



25 September 2015

Department of Infrastructure, Local Government and Planning
PO Box 2358
Cairns Qld 4870

Our ref: 42/18731
Your ref: 117623

Dear Sir/Madam

**McDowall Lane NDRRA Project
Prescribed Tidal Works Application**

Please find enclosed an application for prescribed tidal works for NDRRA works at McDowall Lane, Daintree.

Attached are the relevant completed forms:

- IDAS Form 1, 23 and 26
- DNRM Landowners consent
- Supporting information with construction drawings in Appendix A.

For your information we have discussed the proposed works with the following regulators:

Department of Fisheries and Forestry – Sarah Winney

Department of Environment and Heritage Protection – Paul Prenzler.

We are seeking an approval from the Department of National Parks, Sport and Racing as the works are being undertaken in a gazetted Marine Park.

The design subject to construction was developed in consultation with the regulators, and DNPSR in particular.

Please call the undersigned for any clarifications.

Sincerely

GHD Pty Ltd

A handwritten signature in dark ink, appearing to read 'K. Keane', with a horizontal line underneath.

Kristin Keane

Senior Ecologist
61 7 4044 2205

IDAS form 1—Application details

(Sustainable Planning Act 2009 version 4.1 effective 4 July 2014)

This form must be used for **ALL** development applications.

You **MUST** complete **ALL** questions that are stated to be a mandatory requirement unless otherwise identified on this form.

For all development applications, you must:

- complete this form (*IDAS form 1—Application details*)
- complete any other forms relevant to your application
- provide any mandatory supporting information identified on the forms as being required to accompany your application.

Attach extra pages if there is insufficient space on this form.

All terms used on this form have the meaning given in the *Sustainable Planning Act 2009* (SPA) or the Sustainable Planning Regulation 2009.

This form and any other IDAS form relevant to your application must be used for development applications 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*. Whenever a planning scheme is mentioned, take it to mean land use plan for the strategic port land, Brisbane core port land or airport land.

PLEASE NOTE: This form is not required to accompany requests for compliance assessment.

This form can also be completed online using MyDAS at www.dsdip.qld.gov.au/MyDAS

Mandatory requirements

Applicant details (Note: the applicant is the person responsible for making the application and need not be the owner of the land. The applicant is responsible for ensuring the information provided on all IDAS application forms is correct. Any development permit or preliminary approval that may be issued as a consequence of this application will be issued to the applicant.)

Name/s (individual or company name in full)

Douglas Shire Council

For companies, contact name

Postal address

PO Box 723

Suburb Mossman

State Queensland

Postcode

4873

Country Australia

Contact phone number

(07) 4099 9444 or 1800 026 318

Mobile number (non-mandatory requirement)

Fax number (non-mandatory requirement)

(07) 4089 2902

Email address (non-mandatory requirement)

enquiries@douglas.qld.gov.au

Applicant's reference number (non-mandatory requirement)

1. What is the nature of the development proposed and what type of approval is being sought?

Table A—Aspect 1 of the application (If there are additional aspects to the application please list in Table B—Aspect 2.)

a) What is the nature of the development? (Please only tick one box.)

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

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

☐ Preliminary approval under s241 of SPA ☐ Preliminary approval under s241 and s242 of SPA ☒ Development permit

c) Provide a brief description of the proposal, including use definition and number of buildings or structures where applicable (e.g. six unit apartment building defined as a *multi-unit dwelling*, 30 lot residential subdivision etc.)

Restoration of a section of the Esplanade along Daintree River. This restoration is a part of the Natural Disaster Relief and Recovery Arrangements post Cyclone Ita.

d) What is the level of assessment? (Please only tick one box.)

☒ Impact assessment ☐ Code assessment

Table B—Aspect 2 of the application (If there are additional aspects to the application please list in Table C—Additional aspects of the application.)

a) What is the nature of development? (Please only tick one box.)

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

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

☐ Preliminary approval under s241 of SPA ☐ Preliminary approval under s241 and s242 of SPA ☐ Development permit

c) Provide a brief description of the proposal, including use definition and number of buildings or structures where applicable (e.g. six unit apartment building defined as a *multi-unit dwelling*, 30 lot residential subdivision etc.)

d) What is the level of assessment?

☐ Impact assessment ☐ Code assessment

Table C—Additional aspects of the application (If there are additional aspects to the application please list in a separate table on an extra page and attach to this form.)

☐ Refer attached schedule ☒ Not required

2. Location of the premises (Complete Table D and/or Table E as applicable. Identify each lot in a separate row.)

Table D—Street address and lot on plan for the premises or street address and lot on plan for the land adjoining or adjacent to the premises (Note: this table is to be used for applications involving taking or interfering with water). (Attach a separate schedule if there is insufficient space in this table.)

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

Street address					Lot on plan description		Local government area (e.g. Logan, Cairns)
Lot	Unit no.	Street no.	Street name and official suburb/ locality name	Post-code	Lot no.	Plan type and plan no.	
i)			Esplanade	4873	4	RP888615	Douglas Shire Council
ii)							
iii)							

Planning scheme details (If the premises involves multiple zones, clearly identify the relevant zone/s for each lot in a separate row in the below table. Non-mandatory)

Lot	Applicable zone / precinct	Applicable local plan / precinct	Applicable overlay/s
i)	Freehold as part of Daintree Village		
ii)			
iii)			

Table E—Premises coordinates (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.) (Attach a separate schedule if there is insufficient space in this table.)

Coordinates (Note: place each set of coordinates in a separate row)				Zone reference	Datum	Local government area (if applicable)
Easting	Northing	Latitude	Longitude			
		-16.262708°	145.390091°	MGA 94 Zone 55	<input type="checkbox"/> GDA94 <input type="checkbox"/> WGS84 <input type="checkbox"/> other	Douglas Shire Council

3. Total area of the premises on which the development is proposed (indicate square metres)

600 square metres approx (refer drawings)

4. Current use/s of the premises (e.g. vacant land, house, apartment building, cane farm etc.)

- Daintree River
- Adjacent to McDowall Lane •

5. Are there any current approvals (e.g. a preliminary approval) associated with this application? (Non-mandatory requirement)

☒ No ☐ Yes—provide details below

List of approval reference/s	Date approved (dd/mm/yy)	Date approval lapses (dd/mm/yy)

6. Is owner's consent required for this application? (Refer to notes at the end of this form for more information.)

☐ No
☒ Yes—complete either Table F, Table G or Table H as applicable

Table F

Name of owner/s of the land	Crown and Douglas Shire Council as custodian
I/We, the above-mentioned owner/s of the land, consent to the making of this application.	
Signature of owner/s of the land	
Date	

Table G

Name of owner/s of the land	
<input type="checkbox"/> The owner's written consent is attached or will be provided separately to the assessment manager.	

Table H

Name of owner/s of the land	Douglas Shire Council
<input checked="" type="checkbox"/> By making this application, I, the applicant, declare that the owner has given written consent to the making of the application.	

7. Identify if any of the following apply to the premises (Tick applicable box/es.)

- ☐ Adjacent to a water body, watercourse or aquifer (e.g. creek, river, lake, canal)—complete Table I
- ☐ On strategic port land under the *Transport Infrastructure Act 1994*—complete Table J
- ☒ In a tidal water area—complete Table K
- ☐ On Brisbane core port land under the *Transport Infrastructure Act 1994* (No table requires completion.)
- ☐ On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008* (no table requires completion)
- ☐ Listed on either the Contaminated Land Register (CLR) or the Environmental Management Register (EMR) under the *Environmental Protection Act 1994* (no table requires completion)

Table I

Name of water body, watercourse or aquifer
Daintree River

Table J	
Lot on plan description for strategic port land	Port authority for the lot
NA	NA

Table K	
Name of local government for the tidal area (if applicable)	Port authority for the tidal area (if applicable)
Douglas Shire Council	

8. Are there any existing easements on the premises? (e.g. for vehicular access, electricity, overland flow, water etc)

☒ No ☐ Yes—ensure the type, location and dimension of each easement is included in the plans submitted

9. Does the proposal include new building work or operational work on the premises? (Including any services)

☐ No ☒ Yes—ensure the nature, location and dimension of proposed works are included in plans submitted

10. Is the payment of a portable long service leave levy applicable to this application? (Refer to notes at the end of this form for more information.)

☒ No—go to question 12 ☐ Yes

11. Has the portable long service leave levy been paid? (Refer to notes at the end of this form for more information.)

☐ No
☐ Yes—complete Table L and submit with this application the yellow local government/private certifier's copy of the receipted QLeave form

Table L		
Amount paid	Date paid (dd/mm/yy)	QLeave project number (6 digit number starting with A, B, E, L or P)

12. Has the local government agreed to apply a superseded planning scheme to this application under section 96 of the *Sustainable Planning Act 2009*?

☒ No
☐ Yes—please provide details below

Name of local government	Date of written notice given by local government (dd/mm/yy)	Reference number of written notice given by local government (if applicable)

13. List below all of the forms and supporting information that accompany this application (Include all IDAS forms, checklists, mandatory supporting information etc. that will be submitted as part of this application. Note: this question does not apply for applications made online using MyDAS)

Description of attachment or title of attachment	Method of lodgement to assessment manager
Owner consent application to DNRM - received	Email

14. Applicant's declaration

☒ By making this application, I declare that all information in this application is true and correct (Note: it is unlawful to provide false or misleading information)

Notes for completing this form

- Section 261 of the *Sustainable Planning Act 2009* prescribes when an application is a properly-made application. Note, the assessment manager has discretion to accept an application as properly made despite any non-compliance with the requirement to provide mandatory supporting information under section 260(1)(c) of the *Sustainable Planning Act 2009*

Applicant details

- Where the applicant is not a natural person, ensure the applicant entity is a real legal entity.

Question 1

- Schedule 3 of the Sustainable Planning Regulation 2009 identifies assessable development and the type of assessment. Where schedule 3 identifies assessable development as "various aspects of development" the applicant must identify each aspect of the development on Tables A, B and C respectively and as required.

Question 6

- Section 263 of the *Sustainable Planning Act 2009* sets out when the consent of the owner of the land is required for an application. Section 260(1)(e) of the *Sustainable Planning Act 2009* provides that if the owner's consent is required under section 263, then an application must contain, or be accompanied by, the written consent of the owner, or include a declaration by the applicant that the owner has given written consent to the making of the application. If a development application relates to a state resource, the application is not required to be supported by evidence of an allocation or entitlement to a state resource. However, where the state is the owner of the subject land, the written consent of the state, as landowner, may be required. Allocation or entitlement to the state resource is a separate process and will need to be obtained before development commences.

Question 7

- If the premises is listed on either the Contaminated Land Register (CLR) or the Environmental Management Register (EMR) under the *Environmental Protection Act 1994* it may be necessary to seek compliance assessment. Schedule 18 of the Sustainable Planning Regulation 2009 identifies where compliance assessment is required.

Question 11

- The *Building and Construction Industry (Portable Long Service Leave) Act 1991* prescribes when the portable long service leave levy is payable.
- The portable long service leave levy amount and other prescribed percentages and rates for calculating the levy are prescribed in the Building and Construction Industry (Portable Long Service Leave) Regulation 2002.

Question 12

- The portable long service leave levy need not be paid when the application is made, but the *Building and Construction Industry (Portable Long Service Leave) Act 1991* requires the levy to be paid before a development permit is issued.
- Building and construction industry notification and payment forms are available from any Queensland post office or agency, on request from QLeave, or can be completed on the QLeave website at www.qleave.qld.gov.au. For further information contact QLeave on 1800 803 481 or visit www.qleave.qld.gov.au.

Privacy—The information collected in this form will be used by the Department of State Development, Infrastructure and Planning (DSDIP), assessment manager, referral agency and/or building certifier in accordance with the processing and assessment of your application. Your personal details should not be disclosed for a purpose outside of the IDAS process or the provisions about public access to planning and development information in the *Sustainable Planning Act 2009*, except where required by legislation (including the *Right to Information Act 2009*) or as required by Parliament. This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002*.

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Date received

Reference numbers

NOTIFICATION OF ENGAGEMENT OF A PRIVATE CERTIFIER

To

Council. I have been engaged as the private certifier for the building work referred to in this application

Date of engagement	Name	BSA Certification license number	Building classification/s

QLEAVE NOTIFICATION AND PAYMENT (For completion by assessment manager or private certifier if applicable.)

Description of the work	QLeave project number	Amount paid (\$)	Date paid	Date receipted form sighted by assessment manager	Name of officer who sighted the form

The *Sustainable Planning Act 2009* is administered by the Department of State Development, Infrastructure and Planning. This form and all other required application materials should be sent to your assessment manager and any referral agency.

IDAS form 23—Tidal works and development within coastal management districts

(Sustainable Planning Act 2009 version 3.0 effective 1 July 2013)

This form must be used for development applications for:

- operational work that is tidal works (including prescribed tidal works) or operational work within a coastal management district (mentioned in the Sustainable Planning Regulation 2009, schedule 7, table 2, item 13)
- material change of use that requires referral under the Sustainable Planning Regulation 2009, schedule 7, table 3, item 5 because it involves:
 - operational work carried out completely or partly in a coastal management district; or
 - building work carried out completely or partly in a coastal management district that is the construction of a new premises with a gross floor area (GFA) of at least 1000m² or the enlargement of the GFA of an existing premises by more than 1000m²
- reconfiguring a lot that requires referral under the Sustainable Planning Regulation 2009, schedule 7, table 2, item 14 because the land is situated completely or partly in a coastal management district or the reconfiguration is in connection with the construction of a canal
- building work that requires referral under the Sustainable Planning Regulation 2009, schedule 7, table 1, item 11 because it is on land completely or partly seaward of a coastal building line.

You **MUST** complete **ALL** questions that are stated to be a mandatory requirement unless otherwise identified on this form.

Notes for completing this form

For all development applications you must:

- complete *IDAS form 1—Application details*
- complete any other forms relevant to your application
- provide any mandatory supporting information identified on the forms as being required to accompany your application.

Attach extra pages if there is insufficient space on this form.

All terms used on this form have the meaning given in the *Coastal Management and Protection Act 1995*, the *Coastal Protection and Management Regulation 2003*, the *Sustainable Planning Act 2009* (SPA) or the *Sustainable Planning Regulation 2009*.

This form can also be completed online using MyDAS at www.dsdipl.gld.gov.au/MyDAS

Mandatory requirements

1. Confirm the following mandatory requirements accompany this application	Confirmation of lodgement	Method of lodgement
Written description of the proposal, including a report that addresses any relevant policies.	X <input type="checkbox"/> Confirmed	

2. What is the nature of the work or development proposed by the application? (Tick all applicable boxes.)

- ☒ Operational work—complete table A
 ☐ Material Change of Use—complete table B
☐ Reconfiguring a Lot—complete table C
 ☐ Building Work—complete table D

Table A—Operational Work

Does the operational work involve the following? (Tick all applicable boxes.)

- a) Tidal works as defined under the *Coastal Protection and Management Act 1995* (e.g. basins, breakwater, bridges, boat ramps, decks and boardwalks, docks, dockyards, groynes, jetties, marinas, pipelines, pontoons, powerlines, seawalls, slips, training walls, wharves and the reclamation of land under tidal water)?

☐ No ☒ Yes

If yes, what is the purpose?

Bank protection to the Daintree River where scour has occurred

☐ Private purpose (e.g. private pontoon)

☒ Another purpose (e.g. commercial marina)

Does the tidal works also require resource allocation under the *Coastal Protection and Management Act 1995*?

☒ No ☐ Yes

If applicable what is the estimated value of the proposed works?

- b) Interfering with quarry material as defined under the *Coastal Protection and Management Act 1995* (e.g. excavating or moving sand, gravel or any other earth material on state coastal land such as roads, esplanades, parks or unallocated state land) on state coastal land above high-water mark.

☒ No ☐ Yes

If yes, which of the following?

☐ Works for coastal management purpose involving beach nourishment, dune fencing, revegetation of dunal areas with endemic native plants, or stinger net enclosures.

☐ For purposes directly related to the provision of lifesaving or rescue services by a volunteer community organisation.

☐ For other purposes (please state below).

If applicable what is the estimated value of the proposed works?

- c) Disposing of dredge spoil or other solid waste material in tidal water?

☒ No ☐ Yes

If applicable what is the estimated value of the proposed works?

- d) Constructing an artificial waterway?

☒ No ☐ Yes

If applicable what is the length of the waterway?

- e) Removing or interfering with coastal dunes on land, other than state coastal land, that is in an erosion prone area as defined in the *Coastal Protection and Management Act 1995* and above high water mark (e.g. lowering dune vegetation on freehold and leasehold land)?

☒ No ☐ Yes

If applicable what is the estimated value of the proposed works?

