) development contributes to the enhancement of the Port Douglas precinct through the following development outcomes:
    - (i) access and connectivity throughout the township is enhanced through a series of improvements to circulation and mobility, including:
      - (A) access to, and connectivity along, the waterfront and foreshore areas is maintained and, where appropriate, enhanced;
      - (B) reducing reliance on the waterfront as a car parking resource.
    - (ii) the use of land in the Port Douglas precinct improves the cohesive layout of the township through:
      - (A) the establishment of distinct sub-precincts that reinforce the character and built form of the Port Douglas local plan area including:
        - Port Douglas centre sub-precinct 1a – Town Centre sub-precinct;
        - Port Douglas centre sub-precinct 1b – Waterfront North sub-precinct;



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- Port Douglas centre sub-precinct 1c – Waterfront South sub-precinct;
  - Port Douglas centre sub-precinct 1d – Limited development sub-precinct;
  - Port Douglas centre sub-precinct 1e – Community and recreation precinct;
  - Port Douglas centre sub-precinct 1f – Flagstaff Hill sub-precinct;
- (B) facilitating marina facilities and supporting marine industry uses as a key part of the local economy;
- (C) reducing conflict between industry, community and commercial activities in the waterfront, without diminishing the marine industry capacity in the Port Douglas precinct;
- (i) environment and sustainability is integrated into the township through:
- (A) preservation and enhancement of the qualities and characteristics of environmental areas of the township;
  - (B) water sensitive urban design is considered as a means of water quality improvement and management of overland flow to ensure hard infrastructure solutions in Warner Street can be mitigated;
  - (C) design of buildings and access way improvements prioritises walking and cycling modes of transport.
- (ii) the tropical character of the Port Douglas precinct is enhanced by ensuring development:
- (A) maintains and enhances the built form, local character, streetscapes and natural elements of the township;
  - (B) is compatible with the desired character and amenity of local places and neighbourhoods;
  - (C) does not exceed the height of buildings designations which contribute to the desired form of the township which contains three storey development heights in sub-precinct 1a – Town Centre sub-precinct and part of sub-precinct 1b – Waterfront North sub-precinct;
  - (D) implements high quality landscaped environments around buildings and on streets;
  - (E) protects the recognisable character and locally significance sites throughout the precinct.
- (iii) public spaces and the streetscape are enhanced through:
- (A) an increase in the quantity and quality of public land and places throughout the precinct;



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- (B) consolidating community recreation and sporting uses to create a precinct of community focussed activity between Mudlo Street and Wharf Street;
  - (C) improved connections between the town centre and the waterfront marina, including an investigation of a plaza on the waterfront;
  - (D) improved streetscapes with high quality landscaping, surface treatments and shaded pedestrian environments;
  - (E) the creation of a sense of place through aesthetic streetscapes and built-form character;
  - (F) managing vegetation to ensure succession of planting and the ongoing presence of significant trees.
- (iv) advertising signage is small scale, low-key and complements the tropical character of the town.

#### **Sub-precinct 1a – Town Centre sub-precinct**

- (6) In addition to other overall development outcomes, development in the Town Centre sub-precinct facilitates the following development outcomes:
- (a) tourist, retail, dining and entertainment activities are facilitated at an appropriate pedestrian scale;
  - (b) drive-through developments, bulky goods showrooms, outdoor sales, saleyards and other big-box retailing or entertainment facilities are not established;
  - (c) development contributes to a high quality public realm;
  - (d) parking (and associated infrastructure) does not undermine the relationship between buildings and street or pedestrian circulation patterns;
  - (e) consolidation of community and cultural land use activities along Mowbray Street between Wharf Street and Mudlo Street;
  - (f) active street frontages are established along Macrossan and Wharf Streets and other nearby streets as shown on the Port Douglas Centre Active Frontages and Pedestrian and Cycle Network Plan;
  - (g) Live entertainment activities are concentrated within the Live Entertainment Precinct and are subject to the recommendations of a suitably qualified acoustic engineer.

#### **Sub-precinct 1b - Waterfront North sub-precinct**



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- (7) In addition to other overall development outcomes, development in the Waterfront North sub-precinct facilitates the following development outcomes:
- (a) the precinct evolves as a revitalised open space and waterside development precinct;
  - (b) development within the precinct is designed to be sympathetic to the environmentally sensitive Dickson Inlet and mitigates any adverse impacts;
  - (c) the establishment of mixed-use development is facilitated to promote activity and vitality;
  - (d) public pedestrian access is maximised along the extent of the edge of the waterfront, consisting of a boardwalk or similar structure available for 24-hour use;
  - (e) development contributes to a high quality public realm;
  - (f) built form provides an attractive point of arrival from both land and sea;
  - (g) pedestrian connectivity is safe, efficient and provides for the needs of all users of the Port Douglas waterfront;
  - (h) parking (and associated infrastructure) does not undermine the relationship between buildings and street or pedestrian circulation patterns;
  - (i) the importance of existing marine-based industries to the area is recognised, not diminished and protected from incompatible uses. Relocation of marine based industries to an alternative precinct does not occur until such time that agreement has been reached among all relevant stakeholders such that development does not diminish the viability of marine based industrial uses that directly serve the Port Douglas tourist and fishing operators and private boat owners;
  - (j) marine infrastructure is established to service the tourism, fishing and private boating community;
  - (k) Live entertainment activities are concentrated within the Live Entertainment Precinct and are subject to the recommendations of a suitably qualified acoustic engineer;
  - (l) the functionality of the Balley Hooley tourist rail is retained.

### **Sub-precinct 1c – Waterfront South sub-precinct**

- (8) In addition to all other overall development outcomes, development in the Waterfront South sub-precinct facilitates the following development outcomes:
- (a) any use of land in the precinct does not affect the environmental, habitat, conservation or scenic values of Dickson Inlet and surrounding land;



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- (b) marine-based industries are established on appropriate land having regard to site suitability, accessibility, surrounding land uses, and location of utilities and services;
- (c) marine-based industry achieves appropriate environmental standards;
- (d) industrial buildings have a high standard of layout and building design;
- (e) landscaping provides an attractive streetscape and screens utility, storage and car parking from the street and other public areas;
- (f) the precinct is protected from encroachment of incompatible land use activities.

#### **Sub- precinct 1d – Limited Development sub-precinct**

- (9) In addition to all other overall development outcomes, development in the Limited Development sub-precinct facilitates the following development outcomes:
  - (a) any use of land in the precinct does not affect the environmental, habitat, conservation or scenic values of Dickson Inlet and surrounding land;
  - (b) the open nature and character of the precinct is retained maintaining view lines across the inlet;
  - (c) community and recreation land use activities are established that promote public access to the foreshore.

#### **Sub-precinct 1e – Community and recreation sub-precinct**

- (10) In addition to all other overall development outcomes, development in the Community and recreation sub-precinct facilitates the following development outcomes:
  - (a) development for community uses, including sport and recreation is facilitated.
  - (b) sport and recreation activities predominantly involve outdoor activities;
  - (c) areas of natural vegetation are protected from further development;
  - (d) shade trees are increased, in appropriate locations, surrounding the sports fields.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

### **Sub-precinct 1f – Flagstaff Hill sub-precinct**

- (11) In addition to all other overall development outcomes, development in the Flagstaff Hill sub-precinct facilitates the following development outcomes:
- (a) development is not established where it results in detriment to the vegetated and scenic qualities of Flagstaff Hill;
  - (b) development minimises excavation and filling;
  - (c) buildings and other works are unobtrusive when viewed from vantage points in Port Douglas and are designed and constructed of colours and materials which complement the hill's vegetated state;
  - (d) views from public viewing points within the precinct are protected.

### **Precinct 2 – Integrated Resort precinct**

- (12) In addition to the overall outcomes, development in the Integrated Resort precinct facilitates development in accordance with the *Integrated Development Resort Act, 1987*.

Editor's note – The development of land within this precinct is subject to the Integrated Development Resort Act 1987 (IDRA). Where a conflict exists between this planning scheme and the IDRA, the IDRA prevails.

### **Precinct 3 – Craiglie Commercial and Light Industry precinct**

- (13) In addition to the overall outcomes, development in the Craiglie Commercial and Light Industry precinct facilitates the following overall outcomes:



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- (a) development supports the tourism and marine industries in Port Douglas, along with the small-scale commercial and light industry land uses that support the local economy that would otherwise be better suited to a location outside the Port Douglas Centre Precinct unless they pose a safety issue;
- (b) development adjacent to the Captain Cook Highway presents an attractive appearance to the highway. The rain-trees, melaleucas and eucalypt trees along the Captain Cook Highway are retained where possible, taking into account the Department of Transport and main Road's requirements;
- (c) retailing activities are generally restricted to those which are ancillary and necessarily associated with the primary service and light industry nature of the area;
- (d) adjacent residential areas are protected from industry nuisances;
- (e) lots fronting Downing Street, between Dickson Street and Beor Street, are provided with an appropriate standard of road access and infrastructure, prior to development occurring.

#### **Precinct 4 – Old Port Road / Mitre Street precinct**

- (14) In addition to the overall outcomes, development in the Old Port Road / Mitre Street precinct facilitates the following overall outcomes:
- (a) the precinct is intended to be used for outdoor recreational land use activity, primarily as a golf course;
  - (b) areas of significant vegetation are protected from development and retained;
  - (c) other forms of development will only be considered if substantial areas of open space are retained adjacent to existing residential areas to maintain the existing residential amenity of open views across open space.

#### **Precinct 5 – Very Low Density Residential/Low Scale Recreation/Low Scale Educational/Low Scale Entertainment Uses precinct**

- (15) In addition to the overall outcomes, development in the Very Low Residential Density/Low Scale Recreation/Low Scale Educational/Low Scale Entertainment Uses precinct facilitates the following overall outcomes:



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- (a) residential accommodation does not exceed a maximum of 8.5 metres in building height;
- (b) minimum lot sizes exceed 2 hectares;
- (c) very low scale and intensity recreation/ very low scale and intensity educational/ and very low scale entertainment uses may be appropriate in areas of the precinct subject to erosion and other flooding constraints.

Note - Undeveloped lots in this precinct are located on very low-lying land. Council may consider a consolidation of existing land titles via lot reconfiguration to lot sizes less than 2 hectares, where the reconfigured lots are consolidated onto the highest terrain, to avoid a pattern of development consisting of dwelling houses located on isolated islands of raised building pads.