Table B—Material change of use
<p>a) Does the material change of use involve the following? (Tick all applicable boxes.)</p> <p><input type="checkbox"/> Operational work carried out completely or partly in a coastal management district</p> <p>b) Does the material change of use involve building work carried out completely or partly in a coastal management district that is:</p> <p><input type="checkbox"/> the construction of new premises with a gross floor area of at least 1000 m²</p> <p><input type="checkbox"/> the enlargement of the gross floor area of existing premises by more than 1000 m²</p>

Table C—Reconfiguring a lot
<p>a) Does the reconfiguring a lot involve the following? (Tick all applicable boxes.)</p> <p><input type="checkbox"/> Land situated completely or partly in a coastal management district</p> <p><input type="checkbox"/> The construction of a canal</p> <p>b) How many lots will be created?</p> <div style="border: 1px solid black; height: 20px; width: 250px;"></div>

Table D—Building work
<p>a) Is the building work on land completely or partly seaward of the coastal building line under the <i>Coastal Protection and Management Act 1995</i>?</p> <p><input type="checkbox"/> No <input type="checkbox"/> Yes</p>

3. Is the tidal works located within a local government tidal area? (Tick all applicable boxes)
<p><input type="checkbox"/> No <input checked="" type="checkbox"/> Yes—provide details below</p>

Local government:	Douglas Shire Council
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Mandatory supporting information

4. Please provide the following information	Confirmation of lodgement	Method of lodgement
For all applications		
A statement addressing the relevant part(s) of the State Development Assessment Provisions (SDAP).	<input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic
For applications involving operational work that is tidal works		
A copy of the certificate of title for the land (including tidal land) that would abut or adjoin the proposed works.	<input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic
Plans showing: <ul style="list-style-type: none"> the real property description and boundaries of the land (including tidal land) that would abut or adjoin the proposed works the proposed works (including existing works to be removed) in relation to relevant tidal planes (e.g. mean high water springs) the slope angles of the beds and banks of the tidal area and the finished levels of the proposed works. 	<input checked="" type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic
For tidal work that will occupy a navigable waterway provide a water allocation area plan providing evidence that the proposed work will not prejudice the access rights of adjoining property owners.	<input type="checkbox"/> Confirmed <input checked="" type="checkbox"/> Not applicable	Electronic

Details of the largest vessel, if any, to be moored at the structure.	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	
For prescribed tidal works, details of how the proposed work addresses the IDAS code for prescribed tidal work in the Coastal Protection and Management Regulation 2003, schedule 4A.	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic
If applicable, certification that the design of tidal works is suitable for intended use, signed by a Registered Professional Engineer of Queensland (or equivalent).	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic
For applications involving material change of use		
Plans certified by a registered professional engineer of Queensland (RPEQ) or a registered surveyor showing: <ul style="list-style-type: none"> the real property description and boundaries of the land the proposed works in relation to the location of the coastal management district and coastal hazards. 	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	
For applications involving reconfiguring a lot		
Plans certified by a registered surveyor showing: <ul style="list-style-type: none"> the real property description and boundaries of the land The location of the coastal management district and coastal hazards in relation to the land being reconfigured Any land being surrendered as a separate lot on the plan of subdivision. 	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	
For applications involving building works seaward of a coastal building line		
Plans certified by a registered professional engineer of Queensland (RPEQ): <ul style="list-style-type: none"> the real property description and boundaries of the land the proposed works in relation to the location of the coastal building line. 	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	

Notes for completing this form

- Please ensure all applicable fees are paid, noting that referral agency fees are to be paid to the Department of Environment and Heritage Protection.
- For an application requiring referral to the Department of Transport and Main Roads (DTMR), it is recommended that the applicant contact DTMR to ensure that required information for assessment of the application is provided.

Privacy—Please refer to your assessment manager, referral agency and/or building certifier for further details on the use of information recorded in this form.

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Date received

Reference numbers

The *Sustainable Planning Act 2009* is administered by the Department of State Development, Infrastructure and Planning. This form and all other required application materials should be sent to your assessment manager and any referral agency.

IDAS form 26—Marine plants and declared fish habitat areas

(Sustainable Planning Act 2009 version 3.2 effective 3 August 2015)

This form must be used for development applications for:

- operational work that is the removal, destruction or damage of a marine plant
- a material change of use of premises if the material change of use involves operational work that is the removal, destruction or damage of marine plants, and there is no development permit for the operational work
- reconfiguring a lot if the reconfiguration involves operational work that is the removal, destruction or damage of marine plants, and there is no development permit for the operational work
- building work in a declared fish habitat area
- operational work completely or partly within a declared fish habitat area.

You **MUST** complete **ALL** questions that are stated to be a mandatory requirement unless otherwise identified on this form.

For all development applications you must:

- complete *IDAS form 1—Application details*
- complete any other forms relevant to your application
- provide any mandatory supporting information identified on the forms as being required to accompany your application.

Attach extra pages if there is insufficient space on this form.

All terms used on this form have the meaning given in the *Sustainable Planning Act 2009* (SPA) or the Sustainable Planning Regulation 2009.

Mandatory requirements

1. What is the nature of the proposed work? (Tick all applicable boxes.)

- ☒ Operational work that is the removal, destruction or damage of marine plants as defined in the *Fisheries Act 1994*, section 8
- ☐ Operational work that is completely or partly within a declared fish habitat area as defined in the *Fisheries Regulation 2008*, Schedule 3
- ☐ Building work in a declared fish habitat area

Mandatory supporting information

2. Confirm that the following mandatory supporting information accompanies this application

Mandatory supporting information	Confirmation of lodgement	Method of lodgement
A scaled site plan of the proposed work showing the location, areas of impact and adjacent area including or in relation to:		
• actual area of disturbance to marine plants and/or declared fish habitat area in square metres. Identify proportion (m ²) of permanent and/or temporary disturbance.	X <input type="checkbox"/> Confirmed	Electronic
• dimensions and GPS coordinates and zone references (GDA94 preferred).	X <input type="checkbox"/> Confirmed	Electronic

<ul style="list-style-type: none"> easily identifiable site features (e.g. roads, road intersections, waterway names, bends in the waterway, etc.). 	X <input type="checkbox"/> Confirmed	Electronic
<ul style="list-style-type: none"> real property boundaries adjacent to and in the vicinity of the proposed work 	X <input type="checkbox"/> Confirmed	Electronic
<ul style="list-style-type: none"> boundary of the declared fish habitat area. 	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	
<ul style="list-style-type: none"> location, extent, nature and dimensions of the area for proposed work, including access paths, construction areas, moorings and dredging required to undertake the work. 	X <input type="checkbox"/> Confirmed	Electronic
<ul style="list-style-type: none"> location and extent of highest astronomical tide, mean high water springs and mean low water springs levels, by reference to easily identifiable fixed points. 	X <input type="checkbox"/> Confirmed	Electron
<ul style="list-style-type: none"> location of all waterway features within the development area, including creeks, drainage lines, lagoons and marshes. 	X <input type="checkbox"/> Confirmed	Electronic ic
<ul style="list-style-type: none"> location and extent of all marine plants (e.g. saltmarsh, mangrove, seagrass) within and adjacent to the proposed work. 	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic ic
<ul style="list-style-type: none"> location and extent of all marine plants proposed to be removed, destroyed or damaged. 	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic ic
<ul style="list-style-type: none"> location and extent of any existing disturbances, structures, improvements or fill within, adjacent to, or associated with the proposed work. 	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic ic
Written documentation		
Details of the purpose of the proposed work (e.g. public jetty, private jetty, boat ramp, pontoon, revetment, board walk, etc.).	X <input type="checkbox"/> Confirmed	Electronic ic
A description of the habitats within the declared fish habitat area proposed to be impacted (e.g. sand banks, mud banks, seagrass, mangroves, salt couch, rocky shore, etc.) and the nature of the impact.	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	
A description of the marine plants proposed to be removed, destroyed or damaged (e.g. number, type, height, area in m ² , density, health, etc.) by the work.	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic
A description of the method of works (e.g. equipment to be used).	X <input type="checkbox"/> Confirmed	Electronic
A description of the past uses and/or disturbances of the development area.	X <input type="checkbox"/> Confirmed	Electronic
A statement addressing the relevant part(s) of the State Development Assessment Provisions (SDAP).	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic ic
Justification		
A detailed description of the alternatives considered to reduce impacts on marine plants or the declared fish habitat area, as applicable (e.g. alternative designs, locations, setbacks/buffer distances, etc.).	X <input type="checkbox"/> Confirmed	Electronic ic
Details of on-site mitigation actions proposed to prevent the proposed work contributing to degradation of the declared fish habitat area, in and adjacent to the development area, during and after the development.	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic ic
Details of on-site mitigation actions proposed to prevent the proposed work contributing to degradation of the declared fish habitat area, in and adjacent to the development area, during and after the development.	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic ic

A description of off-site actions proposed to offset residual impacts from any permanent loss of or damage to marine plants or the declared fish habitat area, as applicable (e.g. any proposed rehabilitation or restoration of marine plants, land exchange options, fish habitat research contribution, etc.).	X <input type="checkbox"/> Confirmed	Electronic ic
The extent of any future maintenance works required for the continued safe operation of the proposed structure or facility (e.g. trimming of regrowth of marine plants, maintenance dredging).	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Electronic ic

Privacy—Please refer to your assessment manager, referral agency and/or building certifier for further details on the use of information recorded in this form.

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Date received Reference numbers

The *Sustainable Planning Act 2009* is administered by the Department of Infrastructure, Local Government and Planning. This form and all other required application materials should be sent to your assessment manager and any referral agency.

Author: Kellie Swaffer
File / Ref number: 2015/004492
Directorate / Unit: State Land Asset Management
Phone: (07) 4222 5427



Department of
Natural Resources and Mines

26 August 2015

GHD Pty Ltd
Attn: Ms Kristin Keane
PO Box 819
Cairns Qld 4870
Kristin.keane@ghd.com

Dear Ms Keane,

Application for Owner's Consent for Tidal works on unallocated State land and Esplanade adjoining freehold Lot 8 on SP143026 and Lot 4 on RP888615, Parish of Solander, on behalf of Douglas Shire Council.

Reference is made to the request for owner's consent required to accompany the development application for the restoration of a section of Esplanade in Lower Daintree, along the Daintree River.

The department hereby gives owner's consent to the above development application.

Although owner's consent to the development application has been provided and no tenure under the Land Act is required for that part of unallocated State land below high water mark, and Douglas Shire Council having appropriate control over that part being the Esplanade, your client is to undertake works on the land only if and when the development application has been approved by the assessment manager, and in accordance with the conditions of that approval.

A copy of this letter is to be attached to your IDAS Form 1 as the required evidence of owners consent.

Your client will also need to comply with all other legislative and regulatory requirements which may also include approvals that are not part of the assessment of the development application under the *Sustainable Planning Act 2009* (SPA) e.g. a marine park permit if in a marine park.

Further, please note that the above consent will expire on **26 February 2016**. Should the development application not be lodged with the assessment manager prior to this date, your client will be required again to lodge the IDAS Form 1 and any attachments with this Department with a further request for owners consent - any further request will need to be reconsidered by the Department.

It is also advised that any land use activities must comply with the *Aboriginal Cultural Heritage Act 2003* or the *Torres Strait Islander Heritage Act 2003*.

Finally, owner's consent is required under SPA to enable the application to be considered properly made for lodging with the assessment manager and is a completely separate process to assessment of the application under SPA.

Accordingly, the Department may act at a later date as assessment manager, concurrence/referral agency, or advice agency in the assessment of the development application - providing owners consent will not influence any statutory role the Department may have in this assessment.

If you wish to discuss this matter please contact the department on (07) 4222 5427.

All future correspondence relative to this matter is to be referred to the contact Officer at the address below or by email to Townsville.SLAMS@dnrm.qld.gov.au. Any hard copy correspondence received will be electronically scanned and filed. For this reason, it is recommended that any attached plans, sketches or maps be no larger than A3-sized.

Please quote reference number 2015/004492 in any future correspondence.

Yours sincerely



Deanna Holder
Senior Land Officer
A duly authorised delegate of the Minister
under the current Land Act (Ministerial) Delegation

IDAS form 1—Application details

(Sustainable Planning Act 2009 version 4.1 effective 4 July 2014)

This form must be used for **ALL** development applications.

You **MUST** complete **ALL** questions that are stated to be a mandatory requirement unless otherwise identified on this form.

For all development applications, you must:

- complete this form (*IDAS form 1—Application details*)
- complete any other forms relevant to your application
- provide any mandatory supporting information identified on the forms as being required to accompany your application.

Attach extra pages if there is insufficient space on this form.

All terms used on this form have the meaning given in the *Sustainable Planning Act 2009* (SPA) or the Sustainable Planning Regulation 2009.

This form and any other IDAS form relevant to your application must be used for development applications 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*. Whenever a planning scheme is mentioned, take it to mean land use plan for the strategic port land, Brisbane core port land or airport land.

PLEASE NOTE: This form is not required to accompany requests for compliance assessment.

This form can also be completed online using MyDAS at www.dsdipl.gld.gov.au/MyDAS

Mandatory requirements

Applicant details (Note: the applicant is the person responsible for making the application and need not be the owner of the land. The applicant is responsible for ensuring the information provided on all IDAS application forms is correct. Any development permit or preliminary approval that may be issued as a consequence of this application will be issued to the applicant.)

Name/s (individual or company name in full)

Douglas Shire Council

For companies, contact name

Postal address

PO Box 723

Suburb Mossman

State Queensland

Postcode 4873

Country Australia

Contact phone number

(07) 4099 9444 or 1800 026 318

Mobile number (non-mandatory requirement)

Fax number (non-mandatory requirement)

(07) 4089 2902

Email address (non-mandatory requirement)

enquiries@douglas.qld.gov.au

Applicant's reference number (non-mandatory requirement)

1. What is the nature of the development proposed and what type of approval is being sought?

Table A—Aspect 1 of the application (If there are additional aspects to the application please list in Table B—Aspect 2.)

- a) What is the nature of the development? (Please only tick one box.)
- ☐ Material change of use ☐ Reconfiguring a lot ☐ Building work ☒ Operational work
- b) What is the approval type? (Please only tick one box.)
- ☐ Preliminary approval under s241 of SPA ☐ Preliminary approval under s241 and s242 of SPA ☒ Development permit
- c) Provide a brief description of the proposal, including use definition and number of buildings or structures where applicable (e.g. six unit apartment building defined as a *multi-unit dwelling*, 30 lot residential subdivision etc.)
- Restoration of a section of the Esplanade along Daintree River. This restoration is a part of the Natural Disaster Relief and Recovery Arrangements of the Department of Transport and Main Roads.
- d) What is the level of assessment? (Please only tick one box.)
- ☐ Impact assessment ☒ Code assessment

Table B—Aspect 2 of the application (If there are additional aspects to the application please list in Table C—Additional aspects of the application.)

- a) What is the nature of development? (Please only tick one box.)
- ☐ Material change of use ☐ Reconfiguring a lot ☐ Building work ☒ Operational work
- b) What is the approval type? (Please only tick one box.)
- ☐ Preliminary approval under s241 of SPA ☐ Preliminary approval under s241 and s242 of SPA ☐ Development permit
- c) Provide a brief description of the proposal, including use definition and number of buildings or structures where applicable (e.g. six unit apartment building defined as a *multi-unit dwelling*, 30 lot residential subdivision etc.)
-
- d) What is the level of assessment?
- ☐ Impact assessment ☐ Code assessment

Table C—Additional aspects of the application (If there are additional aspects to the application please list in a separate table on an extra page and attach to this form.)

- ☐ Refer attached schedule ☒ Not required

2. Location of the premises (Complete Table D and/or Table E as applicable. Identify each lot in a separate row.)

Table D—Street address and lot on plan for the premises or street address and lot on plan for the land adjoining or adjacent to the premises (Note: this table is to be used for applications involving taking or interfering with water). (Attach a separate schedule if there is insufficient space in this table.)

- ☐ Street address and lot on plan (All lots must be listed.)
- ☒ Street address and lot on plan for the land adjoining or adjacent to the premises (Appropriate for development in water but adjoining or adjacent to land, e.g. jetty, pontoon. All lots must be listed.)

Street address					Lot on plan description		Local government area (e.g. Logan, Cairns)
Lot	Unit no.	Street no.	Street name and official suburb/ locality name	Post-code	Lot no.	Plan type and plan no.	
i)			Esplanade	4873	4	RP888615	Douglas Shire Council
ii)			Esplanade	4873	8	SP143026	Douglas Shire Council
iii)							

Planning scheme details (If the premises involves multiple zones, clearly identify the relevant zone/s for each lot in a separate row in the below table. Non-mandatory)

Lot	Applicable zone / precinct	Applicable local plan / precinct	Applicable overlay/s
i)	Rural zone		
ii)			
iii)			

Table E—Premises coordinates (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.) (Attach a separate schedule if there is insufficient space in this table.)

Coordinates (Note: place each set of coordinates in a separate row)				Zone reference	Datum	Local government area (if applicable)
Easting	Northing	Latitude	Longitude			
		-16.262708°	145.390091°	MGA 94 Zone 55	<input type="checkbox"/> GDA94 <input type="checkbox"/> WGS84 <input type="checkbox"/> other	Lower Daintree

3. Total area of the premises on which the development is proposed (Indicate square metres)

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4. Current use/s of the premises (e.g. vacant land, house, apartment building, cane farm etc.)

- Daintree River
- Douglas Shire Council road
- Crop lands

5. Are there any current approvals (e.g. a preliminary approval) associated with this application? (Non-mandatory requirement)

☒ No ☐ Yes—provide details below

List of approval reference/s	Date approved (dd/mm/yy)	Date approval lapses (dd/mm/yy)

6. Is owner's consent required for this application? (Refer to notes at the end of this form for more information.)

☐ No

☒ Yes—complete either Table F, Table G or Table H as applicable

Table F

Name of owner/s of the land	
I/We, the above-mentioned owner/s of the land, consent to the making of this application.	
Signature of owner/s of the land	
Date	

Table G

Name of owner/s of the land	
<input type="checkbox"/> The owner's written consent is attached or will be provided separately to the assessment manager.	

Table H

Name of owner/s of the land	Douglas Shire Council
<input checked="" type="checkbox"/> By making this application, I, the applicant, declare that the owner has given written consent to the making of the application.	

7. Identify if any of the following apply to the premises (Tick applicable box/es.)

- ☒ Adjacent to a water body, watercourse or aquifer (e.g. creek, river, lake, canal)—complete Table I
- ☐ On strategic port land under the *Transport Infrastructure Act 1994*—complete Table J
- ☒ In a tidal water area—complete Table K
- ☐ On Brisbane core port land under the *Transport Infrastructure Act 1994* (No table requires completion.)
- ☐ On airport land under the *Airport Assets (Restructuring and Disposal) Act 2008* (no table requires completion)
- ☐ Listed on either the Contaminated Land Register (CLR) or the Environmental Management Register (EMR) under the *Environmental Protection Act 1994* (no table requires completion)

Table I

Name of water body, watercourse or aquifer
Daintree River

Table J	
Lot on plan description for strategic port land	Port authority for the lot
NA	NA

Table K	
Name of local government for the tidal area (if applicable)	Port authority for the tidal area (if applicable)
Douglas Shire Council	

8. Are there any existing easements on the premises? (e.g. for vehicular access, electricity, overland flow, water etc)

☒ No ☐ Yes—ensure the type, location and dimension of each easement is included in the plans submitted

9. Does the proposal include new building work or operational work on the premises? (Including any services)

☐ No ☒ Yes—ensure the nature, location and dimension of proposed works are included in plans submitted

10. Is the payment of a portable long service leave levy applicable to this application? (Refer to notes at the end of this form for more information.)

☒ No—go to question 12 ☐ Yes

11. Has the portable long service leave levy been paid? (Refer to notes at the end of this form for more information.)

☐ No

☐ Yes—complete Table L and submit with this application the yellow local government/private certifier's copy of the receipted QLeave form

Table L		
Amount paid	Date paid (dd/mm/yy)	QLeave project number (6 digit number starting with A, B, E, L or P)

12. Has the local government agreed to apply a superseded planning scheme to this application under section 96 of the Sustainable Planning Act 2009?

☒ No

☐ Yes—please provide details below

Name of local government	Date of written notice given by local government (dd/mm/yy)	Reference number of written notice given by local government (if applicable)

- 13. List below all of the forms and supporting information that accompany this application (Include all IDAS forms, checklists, mandatory supporting information etc. that will be submitted as part of this application. Note: this question does not apply for applications made online using MyDAS)**

Description of attachment or title of attachment	Method of lodgement to assessment manager
Owner consent application to DNRM	Email

14. Applicant's declaration

☒ By making this application, I declare that all information in this application is true and correct (Note: it is unlawful to provide false or misleading information)

Notes for completing this form

- Section 261 of the *Sustainable Planning Act 2009* prescribes when an application is a properly-made application. Note, the assessment manager has discretion to accept an application as properly made despite any non-compliance with the requirement to provide mandatory supporting information under section 260(1)(c) of the *Sustainable Planning Act 2009*

Applicant details

- Where the applicant is not a natural person, ensure the applicant entity is a real legal entity.

Question 1

- Schedule 3 of the *Sustainable Planning Regulation 2009* identifies assessable development and the type of assessment. Where schedule 3 identifies assessable development as "various aspects of development" the applicant must identify each aspect of the development on Tables A, B and C respectively and as required.

Question 6

- Section 263 of the *Sustainable Planning Act 2009* sets out when the consent of the owner of the land is required for an application. Section 260(1)(e) of the *Sustainable Planning Act 2009* provides that if the owner's consent is required under section 263, then an application must contain, or be accompanied by, the written consent of the owner, or include a declaration by the applicant that the owner has given written consent to the making of the application. If a development application relates to a state resource, the application is not required to be supported by evidence of an allocation or entitlement to a state resource. However, where the state is the owner of the subject land, the written consent of the state, as landowner, may be required. Allocation or entitlement to the state resource is a separate process and will need to be obtained before development commences.

Question 7

- If the premises is listed on either the Contaminated Land Register (CLR) or the Environmental Management Register (EMR) under the *Environmental Protection Act 1994* it may be necessary to seek compliance assessment. Schedule 18 of the *Sustainable Planning Regulation 2009* identifies where compliance assessment is required.

Question 11

- The *Building and Construction Industry (Portable Long Service Leave) Act 1991* prescribes when the portable long service leave levy is payable.
- The portable long service leave levy amount and other prescribed percentages and rates for calculating the levy are prescribed in the *Building and Construction Industry (Portable Long Service Leave) Regulation 2002*.

Question 12

- The portable long service leave levy need not be paid when the application is made, but the *Building and Construction Industry (Portable Long Service Leave) Act 1991* requires the levy to be paid before a development permit is issued.
- Building and construction industry notification and payment forms are available from any Queensland post office or agency, on request from QLeave, or can be completed on the QLeave website at www.qleave.qld.gov.au. For further information contact QLeave on 1800 803 481 or visit www.qleave.qld.gov.au.

Privacy—The information collected in this form will be used by the Department of State Development, Infrastructure and Planning (DSDIP), assessment manager, referral agency and/or building certifier in accordance with the processing and assessment of your application. Your personal details should not be disclosed for a purpose outside of the IDAS process or the provisions about public access to planning and development information in the *Sustainable Planning Act 2009*, except where required by legislation (including the *Right to Information Act 2009*) or as required by Parliament. This information may be stored in relevant databases. The information collected will be retained as required by the *Public Records Act 2002*.

OFFICE USE ONLY

Date received

Reference numbers

NOTIFICATION OF ENGAGEMENT OF A PRIVATE CERTIFIER

To

Council. I have been engaged as the private certifier for the building work referred to in this application

Date of engagement	Name	BSA Certification license number	Building classification/s
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

QLEAVE NOTIFICATION AND PAYMENT (For completion by assessment manager or private certifier if applicable.)

Description of the work	QLeave project number	Amount paid (\$)	Date paid	Date receipted form sighted by assessment manager	Name of officer who sighted the form
<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>	<input type="text"/>

The *Sustainable Planning Act 2009* is administered by the Department of State Development, Infrastructure and Planning. This form and all other required application materials should be sent to your assessment manager and any referral agency.

IDAS form 23—Tidal works and development within coastal management districts

(Sustainable Planning Act 2009 version 3.0 effective 1 July 2013)

This form must be used for development applications for:

- operational work that is tidal works (including prescribed tidal works) or operational work within a coastal management district (mentioned in the Sustainable Planning Regulation 2009, schedule 7, table 2, item 13)
- material change of use that requires referral under the Sustainable Planning Regulation 2009, schedule 7, table 3, item 5 because it involves:
 - operational work carried out completely or partly in a coastal management district; or
 - building work carried out completely or partly in a coastal management district that is the construction of a new premises with a gross floor area (GFA) of at least 1000m² or the enlargement of the GFA of an existing premises by more than 1000m²
- reconfiguring a lot that requires referral under the Sustainable Planning Regulation 2009, schedule 7, table 2, item 14 because the land is situated completely or partly in a coastal management district or the reconfiguration is in connection with the construction of a canal
- building work that requires referral under the Sustainable Planning Regulation 2009, schedule 7, table 1, item 11 because it is on land completely or partly seaward of a coastal building line.

You **MUST** complete **ALL** questions that are stated to be a mandatory requirement unless otherwise identified on this form.

Notes for completing this form

For all development applications you must:

- complete *IDAS form 1—Application details*
- complete any other forms relevant to your application
- provide any mandatory supporting information identified on the forms as being required to accompany your application.

Attach extra pages if there is insufficient space on this form.

All terms used on this form have the meaning given in the *Coastal Management and Protection Act 1995*, the *Coastal Protection and Management Regulation 2003*, the *Sustainable Planning Act 2009 (SPA)* or the *Sustainable Planning Regulation 2009*.

This form can also be completed online using MyDAS at www.dsdip.qld.gov.au/MyDAS

Mandatory requirements

1. Confirm the following mandatory requirements accompany this application	Confirmation of lodgement	Method of lodgement
Written description of the proposal, including a report that addresses any relevant policies.	X <input type="checkbox"/> Confirmed	

2. What is the nature of the work or development proposed by the application? (Tick all applicable boxes.)

- ☒ Operational work—complete table A
 ☐ Material Change of Use—complete table B
☐ Reconfiguring a Lot—complete table C
 ☐ Building Work—complete table D

Table A—Operational Work

Does the operational work involve the following? (Tick all applicable boxes.)

- a) Tidal works as defined under the *Coastal Protection and Management Act 1995* (e.g. basins, breakwater, bridges, boat ramps, decks and boardwalks, docks, dockyards, groynes, jetties, marinas, pipelines, pontoons, powerlines, seawalls, slips, training walls, wharves and the reclamation of land under tidal water)?

☐ No ☒ Yes

If yes, what is the purpose?

☐ Private purpose (e.g. private pontoon)

☒ Another purpose (e.g. commercial marina)

Does the tidal works also require resource allocation under the *Coastal Protection and Management Act 1995*?

☒ No ☐ Yes

If applicable what is the estimated value of the proposed works?

- b) Interfering with quarry material as defined under the *Coastal Protection and Management Act 1995* (e.g. excavating or moving sand, gravel or any other earth material on state coastal land such as roads, esplanades, parks or unallocated state land) on state coastal land above high-water mark.

☒ No ☐ Yes

If yes, which of the following?

☐ Works for coastal management purpose involving beach nourishment, dune fencing, revegetation of dunal areas with endemic native plants, or stinger net enclosures.

☐ For purposes directly related to the provision of lifesaving or rescue services by a volunteer community organisation.

☐ For other purposes (please state below).

If applicable what is the estimated value of the proposed works?

- c) Disposing of dredge spoil or other solid waste material in tidal water?

☒ No ☐ Yes

If applicable what is the estimated value of the proposed works?

- d) Constructing an artificial waterway?

☒ No ☐ Yes

If applicable what is the length of the waterway?

- e) Removing or interfering with coastal dunes on land, other than state coastal land, that is in an erosion prone area as defined in the *Coastal Protection and Management Act 1995* and above high water mark (e.g. lowering dune vegetation on freehold and leasehold land)?

☒ No ☐ Yes

If applicable what is the estimated value of the proposed works?

Table B—Material change of use

a) Does the material change of use involve the following? (Tick all applicable boxes.)

☐ Operational work carried out completely or partly in a coastal management district

b) Does the material change of use involve building work carried out completely or partly in a coastal management district that is:

☐ the construction of new premises with a gross floor area of at least 1000 m²☐ the enlargement of the gross floor area of existing premises by more than 1000 m²**Table C—Reconfiguring a lot**

a) Does the reconfiguring a lot involve the following? (Tick all applicable boxes.)

☐ Land situated completely or partly in a coastal management district☐ The construction of a canal

b) How many lots will be created?

Table D—Building worka) Is the building work on land completely or partly seaward of the coastal building line under the *Coastal Protection and Management Act 1995*?☐ No ☐ Yes

3. Is the tidal works located within a local government tidal area? (Tick all applicable boxes)

☐ No ☐ Yes—provide details below

Local government: Douglas Shire Council

Mandatory supporting information

4. Please provide the following information	Confirmation of lodgement	Method of lodgement
For all applications		
A statement addressing the relevant part(s) of the State Development Assessment Provisions (SDAP).	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
For applications involving operational work that is tidal works		
A copy of the certificate of title for the land (including tidal land) that would abut or adjoin the proposed works.	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
Plans showing: <ul style="list-style-type: none"> the real property description and boundaries of the land (including tidal land) that would abut or adjoin the proposed works the proposed works (including existing works to be removed) in relation to relevant tidal planes (e.g. mean high water springs) the slope angles of the beds and banks of the tidal area and the finished levels of the proposed works. 	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
For tidal work that will occupy a navigable waterway provide a water allocation area plan providing evidence that the proposed work will not prejudice the access rights of adjoining property owners.	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	

Details of the largest vessel, if any, to be moored at the structure.	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	
For prescribed tidal works, details of how the proposed work addresses the IDAS code for prescribed tidal work in the Coastal Protection and Management Regulation 2003, schedule 4A.	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
If applicable, certification that the design of tidal works is suitable for intended use, signed by a Registered Professional Engineer of Queensland (or equivalent).	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	
For applications involving material change of use		
Plans certified by a registered professional engineer of Queensland (RPEQ) or a registered surveyor showing: <ul style="list-style-type: none"> the real property description and boundaries of the land the proposed works in relation to the location of the coastal management district and coastal hazards. 	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	
For applications involving reconfiguring a lot		
Plans certified by a registered surveyor showing: <ul style="list-style-type: none"> the real property description and boundaries of the land The location of the coastal management district and coastal hazards in relation to the land being reconfigured Any land being surrendered as a separate lot on the plan of subdivision. 	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	
For applications involving building works seaward of a coastal building line		
Plans certified by a registered professional engineer of Queensland (RPEQ): <ul style="list-style-type: none"> the real property description and boundaries of the land the proposed works in relation to the location of the coastal building line. 	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	

Notes for completing this form

- Please ensure all applicable fees are paid, noting that referral agency fees are to be paid to the Department of Environment and Heritage Protection.
- For an application requiring referral to the Department of Transport and Main Roads (DTMR), it is recommended that the applicant contact DTMR to ensure that required information for assessment of the application is provided.

Privacy—Please refer to your assessment manager, referral agency and/or building certifier for further details on the use of information recorded in this form.

OFFICE USE ONLY

Date received

Reference numbers

The *Sustainable Planning Act 2009* is administered by the Department of State Development, Infrastructure and Planning. This form and all other required application materials should be sent to your assessment manager and any referral agency.

IDAS form 26—Marine plants and declared fish habitat areas

(Sustainable Planning Act 2009 version 3.1 effective 1 October 2014)

This form must be used for development applications for:

- operational work that is the removal, destruction or damage of a marine plant
- a material change of use of premises if the material change of use involves operational work that is the removal, destruction or damage of marine plants, and there is no development permit for the operational work
- reconfiguring a lot if the reconfiguration involves operational work that is the removal, destruction or damage of marine plants, and there is no development permit for the operational work
- building work in a declared fish habitat area
- operational work completely or partly within a declared fish habitat area.

You **MUST** complete **ALL** questions that are stated to be a mandatory requirement unless otherwise identified on this form.

For all development applications you must:

- complete *IDAS form 1—Application details*
- complete any other forms relevant to your application
- provide any mandatory supporting information identified on the forms as being required to accompany your application.

Attach extra pages if there is insufficient space on this form.

All terms used on this form have the meaning given in the *Sustainable Planning Act 2009* (SPA) or the *Sustainable Planning Regulation 2009*.

This form can also be completed online using MyDAS at www.dsdip.qld.gov.au/MyDAS

Mandatory requirements

1. What is the nature of the proposed work? (Tick all applicable boxes.)

- ☒ Operational work that is the removal, destruction or damage of marine plants as defined in the *Fisheries Act 1994*, section 8
- ☐ Operational work that is completely or partly within a declared fish habitat area as defined in the *Fisheries Regulation 2008*, Schedule 3
- ☐ Building work in a declared fish habitat area

Mandatory supporting information

2. Confirm that the following mandatory supporting information accompanies this application

Mandatory supporting information	Confirmation of lodgement	Method of lodgement
A scaled site plan of the proposed work showing the location, areas of impact and adjacent area including or in relation to:		
<ul style="list-style-type: none"> actual area of disturbance to marine plants and/or declared fish habitat area in square metres. Identify proportion (m²) of permanent and/or temporary disturbance 	<input checked="" type="checkbox"/> Confirmed	Report – email

• dimensions and GPS coordinates and zone references (GDA94 preferred)	X <input type="checkbox"/> Confirmed	Report – email
• easily identifiable site features (e.g. roads, road intersections, waterway names, bends in the waterway, etc.)	X <input type="checkbox"/> Confirmed	Report – email
• real property boundaries adjacent to and in the vicinity of the proposed work	X <input type="checkbox"/> Confirmed	Report – email
• boundary of the declared fish habitat area	<input type="checkbox"/> Confirmed X <input type="checkbox"/> Not applicable	Report – email
• location, extent, nature and dimensions of the area for proposed work, including access paths, construction areas, moorings and dredging required to undertake the work	X <input type="checkbox"/> Confirmed	Report – email
• location and extent of highest astronomical tide, mean high water springs and mean low water springs levels, by reference to easily identifiable fixed points	X <input type="checkbox"/> Confirmed	Report – email
• location of all waterway features within the development area, including creeks, drainage lines, lagoons and marshes	X <input type="checkbox"/> Confirmed	Report – email
• location and extent of all marine plants (e.g. saltmarsh, mangrove, seagrass) within and adjacent to the proposed work	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Report – email
• location and extent of all marine plants proposed to be removed, destroyed or damaged	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Report – email
• location and extent of any existing disturbances, structures, improvements or fill within, adjacent to, or associated with the proposed work.	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Report – email
Written documentation		
Details of the purpose of the proposed work (e.g. public jetty, private jetty, boat ramp, pontoon, revetment, board walk, etc.).	X <input type="checkbox"/> Confirmed	Report – email
A description of the habitats within the declared fish habitat area proposed to be impacted (e.g. sand banks, mud banks, seagrass, mangroves, salt couch, rocky shore, etc.) and the nature of the impact.	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Report – email
A description of the marine plants proposed to be removed, destroyed or damaged (e.g. number, type, height, area in m ² , density, health, etc.) by the work.	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Report – email
A description of the method of works (e.g. equipment to be used).	X <input type="checkbox"/> Confirmed	Report – email
A description of the past uses and/or disturbances of the development area.	X <input type="checkbox"/> Confirmed	Report – email
A statement addressing the relevant part(s) of the State Development Assessment Provisions (SDAP).	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Report – email
Justification		
A detailed description of the alternatives considered to reduce impacts on marine plants or the declared fish habitat area, as applicable (e.g. alternative designs, locations, setbacks/buffer distances, etc.).	X <input type="checkbox"/> Confirmed	Report – email
Details of on-site mitigation actions proposed to prevent the proposed work contributing to degradation of the declared fish habitat area, in and adjacent to the development area, during and after the development.	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Report – email

Details of on-site mitigation actions proposed to prevent the proposed work contributing to degradation of the declared fish habitat area, in and adjacent to the development area, during and after the development.	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Report – email
A description of off-site actions proposed to offset residual impacts from any permanent loss of or damage to marine plants or the declared fish habitat area, as applicable (e.g. any proposed rehabilitation or restoration of marine plants, land exchange options, fish habitat research contribution, etc.).	X <input type="checkbox"/> Confirmed	Report – email
The extent of any future maintenance works required for the continued safe operation of the proposed structure or facility (e.g. trimming of regrowth of marine plants, maintenance dredging).	X <input type="checkbox"/> Confirmed <input type="checkbox"/> Not applicable	Report – email

Privacy—Please refer to your assessment manager, referral agency and/or building certifier for further details on the use of information recorded in this form.