#### 7.2.4.4 Criteria for assessment

**Table 7.2.4.4.a — Port Douglas / Craiglie local plan - assessable development**

Performance outcomes	Acceptable outcomes	Compliance
<b>For self-assessable and assessable development</b>		
<b>Development in the Port Douglas / Craiglie local plan area generally</b>		
<b>PO1</b> Pedestrians, cyclists, motorists and public transport users can easily move into and through the precinct along planned connectivity routes, identified on the Port Douglas / Craiglie local plan	<b>AO1</b> A pedestrian and cycle movement network is integrated and delivered through development.	<b>Not applicable</b> The application is for a private driveway only.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
maps contained in Schedule 2.		
<p><b>PO2</b></p> <p>Development retains and enhances key landscape elements including character trees and areas of significant vegetation contributing to the character and quality of the local plan area and significant views and vistas and other landmarks important to the context of Port Douglas / Craiglie (as identified on the Port Douglas/ Craiglie Townscape Plan map contained in Schedule 2).</p>	<p><b>AO2.1</b></p> <p>Development provides for the retention and enhancement of existing mature trees and character vegetation that contribute to the lush tropical character of the town, including:</p> <ul style="list-style-type: none"> <li>(a) the tree covered backdrop of Flagstaff Hill;</li> <li>(b) natural vegetation along watercourses, in particular the Mowbray River, Beor Creek and Dickson Inlet;</li> <li>(c) the tidal vegetation along the foreshore;</li> <li>(d) beachfront vegetation along Four Mile Beach, including the fringe of Coconut Palms;</li> <li>(e) the oil palm avenues along the major roads;</li> <li>(f) the lush landscaping within major roundabouts at key nodes;</li> <li>(g) Macrossan Street and Warner Street;</li> <li>(h) Port Douglas waterfront.</li> </ul>	<p><b>Complies with AO2.1</b></p> <p>The proposed driveway will require the removal of some vegetation; however the alignment is considered to represent the least impact approach with the majority of vegetation being retained on the site and the earthworks being limited to that necessary for the driveway construction. On that basis the proposed development is considered to provide for the retention of existing mature trees.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<b>AO2.2</b> Development protects and does not intrude into important views and vistas as identified on the Port Douglas Townscape Plan map contained in Schedule 2, in particular: (a) Flagstaff Hill; (b) Four Mile Beach; (c) Across to the ranges over Dickson Inlet; (d) Mowbray Valley.	<b>Not applicable</b> The development is for a driveway only.
	<b>AO2.3</b> Important landmarks, memorials and monuments are retained.	<b>Not applicable</b> The site does not contain or adjoin important landmarks, memorials or monuments.
<b>PO3</b> Development contributes to the protection, reinforcement and where necessary enhancement of gateways and key intersections identified on the Port Douglas / Craiglie local plan maps contained in Schedule 2.	<b>AO3</b> Development adjacent to the gateways and nodes as identified on the Port Douglas / Craiglie local plan maps contained in Schedule 2 incorporates architectural features and landscaping treatments and design elements that enhance the sense of	<b>Not applicable</b> The site is not adjacent an identified gateway or node.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	arrival and way finding within the town.	
<b>PO4</b> Landscaping of development sites complements the existing tropical character of Port Douglas and Craiglie.	<b>AO4</b> Landscaping incorporates the requirements of Planning scheme policy SC6.7 – Landscaping, in particular landscaping should be capable of achieving a 60% screening of development within 5 years and predominantly consists of endemic vegetation.	<b>Not applicable</b> No landscaping is required or proposed as part of the driveway construction.
<b>PO5</b> Development does not compromise the safety and efficiency of the State-controlled road network.	<b>AO5</b> Direct access is not provided to a State-controlled road where legal and practical access from another road is available.	<b>Complies with AO5</b> The site does not have frontage to a state controlled road.
<b>For assessable development</b>		
<b>Additional requirements in Precinct 1 – Port Douglas precinct</b>		
<b>PO6</b> The views and vistas identified on the Port Douglas / Craiglie local plan maps contained in	<b>AO6.1</b> Development does not impede continued views to scenic vistas and key streetscapes within the local	<b>Not applicable</b> The application is for the construction of a



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
Schedule 2 are maintained.	plan area.	driveway only.
	<b>AO6.2</b> Unless otherwise specified within this Local Plan, buildings are set back not less than 6 metres from the primary street frontage.	<b>Not applicable</b> The application is for the construction of a driveway only.
<b>P07</b> Vehicle access, parking and service areas: (a) do not undermine the relationship between buildings and street or dominate the streetscape; (b) are designed to minimise pedestrian vehicle conflict; (c) are clearly identified and maintain ease of access at all times.	<b>AO7.1</b> For all buildings, parking is: (a) to the side of buildings and recessed behind the main building line; or (b) behind buildings; or (c) wrapped by the building façade, and not visible from the street.	<b>Not applicable</b> The application is for the construction of a driveway only.
	<b>AO7.2</b> Ground level parking incorporates clearly defined pedestrian routes.	<b>Not applicable</b> The application is for the construction of a driveway only.
	<b>AO7.3</b> Any porte-cocheres, disabled and pedestrian	<b>Not applicable</b> The application is for the construction of a



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	accesses are accommodated within the boundary of new or refurbished development.	driveway only.
	<b>AO7.4</b> Where the development is an integrated mixed-use development incorporating short term accommodation or multiple dwellings and either food and drink outlet or hotel or shop or shopping centre or office, on-site parking spaces are provided as per the number prescribed in the Parking and access code with a relaxation of 30% of spaces required for the non-residential uses.	<b>Not applicable</b> The application is for the construction of a driveway only.
	<b>AO7.5</b> On-site car parking available for public use is clearly signed at the site frontage.	<b>Not applicable</b> The application is for the construction of a driveway only.
	<b>AO7.6</b> Boom gates, pay machines or other regulatory devices to control access to a publicly available car parking area are not constructed or installed.	<b>Not applicable</b> The application is for the construction of a driveway only.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<b>PO8</b> Precinct 1 – Port Douglas precinct is not characterised by a proliferation of advertising signs.	<b>AO8</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The application is for the construction of a driveway only.
<b>Additional requirements for Sub-precinct 1a – Town Centre sub-precinct</b>		
<b>PO9</b> Building heights: (a) do not overwhelm or dominate the town centre; (b) respect the desired streetscape; (c) ensure a high quality appearance when viewed from both within the town centre sub-precinct and external to the town centre sub-precinct; (d) remain subservient to the natural environment and the backdrop of Flagstaff Hill. (e) do not exceed 3 storeys.	<b>AO9</b> Buildings and structures are not more than 3 storeys and 13.5 metres in height, with a roof height of not less than 3 metres. Note – Height is inclusive of the roof height.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO10</b> Building design, the streetscape, pedestrian paths	<b>AO10</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
and street front spaces promote integration with the surrounding area and the rest of Precinct 1 – Port Douglas Precinct.		
<b>PO11</b> Buildings: (a) address street frontages; (b) ensure main entrances front the street or public spaces; (c) do not focus principally on internal spaces or parking areas.	<b>AO11</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO12</b> Setbacks at ground level provide for: (a) connection between pedestrian paths and public places; (b) areas for convenient movement of pedestrians; (c) changes in gradient of the street.	<b>AO12</b> Setbacks at ground level: (a) are clear of columns and other obstructions; (b) have pavement matching the gradient of adjoining footpaths and connecting pedestrian areas on adjoining sites; (c) connect without any lip or step to adjoining footpaths.	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<b>AO13</b> Buildings do not result in a reduction of views and vistas from public places to: (a) Flagstaff Hill; (b) Dickson Inlet; (c) public open space; (d) places of significance.	<b>AO13</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO14</b> Development enhances the distinctive tropical resort town and identity of Port Douglas and encourages pedestrian activity at street level including shade protection across the footpath for the length of the building.	<b>AO14</b> Development is built up to the street frontage/s at the street level and incorporates a light frame awning, a minimum of 3 metres in width for the length of the street frontage/s; or If a development includes an outdoor dining area at ground/footpath level, the dining area has a maximum setback of 3 metres and the required awning is still maintained along the length of the street frontage/s.	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	Note – PO24 provides more detail on awning design.\	
<b>PO15</b> Development is predominantly commercial in nature with any tourist accommodation having a secondary focus and not located on the street-level frontage where active frontages are encouraged as identified the Port Douglas local plan maps contained in Schedule 2.	<b>AO15.1</b> Centre activities establish: at street level on active street frontages; a maximum of one level above street level.	<b>Not applicable</b> The site is within precinct 1f.
	<b>AO15.2</b> Any residential development activities or short term accommodation is located above street level of the active frontage, but not on or up to the street frontage in any development, including mixed use development.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO16</b> Detailed building design: (a) enhances the visual amenity of the streetscape; (b) has a legible and attractive built form that is visually enhanced by architectural elements; (c) contributes to a distinctive tropical north	<b>AO16</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
Queensland, seaside tourist town character; (d) integrates major landscaping elements to maximise their aesthetic value to ensure that the lush, vegetated character of the Town Centre sub-precinct is maintained.		
<b>PO17</b> Buildings exhibit variations to their external appearance and the shape of the built form to provide visual interest through: (a) surface decoration; (b) wall recesses and projections; (c) a variation in wall finishes; windows, balconies, awnings and other visible structural elements. (d) differentiating between the lower, middle and upper parts of the building by varying the façade and/or the shape of the built form, where comprised of more than two storeys.	<b>AO17</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO18</b>	<b>AO18</b>	<b>Not applicable</b>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>Roofs are not characterised by a cluttered display of plant and equipment, in particular:</p> <ul style="list-style-type: none"> <li>(a) building caps and rooftops contribute to the architectural distinction of the building and create a coherent roofscape for the Town Centre sub-precinct;</li> <li>(b) service structures, lift motor rooms and mechanical plant and equipment are designed as an architectural feature of the building or are screened from public view;</li> <li>(c) rooftops are not used for advertising.</li> </ul>	<p>No acceptable outcomes are prescribed.</p>	<p>The site is within precinct 1f.</p>
<p><b>P019</b></p> <p>Windows and sun/rain control devices are used in the building form, in particular, sun shading devices are provided to:</p> <ul style="list-style-type: none"> <li>(a) shade windows;</li> <li>(b) reduce glare;</li> <li>(c) assist in maintaining comfortable indoor temperatures;</li> </ul>	<p><b>AO19</b></p> <p>No acceptable outcomes are prescribed.</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
(d) minimising heat loads; (e) enrich the North Queensland tropical character of the Town Centre sub-precinct; (f) provide architectural interest to building façades.		
<b>PO20</b> Buildings are finished with high quality materials, selected for: (a) their ability to contribute the character of Town Centre sub-precinct; (b) easy maintenance, durability and an ability not to readily stain, discolour or deteriorate.	<b>AO20</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO21</b> Buildings do not incorporate any type of glass or other materials that are likely to reflect the sun's rays in a manner that may create a nuisance, discomfort or a hazard.	<b>AO21</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<b>PO22</b> Façades and elevations do not include large blank walls. Openings and setbacks are used to articulate vertical building surfaces.	<b>AO22.1</b> Development has a maximum length of unbroken building facade of 20 metres and a maximum extent of overall development in the same style/design along the street frontage/s of 40 metres.	<b>Not applicable</b> The site is within precinct 1f.
	<b>AO22.2</b> Any break in the building façade varies the alignment by a 1 metre minimum deviation.	<b>Not applicable</b> The site is within precinct 1f.
	<b>AO22.3</b> A minimum of three of the following building design features and architectural elements detailed below are incorporated to break the extended facade of a development: (a) a change in roof profile; (b) a change in parapet coping; (c) a change in awning design; (d) a horizontal or vertical change in the wall	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	plane; or (e) a change in the exterior finishes and exterior colours of the development.	
<b>PO23</b> Building facades that face public spaces at ground level: (a) complement the appearance of the development and surrounding streetscape; (b) enhance the visual amenity of the public place; (c) include a variety of human scale architectural elements and details; (d) provide an opportunity for the casual and convenient surveillance of public space from within the development.	<b>AO23</b> Building facades at the ground floor of development that face public space are designed to ensure: (a) a minimum of 70% of the façade area is comprised of windows, wall openings or shop fronts that permit the casual surveillance of the public space from the development; (b) a visually prominent main entrance that faces the principal public place; (c) vertical architectural elements and features are incorporated at 3 metre or less intervals along the length of the façade.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO24</b> Awnings for pedestrian shelter are consistent with	<b>AO24</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>the character setting of the Town Centre sub-precinct and:</p> <ul style="list-style-type: none"> <li>(a) extend and cover the footpath to provide protection from the sun and rain;</li> <li>(b) include lighting under the awning;</li> <li>(c) are continuous across the frontage of the site;</li> <li>(d) align to provide continuity with existing or future awnings on adjoining sites;</li> <li>(e) are a minimum of 3.0 metres in width and generally not more than 3.5 metres above pavement height;</li> <li>(f) do not extend past a vertical plane, 1.2 metres inside the kerb-line to enable street trees to be planted and grow;</li> <li>(g) are cantilevered from the main building with any posts within the footpath being non load-bearing.</li> </ul>		
<p><b>PO25</b></p> <p>Development integrates with the streetscape and</p>	<p><b>AO25</b></p> <p>Development fronting Davidson Street, Macrossan</p>	<p><b>Not applicable</b></p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
landscaping improvements for Port Douglas.	<p>Street, Wharf Street, Mowbray Street and Warner Street is designed to integrate with the on-street landscaping and design improvements as outlined within the Port Douglas landscape master plan contained within Planning scheme policy SC6.7 – Landscaping.</p> <p>Note - Planning scheme policy SC6.7 - Landscaping provides guidance on meeting the Performance Outcome.</p>	The site is within precinct 1f.
<b>Additional requirements for Sub-precinct 1b – Waterfront North sub-precinct</b>		
<p><b>PO26</b></p> <p>The establishment of uses is consistent with the outcomes sought for sub-precinct 1b – Waterfront North.</p>	<p><b>AO26</b></p> <p>Uses identified as inconsistent uses in Table 7.2.4.4.b – inconsistent uses in sub-precinct 1b – Waterfront North sub-precinct are not established in sub-precinct 1b - Waterfront North.</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>
<p><b>PO27</b></p> <p>The bulk and scale of buildings is consistent with surrounding development and steps down to complement the open space areas in the adjoining</p>	<p><b>AO27</b></p> <p>Buildings and structures are not more than:</p> <p>(a) 3 storeys and 13.5 metres in height , with a roof height of not less than 3 metres, in those</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
limited development sub-precinct.	<p>parts of the precinct south of Inlet Street;</p> <p>(b) 2 storeys and 8.5 metres in height, with a roof height of not less than 3 metres, in those parts of the precinct north of Inlet Street.</p> <p>Note – Height is inclusive of roof height.</p>	
<p><b>PO28</b></p> <p>Building design, streetscape, pedestrian paths and street front spaces promote integration with the surrounding area and the rest of Precinct 1 – Port Douglas Precinct.</p>	<p><b>AO28</b></p> <p>No acceptable outcomes are prescribed.</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>
<p><b>PO29</b></p> <p>Public pedestrian access along the water's edge is maximised.</p>	<p><b>AO29.1</b></p> <p>Public pedestrian access is provided along the frontage of the water's edge consisting of a boardwalk of a minimum width of 4 metres that is available of 24-hour use.</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>
	<p><b>AO29.2</b></p> <p>A public plaza is incorporated into the design generally reflecting the requirements of the Port</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	Douglas Waterfront Master Plan, focussing in the vicinity of the 'Duck Pond'.	
	<b>AO29.3</b> Built envelopes are setback a minimum of 3.0 metres from the board walk, with a shelter/shade zone between the building envelopes and the boardwalk consisting of shade structure, canopies, verandahs and the like.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO30</b> Buildings: (a) address street frontages; (b) ensure main entrances front the street or public spaces.	<b>AO30</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO31</b> Setbacks at ground level provide for: (a) connection between pedestrian paths and public places;	<b>AO31</b> Setbacks at ground level: (a) are clear of columns and other obstructions; (b) have pavement matching the gradient of	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
(b) areas for convenient movement of pedestrians; (c) changes in gradient.	adjoining footpaths and connecting pedestrian areas on adjoining sites;  (c) connect without any lip or step to adjoining footpaths.	
<b>PO32</b> Buildings do not result in a reduction of views and vistas from public places to: (a) Dickson Inlet; (b) public open space; (c) places of significance.	<b>AO32</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO33</b> Development enhances the distinctive tropical resort town and identity of Port Douglas and encourages pedestrian activity at ground level including shade protection across the footpath and open space areas.	<b>AO33</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO34</b>	<b>AO34.1</b>	<b>Not applicable</b>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
Development is predominantly commercial in nature with any tourist accommodation having a secondary focus and not located on the street-level frontage where active frontages are encouraged as identified the Port Douglas local plan maps contained in Schedule 2.	Centre activities establish: (a) at street level on active street frontages; (b) a maximum of one level above street level.	The site is within precinct 1f.
	<b>AO34.2</b> Residential development activities or short term accommodation is located above street /ground floor level of the active frontage, but not on or up to the street / public frontage in any development, including mixed use development.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO35</b> Detailed building design: (a) enhances the visual amenity of the streetscape; (b) has a legible and attractive built form that is visually enhanced by architectural elements; (c) contributes to a distinctive tropical north Queensland, seaside tourist town character; (d) integrates major landscaping elements to	<b>AO35</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>maximise their aesthetic value to ensure that the lush, vegetated character of the Waterfront North sub-precinct is maintained.</p>		
<p><b>PO36</b></p> <p>Buildings exhibit variations to their external appearance and the shape of the built form to provide visual interest through:</p> <ul style="list-style-type: none"> <li>(a) surface decoration;</li> <li>(b) wall recesses and projections;</li> <li>(c) a variation in wall finishes; windows, balconies, awnings and other visible structural elements.</li> <li>(d) differentiating between the lower, middle and upper parts of the building by varying the façade and/or the shape of the built form, where comprised of more than two storeys.</li> </ul>	<p><b>AO36</b></p> <p>No acceptable outcomes are prescribed.</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>
<p><b>PO37</b></p> <p>Roofs are not characterised by a cluttered display of plant and equipment, in particular:</p>	<p><b>AO37</b></p> <p>No acceptable outcomes are prescribed.</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>(a) building caps and rooftops contribute to the architectural distinction of the building and create a coherent roofscape for the Waterfront North sub-precinct;</p> <p>(b) service structures, lift motor rooms and mechanical plant and equipment are designed as an architectural feature of the building or are screened from public view;</p> <p>(c) rooftops are not used for advertising.</p>		
<p><b>PO38</b></p> <p>Windows and sun/rain control devices are used in the building form, in particular, sun shading devices are provided to:</p> <p>(a) shade windows;</p> <p>(b) reduce glare;</p> <p>(c) assist in maintaining comfortable indoor temperatures;</p> <p>(d) minimising heat loads;</p> <p>(e) enriching the North Queensland tropical</p>	<p><b>AO38</b></p> <p>No acceptable outcomes are prescribed.</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
character of the Waterfront North sub-precinct; (f) architectural interest to building façades.		
<b>PO39</b> Buildings are finished with high quality materials, selected for: (a) their ability to contribute the character of Waterfront North sub-precinct; (b) easy maintenance, durability and an ability not to readily stain, discolour or deteriorate.	<b>AO39</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO40</b> Buildings do not incorporate any type of glass or other materials that are likely to reflect the sun's rays in a manner that may create a nuisance, discomfort or a hazard.	<b>AO40</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO41</b> Façades and elevations do not include large blank walls and openings and setbacks are used to	<b>AO41.1</b> Development has a maximum length of unbroken building facade of 20 metres and a maximum extent of overall development in the same	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
articulate vertical building surfaces.	style/design along the street frontage/s of 40 metres.	
	<b>AO41.2</b> Any break in the building façade varies the alignment by a 1 metre minimum deviation.	<b>Not applicable</b> The site is within precinct 1f.
	<b>AO41.3</b> A minimum of three of the following building design features and architectural elements detailed below are incorporated to break the extended facade of a development: (a) a change in roof profile; (b) a change in parapet coping; (c) a change in awning design; (d) a horizontal or vertical change in the wall plane; or (e) a change in the exterior finishes and exterior colours of the development.	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p><b>PO42</b></p> <p>Building facades that face public spaces at ground level:</p> <ul style="list-style-type: none"> <li>(a) complement the appearance of the development and surrounding streetscape;</li> <li>(b) enhance the visual amenity of the public place;</li> <li>(c) include a variety of human scale architectural elements and details;</li> <li>(d) provide an opportunity for the casual and convenient surveillance of public space from within the development.</li> </ul>	<p><b>AO42</b></p> <p>Building facades at the ground floor of development that face public space are designed to ensure:</p> <ul style="list-style-type: none"> <li>(a) a minimum of 70% of the façade area is comprised of windows, wall openings or shop fronts that permit the casual surveillance of the public space from the development;</li> <li>(b) a visually prominent main entrance that faces the principal public place;</li> <li>(c) vertical architectural elements and features are incorporated at 3 metre or less intervals along the length of the façade.</li> </ul>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>
<p><b>PO43</b></p> <p>Awnings for pedestrian shelter are consistent with the character setting of the Waterfront North sub-precinct and:</p> <ul style="list-style-type: none"> <li>(a) extend and cover the footpath to provide protection from the sun and rain;</li> </ul>	<p><b>AO43</b></p> <p>No acceptable outcomes are prescribed.</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<ul style="list-style-type: none"> <li>(b) include lighting under the awning;</li> <li>(c) are continuous across pedestrian circulation areas;</li> <li>(d) align to provide continuity with existing or future awnings on adjoining sites;</li> <li>(e) are a minimum of 3 metres in width and generally not more than 3.5 metres above pavement height;</li> <li>(f) do not extend past a vertical plane, 1.2 metres inside the street kerb-line to enable street trees to be planted and grow;</li> <li>(g) are cantilevered from the main building with any posts within the footpath being non load-bearing.</li> </ul>		
<p><b>PO44</b></p> <p>The Balley Hooley rail line and turn-table is retained and incorporated into development and maintains its functionality.</p>	<p><b>AO44.1</b></p> <p>Bally Hooley rail line and turn-table is retained and incorporated into development to maintain its functionality.</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<b>AO44.2</b> Where development provides floor area for the Bally Hooley rail station, the gross floor area of the rail line and station does not generate a requirement for additional vehicle parking.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO45</b> Development recognises the importance of and relationship between the marina, commercial and residential development in the Waterfront North sub-precinct, and includes measures to mitigate the impact of: (a) noise; (b) odour; (c) hazardous materials; (d) waste and recyclable material storage.	<b>AO45</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO46</b> Formalised public spaces and pedestrian paths/areas on freehold land are made accessible	<b>AO46</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
to the public.		
<b>PO47</b> Buildings, civic spaces, roads and pedestrian links are enhanced by: (a) appropriate landscape design and planting; (b) themed planting that defines entry points, and creates strong 'entry corridors' into the waterfront; (c) lighting and well-considered discrete signage that complements building and landscape design; (d) public artwork and other similar features that reflect the heritage and character of the Port Douglas Waterfront.	<b>AO47</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO48</b> Buildings are designed and sited to provide vistas along shared pedestrian/open space and movement areas in suitable locations.	<b>AO48</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<b>PO49</b> Development does not diminish the viability of marine-based industrial uses that directly serve the Port Douglas tourist and fishing operators and private boat owners, particularly with respect to the slipway operation.	<b>AO49</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO50</b> Marine infrastructure to service the tourism, fishing and private boating community is provided.	<b>AO50</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO51</b> Changes to the Port Douglas Waterfront quay-line do not cause adverse impacts to the environmentally sensitive Dickson Inlet.	<b>AO51</b> Development that results in changes to the Port Douglas Waterfront quay-line is only established where an Ecological assessment report provides support to the changes.  Note - Planning scheme policy SC6.8 – Natural environment provides guidance on preparing an ecological assessment report.	<b>Not applicable</b> The site is within precinct 1f.
<b>Additional requirements for Sub-precinct 1c – Waterfront South sub-precinct</b>		