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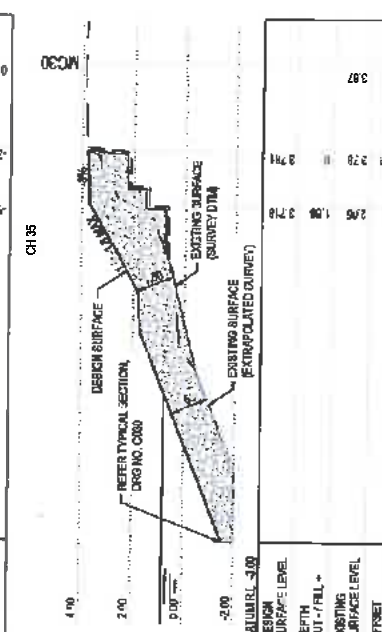
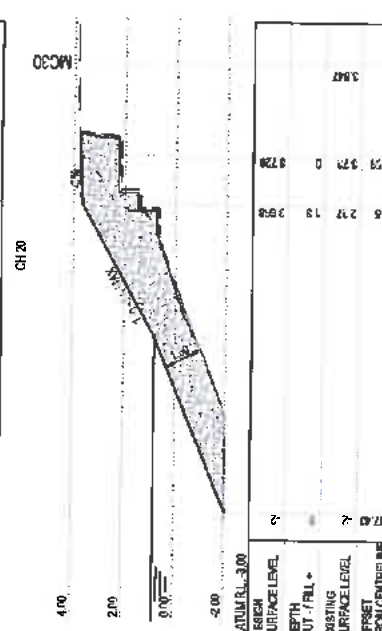
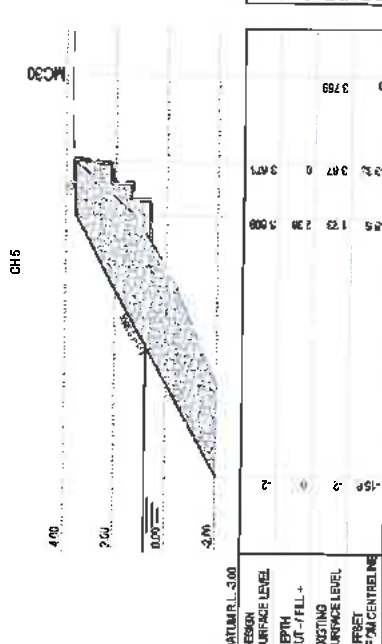
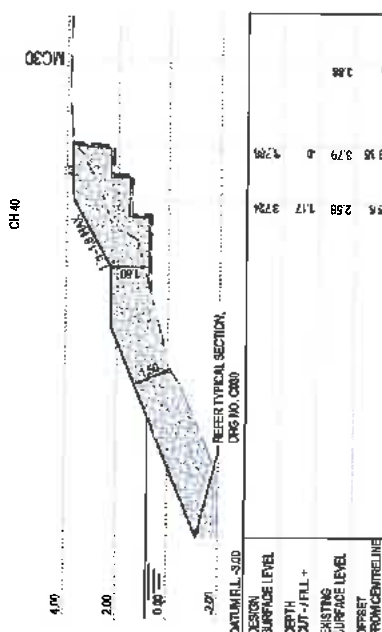
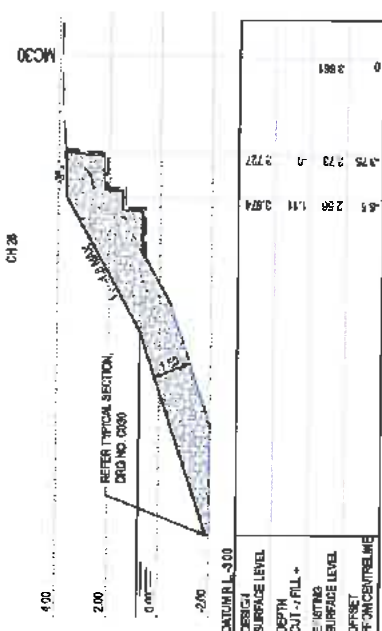
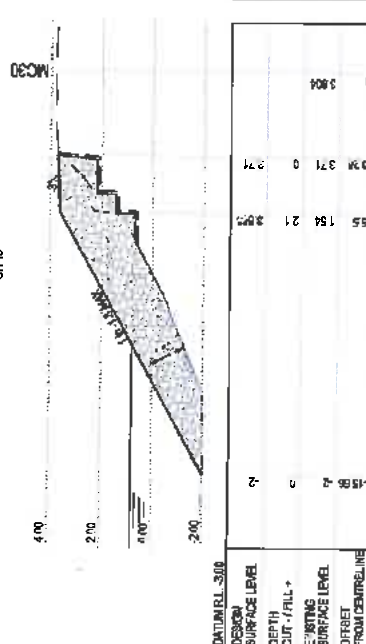
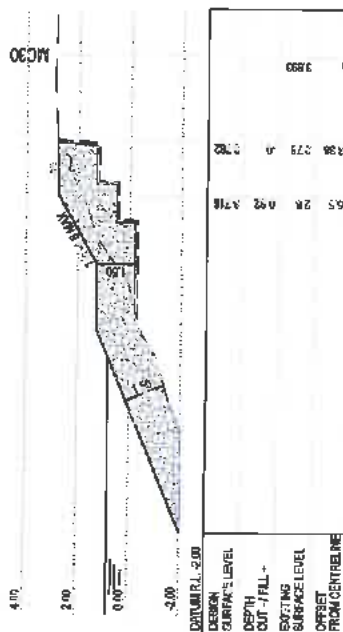
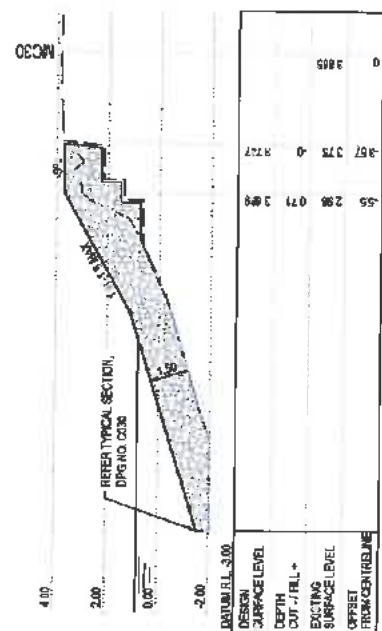
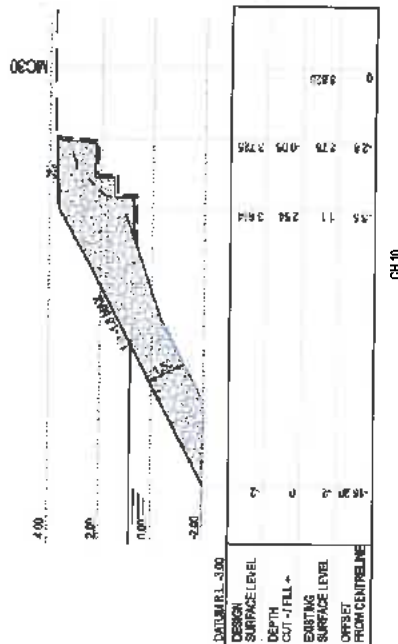
Date received Reference numbers

The *Sustainable Planning Act 2009* is administered by the Department of State Development, Infrastructure and Planning. This form and all other required application materials should be sent to your assessment manager and any referral agency.

Department of State Development, Infrastructure and Planning
PO Box 15009 City East Qld 4002
tel 13 QGOV (13 74 68)
info@dsdip.qld.gov.au

www.dsdip.qld.gov.au
Department of State Development, Infrastructure and Planning
PO Box 15009 City East Qld 4002
tel 13 QGOV (13 74 68)
info@dsdip.qld.gov.au

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Douglas Shire Council

NDRRA

Environmental Approvals Supporting Information

September 2015

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Appendices

- Appendix A – Construction drawings
- Appendix B – Protected Plants Flora Survey Report

1. Introduction

Douglas Shire Council has received funding from the Queensland Reconstruction Authority (QRA) to repair infrastructure that was impacted by Cyclone Ita on April 1 2014. This funding was released through the Natural Disaster Relief and Recovery Arrangements (NDRRA). To complete certain works environmental approvals are required to undertake the operational works.

1.1 Background

The work subject to this report is a 59 metre section of the Daintree River where scouring of the bank and vegetation loss occurred which has subsequently put at risk a local government road that provides access to the residents of McDowall Lane.

A summary of the remedial proposal is shown in Table 1.

Table 1 Summary of remedial proposal

Appendix A	Response
Purpose of works	Funds have been provided to repair landslips that occurred or were exacerbated from Cyclone Ita. These funds are made available from Queensland Recovery Authority to assist local governments with repairs to infrastructure after natural disasters. These landslips are to be remediated to protect local roads due to the proximity of these slips to this infrastructure.
Commencement and duration	The works are to commence in September 2015 and will be finalised prior to the 2015 Wet Season.
Location	The works will occur on the southern bank of the Daintree River that is adjacent to McDowall Lane Daintree at a latitude and longitude of - 16.262687, 145.390148. The closest adjacent property is described as Lot 4 RP888615. The slip to be repaired is approximately 59 metres in length and extends from the top to toe of the bank. Refer to Figure 1 for locality and drawings in Appendix A for construction footprint.
Options	<p>A number of options were considered initially for the works:</p> <p>Option 1 Loose rock placement</p> <p>Option 2 Gabions</p> <p>Option 3 Realignment of road infrastructure</p> <p>The option agreed to in consultation with the regulators is a combination of Option 1 and Option 2 (rock and use of reno instead of gabions), and the implementation of a revegetation program.</p> <p>Therefore in order to provide protection to the bank prior to the 2015/2016 Wet Season from further erosion and loss of riparian vegetation an approval is being sought for the works shown in Appendix A.</p>
Proposal	<p>Refer to the construction drawings in Appendix A.</p> <p>In summary, loose rock, reno mattresses and active revegetation will be undertaken. The design intent at the edges is that the rockfill abuts the non-failed river bank without abrupt changes in geometry, hence the susceptibility</p>

Appendix A	Response
	<p>to erosion at this location is planned to be consistent with the original riverbank condition. This will be completed in two stages:</p> <p>Stage 1 – placement of rock and reno mattresses prior to the 2015/2016 Wet Season</p> <p>Stage 2 – revegetation after the 2015/2016 Wet Season when there are reduced flows in the Daintree River and potentially an improved opportunity for revegetation success. The revegetation will be undertaken by Douglas Shire Council (DSC) and on-going monitoring will be undertaken by the local government authority.</p>
Approvals required	<ol style="list-style-type: none"> 1. <i>Marine Parks Act 2004</i> Approval required as the works are to occur in a Marine Park Conservation Zone 2. <i>Sustainable Planning Act 2009</i> Prescribed Tidal works as project is to occur within a local government tidal area. The referral agencies DAF, EHP and Queensland Transport Harbourmaster.

1.2 Location

The location of the works is on the southern bank of the Daintree River and is adjacent to the McDowall Lane which is a local government road access for residents. McDowall Lane extends from a public car park area associated with the public and tourist infrastructure provisions of the Daintree River, including ferry access. The location of the proposed works is shown in Figure 1.

1.3 Report purpose

This report is to support applications being lodged to the following regulators for NDRRA works as identified in Table 1. The report outlines:

- Environmental values pertinent to the construction footprint and potential impact zones
- State Development Assessment Provisions for Marine Plants and Operational Works

1.4 Consultation with the Regulators

A site inspection, meetings and email correspondence with the regulators has been undertaken to determine the approval requirements and to determine the preferred design option for the site. This is a summary of the discussions to date:

- Site inspection attended by Marine Parks and DAF on 21 July 2015 to discuss the works proposed, options for design and approval requirements
- Meeting with Marine Parks 13 and 25 August 2015 – discussion of design options, development of strategy to meet the objectives of the department and agreement on the preferred option, methodology for progressing active revegetation to assist re-colonisation and connectivity of the riparian zone and confirmation that offsets are not required.
- Phone discussion with DAF 25 August 2015 – discussion related to the progress of design options and the proposed active revegetation program to be undertaken after engineering structures are constructed

- Email correspondence with DAF 2, 3 and 7 September 2015 – structure option development, discussion on the preferred design and confirmation that no offsets are required
- Email correspondence sent to EHP 23 July, 10 and 16 September 2015.

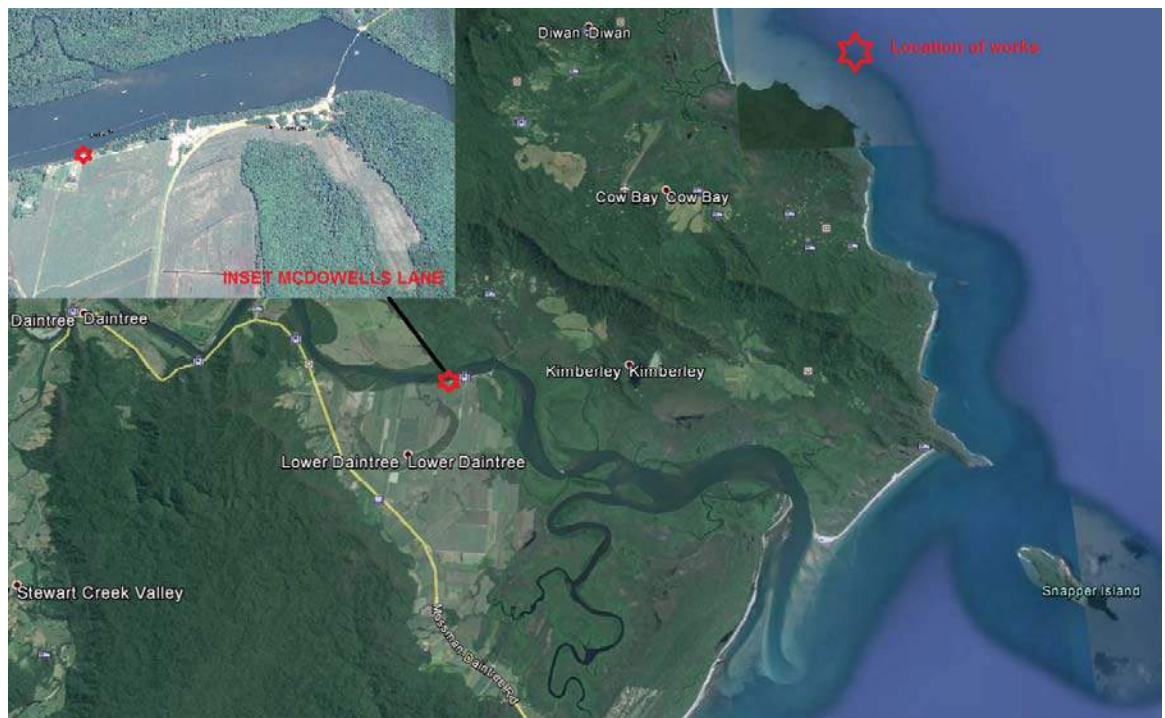


Figure 1 Locality Map (Atlas, 2015)

2. Environmental Values

The Environmental Values pertinent to the site that have the potential to be impacted from the project are:

- Marine Park Conservation Zone
- Water Quality objectives
- Marine Plants
- Riparian connectivity

This section provides background on the values that are key to the management of the operational works delivery. Additional values that relevant to this section of the Daintree River are addressed as required in the SDAP in Section 0 as relevant.

2.1 Marine Parks

The proposed operational works will occur within the boundaries of the Marine Park Conservation Zone. This Conservation Zone is defined in Schedule 1 of the Marine Parks Act 2004 as:

“The conservation park zone consists of the following areas—

- (a) the areas of the marine park that are within a Commonwealth conservation park zone area*
- (b) the areas of the marine park that are worked out by extending each Commonwealth conservation park area that is at the State at low water to the landward boundary of the marine park*
- (c) each internal conservation park zone area.”*

An extract from the zoning map is shown in Figure 2.