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<b>PO52</b> The establishment of uses is consistent with the outcomes sought for Precinct 1c – Waterfront South.	<b>AO52</b> Uses identified as inconsistent uses Table 7.2.4.4.c – are not established in Precinct 1c – Waterfront South.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO53</b> Development does not adversely impact on the natural environment, natural vegetation or watercourses.	<b>AO53.1</b> An Ecological assessment report is prepared identifying the environmental qualities of the surrounding natural and built features which are to be managed.  Note - Planning scheme policy SC6.8 – Natural environment provides guidance on preparing an ecological assessment report.	<b>Not applicable</b> The site is within precinct 1f.
	<b>AO53.2</b> An Environmental Management Plan is prepared to manage potential impacts of the operation of the development on surrounding natural areas.  Note - Planning scheme policy SC6.4 – Environmental management plans contains information to demonstrate compliance and guidance on preparing an	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	Environmental Management Plan.	
<b>PO54</b> Development of land at the end of Port Street adjacent to Dickson Inlet incorporates a slipway, or an alternative functioning facility, with capacity to service the Port Douglas marine and tourism industry.	<b>AO54</b> A master plan for the development is provided and implemented to demonstrate the integration of the slipway, or an alternative functioning facility, with other supporting service industry activities that service the marine and tourism industry of Port Douglas.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO55</b> Buildings and structures are of a height and are set back from side boundaries and other sensitive areas to ensure the scenic amenity and environmental qualities of the adjacent area are not adversely affected.	<b>AO55.1</b> Development has a height of not more than 10 metres.	<b>Not applicable</b> The site is within precinct 1f.
	<b>AO55.2</b> Development is setback from all property boundaries not less than 3 metres.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO56</b> The site coverage of all buildings and structures ensures development:	<b>AO56</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>(a) is sited in an existing cleared area or in an area approved for clearing;</p> <p>(b) has sufficient area for the provision of services;</p> <p>(c) development does not have an adverse effect on the environmental, habitat, conservation or landscape values of the on-site and surrounding sensitive areas.</p>		
<p><b>PO57</b></p> <p>Premises include adequate provision for service vehicles, to cater for generated demand. Loading areas for service vehicles are designed to:</p> <p>(a) be accommodated on-site;</p> <p>(b) maximise safety and efficiency of loading;</p> <p>(c) protect the visual and acoustic amenity of sensitive land use activities;</p> <p>(d) minimise adverse impacts on natural characteristics of adjacent areas.</p>	<p><b>AO57.1</b></p> <p>Sufficient manoeuvring area is provided on-site to allow a Medium Rigid Vehicle to enter and leave the site in a forward gear.</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>
	<p><b>AO57.2</b></p> <p>Development is designed to ensure all service vehicles are contained within the site when being loaded/unloaded.</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>
	<p><b>AO57.3</b></p> <p>Driveways, parking and manoeuvring areas are constructed and maintained to:</p>	<p><b>Not applicable</b></p> <p>The site is within precinct 1f.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	(a) minimise erosion from storm water runoff; (b) retain all existing vegetation.	
<b>PO58</b> Development ensures adverse impacts from service vehicles on the road network, external to the site, are minimised.	<b>AO58</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO59</b> Entry to the site is landscaped to enhance the amenity of the area and provide a pleasant working environment.	<b>AO59</b> Areas used for loading and unloading, storage, utilities and car parking are screened from public view: (a) by a combination of landscaping and screen fencing; (b) dense planting along any road frontage is a minimum width of 3 metres.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO60</b> Landscaping is informal in character and complementary to the existing natural environment, provides screening and enhances	<b>AO60</b> For any development landscaping is in accordance with the Plant species schedule in Planning	<b>Not applicable</b> The site is within precinct 1f.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
the visual appearance of the development.	scheme policy SC6.7– Landscaping.	
<b>Additional requirements for Sub-precinct 1d – Limited Development sub-precinct</b>		
<b>PO61</b> The height of buildings and structures contributes to the desired form and outcomes for the sub-precinct and are limited to a single storey.	<b>AO61</b> Buildings and structures are not more than one storey and 4 metres in height. Note - Height is inclusive of the roof height.	<b>Not applicable</b> The site is within precinct 1f.
<b>Additional requirements for Sub-precinct 1e – Community and recreation sub-precinct</b>		
<b>PO62</b> The precinct is developed for organised sporting activities and other community uses.	<b>AO62</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>Additional requirements for Sub-precinct 1f – Flagstaff Hill sub-precinct</b>		
<b>PO63</b> Flagstaff Hill is protected from inappropriate development to protect the hill as an important natural landmark feature of Port Douglas and as a vegetated backdrop to the Town centre.	<b>AO63</b> No acceptable outcomes are prescribed.	<b>Complies with PO63</b> The proposal is for the construction of a driveway to facilitate the residential development of the site. The alignment of the driveway has been selected to have the least impact on the natural features of



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
		the site and in response to identified site constraints. The proposal is not considered to represent inappropriate development.
<p><b>PO64</b></p> <p>All development on Flagstaff Hill is designed to minimise the visibility of the development and to ensure development is subservient to the natural landscape and topography of the site, including through:</p> <ul style="list-style-type: none"> <li>(a) building design which minimises excavation and filling;</li> <li>(b) buildings being designed to step down the site and incorporate foundations and footings on piers or poles;</li> <li>(c) buildings being visually unobtrusive and incorporating exterior finishes and muted colours which are non-reflective and complement the colours of the surrounding vegetation and view-shed;</li> </ul>	<p><b>AO64</b></p> <p>No acceptable outcomes are prescribed.</p>	<p><b>Not applicable</b></p> <p>The application is for a driveway only and no buildings are proposed.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
(d) protection of the views from public viewing points in the Port Douglas precinct.		
<b>Additional requirements for Precinct 3 – Craiglie Commercial and Light Industry precinct</b>		
<b>PO65</b> Development supports the tourism and marine industries in Port Douglas, along with the small-scale commercial and light industry land uses that support the local economy that would otherwise be better suited to a location outside the Port Douglas Town Centre Precinct.	<b>AO65</b> Development consists of service and light industries and associated small scale commercial activities.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO66</b> Development on lots adjacent to the Captain Cook Highway is sited, designed and landscaped to provide an attractive visual approach to Port Douglas with all buildings, structures and car parking areas setback a sufficient distance from the frontage to enable landscaping to soften or	<b>AO66.1</b> Buildings and structures are setback 8 metres from the Captain Cook Highway frontage, or no closer to the Captain Cook Highway frontage than buildings and structures on adjoining sites (averaged), whichever is the greater.	<b>Not applicable</b> The site is within precinct 1f.
	<b>AO66.2</b>	<b>Not applicable</b>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
screen the appearance of the development.	The setback area to the Captain Cook Highway frontage is landscaped with advanced dense planting including tree species (100 litre bag stock), which will, at maturity, exceed the height of the building(s) on the site.	The site is within precinct 1f.
	<b>AO66.3</b> Advertising signs are discreet in appearance with no large advertising signs, including tenancy signs, located on or near the Captain Cook Highway frontage, or within any landscaped setback area	<b>Not applicable</b> The site is within precinct 1f.
	<b>AO66.4</b> Car parking areas, loading and other service areas are designed to be screened from the Captain Cook Highway and are located so as to not be visually prominent from the Captain Cook Highway.	<b>Not applicable</b> The site is within precinct 1f.
<b>Additional requirements for Precinct 6 – Very Low Residential Density / Low Scale Recreation / Low Scale Educational / Low Scale Entertainment Uses precinct</b>		



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<b>PO67</b> No additional lots are created within the precinct.	<b>AO67</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.
<b>PO68</b> Reconfigured lots have a minimum lot size of 2 hectares, unless the lot reconfiguration transfers lots to the higher parts of the land, to avoid the need to fill existing lots to accommodate dwelling houses.	<b>AO68</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> The site is within precinct 1f.

**Table 7.2.4.4.b — Inconsistent uses in sub-precinct 1b - Waterfront North sub-precinct**

Inconsistent uses		
<ul style="list-style-type: none"> <li>• Agricultural supplies store</li> <li>• Air services</li> <li>• Animal husbandry</li> <li>• Animal keeping</li> <li>• Aquaculture</li> <li>• Brothel</li> <li>• Bulk landscape supplies</li> <li>• Car wash</li> <li>• Cemetery</li> </ul>	<ul style="list-style-type: none"> <li>• Extractive industry</li> <li>• Funeral parlour</li> <li>• High impact industry</li> <li>• Intensive animal industry</li> <li>• Intensive horticulture</li> <li>• Major electricity infrastructure</li> <li>• Major sport, recreation and entertainment facility</li> <li>• Medium impact industry</li> </ul>	<ul style="list-style-type: none"> <li>• Relocatable home park</li> <li>• Roadside stall</li> <li>• Rural industry</li> <li>• Rural workers accommodation</li> <li>• Service station</li> <li>• Showroom</li> <li>• Special industry</li> <li>• Tourist park</li> <li>• Transport depot</li> </ul>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

<ul style="list-style-type: none"> <li>• Crematorium</li> <li>• Cropping</li> <li>• Detention facility</li> <li>• Dual occupancy</li> <li>• Dwelling house</li> </ul>	<ul style="list-style-type: none"> <li>• Motor sport facility,</li> <li>• Outstation</li> <li>• Permanent plantation</li> </ul>	<ul style="list-style-type: none"> <li>• Veterinary services</li> <li>• Warehouse</li> <li>• Wholesale nursery</li> <li>• Winery</li> </ul>
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**Table 7.2.4.4.c — Inconsistent uses in sub-precinct 1c - Waterfront South sub-precinct**

Inconsistent uses		
<ul style="list-style-type: none"> <li>• Adult store</li> <li>• Agricultural supplies store</li> <li>• Air services</li> <li>• Animal husbandry</li> <li>• Animal keeping</li> <li>• Brothel</li> <li>• Bulk landscape supplies</li> <li>• Car wash</li> <li>• Cemetery</li> <li>• Child care centre</li> <li>• Community care centre</li> <li>• Community residence</li> <li>• Community use</li> <li>• Crematorium</li> <li>• Cropping</li> <li>• Detention facility</li> <li>• Dual occupancy</li> </ul>	<ul style="list-style-type: none"> <li>• Hardware and trade supplies</li> <li>• Health care services</li> <li>• Home based business</li> <li>• Hospital</li> <li>• Hotel</li> <li>• Indoor sport and recreation</li> <li>• Intensive animal industry</li> <li>• Intensive horticulture</li> <li>• Major electricity infrastructure</li> <li>• Major sport, recreation and entertainment facility</li> <li>• Market</li> <li>• Motor sport facility</li> <li>• Multiple dwelling</li> <li>• Nature-based tourism</li> <li>• Nightclub entertainment facility</li> <li>• Outdoor sales</li> </ul>	<ul style="list-style-type: none"> <li>• Permanent plantation</li> <li>• Place of worship</li> <li>• Relocatable home park</li> <li>• Residential care facility</li> <li>• Resort complex</li> <li>• Retirement facility</li> <li>• Roadside stall</li> <li>• Rooming accommodation</li> <li>• Rural industry</li> <li>• Rural workers accommodation</li> <li>• Sales office</li> <li>• Shopping centre</li> <li>• Short-term accommodation</li> <li>• Showroom</li> <li>• Special industry</li> <li>• Theatre</li> <li>• Tourist attraction</li> </ul>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

<ul style="list-style-type: none"><li>• Dwelling house</li><li>• Dwelling unit</li><li>• Extractive industry</li><li>• Function facility</li><li>• Funeral parlour</li><li>• Garden centre</li></ul>	<ul style="list-style-type: none"><li>• Outdoor sport and recreation</li><li>• Outstation</li></ul>	<ul style="list-style-type: none"><li>• Tourist park</li><li>• Transport depot</li><li>• Veterinary services</li><li>• Warehouse</li><li>• Wholesale nursery</li><li>• Winery</li></ul>
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20210602- 30 Murphy Street, Port Douglas (Operational Works)

## **8.2.5 Hillslopes overlay code**

### **8.2.5.1 Application**

- (1) This code applies to assessing a material change of use, reconfiguring a lot, operational work or building work within the Hillslopes overlay, if:
  - (a) self assessable or assessable development where the code is identified as being applicable in the Assessment criteria for the Overlay Codes contained in the Levels of Assessment Tables in section 5.6;
  - (b) impact assessable development.
- (2) Land in the Hillslopes overlay is identified on the Hillslopes overlay map in Schedule 2 and includes the following sub-categories:
  - (a) Hillslopes constraint sub-category.
- (3) When using this code, reference should be made to Part 5.