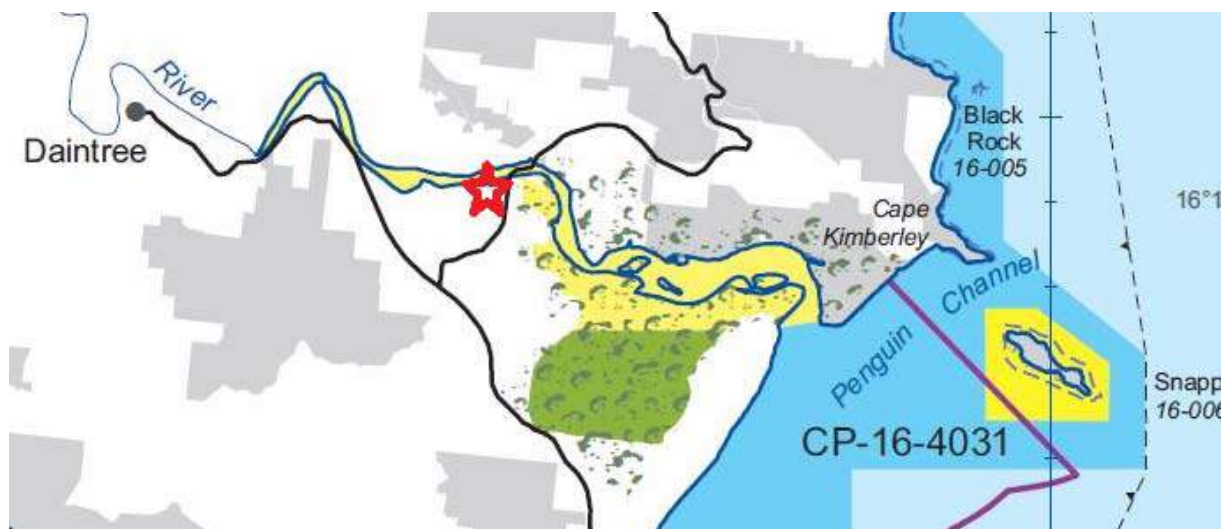


Figure 2 Works Location with respect to Marine Parks Conservation Zone
Works location designated by the star.

The preferred design option was selected based on negotiations with the Department of National Parks, Sport and Racing. It was agreed at a meeting 25 August 2015 that the works would be considered 'habitat restoration' and hence an off-set would not apply.

The works in the long term are expected to benefit the values of the Marine Park as the batter that is currently denuded and eroded will be protected. Active revegetation to link fragmented riparian vegetation will occur with the aim of re-instating the connectivity at this location. Refer to the species list and proposed design in Appendix A.

2.2 Water Quality

The water quality values and objectives relevant to the Daintree River, a reef re-growth watercourse, are identified in the policy '*Environmental Protection (Water) Policy 2009 Daintree River environmental values and water quality objectives Basin No. 108 (part), including all tributaries of the river July 2010*'. The proposed works will be undertaken in an area deemed to be moderately disturbed due to its proximity to cleared residential land and road infrastructure and the ferry and tourist commercial facilities.

The Environmental Values potentially relevant to the proposed works area, as identified in the policy, are listed in Table 2. Reference is made within this table as to whether the proposed works are consistent with achieving protection of the relevant EV.

Table 2 Environmental Values

Environmental value	Compatible with project	Justification
Protection or enhancement of aquatic ecosystem values	✓	The works are to protect the bank after slumping and loss of habitat from Cyclone Ita.
Suitability for human consumers of wild or stocked fish, shellfish or crustaceans	✓	The works will not adversely impact the fisheries values in relation to these species. While there may be some increase in velocity and suspended solids during construction, overall the works will improve the ecological integrity of the Daintree River.
Suitability for primary contact recreation	✓	The proposal won't impact the potential for primary contact recreation opportunities as the works are contained within the riparian zone of the Daintree River
Suitability for secondary contact recreation	✓	The proposal won't impact the potential for secondary contact recreation opportunities as the works are contained within the riparian zone of the Daintree River
Suitability for visual (no contact) recreation	✓	The proposal will improve the current condition of the wall. This was discussed during the on-site inspection with Marine Parks and DAF. Currently the bank is almost devoid of vegetation and slumping has resulted in an impact to the visual aesthetics.
Protection of cultural and spiritual values, including Traditional Owner values of water	✓	The works, while having a temporary impact on water quality during construction due to the likelihood of increased velocity and suspended solids, will overall improve the ecological health of the riparian zone. This in turn will assist with the protection of water quality values due to the natural processes and habitat connectivity that will occur as a result.
Suitability for industrial use	✓	The proposed works would not impede the development of industry.

Environmental value	Compatible with project	Justification
		However the site isn't zoned for industrial use in the local planning scheme.
Suitability for aquaculture	✓	<p>The proposed works would not impede the development of aquaculture.</p> <p>However due to this location being a frequent tourist spot, e.g. frequent commercial croc spotting boat tours, it is not suitable for aquaculture. T The zone is</p>

The water quality objectives, as listed in the policy, most likely to be impacted from the construction works will be:

- Turbidity
- Suspended solids

It is possible that elevated levels of turbidity and suspended solids will occur during construction due to the disturbance of bank material such as through benching and placement of rock in tidal waters. However this will be temporary and implementation of management measures in the contractors EMP will aim to minimise this disturbance wherever possible. Additional details in relation to water quality are in Table 5 and Table 6.

2.3 Vegetation

The bank within the project is generally denuded with only a few individual plants remaining. The loss of vegetation has resulted from the bank slumping, which evidenced by a number of large trees lying in the water. The loss of vegetation at this location has resulted in fragmentation of the riparian zone and a loss of continuity of habitat. Refer to Plate 1 that illustrate the current status of the bank.



Plate 1 Illustration of Daintree River Bank

The bank is generally denuded of vegetation which has resulted in a loss of contiguity of habitat in the riparian zone.

Regional Ecosystem status

The status of the regional ecosystems (RE) is mapped as remnant for the project site. The RE is mapped as Of-Concern and described as 7.1.4 which is in summary '*Mangrove and vine forest closed forest of the brackish zone*'. This is consistent with the floristic individuals that remain and the vegetation community that is growing in adjacent areas.

Marine Plants

Of relevance to this application are marine plants and it's estimated that approximately ten square metres of marine plants will be cleared. These will be *Brugiera sp* propagules and *Acanthus ilicifolius*. These occur predominantly on the mid-sections of the batter and toward the toe. This vegetation is required to be cleared as rock for batter protection is required to be installed, as shown on the construction drawings in Appendix A. Any organic debris will remain in situ as habitat and to assist with stabilisation.

Marine Species

The flora plants constituting marine plants as defined under the *Fisheries Act 1994* within the project area are listed in Table 3. Only two species are in the immediate site works area. There were no species of conservation significance listed under the *Nature Conservation Act 1992* and the *Environment Protection and Biodiversity Conservation Act 1999*.



Figure 3 Regulated Vegetation

Of-Concern RE 7.1.4 is mapped for the location (represented by a star).

Table 3 Marine Plants list

Species	Comment
<i>Acanthus ilicifolius</i>	Holly leaf mangrove, within works area
<i>Acrostichum speciosum</i>	Mangrove fern. On banks, not within works area
<i>Aegialitis annulata</i>	Saplings collapsed into river (now dead)
<i>Avicennia marina</i> var <i>eucalyptifolia</i>	On banks, not within works area
<i>Brugiera parviflora</i>	Juvenile propagules established in works area.

Species	Comment
<i>Brugiera gymnorhiza</i>	On banks, not within works area.
<i>Rhizophora apiculata</i>	Juvenile propagules, not in works area.
<i>Rhizophora stylosa</i>	On banks, not within works area.

Protected Plants

Site 3 McDowall Lane is within a high –risk protected plants survey trigger area identified under the *Nature Conservation Act 1999*. Subsequently a protected plants flora survey was undertaken along the banks in accordance with the Queensland *Flora Survey Guidelines – Protected Plants*. No protected plants were identified in the survey and the report was submitted with an exempt clearing notification (protected plants). The report is attached as Appendix B.

3. Management Measures

The contractor will be required to implement an EMP for the site and at minimum will include the following recommendations in relation to environmental issues:

- Minimise the amount of water applied to the site for dust suppression
- Re-fuelling to be completed at depot or on a bunded hard stand area at least 50 metres from the top of the bank of the Daintree River
- Complete benching in lower portions of the bank and rock placement during low tides wherever possible to manage velocity and suspended sediments
- Minimise the timeframe of operational works as much as possible so that disturbance and the potential risks are limited
- Bund or place silt curtain around any stockpiles for the project unless they are large rock that are clean and do not contain fines
- Clearly delineate vegetation not to be cleared – this may be the placement of flagging tape along the edges of adjacent habitat
- Complete benching in lower portions of the bank and rock placement during low tides wherever possible
- Visually assess for visual plumes in the water that are a result of the works
- If required install a silt curtain in the Daintree River to try and retain sediment within the works area
- Complete notifications to the Regulators as required pre and post works
- Access to the site is made available to the Regulators if required at all times during operational works
- Operators to visually monitor for items of cultural heritage significance throughout the works period. If items are observed a 'stop work' is to occur until investigations are undertaken
- Operators to visually observe for fauna at all times. Contact the local vet should any fauna be injured on or adjacent to the project.
- Revegetation works to be undertaken in accordance with the revegetation plan
- Waste is to be disposed of properly off site. Putrescible goods and regulated waste are not to be kept on site.

3.1 Revegetation program

At the start of the dry period active revegetation will commence on the rock protection, to be undertaken by DSC. The location for revegetation, and the species to be used, is shown on the construction drawings in Appendix A. The species have been nominated using the following criteria:

- Native
- Compatible with the local area
- Able to survive tidal inundation
- Successful recruiters

- Resilient.

Planting

The planting will occur at the start of the dry season in 2016. The native plants will be sourced from the DSC nursery or other local supplier.

Individuals will be planted between rocks into soils mixed with absorbent and fertiliser compatible for use near aquatic habitats. Personnel will hand dig in tube stock, and plants on average will be placed approximately one metre apart wherever possible.

The soil will be restricted to crevices between rocks and reno initially so that run off of sediment to the Daintree River will not occur during applied watering and rainfall events.

Over time as the revegetation stabilises the soils, organic material and plants will build up and eventually cover the initially exposed rocks and reno. At this time the ground coverage will have become stabilised and the risk of sediment run off will be reduced.

Maintenance

The DSC will undertake on-going maintenance of the revegetation and monitor the success of recruitment. The following steps will be undertaken in accordance with the timeline program in Table 4.

Planting – 3 months

- Personnel will inspect the plants twice a week and apply water directly to each plant
- During these inspections any mortalities will be replaced with a new seedling
- Where the sun is impacting the health of the plants, and evidence of curling leaves or sun burn is apparent then DSC may temporarily erect shade cloth to temporarily protect the young plants from ultra violet rays until individuals appear increasingly healthy and robust

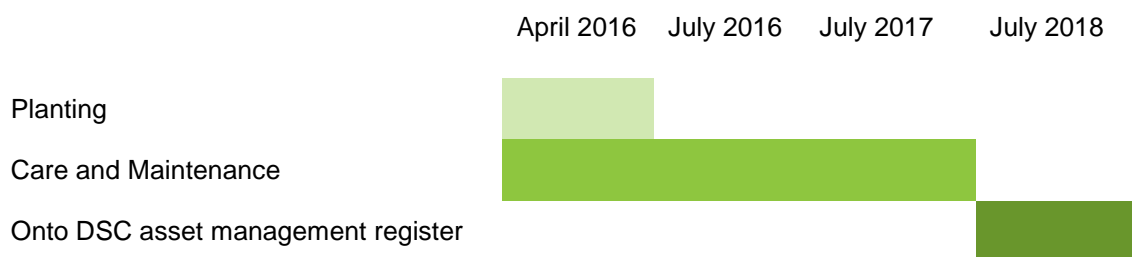
Three months to twelve months

- Personnel will inspect the plants once a week and apply water directly to each plant as required
- During these inspections any mortalities will be replaced with a new seedling
- Seedlings are considered to be robust enough by this time and hence shade cloth is unlikely to be required. Personnel on site will evaluate this however and whether protection is required.
- Personnel to observe for the germination of exotic species. If observed these should be removed by hand or by herbicide application by wand direct to leaves (using a product compatible for use near aquatic habitats). Spraying of herbicides is not recommended as aerial drift may result in mortalities of the native recruiting species.
- Assess whether additional soil or conditioning is required to assist the growth of recruiting individuals.

Twelve months to two years

- Personnel to continue monitoring and maintenance program as listed above (refer to three months to twelve months)
- At the conclusion of this period personnel may consider whether this location is then added to the DSC asset maintenance list and is monitored as part of the regular Council asset monitoring program

Table 4 Program for revegetation



4. State Development Assessment Provisions

Responses to the State Development Assessment Provisions are required for DAF and EHP to properly assess the application. This section addresses:

- Module 5.3 Removal, destruction or damage of marine plants state code (Table 5)
- Module 10.1 Tidal works, or development in a coastal management district state code (Table 6)

Table 5 Module 5.3 Removal, destruction or damage of marine plants state code

Performance outcomes	Acceptable outcomes	Response
<p>PO1 Development avoids and protects <u>fish habitats</u> and <u>fisheries resources</u>.</p>	<p>AO1.1 A buffer surrounding <u>fish habitats</u> is provided and has a minimum width of:</p> <p>(1) For tidal <u>fish habitats</u>—</p> <p>(a) 100 metres above highest astronomical tide outside an urban area, or</p> <p>(b) 50 metres above highest astronomical tide within an urban area</p> <p>(2) non-tidal <u>fish habitats</u>—</p> <p>(a) 50 metres above bankfull width outside an urban area or</p> <p>(b) 25 metres above bankfull width within an urban area.</p> <p>Editor's note: Guidelines to assist with determining the appropriate buffer widths:</p> <p>(1) <i>Fisheries guidelines for fish habitat buffer zones (FHG 003)</i>, Department of Primary Industries, 2000</p> <p>(2) <i>Queensland wetland buffer planning guideline</i>, Department of Natural Resources and Mines, 2011.</p>	<p>There is an existing scour in the bed at the base of the bank. This will be infilled with armour rock initially to provide a stable base for the placement of rocks on the bank.</p> <p>Discussions with Marine Parks and DAF have been undertaken to determine the preferred design option for the works. These discussions have resulted in the modification to the original design and inclusion of active revegetation to reinstate the contiguity of the riparian vegetation.</p> <p>An EMP will be implemented to manage impacts to water quality during the construction works. It is likely that a temporary increase in suspended solids and turbidity will occur while rocks are being installed, however this will be temporary. Notifications will be supplied to the regulators in accordance with approval conditions as required.</p>
<p>PO2 There is a demonstrated right to propose development within or adjacent to the <u>public fish habitats and fisheries resources</u>.</p> <p>Editor's note: Further guidance on rights in context of fisheries resources and fish habitats is provided in the policy provisions of <i>Management of declared fish habitat areas (FHMOP 002)</i>, Department of Primary Industries and Fisheries, 2008.</p>	<p>AO2.1 The development is supported by a statutory instrument (for example, regional plans made under the Act, Shoreline Erosion Management Plan (SEMP), coordinated project approval under the <i>State Development and Public Works Organisation Act 1971</i>), and the impacts on <u>fish habitats</u> have been properly considered.</p> <p>OR</p> <p>AO2.2 Development is for public infrastructure.</p> <p>OR</p> <p>AO2.3 Development is for public infrastructure for which there is no alternative viable route that does not require works on <u>tidal land</u> or <u>fish habitats</u>.</p> <p>OR</p> <p>AO2.4 Development is for a legitimate public health or safety issue, and the applicant is an <u>entity</u> or acting on behalf of an <u>entity</u>.</p> <p>OR</p>	<p>The area of the landslip was not intended to be used for public access and will be re-instated to its original condition in accordance with the construction drawings.</p> <p>The works are to provide protection to the bank and public infrastructure, namely the local government road McDowall Lane.</p> <p>The landslip here was exacerbated by Cyclone Ita and there is no alternative for remediation works.</p> <p>Re-alignment of the local government road is not possible due to the limited space available to comply with engineering specifications.</p> <p>The NDRRA funding is being made available to Douglas Shire to assist with remediation works after Cyclone Ita.</p>

Performance outcomes	Acceptable outcomes	Response
	AO2.5 The following can be demonstrated: (1) tenure is held for the <u>land</u> directly abutting the <u>tidal land</u> and has full riparian access rights, or (2) tenure has been granted over the area of work, or (3) resource entitlement or resource allocation has been granted for the resource being developed, or (4) for private development work that is a jetty, pontoon or boat ramp, no other maritime access structure adjoins the property.	Douglas Shire is custodian for the management of the unallocated state land that is owned by the crown. Landowner consent has been received for the making of these applications. Private development N/A
PO3 There is an overriding functional requirement for the development or part of the development to be located on <u>tidal lands</u> . Editor's note: Development components that have a functional requirement to be located over fish habitats are acceptable. For example car park areas (including for boat ramps), parklands, marina offices, spoil disposal or amenity facilities do not depend on their location to be on or over tidal lands to function, where alternatives of lesser impact exist.	AO3.1 Development is for maritime infrastructure (for example, jetty, boat ramp, moorings). OR	N/A
	AO3.2 Development is lineal or nodal infrastructure required to cross or be located within a <u>waterway</u> or tidal area (for example, bridge, culvert crossing, stormwater outlet, pipeline). OR	N/A
	AO3.3 The access is required for the construction of the marine or lineal infrastructure.	N/ A
PO4 Development maintains or enhances community access to <u>fisheries resources</u> and <u>fish</u> habitats, such as through <u>fishing</u> access and linkages between the commercial <u>fishery</u> and infrastructure, services and facilities.	AO4.1 The development does not impact on existing infrastructure or access required by <u>fishing</u> sectors.	N/A
PO5 Development that has the potential to impact on the operations and productivity of Queensland commercial or recreational fisheries mitigates any adverse impacts due to adjustment of fisheries.	AO5.1 Affected fisheries, and the impacts on those fisheries, are identified. AND	N/A
	AO5.2 Fair and reasonable compensation to commercial fishers is determined. AND	N/A
	AO5.3 The impact of the development on commercial <u>fisheries</u> and recreational fishers is mitigated. Editor's note: The Guideline on fisheries adjustment provides advice for proponents on relevant fisheries adjustment processes and is available by request from the Department of Agriculture and Fisheries.	N/A as access is available along the banks of the Daintree River

Performance outcomes	Acceptable outcomes	Response
PO6 The development will not increase the risk of mortality, <u>disease</u> or injury, or compromise the health and productivity of <u>fisheries resources</u> .	AO6.1 Fish will not become trapped or stranded as a result of development. AND	<p>These works are confined to the banks and bed adjacent to the toe of the bank.</p> <p>The works are for a linear length of 59 metres and will extent from the top of bank to just past the toe. Refer to drawings in Appendix A.</p> <p>These works will not present a barrier to fish movement or become a factor for fish stranding.</p>
	AO6.2 Risks of <u>fish</u> stranding occurring have been identified, and are demonstrably manageable. AND	<p>Management measures will be implemented as part of the environmental management plan to ensure that stranding of fish does not occur. Contractors will be required to visually assess for fish strandings at all times during construction.</p>
	AO6.3 Suitable habitat conditions, such as water and sediment quality, will be maintained to sustain the health and condition of <u>fisheries resources</u> within all <u>fish</u> habitats. AND	<p>The EMP will identify management measures for water quality and sediment control– ie controls will be installed to achieve compliance with <i>Environmental Protection (Water) Policy 2009</i>. This will be implemented for the duration of operational works.</p>
	AO6.4 Herbicides are not used on, and will not drift onto, <u>tidal land</u> or wetlands, or within <u>waterways</u> .	<p>Herbicides will not be used and are not applicable</p>
PO7 Development resulting in drainage or disturbance of acid sulfate soil is managed to prevent impacts on <u>fisheries resources</u> and <u>fish</u> habitats.	AO7.1 Run-off and leachate from disturbed or oxidised acid sulfate soils is contained and treated, and not released to a <u>waterway</u> or other <u>fish</u> habitat. Editor's note: Management of acid sulfate soil is consistent with the current <i>Queensland acid sulfate soil technical manual: Soil management guidelines</i> , Department of Natural Resources and Mines, 2002.	<p>The disturbance of material in areas exposed to tides will not result in oxidation of acid sulfate soils if present as regular tidal movements will occur.</p> <p>Material above the tide line is assumed to be a combination of natural insitu soils as well as historically imported fill for the construction of McDowall lane. .</p>
PO8 Development of, or adjacent to, <u>fish</u> habitats avoids the unnecessary loss, degradation or fragmentation of <u>fish</u> habitats and their values and the loss of <u>fish</u> movement. Editor's note: For more information, refer to relevant fish habitat management operational policies and fish habitat guidelines: (1) <i>Management and protection of marine</i>	AO8.1 The development does not directly impact <u>fish</u> habitats and is located: (1) above the highest astronomical tide for tidal <u>fish</u> habitat, or (2) above bankfull width for non-tidal <u>fish</u> habitats (freshwater). OR	<p>The works will occur below the highest astronomical tide, however in this instance the works are critical to long term bank stability and protection of road infrastructure.</p>
	AO8.2 Where impacts on <u>fish habitats</u> cannot be avoided, development meets the following criteria: (1) the location, design and work methods will result in the smallest	<p>The footprint of the works are confined to the smallest possible footprint while achieving engineering standards.</p>

Performance outcomes	Acceptable outcomes	Response
<p><i>plants and other tidal fish habitats (FHMOP 001)</i>, Department of Primary Industries and Fisheries, 2007</p> <p>(2) <i>Tidal fish habitats, erosion control and beach replenishment (FHMOP 010)</i>, Department of Primary Industries and Fisheries, 2007</p> <p>(3) <i>Dredging, extraction and spoil disposal activities (FHMOP 004)</i>, Department of Primary Industries, 1998</p> <p>(4) <i>Departmental procedures for permit applications assessment and approvals for insect pest control in wetlands (FHMOP 003)</i>, Department of Primary Industries, 1996</p> <p>(5) <i>Fisheries guidelines for fish-friendly structures (FHG 006)</i>, Department of Primary Industries and Fisheries, 2006</p>	<p>impact possible to <u>fish habitats</u></p> <p>(2) development does not increase the risk of transfer of, or impacts from, <u>pest fish</u> and other relevant pest species</p> <p>(3) tidal and freshwater inundation and drainage patterns, extent and timing are maintained such that ecological processes continue</p> <p>(4) works or development will not restrict <u>fish</u> access to <u>fish habitats</u> or <u>fisheries resources</u></p> <p>(5) tidal or freshwater <u>fish</u> habitats will not be substituted for another type of habitat, for example, creation of mangrove communities from other tidal <u>fish</u> habitats</p> <p>(6) works are undertaken to avoid both seagrass flowering periods and <u>fish</u> spawning and migration periods</p> <p>(7) impacts are mitigated where possible.</p>	<p>The construction drawings are in Appendix A and show the extent of works. There will be minor encroachment of rock outside the current slip area and this is for the purpose of tying into the existing landform and minimise the opportunities for future scouring of adjacent areas. Note in this regard are included on construction drawings.</p> <p>Operational works will be managed in accordance with the contractors EMP developed for the project.</p>
<p>PO9 Development provides public use and access to <u>fisheries resources</u>.</p>	<p>AO9.1 Structures over <u>tidal land</u> are located over areas naturally devoid of <u>marine plants</u>, or areas that have undergone existing disturbance or degradation.</p> <p>AND</p>	<p>There is approximately five square metres of mangrove saplings growing within the landslip area. These mangroves, <i>Brugiera sp</i> and <i>Acantha sp</i>, will be cleared as part of the works.</p> <p>Mangroves adjacent to the landslip area will not be cleared.</p>
	<p>AO9.2 Development that is public infrastructure to facilitate <u>fishing</u> has a direct link to the activity of <u>fishing</u>, and:</p> <p>(1) is a public jetty, pontoon, boat ramp or <u>fishing</u> platform</p> <p>(2) the proposed location has been identified as the most suitable through a strategic planning approach</p> <p>(3) there is an existing community requirement for the structure</p> <p>(4) the development will result in the smallest impact possible to fish habitats.</p> <p>AND</p>	<p>N/A</p>
	<p>AO9.3 Avoidance of disturbance, whether that disturbance is permanent or temporary, for access paths, tracks or dredging navigable access.</p> <p>AND</p>	<p>N/A</p>
	<p>AO9.4 If development results in <u>fish habitat</u> disturbance, there is an overriding requirement for the development to be located within the <u>tidal land</u>, wetlands or a <u>waterway</u>.</p>	<p>There is no alternative to development as the landslip occurred at this location of the bank.</p>

Performance outcomes	Acceptable outcomes	Response
	AND	
	AO9.5 The long-term operability and impact of the use of the development will not require additional new development and associated impacts will not result in the need for dredge navigation access to the proposed jetty in the future.	Additional new development will not be required in association with the remediation works.
PO10 Development provides a public benefit.	AO10.1 The applicant is an entity or has the authority to act on behalf of an entity.	The application is a legal entity – Douglas Shire Council
PO11 There is an overriding requirement for the development to be located on <u>tidal land</u> or other <u>fish</u> habitats.	AO11.1 There is no other viable alternative route that does not require works on <u>tidal land</u> or <u>fish habitats</u> . AND	N/A
	AO11.2 The development has a functional requirement to be located on <u>tidal land</u> , within a <u>waterway</u> or over <u>fish habitats</u> .	The works have a functional role in stabilising the bank of the Daintree River
PO12 Development maintains existing tidal inundation and drainage patterns and extent.	AO12.1 Bridge crossings are designed with abutments above the <u>highest astronomical tide</u> . AND	N/A
	AO12.2 Culvert crossing are designed with the size and number of culverts such that it is the entire width of the <u>waterway</u> , the obvert being above the <u>highest astronomical tide</u> and the invert being equal to natural bed level, or a maximum of 300 millimetres below natural bed level. AND	N/A
	AO12.3 Development is a bed level crossing of 15 metres in width or less.	N/A
PO13 Development provides for <u>fish</u> passage.	No acceptable outcome is prescribed.	N/A
PO14 Public infrastructure that is a pipeline or subterranean infrastructure maintains existing tidal hydrology, including inundation and drainage patterns and extent.	AO14.1 The public infrastructure will be placed below the existing natural substrate surface level, and natural substrate and surface levels will be reinstated. AND	N/A
	AO14.2 The public infrastructure will not cause <u>waterway</u> bed or bank scour or waterway bed or bank erosion.	N/A
PO15 Works for public infrastructure that are dredging or extracting material are	AO15.1 Works for public infrastructure are for capital dredging, are proposed by a public <u>entity</u> and are for a demonstrated need.	N/A no dredging or extraction

Performance outcomes	Acceptable outcomes	Response
undertaken so as to avoid impacts on <u>marine plants</u> .	AND	
	AO15.2 Works are maintenance dredging consistent with a previously lawfully dredged area, or otherwise approved profiles for navigational purposes. AND	N/A no dredging or extraction
	AO15.3 Works are undertaken to avoid both seagrass flowering periods and <u>fish</u> spawning and migration periods.	N/A no dredging or extraction
PO16 Disposal of dredge spoil is undertaken in a manner that avoids impacts on <u>marine plants</u> .	AO16.1 Dredge spoil is not disposed of on tidal land. OR	N/A
	AO16.2 Spoil disposal will occur at a designated, approved spoil disposal site. OR	N/A
	AO16.3 Spoil disposal occurs as part of a beach replenishment program supported by a strategic planning process.	N/A
PO17 Works for dredging or extracting sediment for private infrastructure are only undertaken where there is an overriding public need exists for the work.	AO17.1 Works for private infrastructure will provide public or community benefit. AND	N/A
	AO17.2 The works are a component of private development works and there is an overriding public need for the dredging component of the development to occur. AND	N/A
	AO17.3 The development is supported by a statutory instrument (for example, regional plans made under the Act, Shoreline Erosion Management Plan (SEMP), coordinated project approval under the <i>State Development and Public Works Organisation Act 1971</i>), and the impact on <u>fish habitats</u> have been properly considered. Editor's note: (1) For example, private marina facilities or development that is open to the general public and facilitates public access for fishing purposes and future maintenance dredging is within the approved footprint of the facility, and is the least impact option based on fisheries resources and fish habitats. (2) Dredging for access to private structures is not supported.	N/A

Performance outcomes	Acceptable outcomes	Response
<p>PO18 Public infrastructure for erosion and beach replenishment works is provided to address existing significant and imminent erosion, maintain natural shoreline and foreshore processes and existing <u>fish</u> habitat values.</p> <p>Editor's note: Further detail on erosion control is provided in <i>Tidal fish habitats, erosion control and beach replenishment (FHMOP 010)</i>, Department of Primary Industries and Fisheries, 2007.</p>	<p>AO18.1 Public infrastructure for erosion and beach control replenishment provides an erosion buffer zone and facilitates managed retreat.</p> <p>Editor's note: Further guidance on erosion control is provided in <i>Tidal fish habitats, erosion control and beach replenishment (FHMOP 010)</i>, Department of Primary Industries and Fisheries, 2007.</p> <p>AND</p>	N/A
	<p>AO18.2 The cause of shoreline and foreshore erosion is identified and treated.</p> <p>AND</p>	N/A
	<p>AO18.3 Development provides a riparian buffer zone with a minimum width of:</p> <p>(1) for tidal <u>fish</u> habitats:</p> <p>(a) 100 metres above the <u>highest astronomical tide</u> outside an urban area, or</p> <p>(b) 50 metres above the <u>highest astronomical tide</u> within an urban area</p> <p>(2) for non-tidal <u>fish</u> habitats:</p> <p>(a) 50 metres above bankfull width outside an urban area, or</p> <p>(b) 25 metres above bankfull width an urban area.</p> <p>AND</p>	N/A
	<p>AO18.4 An erosion control structure is provided to address a short-term significant erosion risk that will result in the loss of buildings, structures or infrastructure that are not expendable or relocatable.</p> <p>AND</p>	N/A
	<p>AO18.5 Erosion control works:</p> <p>(1) minimise disturbance to <u>fish</u> habitats and <u>fisheries resources</u></p> <p>(2) result in no further loss of fish habitats (for example, through reclamation of <u>tidal land</u>)</p> <p>(3) maximise <u>fish</u> habitat enhancement or creation through <u>fish</u> friendly design</p> <p>(4) minimise disruption to community use of the area.</p> <p>AND</p>	N/A

Performance outcomes	Acceptable outcomes	Response
	AO18.6 Erosion control structures: (1) are located where the applicant can demonstrate a level of rights or interest (2) are located parallel to the shoreline and as far landward as possible. Minor regularisation may be supported. (3) are located landward of, or adjoining, the existing <u>land</u> profile (4) incorporate <u>fish</u> -friendly design. AND	N/A
	AO18.7 Development does not involve the placement of sand on soft-sediment shorelines to create an artificial beach unless the site has a demonstrable history of sand placement for public recreation purposes.	N/A
PO19 Erosion control and beach replenishment that requires filling of <u>tidal land</u> is avoided where possible, and impact on <u>tidal land</u> is minimised.	AO19.1 Minor filling is required to regularise a shoreline or <u>foreshore</u> as part of erosion control activities. AND	N/A
	AO19.2 Filling of <u>tidal land</u> is for the creation of dune or beach above <u>highest astronomical tide</u> and the filling: (1) is part of an erosion control strategy, or (2) does not create terrestrial <u>land</u> for the placement of structures or for terrestrial activities, or (3) is an integral part of the erosion control design, or (4) will minimise replenishment frequency or impact to <u>fish habitats</u> , or (5) will remove the need for other erosion control works that will have a greater impact on <u>fish habitats</u> . AND	N/A
	AO19.3 Placement of sand is required for the effective functioning of an erosion control structure.	N/A
PO20 Maritime infrastructure providing for private access avoids impacts on <u>marine plants</u> and <u>fish habitat</u> .	AO20.1 Structures over <u>tidal land</u> are located over areas that are naturally devoid of <u>marine plants</u> . OR	N/A
	AO20.2 Development work associated with a private jetty or pontoon	N/A

Performance outcomes	Acceptable outcomes	Response
	has a maximum <u>marine plant</u> disturbance area of 30 square metres. The <u>marine plant</u> disturbance area has a maximum width of two metres along the shoreline (highest astronomical tide height) and a maximum length of 15 metres from the shoreline (perpendicular). OR	
	AO20.3 Private development work that is a boat ramp has a maximum <u>marine plant</u> disturbance area of 45 square metres. The area below the highest astronomical tide is not to exceed 45 square metres (that is, no other <u>fish</u> habitats are to be disturbed or modified). AND	N/A
	AO20.4 The long-term operability and impact of the use of the development will not require additional new development and associated impacts, for example, a proposed private jetty will not result in the need to dredge navigation access to the proposed jetty in the future. AND	N/A
	AO20.5 Only one maritime access structure will adjoin the property.	N/A
PO21 The design of the temporary development results in the smallest possible disturbance to <u>fish</u> habitat and <u>fisheries resources</u> .	AO21.1 Temporary development: (1) will have lesser impact on the <u>tidal lands</u> or <u>fish</u> habitats than all other reasonable options (2) is designed to minimise impacts to <u>fish</u> habitat and fisheries productivity (3) will be in place or undertaken for the shortest possible time, having regard to the nature of the development (4) is designed to avoid filling or reclamation of <u>tidal lands</u> (5) can and will be completely removed from <u>tidal land</u> and <u>fish</u> habitats (6) will be carried out during a time that avoids or minimises conflict with known <u>fish</u> migration or spawning periods. AND	N/A
	AO21.2 Disturbed <u>land</u> profiles will be restored to allow original inundation and drainage patterns. AND	N/A
	AO21.3 The development provides for regeneration or restoration of	N/A

[illegible]

Performance outcomes	Acceptable outcomes	Response
<p>ecological processes to a pre-existing natural condition are undertaken in a manner that mitigates impacts on <u>marine plants</u> and <u>fish habitats</u>.</p> <p>Editor's note: For further guidance refer to <i>Restoration of fish habitats: Fisheries guidelines for marine areas (FHG 002)</i>, Department of Primary Industries, 1998. Restoration works authorised through an endorsed restoration plan under the code for self- assessable development <i>MP06 – Minor impact works in a declared fish habitat area or involving the removal, destruction or damage of marine plants</i>, Department of Agriculture, Fisheries and Forestry, 2013, do not require a development permit.</p>	AND	
	AO23.2 <u>Land</u> profiles are restored to original inundation and drainage patterns.	N/A
	AND	
	AO23.3 Works are undertaken to encourage <u>fish habitats</u> and fisheries resource values to naturally regenerate.	N/A
	AND	
	AO23.4 Fish <u>habitat</u> restoration work will not result in the substitution of <u>fish</u> habitats.	N/A
	AO23.5 Physical restoration of <u>fish habitats</u> (for example, replanting) is undertaken where natural regeneration is, or is likely to be, unsuccessful.	N/A
	AND	
	AO23.6 Permanent structures (for example, boardwalk) to facilitate restoration works: (1) provide a means of managing an identified impact or degrading process (2) retain natural ecological processes (3) are the least impact alternative available.	N/A
	AND	
	AO23.7 Works include a post-works monitoring and maintenance program, appropriate for the scale of the restoration works.	N/A
	AND	
	AO23.8 <u>Marine plants</u> used in restoration works are collected within a 100 kilometre radius of the site to maintain the genetic integrity of the restoration site and local <u>marine plant</u> communities.	N/A
PO24 Removal, trimming or damage to <u>marine plants</u> to provide views or for aesthetic purposes is undertaken in a manner that maintains the integrity of <u>fish</u> habitat.	AO24.1 Works are undertaken in accordance with a mangrove management strategy endorsed by Fisheries Queensland.	N/A
PO25 Impacts to marine plants are avoided or mitigated, and an	AO25.1 Impact is avoided or where this cannot be reasonably achieved, impacts are minimised.	Five square metres of mangroves, mainly <i>Brugiera</i> and <i>Acanthus ilicifolius</i> , will be cleared. Some of the plants that are