### **8.2.5.2 Purpose**

- (1) The purpose of the Hillslopes overlay code is to:
  - (a) implement the policy direction in the Strategic Framework, in particular:
    - (i) Theme 1 - Settlement pattern: Element 3.4.7 Mitigation of hazards;
    - (ii) Theme 2 – Environment and landscape values: Element 3.5.5 Scenic amenity.
  - (b) enable an assessment of whether development is suitable on land within the Hillslopes sub-categories.
- (2) The purpose of the code will be achieved through the following overall outcomes:



20210602- 30 Murphy Street, Port Douglas (Operational Works)

- (a) development on hillslopes is safe, serviceable and accessible;
- (b) the ecological values, landscape character and visual quality of the hillslopes are protected from development so as to retain the scenic backdrop to the region;
- (c) Development on hillslopes is appropriate, having regard to the topographic constraints and environmental characteristics of the land;
- (d) Development responds to the constraints of the site including gradient and slope stability;
- (e) Works do not involve complex engineering solutions.

### 8.2.5.3 Criteria for assessment

**Table 8.2.5.3.a – Hillslopes overlay code –assessable development**

Performance outcomes	Acceptable outcomes	Compliance
<b>For self-assessable development</b>		
<b>PO1</b> The landscape character and visual amenity quality of hillslopes areas is retained to protect the scenic backdrop to the region.	<b>AO1.1</b> Development is located on parts of the site that are not within the Hillslopes constraint subcategory as shown on the Hillslopes overlay Maps contained in schedule 2.	<b>Not applicable</b> The proposed development is identified as assessable development.
<b>For assessable development</b>		
<b>PO2</b>	<b>AO2.1</b>	<b>Complies with AO2.1</b>



20210602- 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
The landscape character and visual amenity quality of hillslopes areas is retained to protect the scenic backdrop to the region	Development does not occur on land with a gradient in excess of 1 in 6 (16.6%) or AO2.2 Where development on land steeper than 1 in 6 (16.6%) cannot be avoided, development follows the natural contours of the site.	Where possible the driveway alignment follows the natural contours of the site and avoids the steeper areas.
	<b>AO2.3</b> Access ways and driveways are: <ul style="list-style-type: none"> <li>(a) constructed with surface materials that blend with the surrounding environment;</li> <li>(b) landscaped with dense planting to minimise the visual impact of the construction;</li> <li>(c) provided with erosion control measures immediately after construction.</li> </ul>	<b>Complies with AO2.3</b> The proposed driveway would be constructed of concrete consistent with the existing driveways in the area and would be screened by existing mature vegetation.
	<b>AO2.4</b> The clearing or disturbance of vegetation is limited to clearing and disturbance that: <ul style="list-style-type: none"> <li>(a) is necessary for the construction of driveways;</li> </ul>	<b>Complies AO2.4</b> The clearing and disturbance would be limited to that necessary for driveway construction.



20210602- 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	(b) is necessary to contain the proposed development; (c) minimises canopy clearing or disturbance; (d) minimises riparian clearing or disturbance.	
	<b>AO2.5</b> On land with slopes greater than 1 in 6 (16.6%) or greater, alternative construction methods to concrete slab on ground are utilised (i.e. split level or post and beam constructed buildings that minimise modification to the natural terrain of the land).	<b>Not applicable</b> The application is for a driveway only.
	<b>AO2.6</b> Development does not alter the sky line.	<b>Complies with AO2.6</b> The development is for a driveway only.
	<b>AO2.7</b> Buildings and structures: (a) are finished predominantly in the following exterior colours or surfaces:	<b>Not applicable</b> The application is for a driveway only.



20210602- 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<ul style="list-style-type: none"> <li>(i) moderately dark to darker shades of olive green, brown, green, blue, or charcoal; or</li> <li>(ii) moderately dark to darker wood stains that blend with the colour and hues of the surrounding vegetation and landscape;</li> <li>(b) are not finished in the following exterior colours or surfaces: <ul style="list-style-type: none"> <li>(i) pastel or terracotta colours, reds, yellows, shades of white or beige, or other bright colours that do not blend with the surrounding vegetation and landscape;</li> <li>(ii) reflective surfaces.</li> </ul> </li> </ul>	
	<p><b>AO2.8</b></p> <p>Exterior colour schemes limit the use of white or other light colours to exterior trim and highlighting of architectural features</p>	<p><b>Not applicable</b></p> <p>The application is for a driveway only.</p>



20210602- 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<b>AO2.9</b> Areas between the first floor (including outdoor deck areas) and ground level are screened from view.	<b>Not applicable</b> The application is for a driveway only.
	<b>AO2.10</b> Recreational or ornamental features (including tennis courts, ponds or swimming pools) do not occur on land: <ul style="list-style-type: none"> <li>(a) with a gradient of 1 in 6 (16.6%) or more;</li> <li>(b) are designed to be sited and respond to the natural constraints of the land and require minimal earthworks.</li> </ul>	<b>Not applicable</b> The application is for a driveway only.
<b>PO3</b> Excavation or filling does not have an adverse impact on the amenity, safety, stability or function of the site or adjoining premises through: <ul style="list-style-type: none"> <li>(a) loss of privacy;</li> <li>(b) loss of access to sunlight;</li> </ul>	<b>AO3</b> Excavation or fill: <ul style="list-style-type: none"> <li>(a) is not more than 1.2 metres in height for each batter or retaining wall;</li> <li>(b) is setback a minimum of 2 metres from property boundaries;</li> </ul>	<b>Complies with PO3</b> The proposed driveway would involve the construction of gabion retaining walls with a height of in the order of 1.5 metres. This exceeds the accepted height of 1.2 metres; however, the gabion walls are stepped walls with each element



20210602- 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>(c) intrusion of visual or overbearing impacts;</p> <p>(d) complex engineering solutions.</p>	<p>(c) is stepped with a minimum 2 metre wide berm to incorporate landscaping in accordance with Planning scheme policy SC6.7 – Landscaping;</p> <p>(d) does not exceed a maximum of 3 batters and 3 berms (i.e. not greater than 3.6 metres in height) on any one lot.</p>	<p>having a height of 0.5 metres.</p> <p>The proposed walls are considered to represent the simplest engineering solution that has the least impact on the topography and the least visual impact. The walls would blend into the natural environment and would not result in an overbearing visual impact. The proposed gabion walls are considered to satisfy the performance outcome, notwithstanding that they would have a height greater than the accepted 1.2 metres.</p>
<b>Lot reconfiguration</b>		
<p><b>PO4</b></p> <p>For development that involves reconfiguring a lot, lot layout and design is responsive to the natural constraints of the land and each lot is capable of being used for its intended purpose.</p>	<p><b>AO4.1</b></p> <p>The frontage and depth of all lots is of sufficient width to:</p> <p>(a) allow driveways to follow the natural contours of the site and not exceed a gradient of 1 in 6 (16.6%);</p> <p>(b) accommodate any changes in gradient between the road and lot within the lot</p>	<p><b>Not applicable</b></p> <p>The application relates to the construction of a private driveway only.</p>



20210602- 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	boundary and not within the road reserve.	
	<b>AO4.2</b> Development does not create new lots containing land of greater than 1 in 6 (16.6%), except where a rectangular area of land of lesser grade is contained within the new lots to accommodate the intended land use, with the balance left in its natural state to the greatest extent possible. Note – The size of rectangular areas is outlined within each zone code.	<b>Not applicable</b> The application relates to the construction of a private driveway only.
	<b>AO4.3</b> Development does not alter ridgelines.	<b>Not applicable</b> The application relates to the construction of a private driveway only.
	<b>AO4.4</b> Lots are designed to ensure rooflines of future buildings and structures do not protrude above a ridgeline.	<b>Not applicable</b> The application relates to the construction of a private driveway only.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

## **8.2.9 Potential landslide hazard overlay code**

### **8.2.9.1 Application**

- (1) This code applies to assessing a material change of use, reconfiguring a lot, operational work or building work within the Potential landslide hazard overlay; if
  - (a) self-assessable or assessable development where the code is identified as being applicable in the Assessment criteria for the Overlay Codes contained in the Levels of Assessment Tables in section 5.6;
  - (b) impact assessable development.
- (2) Land in the Potential landslide hazard overlay is identified on the Potential landslide hazard overlay maps in Schedule 2 and includes the following sub-categories:
  - (a) Places of potential landslide hazard sub-category.
- (3) When using this code, reference should be made to Part 5.

Note – The Potential landslide hazard overlay shows modelled areas where the factors contributing to landslip potential accumulate to provide a moderate or higher risk if certain factors are exacerbated (e.g. factors include significant vegetation clearing, filling and excavation, changes to soil characteristics, changes to overland water flow, or changes to sub-surface water flow). It shows areas that the Council has identified where landslides may occur and where land may be impacted by a landslide but does not mean that landslides will occur or that the land will be impacted by a landslide. Other areas not contained within the potential landslide hazard overlay may sustain landslides or be impacted by landslides and consideration should be given to this issue, where appropriate.

### **8.2.9.2 Purpose**

- (1) The purpose of the Potential landslide hazard overlay code is:
  - (a) implement the policy direction of the Strategic Framework, in particular:



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- (i) Theme 1: Settlement pattern Element 3.4.7 Mitigation of hazards.
- (b) enable an assessment of whether development is suitable on land within the Potential landslip hazard overlay.
- (2) The purpose of the code will be achieved through the following overall outcomes:
  - (a) development is located, designed and constructed to not put at risk the safety of people, property and the environment;
  - (b) development is not at risk from and does not pose a risk to adjacent and nearby sites from landslides;
  - (c) ensures that community infrastructure is protected from the effects of potential landslides;
  - (d) ensures that vegetation clearing, stormwater management and filling and/or excavation does not create a landslide hazard and/or rectifies potential pre-existing landslide risks;
  - (e) development does not occur where works to provide a solution for safety of people, property or the environment involves complex engineering solutions to overcome the risk or would result in a built form or outcome that causes an adverse visual impact on the Hillslopes or Landscape values of Douglas Shire.

### 8.2.9.3 Criteria for assessment

**Table 8.2.9.3.a – Potential landslide hazard overlay code –assessable development**

Performance outcomes	Acceptable outcomes	Compliance
<b>For self-assessable and assessable development</b>		
<b>PO1</b> The siting and design of development does not involve complex engineering solutions and does	<b>AO1.1</b> Development is located on that part of the site not affected by the Potential landslide hazard overlay.	<b>Complies with AO1.1</b>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>not create or increase the potential landslide hazard risk to the site or adjoining premises through:</p> <ul style="list-style-type: none"> <li>(a) building design;</li> <li>(b) increased slope;</li> <li>(c) removal of vegetation;</li> <li>(d) stability of soil;</li> <li>(e) earthworks;</li> <li>(f) alteration of existing ground water or surface water paths;</li> <li>(g) waste disposal areas.</li> </ul>	<p>or</p> <p><b>AO1.2</b></p> <p>Development is on an existing stable, benched site and requires no further earthworks</p> <p>or</p> <p><b>AO1.3</b></p> <p>A competent person certifies that:</p> <ul style="list-style-type: none"> <li>(a) the stability of the site, including associated buildings and infrastructure, will be maintained during the course of the development and will remain stable for the life of the development;</li> <li>(b) development of the site will not increase the risk of landslide hazard activity on other land, including land above the site;</li> <li>(c) the site is not subject to the risk of landslide activity on other land;</li> <li>(d) any measures identified in a site-specific geotechnical report for stabilising the site or development have been fully implemented;</li> </ul>	<p>The proposed driveway would be outside of the area identified as being subject to the Potential landslide hazard overlay.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<p>(e) development does not concentrate existing ground water and surface water paths;</p> <p>(f) development does not incorporate on-site waste water disposal.</p> <p>Note – Planning scheme policy SC6.9 – Natural hazards provides guidance on preparing a site specific geo-technical assessment.</p> <p>Note – Development may alter the conditions of ground water and surface water paths in accordance with a site-specific geotechnical report, but should ensure that its final disbursement is as-per pre-developed conditions. Consideration for location, velocity, volume and quality should be given.</p>	
<p><b>PO2</b></p> <p>The siting and design of necessary retaining structures does not cause an adverse visual impact on landscape character or scenic amenity quality of the area.</p>	<p><b>AO2</b></p> <p>Excavation or fill:</p> <p>(a) is not more than 1.2 metres in height for each batter or retaining wall;</p> <p>(b) is setback a minimum of 2 metres from property boundaries;</p>	<p><b>Complies with PO2</b></p> <p>The proposed driveway would involve the construction of gabion retaining walls with a height of in the order of 1.5 metres. This exceeds the accepted height of 1.2 metres; however, the gabion walls are stepped walls with each element having a height of 0.5 metres.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<p>(c) is stepped with a minimum 2 metre wide berm to incorporate landscaping in accordance with Planning scheme policy SC6.7 – Landscaping;</p> <p>(d) does not exceed a maximum of 3 batters and 3 berms (i.e. Not greater than 3.6 metres in height) on any one lot.</p>	<p>The proposed walls are considered to represent the simplest engineering solution that has the least impact on the topography and the least visual impact. The walls would blend into the natural environment and would not result in an overbearing visual impact. The proposed gabion walls are considered to satisfy the performance outcome, notwithstanding that they would have a height greater than the accepted 1.2 metres.</p>
Additional requirements for Community infrastructure		
<p><b>PO3</b></p> <p>Development for community infrastructure:</p> <p>(a) is not at risk from the potential landslide hazard areas;</p> <p>(b) will function without impediment from a landslide;</p> <p>(c) provides access to the infrastructure without impediment from the effects of a landslide;</p>	<p><b>AO3</b></p> <p>Development is designed in accordance with the recommendations of a site-specific geotechnical assessment which makes reference to the community infrastructure and its needs and function.</p> <p>Note - A site specific geotechnical assessment will detail requirements that will address the Acceptable Outcomes of this Performance Outcome. Planning</p>	<p><b>Not applicable</b></p> <p>The development does not involve Community Infrastructure.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
(d) does not contribute to an elevated risk of a landslide to adjoining properties.	scheme policy SC6.9 – Natural hazards provides guidance on preparing a site specific geotechnical assessment.	



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

### **9.4.3 Environmental performance code**

#### **9.4.3.1 Application**

(1) This code applies to assessing:

(a) building work for outdoor lighting;

(b) a material change of use or reconfiguring a lot if:

(i) assessable development where the code is identified in the assessment criteria column of a table of assessment; or

(ii) impact assessable development, to the extent relevant.

Note – Where for the purpose of lighting a tennis court in a Residential zone, a compliance statement prepared by a suitably qualified person must be submitted to Council with the development application for building work.

(2) When using this code, reference should be made to Part 5.

#### **9.4.3.2 Purpose**

(1) The purpose of the Environmental performance code is to ensure development is designed and operated to avoid or mitigate impacts on sensitive receiving environments.

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

(a) activities that have potential to cause an adverse impact on amenity of adjacent and surrounding land, or environmental harm is avoided



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- through location, design and operation of the development;
- (b) sensitive land uses are protected from amenity related impacts of lighting, odour, airborne particles and noise, through design and operation of the development;
- (c) stormwater flowing over, captured or discharged from development sites is of a quality adequate to enter receiving waters and downstream environments;
- (d) development contributes to the removal and ongoing management of weed species.

#### 9.4.3.3 Criteria for assessment

**Table 9.4.3.3.a– Environmental performance code – assessable development**

Performance outcomes	Acceptable outcomes	Compliance
<b>Lighting</b>		
<b>PO1</b> Lighting incorporated within development does not cause an adverse impact on the amenity of adjacent uses and nearby sensitive land uses.	<b>AO1.1</b> Technical parameters, design, installation, operation and maintenance of outdoor lighting comply with the requirements of Australian standard AS4282-1997 Control of the obtrusive effects of outdoor lighting.	<b>Not applicable</b> No outdoor lighting is proposed.
	<b>AO1.2</b>	<b>Not applicable</b>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	Development that involves flood lighting is restricted to a type that gives no upward component of light where mounted horizontally.	No outdoor lighting is proposed.
	<b>AO1.3</b> Access, car parking and manoeuvring areas are designed to shield nearby residential premises from impacts of vehicle headlights.	<b>Complies with AO1.3</b> The proposed driveway would be shielded from nearby residences by the topography of the land and the retained vegetation.
<b>Noise</b>		
<b>PO2</b> Potential noise generated from the development is avoided through design, location and operation of the activity. Note – Planning Scheme Policy SC6.4 – Environmental management plans provides guidance on preparing a report to demonstrate compliance with the purpose and outcomes of the code.	<b>AO2.1</b> Development does not involve activities that would cause noise related environmental harm or nuisance; or	<b>Complies with AO2.1</b> The application is for operational works only.
	<b>AO2.2</b> Development ensures noise does not emanate from the site through the use of materials, structures and architectural features to not cause	<b>Not applicable</b> The application is for operational works only.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<p>an adverse noise impact on adjacent uses.</p> <p><b>AO2.3</b></p> <p>The design and layout of development ensures car parking areas avoid noise impacting directly on adjacent sensitive land uses through one or more of the following:</p> <ul style="list-style-type: none"> <li>(a) car parking is located away from adjacent sensitive land uses;</li> <li>(b) car parking is enclosed within a building;</li> <li>(c) a noise ameliorating fence or structure is established adjacent to car parking areas where the fence or structure will not have a visual amenity impact on the adjoining premises;</li> <li>(d) buffered with dense landscaping.</li> </ul> <p>Editor's note - The Environmental Protection (Noise) Policy 2008, Schedule 1 provides guidance on acoustic quality objectives to ensure environmental harm (including nuisance) is avoided.</p>	<p><b>Complies with AO2.3</b></p> <p>The proposed driveway would be shielded from nearby residences by the topography of the land and the retained vegetation</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<b>Airborne particles and other emissions</b>		
<b>PO3</b> Potential airborne particles and emissions generated from the development are avoided through design, location and operation of the activity.  Note – Planning Scheme Policy SC6.4 – Environmental management plans provides guidance on preparing a report to demonstrate compliance with the purpose and outcomes of the code.	<b>AO3.1</b> Development does not involve activities that will result in airborne particles or emissions being generated; or	<b>Not applicable</b> The application is for operational works only.
	<b>AO3.2</b> The design, layout and operation of the development activity ensures that no airborne particles or emissions cause environmental harm or nuisance. Note - examples of activities which generally cause airborne particles include spray painting, abrasive blasting, manufacturing activities and car wash facilities. Examples of emissions include exhaust ventilation from basement or enclosed parking structures, air conditioning/refrigeration ventilation and exhaustion. The Environmental Protection (Air) Policy 2008, Schedule 1 provides guidance on air quality objectives to ensure environmental harm	<b>Not applicable</b> The application is for operational works only.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	(including nuisance) is avoided.	
<b>Odours</b>		
<b>PO4</b> Potential odour causing activities associated with the development are avoided through design, location and operation of the activity. Note – Planning Scheme Policy SC6.4 – Environmental management plans provides guidance on preparing a report to demonstrate compliance with the purpose and outcomes of the code.	<b>AO4.1</b> The development does not involve activities that create odorous emissions; or	<b>Not applicable</b> The application is for operational works only.
	<b>AO4.2</b> The use does not result in odour that causes environmental harm or nuisance with respect to surrounding land uses.	<b>Not applicable</b> The application is for operational works only.
<b>Waste and recycleable material storage</b>		
<b>PO5</b> Waste and recyclable material storage facilities are located and maintained to not cause adverse impacts on adjacent uses. Note – Planning Scheme Policy SC6.4 – Environmental management plans provides guidance on preparing a report to demonstrate compliance with	<b>AO5.1</b> The use ensures that all putrescent waste is stored in a manner that prevents odour nuisance and is disposed of at regular intervals.	<b>Not applicable</b> The application is for operational works only.
	<b>AO5.2</b> Waste and recyclable material storage facilities	<b>Not applicable</b> The application is for operational works only.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
the purpose and outcomes of the code.	<p>are located, designed and maintained to not cause an adverse impact on users of the premises and adjacent uses through consideration of:</p> <ul style="list-style-type: none"><li>(a) the location of the waste and recyclable material storage areas in relation to the noise and odour generated;</li><li>(b) the number of receptacles provided in relation to the collection, maintenance and use of the receptacles;</li><li>(c) the durability of the receptacles, sheltering and potential impacts of local climatic conditions;</li><li>(d) the ability to mitigate spillage, seepage or leakage from receptacles into adjacent areas and sensitive receiving waters and environments.</li></ul> <p>Editor's note - the Environmental Protection (Waste Management) Policy 2008 provides guidance on the design of waste containers (receptacles) to ensure environmental harm (including nuisance) is avoided.</p>	



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<b>Sensitive land uses</b>		
<b>PO6</b> Sensitive land use activities are not established in areas which will receive potentially incompatible impacts on amenity from surrounding, existing development activities and land uses.	<b>AO6.1</b> Sensitive land use activities are not established in areas that will be adversely impacted upon by existing land uses, activities and potential development possible in an area; or	<b>Not applicable</b> The application is for operational works only.
	<b>AO6.2</b> Sensitive land activities are located in areas where potential adverse amenity impacts mitigate all potential impacts through layout, design, operation and maintenance.	<b>Not applicable</b> The application is for operational works only.
<b>Stormwater quality</b>		
<b>PO7</b> The quality of stormwater flowing over, through or being discharged from development activities into watercourses and drainage lines is of adequate	<b>AO7.1</b> Development activities are designed to ensure stormwater over roofed and hard stand areas is directed to a lawful point of discharge.	<b>Complies with AO7.1</b> The stormwater would be channelled to the lawful point of discharge, being the recently constructed drain at the road frontage of the site.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>quality for downstream environments, with respect to:</p> <p>(a) the amount and type of pollutants borne from the activity;</p> <p>(b) maintaining natural stream flows</p> <p>(c) the amount and type of site disturbance;</p> <p>(d) site management and control measures.</p>	<p><b>A07.2</b></p> <p>Development ensures movement of stormwater over the site is not impeded or directed through potentially polluting activities.</p>	<p><b>Not applicable</b></p> <p>The application is for operational works only.</p>
	<p><b>A07.3</b></p> <p>Soil and water control measures are incorporated into the activity's design and operation to control sediment and erosion potentially entering watercourses, drainage lines and downstream receiving waters.</p> <p>Note - Planning scheme policy - FNQROC Regional Development Manual provides guidance on soil and water control measures to meet the requirements of the Environmental Protection Act 1994. During construction phases of development, contractors and builders are to have consideration in their work methods and site preparation for their environmental duty to protect stormwater quality.</p>	<p><b>Able to comply with A07.3</b></p> <p>Erosion and Sedimentation control measures would be applied during the construction phase of the development.</p>
<p><b>Pest plants (for material change of use on vacant land over 1,000m<sup>2</sup>)</b></p>		