Performance outcomes	Acceptable outcomes	Response
environmental offset is provided for any significant residual impact.	AND	present have re-colonised this area since Cyclone Ita. The placement of rock in this location will result in the mortality of these individuals. The vegetation debris will remain in place for fisheries habitat purposes. Note vegetation outside of the landslip zone will not be impacted.
	AO25.2 Residual impact to marine plants, and associated fish habitats and fish passage is comprehensively and accurately documented. The level of significance of the residual impact is determined. AND	Impacts to mangroves outside of the landslip area will not occur. An active revegetation program will be undertaken in accordance with the construction drawings. DSC will undertake the plantings and continue with long term monitoring. There is also a good potential that re-colonisation of mangroves will occur with encroachment occurring from adjacent areas. This has evidently occurred in other historic slips that were observed in the general location.
	AO25.3 An environmental offset is provided for any significant residual impact on marine plants. Editor's note: Applications for development should identify whether there is likely to be a significant residual impact and a need for an environmental offset having regard to Section 3.9 (Marine plants) of the <i>Significant Residual Impact Guideline</i> and the relevant <i>Queensland Environmental Offsets Policy</i> .	Marine Parks and DAF have confirmed that offsets are not required as the works are considered: <ul style="list-style-type: none"> Habitat restoration No residual impact will occur.
PO26 Development minimises clearing of native <u>marine plants</u> including beyond the extent of operational work. Natural regeneration of any cleared or work area is facilitated wherever possible.	AO26.1 Clearing of <u>marine plants</u> is limited to the minimum area required for the works and to allow for maintenance. AND	The extent of clearing of native vegetation will be limited to the project area, and include those individual plants that have re-colonised since Cyclone Ita.
	AO26.2 There is no impediment to the natural regeneration of native plant species in the area of clearing and works following completion of works.	Active revegetation will occur, as shown in the construction drawings. It is expected that colonisation of the rock wall as a result of vegetation encroaching from adjacent areas will also occur. The protection works are required to be undertaken prior to the 2015/2016 Wet Season to remediate the landslip and to reduce the threat of erosion to the local government road infrastructure and access for residents to McDowall Lane.
PO27 Development avoids or minimises adverse impacts on fish passage during	No acceptable outcome is prescribed.	There will be no impacts to fish passage in the Daintree River as works are restricted to the bank whereby the proposal will

Performance outcomes	Acceptable outcomes	Response
works and the carrying out of the activity.		match the adjacent bank profile.
PO28 There is nil net loss in <u>marine plants</u> as a result of development.	AO28.1 Any <u>marine plant</u> damaged during construction is replaced at the completion of the development with the same species of plant in the disturbed area outside of the footprint of the development.	Approximately 5 square metres of marine plants will be cleared for the construction. Many of these plants, including <i>Brugiera sp</i> and <i>Acantha sp</i> , have colonised since Cyclone Ita with the exception of two individual mature <i>Rhizophora sp</i> . Clearing of these plants is required for benching of the bank in accordance with the engineering specifications and placement of rock, as per the construction drawings.
PO29 Development does not impact on fish habitat values.	AO29.1 Development in tidal waters is located, designed and constructed to ensure that the activities do not impact on fish habitat values and function.	The work is to match the banks profiles in adjacent areas as closely as possible. The rock will be placed to protect the batter against further erosion and has been sized based on the up to 3m/ second flows that is known to occur in the Daintree River in the wet season period. The works will be temporary and result in some increased turbidity and suspended solids during construction. This will be minimised where possible through the implementation of measures in the contractors EMP.
PO30 Development avoids or minimises any adverse impacts from pollutants on environmental values and water quality objectives for receiving waters (surface and groundwater) on site or leaving a site.	AO30.1 Development demonstrates best practice environmental management to meet relevant environmental values and water quality objectives of the <i>Environmental Protection (Water) Policy</i> . OR	The contractors EMP will be implemented for the works. The measures outlined in the plan are to demonstrate a duty of care in accordance with section 319 of the Environmental Protection Act 1994, comply with the requirements of the EPP(Water) as well as conditions in the approval.
	AO30.2 All stormwater, wastewater, discharges and overflows leaving the site are: (1) treated to the quality of the receiving waters prior to discharge, or (2) reclaimed or re-used such that there is no export of pollutants to receiving waters.	A temporary increase in the level of suspended solids and velocity at the time of construction will occur. This will be mainly from the placement of rock into a large scour that has occurred at the toe of the bank. If possible works will be undertaken at low tide to avoid as much disturbance to water quality as possible. Additionally silt curtains will be installed to contain sediments wherever possible. Measures in accordance with the contractors EMP will be implemented to minimise impacts to water quality.

4.1 Operational works in tidal waters

The response to the SDAP for coastal are listed in Table 6.

Table 6 Module 10.1 Tidal works, or development in a coastal management district state code

Performance outcomes	Acceptable outcomes	Response
PO1 Development in a <u>coastal hazard area</u> is compatible with the level of severity of the coastal hazard.	AO1.1 Development is located outside a <u>high coastal hazard area</u> unless it is: (1) coastal-dependent development, or (2) compatible with inundation due to its nature or function, or (3) temporary, readily relocatable, or able to be abandoned, or (4) essential community service infrastructure, or (5) small- to medium-scale tourist development, or (6) redevelopment within an existing built-up urban area, or is redevelopment of built structures that cannot be relocated or abandoned. AND	<p>The works are located within a coastal hazard area for high storm tide surge.</p> <p>These works are considered essential community service infrastructure. There is a high risk that erosion of the existing bank and risks to McDowall Lane a local government asset will occur should the remediation works not occur before the 2015/2016 Wet Season.</p>
	AO1.2 Development referred to in AO1.1(6) avoids being located within a <u>high coastal hazard area</u> , or where this is not practicable, minimises the exposure of people and permanent structures to coastal hazard impacts.	<p>The works are designed in accordance with relevant engineering standards that include calculations associated with the hydraulics of the Daintree River. The design aims to withstand hazard categories identified for this location and to minimise the potential of impacts to the banks and coastal zone.</p> <p>The works aim to remediate the banks to pre Cyclone Ita and provide protection from erosion and to public infrastructure.</p>
PO2 Development siting, layout and access in a <u>coastal hazard area</u> responds to potential inundation due to a defined storm tide event and minimises associated risks to personal safety and property.	AO2.1 Development within a <u>coastal hazard area</u> is located, designed, constructed and operated to maintain or enhance the community's resilience to <u>defined storm tide events</u> by limiting the exposure of people and structures to associated impacts. AND	<p>The proposed revetment is on the banks and has been designed to match the adjacent bank profiles.</p> <p>Benching of the bank is proposed in accordance with engineering standards to secure the armour rock that will be installed to withstand flows of up to 3m/ second.</p> <p>Loose rock will be placed into the scoured depression in the bed at the toe of the bank. The rock will be keyed into the bed to minimise the potential for undercutting and slumping of bank protection.</p>
	AO2.2 Development mitigates any residual impacts from storm tide inundation in a coastal hazard area including by ensuring: (1) <u>habitable rooms</u> of built structures are located above the <u>defined</u>	<p>The proposed revetment does not pose a risk to people in relation to storm surge events as formal access for the community has not been, and is not intended to be, provided at this location.</p>

Performance outcomes	Acceptable outcomes	Response
	<p><u>storm tide event level</u> and any additional freeboard level that would ordinarily apply in a flood prone area under a relevant planning scheme standard, or</p> <p>(2) a safe refuge is available for people within the premises during a <u>defined storm tide event</u>, or</p> <p>(3) at least one evacuation route remains passable for emergency evacuations during a <u>defined storm tide event</u>, including consideration of the capacity of the route to support the evacuation of the entire local population within a reasonably short timeframe (for example, 12 hours).</p> <p>AND</p>	<p>The main community access point is downstream at the location of the Daintree River ferry operations and tourist infrastructure.</p> <p>There is a risk should protective measures not be put in place prior to the 2015/2016 Wet Season that further erosion will encroach into the road reserve and cause damage to a local government road that provides access to residents of McDowall Lane.</p>
	<p>AO2.3 Development within a coastal hazard area is located, designed and constructed to ensure exposed structures can sustain flooding from a <u>defined storm tide event</u>.</p> <p>AND</p>	<p>The works are designed in accordance with relevant engineering standards that include calculations associated with the hydraulics of the Daintree River.</p> <p>The design aims to withstand that hazard categories for this location and minimise the potential of impacts to the coast.</p>
	<p>AO2.4 <u>Essential community service</u> infrastructure is:</p> <p>(1) located so that it is not inundated by a <u>recommended storm tide event</u> specified for that infrastructure, or</p> <p>(2) located and designed to ensure any components of the infrastructure that are likely to fail to function or may result in contamination when inundated by a storm tide (for example, electrical switch gear and motors, water supply pipeline air valves) are:</p> <p>(a) located above the peak water level for a recommended storm tide event, or</p> <p>(b) designed and constructed to exclude storm tide intrusions or infiltration (including by being located in the ground), or</p> <p>(c) able to temporarily stop functioning during a recommended storm tide event without causing significant adverse impacts to the infrastructure or the community.</p> <p>AND</p>	<p>The remediation works are required as a result of impacts from Cyclone Ita and are required to protect essential community infrastructure.</p> <p>Remediation works are required to protect the bank from further erosion that has a potential to occur as a result of the 2015/2016 Wet Season.</p> <p>There is a risk that further erosion will occur that may impact the local government road and consequently available access for residents of McDowall Lane.</p>
	<p>AO2.5 Emergency services infrastructure and emergency shelters, police facilities, and hospitals and associated facilities have an</p>	N/A

Performance outcomes	Acceptable outcomes	Response
	emergency rescue area above the peak water level for a <u>recommended storm tide event</u> .	
PO3 Development directly, indirectly and cumulatively avoids an unacceptable increase in the severity of the coastal hazard, and does not significantly increase the potential for damage on the premises or to other premises.	AO3.1 Development avoids increasing the number of premises from which people would need to be evacuated to prevent death or injury from a <u>defined storm tide event</u> .	N/A
PO4 Development avoids the release of hazardous materials as a result of a natural hazard event. Editor's note: Applications should: <ul style="list-style-type: none"> (1) assess the risk of <u>storm tide inundation</u> releasing or otherwise exposing hazardous materials, including appropriate emergency planning and contingency measures. (2) applications are to be supported by a report certified by a Registered Professional Engineer of Queensland (RPEQ) that demonstrates this performance outcome will be achieved. 	AO4.1 Development that involves the manufacture or storage of hazardous materials in bulk are designed to: <ul style="list-style-type: none"> (1) prevent the intrusion of waters from a <u>defined storm tide event</u> into structures or facilities containing the hazardous materials, or (2) ensure hazardous materials remain secured despite inundation, including secure from the effects of <u>hydrodynamic forcing</u> associated with wave action or flowing water. 	N/A
PO5 Natural processes and the protective function of landforms and vegetation are maintained in coastal hazard areas.	AO5.1 Development in an <u>erosion prone area</u> within the coastal management district: <ul style="list-style-type: none"> (1) maintains vegetation on coastal landforms where its removal or damage may: <ul style="list-style-type: none"> (a) destabilise the area and increase the potential for erosion, or (b) interrupt natural sediment trapping processes or dune or land building processes (2) maintains sediment volumes of dunes and near-shore coastal landforms, or where a reduction in sediment volumes cannot be avoided, increased risks to development from coastal erosion are mitigated by location, design, construction and operating standards (3) minimises the need for erosion control structures or riverbank hardening through location, design and construction standards 	<p>Vegetation clearing will be required and limited to the project area. There will be an active revegetation program to reinstate vegetation and in the long term provide contiguity between adjacent riparian habitats. It is expected that vegetation in adjacent areas will encroach, and this will assist with re-colonisation.</p> <p>There are no dunes at this location. The bank contains natural in-situ soils and presumably previously imported fill associated with the local government road.</p> <p>The project is to occur on the bank of the Daintree River, included in the esplanade adjacent to a local government road</p>

Performance outcomes	Acceptable outcomes	Response
	<p>(4) maintains physical coastal processes outside the development footprint for the development, including longshore transport of sediment along the coast</p> <p>(5) reduces the risk of shoreline erosion for areas adjacent to the development footprint unless the development is an erosion control structure</p> <p>(6) reduces the risk of shoreline erosion for areas adjacent to the development footprint to the maximum extent feasible in the case of erosion control structures.</p> <p>AND</p>	<p>asset. This work will provide batter protection to the banks from flows of up to 3m/ seconds generated during the wet season.</p> <p>The rock work will be restricted to the landslip and not extend into adjacent vegetated banks with the exception of tying the edges into the existing landform, as shown in the drawings. It is proposed that the works will match the batter profiles that exist either side of the landslip.</p>
	<p>AO5.2 Development in a <u>storm tide inundation area</u> is located, designed, constructed and operated to:</p> <p>(1) maintain dune crest heights, or where a reduction in crest heights cannot be avoided, mitigate risks to development from wave overtopping and storm tide inundation</p> <p>(2) maintain or enhance coastal ecosystems and natural features, such as mangroves and coastal wetlands, between the development and tidal waters, where the coastal ecosystems and natural features protect or buffer communities and infrastructure from sea-level rise and impacts from storm tide inundation.</p> <p>AND</p>	<p>These works aim to minimise the risk of further erosion of the bank and provide protection to vegetation in adjacent areas.</p> <p>The species shown in Table 3 will be cleared. However debris will remain in situ to provide habitat for aquatic fauna and maintenance of fisheries values.</p>
	<p>AO5.3 Redevelopment of built structures in the <u>erosion prone area</u> within a coastal management district:</p> <p>(1) avoids intensifying the use of the premises, or</p> <p>(2) demonstrates that any intensification of use will not result in an increase in the need for erosion control structures or riverbank hardening.</p> <p>AND</p>	<p>There will be no intensity to the scale of development that was here previously. This revetment wall will provide protection to the bank from the up to 3m/ second flows generated in the Daintree River.</p>
	<p>AO5.4 Development that is <u>coastal protection work</u> involves:</p> <p>(1) <u>beach nourishment</u> undertaken in accordance with a program of beach nourishment works that source sediment of a suitable quality and type from outside the active beach system, or</p> <p>(2) the construction of an <u>erosion control structure</u>, where it is demonstrated that installing an <u>erosion control structure</u> is the</p>	<p>The erosion control proposed is required to protect the bank and is required to be constructed prior to the 2015/2016 Wet Season.</p> <p>The protection has been designed to match the profile of the adjacent banks.</p>

Performance outcomes	Acceptable outcomes	Response
	<p>only feasible option for protecting permanent structures from coastal erosion and those structures cannot be abandoned or relocated in the event of coastal erosion occurring.</p> <p>Editor's note: Applications for <u>coastal protection work</u> should be supported by a report certified by a Registered Professional Engineer of Queensland (RPEQ) that demonstrates how the engineering solution sought by the work will be achieved.</p> <p>Editor's note: Applications for <u>erosion control structures</u> should demonstrate the consideration of <u>beach nourishment</u> techniques, and include a statement of why nourishment (in whole or part) has not been adopted as the preferred means of controlling the erosion risk.</p> <p>AND</p>	<p>The proposal complies with the funding criteria of QRA.</p> <p>The proposed will be limited to the existing disturbance footprint, a minor exception being the tying in of the edges into the existing landforms, as shown in the construction drawings.</p>
	<p>AO5.5 Development involving <u>reclamation</u>:</p> <ol style="list-style-type: none"> (1) does not alter, or otherwise minimises impacts on, the physical characteristics of a waterway or the seabed near the <u>reclamation</u>, including flow regimes, hydrodynamic forces, tidal water and riverbank stability (2) is located outside the active sediment transport area, or otherwise maintains sediment transport processes as close as possible to their natural state (3) ensures activities associated with the operation of the development maintain the structure and condition of vegetation communities and avoid wind and water run-off erosion. <p>Editor's note: Applications for reclamation should be supported by a report certified by an RPEQ that demonstrates how the engineering solutions sought by the work will be achieved</p>	<p>N/A there is no reclamation proposed</p>
<p>PO6 <u>Erosion prone areas</u> in a coastal management district are maintained as development free buffers, or where permanent buildings or structures exist, coastal erosion risks are avoided or mitigated.</p>	<p>AO6.1 Development locates built structures outside the part of the coastal management district that is the <u>erosion prone area</u> unless the development is listed under AO1.1 (1) – (5).</p> <p>AND</p>	<p>The built structure proposed is to protect the bank from further erosion. This is to preserve the current bank alignment as well as protecting local road infrastructure that is at risk from bank recession.</p> <p>The engineering works are proposed to be undertaken prior to the 2015/2016 Wet Season.</p>
	<p>AO6.2 Development is located outside the erosion prone area unless it is redevelopment.</p>	<p>The development is within the erosion prone area and is to stabilise the banks which was impacted from Cyclone Ita.</p> <p>The works are to protect the bank from further erosion as well</p>