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<b>PO8</b> Development activities and sites provide for the removal of all pest plants and implement ongoing measures to ensure that pest plants do not reinfest the site or nearby sites.  Editor's note - This does not remove or replace all land owner's obligations or responsibilities under the Land Protection (Pest and Stock Route Management) Act 2002.	<b>AO8.1</b> The land is free of declared pest plants before development establishes new buildings, structures and practices; or	<b>Not applicable</b> The site is less than 1,000m <sup>2</sup> in area.
	<b>AO8.2</b> Pest plants detected on a development site are removed in accordance with a management plan prepared by an appropriately qualified person prior to construction of buildings and structures or earthworks. Note - A declaration from an appropriately qualified person validates the land being free from pest plants. Declared pest plants include locally declared and State declared pest plants.	<b>Not applicable</b> The site is less than 1,000m <sup>2</sup> in area.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

#### **9.4.5 Infrastructure works code**

##### **9.4.5.1 Application**

- (1) This code applies to assessing:
  - (a) operational work which requires an assessment as a condition of a development permit or is assessable development if this code is identified in the assessment criteria column of a table of assessment;
  - (b) a material change of use or reconfiguring a lot if:
    - (i) assessable development where this code is identified in the assessment criteria column of the table of assessment;
    - (ii) impact assessable development, to the extent relevant.

Note – The Filling and excavation code applies to operational work for filling and excavation.

- (2) When using this code, reference should be made to Part 5.

##### **9.4.5.2 Purpose**

- (1) The purpose of the Infrastructure works code is to ensure that development is safely and efficiently serviced by, and connected to, infrastructure.
- (2) The purpose of the code will be achieved through the following overall outcomes:
  - (a) the standards of water supply, waste water treatment and disposal, stormwater drainage, local electricity supply, telecommunications, footpaths and road construction meet the needs of development and are safe and efficient;
  - (b) development maintains high environmental standards;
  - (c) development is located, designed, constructed and managed to avoid or minimise impacts arising from altered stormwater quality or flow, wastewater discharge, and the creation of non-tidal artificial waterways;



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

- (d) the integrity of existing infrastructure is maintained;
- (e) development does not detract from environmental values or the desired character and amenity of an area.

#### 9.4.5.3 Criteria for assessment

**Table Error! No text of specified style in document..a – Infrastructure works code –assessable development**

Performance outcomes	Acceptable outcomes	Compliance
<b>For self-assessable and assessable development</b>		
<b>Works on a local government road</b>		
<b>PO1</b>  Works on a local government road do not adversely impact on footpaths or existing infrastructure within the road verge and maintain the flow, safety and efficiency of pedestrians, cyclists and vehicles.	<b>AO1.1</b>  Footpaths/pathways are located in the road verge and are provided for the hierarchy of the road and located and designed and constructed in accordance with Planning scheme policy SC5 – FNQROC Regional Development Manual.	<b>Not applicable</b>  No footpaths are proposed or required.
	<b>AO1.2</b>  Kerb ramp crossovers are constructed in accordance with Planning scheme policy SC 5 –	<b>Not applicable</b>  No kerb ramp crossovers are proposed or



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	FNQROC Regional Development Manual.	required.
	<b>AO1.3</b> New pipes, cables, conduits or other similar infrastructure required to cross existing footpaths: (a) are installed via trenchless methods; or (b) where footpath infrastructure is removed to install infrastructure, the new section of footpath is installed to the standard detailed in the Planning scheme policy SC5 – FNQROC Regional Development Manual, and is not less than a 1.2 metre section.	<b>Not applicable</b> No infrastructure is required to cross the footpath as part of the proposed driveway.
	<b>AO1.4</b> Where existing footpaths are damaged as a result of development, footpaths are reinstated ensuring: (a) similar surface finishes are used; (b) there is no change in level at joins of new	<b>Not applicable</b> No works would be undertaken within proximity of a footpath.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<p>and existing sections;</p> <p>(c) new sections are matched to existing in terms of dimension and reinforcement.</p> <p>Note – <b>Error! Reference source not found.</b> provides guidance on meeting the outcomes.</p>	
	<p><b>AO1.5</b></p> <p>Decks, verandahs, stairs, posts and other structures located in the road reserve do not restrict or impede pedestrian movement on footpaths or change the level of the road verges.</p>	<p><b>Not applicable</b></p> <p>The application is for a driveway only.</p>
<b>Accessibility structures</b>		
<p><b>PO2</b></p> <p>Development is designed to ensure it is accessible for people of all abilities and accessibility features do not impact on the efficient</p>	<p><b>AO2.1</b></p> <p>Accessibility structures are not located within the road reserve.</p>	<p><b>Not applicable</b></p> <p>No accessibility structures are proposed.</p>
	<p><b>AO2.2</b></p>	<p><b>Not applicable</b></p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>and safe use of footpaths.</p> <p>Note – Accessibility features are those features required to ensure access to premises is provided for people of all abilities and include ramps and lifts.</p>	<p>Accessibility structures are designed in accordance with AS1428.3.</p>	<p>No accessibility structures are proposed.</p>
	<p><b>AO2.3</b></p> <p>When retrofitting accessibility features in existing buildings, all structures and changes in grade are contained within the boundaries of the lot and not within the road reserve.</p>	<p><b>Not applicable</b></p> <p>No accessibility structures are proposed.</p>
<b>Water supply</b>		
<p><b>PO3</b></p> <p>An adequate, safe and reliable supply of potable, fire fighting and general use water is provided.</p>	<p><b>AO3.1</b></p> <p>The premises is connected to Council’s reticulated water supply system in accordance with the Design Guidelines set out in Section D6 of the Planning scheme policy SC5 – FNQROC Regional Development Manual;</p> <p>or</p>	<p><b>Complies with AO3.1</b></p> <p>The site is connected to the reticulated water supply network.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<p><b>AO3.2</b></p> <p>Where a reticulated water supply system is not available to the premises, on site water storage tank/s with a minimum capacity of 10,000 litres of stored water, with a minimum 7,500 litre tank, with the balance from other sources (e.g. accessible swimming pool, dam etc.) and access to the tank/s for fire trucks is provided for each new house or other development. Tank/s are to be fitted with a 50mm ball valve with a camlock fitting and installed and connected prior to occupation of the house and sited to be visually unobtrusive.</p>	
<b>Treatment and disposal of effluent</b>		
<p><b>PO4</b></p> <p>Provision is made for the treatment and disposal of effluent to ensure that there are no adverse impacts on water quality and no adverse ecological impacts as a result of the system or as</p>	<p><b>AO4.1</b></p> <p>The site is connected to Council's sewerage system and the extension of or connection to the sewerage system is designed and constructed in accordance with the Design Guidelines set out in</p>	<p><b>Complies with AO4.1</b></p> <p>The site is connected to the Councils Sewerage system.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
a result of increasing the cumulative effect of systems in the locality.	<p>Section D7 of the Planning scheme policy SC5 – FNQROC Regional Development Manual;</p> <p>or</p> <p><b>AO4.2</b></p> <p>Where not in a sewerage scheme area, the proposed disposal system meets the requirements of Section 33 of the <i>Environmental Protection Policy (Water) 1997</i> and the proposed on site effluent disposal system is designed in accordance with the <i>Plumbing and Drainage Act (2002)</i>.</p>	
<b>Stormwater quality</b>		
<p><b>PO5</b></p> <p>Development is planned, designed, constructed and operated to avoid or minimise adverse impacts on stormwater quality in natural and</p>	<p><b>AO5.1</b></p> <p>A connection is provided from the premises to Council's drainage system;</p> <p>or</p>	<p><b>Complies with AO5.1</b></p> <p>All stormwater would be directed to the existing drainage network at the road frontage, which was recently constructed by Council.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>developed catchments by:</p> <ul style="list-style-type: none"> <li>(a) achieving stormwater quality objectives;</li> <li>(b) protecting water environmental values;</li> <li>(c) maintaining waterway hydrology.</li> </ul>	<p><b>AO5.2</b></p> <p>An underground drainage system is constructed to convey stormwater from the premises to Council's drainage system in accordance with the Design Guidelines set out in Sections D4 and D5 of the Planning scheme policy SC5 – FNQROC Regional Development Manual.</p>	
	<p><b>AO5.3</b></p> <p>A stormwater quality management plan is prepared, and provides for achievable stormwater quality treatment measures meeting design objectives listed in <b>Error! Reference source not found.</b> and <b>Error! Reference source not found.</b>, reflecting land use constraints, such as:</p> <ul style="list-style-type: none"> <li>(a) erosive, dispersive and/or saline soil types;</li> <li>(b) landscape features (including landform);</li> <li>(c) acid sulfate soil and management of nutrients of concern;</li> </ul>	<p><b>Not applicable</b></p> <p>This condition is not considered applicable to the construction of driveways.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	(d) rainfall erosivity.	
	<b>AO5.4</b> Erosion and sediment control practices are designed, installed, constructed, monitored, maintained, and carried out in accordance with an erosion and sediment control plan.	<b>Able to comply with AO5.4</b> Erosion and sediment control practices would be employed during the construction phase.
	<b>AO5.5</b> Development incorporates stormwater flow control measures to achieve the design objectives set out in <b>Error! Reference source not found.</b> and <b>Error! Reference source not found.</b> , including management of frequent flows, peak flows, and construction phase hydrological impacts.  Note – Planning scheme policy SC5 – FNQROC Regional Development Manual provides guidance on soil and water control measures to meet the requirements of the <i>Environmental Protection Act</i>	<b>Not applicable</b> This is not considered applicable to driveway construction.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<p>1994.</p> <p>Note – During construction phases of development, contractors and builders are to have consideration in their work methods and site preparation for their environmental duty to protect stormwater quality.</p>	
<b>Non-tidal artificial waterways</b>		
<p><b>PO6</b></p> <p>Development involving non-tidal artificial waterways is planned, designed, constructed and operated to:</p> <p>(a) protect water environmental values;</p> <p>(b) be compatible with the land use constraints for the site for protecting water environmental values;</p> <p>(c) be compatible with existing tidal and non-tidal waterways;</p>	<p><b>AO6.1</b></p> <p>Development involving non-tidal artificial waterways ensures:</p> <p>(a) environmental values in downstream waterways are protected;</p> <p>(b) any ground water recharge areas are not affected;</p> <p>(c) the location of the waterway incorporates low lying areas of the catchment connected to an existing waterway;</p>	<p><b>Not applicable</b></p> <p>No waterways are proposed.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
(d) perform a function in addition to stormwater management;  (e) achieve water quality objectives.	(d) existing areas of ponded water are included.	
	<b>AO6.2</b> Non-tidal artificial waterways are located: (a) outside natural wetlands and any associated buffer areas; (b) to minimise disturbing soils or sediments; (c) to avoid altering the natural hydrologic regime in acid sulfate soil and nutrient hazardous areas.	<b>Not applicable</b> No waterways are proposed.
	<b>AO6.3</b> Non-tidal artificial waterways located adjacent to, or connected to a tidal waterway by means of a weir, lock, pumping system or similar ensures: (a) there is sufficient flushing or a tidal range of >0.3 m; or (b) any tidal flow alteration does not adversely	<b>Not applicable</b> No waterways are proposed.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<p>impact on the tidal waterway; or</p> <p>(c) there is no introduction of salt water into freshwater environments.</p>	
	<p><b>AO6.4</b></p> <p>Non-tidal artificial waterways are designed and managed for any of the following end-use purposes:</p> <p>(a) amenity (including aesthetics), landscaping or recreation; or</p> <p>(b) flood management, in accordance with a drainage catchment management plan; or</p> <p>(c) stormwater harvesting plan as part of an integrated water cycle management plan; or</p> <p>(d) aquatic habitat.</p>	<p><b>Not applicable</b></p> <p>No waterways are proposed.</p>
	<p><b>AO6.5</b></p> <p>The end-use purpose of the non-tidal artificial</p>	<p><b>Not applicable</b></p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	waterway is designed and operated in a way that protects water environmental values.	No waterways are proposed.
	<b>AO6.6</b> Monitoring and maintenance programs adaptively manage water quality to achieve relevant water quality objectives downstream of the waterway.	<b>Not applicable</b> No waterways are proposed.
	<b>AO6.7</b> Aquatic weeds are managed to achieve a low percentage of coverage of the water surface area, and pests and vectors are managed through design and maintenance.	<b>Not applicable</b> No waterways are proposed.
<b>Wastewater discharge</b>		
<b>PO7</b> Discharge of wastewater to waterways, or off site: (a) meets best practice environmental	<b>AO7.1</b> A wastewater management plan is prepared and addresses:	<b>Not applicable</b> No wastewater would be generated by a driveway.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>management;</p> <p>(b) is treated to:</p> <p>(i) meet water quality objectives for its receiving waters;</p> <p>(ii) avoid adverse impact on ecosystem health or waterway health;</p> <p>(iii) maintain ecological processes, riparian vegetation and waterway integrity;</p> <p>(iv) offset impacts on high ecological value waters.</p>	<p>(a) wastewater type;</p> <p>(b) climatic conditions;</p> <p>(c) water quality objectives;</p> <p>(d) best practice environmental management.</p>	
	<p><b>A07.2</b></p> <p>The waste water management plan is managed in accordance with a waste management hierarchy that:</p> <p>(a) avoids wastewater discharge to waterways; or</p> <p>(b) if wastewater discharge cannot practicably be avoided, minimises wastewater discharge to waterways by re-use, recycling, recovery and treatment for disposal to sewer, surface water and ground water.</p>	<p><b>Not applicable</b></p> <p>No wastewater would be generated by a driveway.</p>
	<p><b>A07.3</b></p> <p>Wastewater discharge is managed to avoid or</p>	<p><b>Not applicable</b></p> <p>No wastewater would be generated by a</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<p>minimise the release of nutrients of concern so as to minimise the occurrence, frequency and intensity of algal blooms.</p>	<p>driveway.</p>
	<p><b>AO7.4</b></p> <p>Development in coastal catchments avoids or minimises and appropriately manages soil disturbance or altering natural hydrology and:</p> <p>(a) avoids lowering ground water levels where potential or actual acid sulfate soils are present;</p> <p>(b) manages wastewater so that:</p> <p>(i) the pH of any wastewater discharges is maintained between 6.5 and 8.5 to avoid mobilisation of acid, iron, aluminium and other metals;</p> <p>(ii) holding times of neutralised wastewater ensures the flocculation and removal of</p>	<p><b>Not applicable</b></p> <p>No wastewater would be generated by a driveway.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<p>any dissolved iron prior to release;</p> <p>(iii) visible iron floc is not present in any discharge;</p> <p>(iv) precipitated iron floc is contained and disposed of;</p> <p>(v) wastewater and precipitates that cannot be contained and treated for discharge on site are removed and disposed of through trade waste or another lawful method.</p>	
<b>Electricity supply</b>		
<p><b>PO8</b></p> <p>Development is provided with a source of power that will meet its energy needs.</p>	<p><b>AO8.1</b></p> <p>A connection is provided from the premises to the electricity distribution network;</p> <p>or</p> <p><b>AO8.2</b></p> <p>The premises is connected to the electricity</p>	<p><b>Complies with AO8.1</b></p> <p>The site is connected to the electricity distribution network.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	<p>distribution network in accordance with the Design Guidelines set out in Section D8 of the Planning scheme policy SC5 – FNQROC Regional Development Manual.</p> <p>Note - Areas north of the Daintree River have a different standard.</p>	
	<p><b>AO9.1</b></p> <p>Pad-mount electricity infrastructure is:</p> <p>(a) not located in land for open space or sport and recreation purposes;</p> <p>(b) screened from view by landscaping or fencing;</p> <p>(c) accessible for maintenance.</p>	<p><b>Not applicable</b></p> <p>No pad-mount infrastructure is proposed.</p>
<p><b>PO9</b></p> <p>Development incorporating pad-mount electricity infrastructure does not cause an adverse impact on amenity.</p>	<p><b>AO9.2</b></p> <p>Pad-mount electricity infrastructure within a building, in a Town Centre is designed and located to enable an active street frontage.</p>	<p><b>Not applicable</b></p> <p>No pad-mount infrastructure is proposed.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	Note – Pad-mounts in buildings in activity centres should not be located on the street frontage.	
<b>Telecommunications</b>		
<b>PO10</b> Development is connected to a telecommunications service approved by the relevant telecommunication regulatory authority.	<b>AO10</b> The development is connected to telecommunications infrastructure in accordance with the standards of the relevant regulatory authority.	<b>Complies with AO10</b> The site has an existing commitment to a telecommunications connection.
<b>PO11</b> Provision is made for future telecommunications services (e.g. fibre optic cable).	<b>AO11</b> Conduits are provided in accordance with Planning scheme policy SC5 – FNQROC Regional Development Manual.	<b>Not applicable</b> This is not considered relevant to the construction of a driveway.
<b>Road construction</b>		
<b>PO12</b> The road to the frontage of the premises is	<b>AO12.1</b> The road to the frontage of the site is constructed	<b>Not applicable</b>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>constructed to provide for the safe and efficient movement of:</p> <p>(a) pedestrians and cyclists to and from the site;</p> <p>(b) pedestrians and cyclists adjacent to the site;</p> <p>(c) vehicles on the road adjacent to the site;</p> <p>(d) vehicles to and from the site;</p> <p>(e) emergency vehicles.</p>	<p>in accordance with the Design Guidelines set out in Sections D1 and D3 of the Planning scheme policy SC5 – FNQROC Regional Development Manual, for the particular class of road, as identified in the road hierarchy.</p>	<p>No new roads are proposed.</p>
	<p><b>AO12.2</b></p> <p>There is existing road, kerb and channel for the full road frontage of the site.</p>	<p><b>Not applicable</b></p> <p>No new roads are proposed.</p>
	<p><b>AO12.3</b></p> <p>Road access minimum clearances of 3.5 metres wide and 4.8 metres high are provided for the safe passage of emergency vehicles.</p>	<p><b>Not applicable</b></p> <p>No new roads are proposed.</p>
<b>Alterations and repairs to public utility services</b>		
<p><b>PO13</b></p> <p>Infrastructure is integrated with, and efficiently</p>	<p><b>AO13</b></p> <p>Development is designed to allow for efficient</p>	<p><b>Not applicable</b></p> <p>No alterations are required to existing</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
extends, existing networks.	connection to existing infrastructure networks.	infrastructure networks.
<b>PO14</b>  Development and works do not affect the efficient functioning of public utility mains, services or installations.	<b>AO14.1</b>  Public utility mains, services and installations are not required to be altered or repaired as a result of the development;  or  <b>AO14.2</b>  Public utility mains, services and installations are altered or repaired in association with the works so that they continue to function and satisfy the relevant Design Guidelines set out in Section D8 of the Planning scheme policy SC5 – FNQROC Regional Development Manual.	<b>Not applicable</b>  No alterations are required to existing infrastructure networks.
<b>Construction management</b>		
<b>PO15</b>	<b>AO15</b>	<b>Able to comply with AO15</b>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
Work is undertaken in a manner which minimises adverse impacts on vegetation that is to be retained.	<p>Works include, at a minimum:</p> <ul style="list-style-type: none"> <li>(a) installation of protective fencing around retained vegetation during construction;</li> <li>(b) erection of advisory signage;</li> <li>(c) no disturbance, due to earthworks or storage of plant, materials and equipment, of ground level and soils below the canopy of any retained vegetation;</li> <li>(d) removal from the site of all declared noxious weeds.</li> </ul>	Construction management, including the protection of retained vegetation is able to be undertaken during the construction stage. Council are invited to attach a condition to any approval granted to secure compliance if considered necessary.
<p><b>PO16</b></p> <p>Existing infrastructure is not damaged by construction activities.</p>	<p><b>AO16</b></p> <p>Construction, alterations and any repairs to infrastructure is undertaken in accordance with the Planning scheme policy SC5 – FNQROC Regional Development Manual.</p> <p>Note - Construction, alterations and any repairs to State-controlled roads and rail corridors are undertaken</p>	<p><b>Not applicable</b></p> <p>No works to Council infrastructure is required or proposed.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	in accordance with the Transport Infrastructure Act 1994.	
<b>For assessable development</b>		
<b>High speed telecommunication infrastructure</b>		
<b>PO17</b> Development provides infrastructure to facilitate the roll out of high speed telecommunications infrastructure.	<b>AO17</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> This is not considered applicable to the construction of a driveway.
<b>Trade waste</b>		
<b>PO18</b> Where relevant, the development is capable of providing for the storage, collection treatment and disposal of trade waste such that: (a) off-site releases of contaminants do not occur;	<b>AO18</b> No acceptable outcomes are prescribed.	<b>Not applicable</b> A driveway would not generate trade waste.



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
<p>(b) the health and safety of people and the environment are protected;</p> <p>(c) the performance of the wastewater system is not put at risk.</p>		
<b>Fire services in developments accessed by common private title</b>		
<p><b>PO19</b></p> <p>Hydrants are located in positions that will enable fire services to access water safely, effectively and efficiently.</p>	<p><b>AO19.1</b></p> <p>Residential streets and common access ways within a common private title places hydrants at intervals of no more than 120 metres and at each intersection. Hydrants may have a single outlet and be situated above or below ground.</p>	<p><b>Not applicable</b></p> <p>No common private title is proposed.</p>
	<p><b>AO19.2</b></p> <p>Commercial and industrial streets and access ways within a common private title serving commercial properties such as factories and warehouses and offices are provided with above</p>	<p><b>Not applicable</b></p> <p>No common private title is proposed.</p>



20210602 – 30 Murphy Street, Port Douglas (Operational Works)

Performance outcomes	Acceptable outcomes	Compliance
	or below ground fire hydrants located at not more than 90 metre intervals and at each intersection. Above ground fire hydrants have dual-valved outlets.	
<b>PO20</b>  Hydrants are suitable identified so that fire services can locate them at all hours.  Note – Hydrants are identified as specified in the Department of Transport and Main Roads Technical Note: 'Identification of street hydrants for fire fighting purposes' available under 'Publications'.	<b>AO20</b>  No acceptable outcomes are prescribed.	<b>Not applicable</b>  No common private title is proposed.



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