Performance outcomes	Acceptable outcomes	Response
	AND	as the local government road McDowall Lane. Should the works not be undertaken prior to the 2015/2016 Wet Season there is an increased risk if impacts to McDowall Lane and hence access to the local residents.
	AO6.3 Coastal-dependent development: (1) locates, designs and constructs relevant buildings or structures to withstand coastal erosion impacts, including by use of appropriate foundations, or (2) installs and maintains <u>coastal protection works</u> to mitigate adverse impacts to people and permanent structures from coastal erosion at the location. AND	(1) N/A (2) The works are a coastal protection measure to protect a local government road and access for residents. The proposal includes restoration works for native vegetation and an active revegetation will be undertaken.
	AO6.4 Development that is <u>temporary, readily relocatable or able to be abandoned</u> , or <u>essential community service infrastructure</u> : (1) locates built structures landward of an applicable <u>coastal building line, or</u> (2) where there is no coastal building line, locates habitable built structures landward of the alignment of adjacent habitable buildings, or (3) locates lifesaver towers or beach access infrastructure to minimise its impacts on physical coastal processes, or (4) where it is demonstrated that (1) or (2) is not reasonable and (3) does not apply: (a) locates built structures as far landward as practicable (b) uses layout design to minimise the footprint of the development that remains within the erosion prone area. AND	N/A
	AO6.5 Redevelopment of existing built structures not referred to in AO6.4, and excluding <u>marine development</u> : (1) relocates built structures outside that part of the <u>erosion prone area</u> that is within the coastal management district, or (2) relocates built structures as far landward as practicable, and landward of an applicable <u>coastal building line</u> , or	N/A

Performance outcomes	Acceptable outcomes	Response
	<p>(3) where there is no <u>coastal building line</u>:</p> <ul style="list-style-type: none"> (a) relocates built structures landward of the alignment of adjacent habitable buildings, or (b) uses layout design to minimise the footprint of the development that remains within the erosion prone area, or (c) provides sufficient space seaward of the development within the premises to allow for the construction of erosion control structures. <p>AND</p>	
	<p>AO6.6 Redevelopment of built structures in the <u>erosion prone area</u> within a coastal management district, which results in an intensification of use, mitigates the erosion threat to the development, having regard to:</p> <ul style="list-style-type: none"> (1) design and construction standards (2) installing and maintaining on-site <u>erosion control structures</u> within the premises if the development is not intended to be temporary. 	N/A
PO7 Development avoids or minimises adverse impacts on coastal resources and their values, to the maximum extent reasonable.	<p>AO7.1 <u>Coastal protection work</u> that is in the form of <u>beach nourishment</u> uses methods of placement suitable for the location that do not interfere with the long-term use of the locality of, or natural values within or neighbouring, the proposed placement site.</p> <p>AND</p>	N/A beach nourishment not proposed
	<p>AO7.2 <u>Marine development</u> is located and designed to expand on or redevelop existing marine infrastructure unless it is demonstrated that it is not practicable to co-locate the development with existing marine infrastructure.</p> <p>AND</p>	The development is to occur in an area that was previously stabilised.
	<p>AO7.3 <u>Marine development</u>:</p> <ul style="list-style-type: none"> (1) relies on a natural channel of a depth adequate for the intended vessels, or (2) where there are no feasible alternative locations for the facility in the local area that do not require dredging for navigation channel purposes: 	N/A

Performance outcomes	Acceptable outcomes	Response
	<p>(a) involves capital dredging for new navigation channel purposes</p> <p>(b) is located, designed and operated to minimise the need for capital and subsequent maintenance dredging for navigation channel purposes.</p> <p>AND</p>	
	<p>AO7.4 Development minimises <u>dredging</u> or the disposal of material in <u>coastal waters</u> during key biological events (such as fish aggregations or spawning) for species found in the area.</p> <p>AND</p>	<p>N/A no dredging required as operational works will be the placement of rock and mattresses.</p> <p>The banks will be benched but no excavation from the bed will be undertaken.</p>
	<p>AO7.5 Measures are to be incorporated as part of siting and design of the development to protect and retain identified ecological values and underlying ecosystem processes within or adjacent to the development site to the greatest extent practicable. This includes:</p> <p>(1) maintaining or restoring vegetated buffers between development and <u>coastal waters</u> to the extent practicable, unless the development is within ports or airports, or is <u>marine development</u></p> <p>(2) maintaining or enhancing the connectivity of ecosystems in consideration of the cumulative effect of the development in addition to existing developed areas</p> <p>(3) retaining coastal wetlands, seagrass beds and other locally important feeding, nesting or breeding sites for native wildlife.</p> <p>AND</p>	<p>The proposed works include active revegetation that seek to re-establish vegetation on the bank. This will assist with restoring habitat in this location and providing contiguity with riparian flora in adjacent areas.</p> <p>There is evidence in other locations on the Daintree River that vegetation has successfully re-colonised in areas that have had rock protection installed. It is likely that this will occur in addition to the active revegetation program proposed.</p>
	<p>AO7.6 Measures are incorporated as part of siting and design of the development to maintain or enhance water quality to achieve the <u>environmental values</u> and water quality objectives outlined in the <i>Environmental Protection (Water) Policy 2009</i>.</p> <p>AND</p>	<p>Impacts to water quality, such as an increase in velocity and suspended solids, will be temporary during construction.</p> <p>The works will provide long term benefits as protection to the bank will reduce the loss of sediment and erosion to the Daintree River water body.</p>
	<p>AO7.7 Development avoids the disturbance of acid sulphate soils, or where it is demonstrated that this is not possible, the disturbance of acid sulphate soils is carefully managed to minimise and mitigate the adverse effects of the disturbance on coastal resources.</p>	<p>A large portion of the works will be exposed to the tide and hence oxidation of acid sulfate that may be present is unlikely to occur.</p> <p>There is a lower chance of acid sulfate occurring in the upper portions of the banks as it probably that imported fill was used</p>

Performance outcomes	Acceptable outcomes	Response
		at this location for local government road construction and verges.
<p>PO8 <u>Coastal protection work</u> is undertaken only as a last resort where erosion presents an imminent threat to public safety or permanent structures.</p> <p>Editor's note: Applications for <u>coastal protection work</u> must be supported by a report certified by an RPEQ that demonstrates how the engineering solution sought by the work will be achieved.</p>	<p>AO8.1 Coastal protection work is only undertaken to protect existing permanent structures from imminent adverse coastal erosion impacts, and the structures cannot reasonably be relocated or abandoned.</p> <p>AND</p>	The works proposed are to protect the existing bank and local government structures from the risk of further erosion during the 2015/2016 Wet Season.
	<p>AO8.2 <u>Coastal protection work</u> to protect private structures is undertaken on private land to the maximum extent reasonable.</p> <p>AND</p>	N/A
	<p>AO8.3 <u>Coastal protection work</u> does not increase the coastal hazard risk for adjacent areas or properties.</p>	The coastal hazard risk will not be increased as the proposal is designed to be consistent with the current batter and alignment of the southern bank of the Daintree River.
<p>PO9 Development avoids adverse impacts on matters of state environmental significance, or where this is not reasonably possible, impacts are minimised and an environmental offset is provided for any significant residual impacts to matters of state environmental significance that are prescribed environmental matters.</p>	<p>AO9.1 Development:</p> <ol style="list-style-type: none"> (1) is set back from matters of state environmental significance (2) avoids interrupting, interfering or otherwise adversely impacting underlying natural ecosystem components or processes and interactions that affect or maintain the matters of state environmental significance, such as water quality, hydrology, geomorphology and biological processes, or (3) incorporates measures as part of its location and design to protect and retain matters of state environmental significance and underlying ecosystem processes within and adjacent to the development site to the greatest extent practicable. <p>Editor's note: Applications for development should identify any threatened species or their habitats, or threatened ecosystems that may be affected by the proposal. In particular, applications should identify and describe how the development avoids adverse impacts on any critical life stage ecological processes within or adjacent to the development area.</p> <p>AND</p>	<p>Marine Parks have confirmed an offset is not required as the works are considered to be habitat restoration.</p> <p>The DAF have confirmed an offset is not required as there will be no significant residual risk from the works.</p>
	<p>AO9.2 An <u>environmental offset</u> is provided for any significant residual impact on matters of state environmental significance that are prescribed environmental matters caused by the development.</p> <p>Editor's note: Applications for development should identify anticipated losses, and outline what actions are proposed to be undertaken to offset the loss in accordance with the <i>Significant Residual Impact Guideline</i> and the relevant</p>	<p>Marine Parks have confirmed an offset is not required as the works are considered to be habitat restoration.</p> <p>The DAF have confirmed an offset is not required as there will be no significant residual risk from the works.</p>

Performance outcomes	Acceptable outcomes	Response
	<i>Queensland Environmental Offsets Policy.</i>	
PO10 Development maintains or enhances general public access to or along the <u>foreshore</u> , unless this is contrary to the protection of coastal resources or public safety.	AO10.1 Development adjacent to <u>state coastal land</u> or tidal water: <ol style="list-style-type: none"> (1) demonstrates that restrictions to public access are necessary for: <ol style="list-style-type: none"> (a) the safe or secure operation of development, or (b) the maintenance of coastal landforms and coastal habitat (2) separates residential, tourist and retail development from tidal water with public areas or public access facilities, or (3) maintains existing public access (including public access infrastructure that is in the public interest) through the site to the <u>foreshore</u> for: <ol style="list-style-type: none"> (a) pedestrians, via access points including approved walking tracks, boardwalks and viewing platforms, or (b) vehicles, via access points including approved roads or tracks. <p>AND</p>	The proposed works are to provide protection to local government road infrastructure which in turn provides continued access for the residents of McDowall Lane.
	AO10.2 Development adjacent to <u>state coastal land</u> , including land under tidal water: <ol style="list-style-type: none"> (1) is located and designed to: <ol style="list-style-type: none"> (a) allow safe and unimpeded access to, over, under or around built structures located on, over or along the foreshore (b) ensure emergency vehicles can access the area near the development, or (2) minimises and offsets any loss of access to and along the foreshore within two kilometres of the existing access points, and the access is located and designed to be consistent with (1)(a) and (b). <p>AND</p>	The authorised access point to the Daintree River is the approximate location of the Daintree River crossing where public and tourist infrastructure is located.
	AO10.3 Any parts of <u>private development</u> that extend over tidal water are to be designed, constructed and used for marine access purposes only.	N/A
PO11 Private marine development avoids structures attaching to, or extending across, non-tidal <u>state</u>	AO11.1 <u>Private marine development</u> and other structures such as decks or boardwalks for private use do not attach to, or extend across <u>state coastal land</u> that is situated above the high water mark.	N/A

Performance outcomes	Acceptable outcomes	Response
<u>coastal land</u> abutting tidal waters.	Editor's note: For occupation permits or allocations of State land, refer to the <i>Land Act 1994</i> .	
PO12 Further development of <u>artificial waterways</u> avoids or minimises adverse impacts on coastal resources and their values, and does not contribute to: <ul style="list-style-type: none"> (1) an increase in the risk of flooding or erosion (2) degradation of water quality (3) degradation and loss of matters of state environmental significance (including, but not limited to, coastal wetlands, fish habitat areas and migratory species habitat). 	AO12.1 The design, construction and operation of artificial tidal waterways maintains the <u>tidal prism volume</u> of the natural waterway to which it is connected. AND	N/A
	AO12.2 The design, construction and operation of artificial tidal waterways does not increase risk from flooding. AND	N/A
	AO12.3 The design, construction and operation of an artificial waterway in connection with the reconfiguration of a lot ensures: <ul style="list-style-type: none"> (1) water inlet and outlets structures are of sufficient capacity to maintain the water quality within the waterway (2) water discharged from the artificial waterway protects the environmental values and water quality objectives of the receiving waters (3) dredged material is not disposed of to tidal water beyond the artificial waterway unless there is a beneficial reuse, e.g. beach nourishment. Editor's note: For more information on environmental values and water quality objectives see Schedule 1 of the <i>Environment Protection (Water) Policy 2009</i> . AND	N/A
	AO12.4 The location of the <u>artificial waterways</u> avoids <u>matters of state environmental significance</u> , or does not result in any significant adverse impact on <u>matters of state environmental significance</u> .	N/A
PO13 Development does not involve <u>reclamation</u> of land below tidal water, other than for the purposes of: <ul style="list-style-type: none"> (1) <u>coastal-dependent development</u>, public <u>marine</u> 	No acceptable outcome is prescribed.	N/A

Performance outcomes	Acceptable outcomes	Response
<p><u>development</u> or community infrastructure</p> <p>(2) strategic ports, boat harbours or strategic airports and aviation facilities, in accordance with a statutory land use plan, where there is a demonstrated net benefit for the state or region and no feasible alternative exists</p> <p>(3) <u>coastal protection work</u> or work necessary to protect coastal resources or physical coastal processes.</p>		
Performance outcomes	Acceptable outcomes	Response
<p>PO1 Tidal works that is <u>private marine development</u> does not result in adverse impacts to tidal land.</p> <p>Editor's note: In addressing this performance outcome, the applicant should comply with the performance criteria and acceptable standards set out in the <i>Operational Policy Building and engineering standards for tidal works</i>, Department of Environment and Heritage Protection, 2013.</p> <p>Editor's note: Applications should be supported by a report certified by an RPEQ to demonstrate compliance with this performance outcome.</p>	<p>AO1.1 The location and design of tidal works that is <u>private marine development</u>:</p> <p>(1) is on private land abutting <u>tidal water</u> and used for property access purposes</p> <p>(2) occupies the minimum area reasonably required for its designed purpose</p> <p>(3) is not to be roofed or otherwise covered</p> <p>(4) does not require the construction of <u>coastal protection works</u>, shoreline or riverbank hardening or <u>dredging</u> for marine access</p> <p>(5) does not adversely impact on public safety or public access and use of the <u>foreshore</u>.</p>	N/A
<p>PO2 Development does not result in the disposal of material dredged from an <u>artificial waterway</u> into <u>coastal waters</u>, with the exception of:</p>	No acceptable outcome is prescribed.	N/A

Performance outcomes	Acceptable outcomes	Response
(1) <u>reclamation</u> works, or (2) coastal protection works, or (3) the maintenance of an existing <u>artificial waterway</u> and the at-sea disposal of material that has previously been approved for the waterway.		
PO3 The design and construction of an artificial waterway maintains coastal landforms.	AO3.1 The design and construction of the artificial waterway provides for sand bypassing where this is necessary to prevent erosion of adjacent coasts and minimise sedimentation of the waterway. AND	N/A
	AO3.2 Clean sand accumulating within an artificial waterway is returned to the active beach system, in preference to disposal on land.	N/A
PO4 Development that involves dredging includes and complies with a management plan that demonstrates how environmental impacts will be managed and mitigated, and how the requirements of the <i>National assessment guidelines for dredging</i> , Australian Government Department of the Environment, Water, Heritage and the Arts, 2009, will be met.	AO4.1 A management plan for the development: (1) directs the operation of the development (2) identifies disposal methods and disposal sites for the removed material for the construction and operational phases of the development (3) outlines how any adverse effects from extraction activities on sediment transport processes or adjacent coastal landforms will be mitigated or otherwise remediated by suitably planned and implemented <u>beach nourishment</u> and rehabilitation works. Editor's note: The development should comply with the <i>National assessment guidelines for dredging</i> , Australian Government Department of Environment, Water, Heritage and the Arts, 2009. AND	N/A
	AO4.2 For land based disposal of <u>dredged material</u> , any area used for storing, dewatering, drying or rehandling dredged material as outlined in the dredge management plan is: (1) of sufficient size for the projected volume of dredged material from relevant capital or maintenance <u>dredging</u> (2) protected from future development that would compromise the use of the area for its intended purpose of material storage and dewatering.	N/A

Performance outcomes	Acceptable outcomes	Response
	AND	
	<p>AO4.3 For at-sea disposal of suitable <u>dredged material</u>, the dredge management plan specifies that material is placed at a dredged material disposal site only if it is demonstrated that it is not feasible to:</p> <ul style="list-style-type: none"> (1) dispose of the material above the high water mark, if the material is from maintenance works for an existing <u>artificial waterway</u> for which at-sea disposal was previously approved, or (2) keep the <u>dredged material</u> within the active sediment transport system for the locality, or (3) use the material for <u>beach nourishment</u> or another beneficial purpose. <p>AND</p>	N/A
	<p>AO4.4 For at-sea disposal of <u>dredged material</u> where the marine spoil disposal site is a retentive (i.e. non-dispersive) site, the disposal site identified in the dredge management plan has the capacity to hold and retain the material within its boundaries during construction and operation of the development.</p> <p>Editor's note: The use of dredged material for a beneficial purpose could include development of port or other marine facilities, use for construction or industrial purposes, or use to create or modify land or waters for an approved environmental outcome (such as creation of a bird roosting site). Further information about beneficial uses is contained in the <i>National assessment guidelines for dredging</i>, Australian Government Department of Environment, Water, Heritage and the Arts, 2009</p>	N/A
<p>PO5 Where clearing of native marine plants cannot be avoided and the extent of clearing has been minimised, an environmental offsets is provided for any significant residual impact from the clearing.</p>	<p>AO5.1 Clearing of marine plants is minimised and an environmental offset is for any significant residual impact from the clearing</p> <p>AND</p>	<p>Marine Parks have confirmed an offset is not required as the works are considered to be habitat restoration.</p> <p>The DAF have confirmed in an email dated 7 September 2015 an offset is not required as there will be no significant residual risk from the works.</p>
	<p>AO5.2 Any clearing of marine plants is limited to the minimum area required for the works and to allow for maintenance.</p> <p>Editor's note: Applications for development should identify whether there is likely to be a significant residual impact and a need for an environmental offset</p>	<p>The clearing of marine plants is restricted to the footprint of the works, refer to the construction drawings.</p> <p>Approximately 5 square metres of mangroves including</p>

Performance outcomes	Acceptable outcomes	Response
	having regard to Section 3.9 (Marine plants) of the <i>Significant Residual Impact Guideline</i> and the relevant <i>Queensland Environmental Offsets Policy</i> .	<i>Brugiera sp</i> and <i>Acanthus sp</i> will occur. Individuals are growing along the middle and lower reaches of the bank. The DAF have confirmed in an email dated 7 September 2015 an offset is not required as there will be no significant residual risk from the works.
PO6 Natural regeneration of any cleared or work area is facilitated wherever possible.	AO6.1 There is no impediments to the natural regeneration of native plant species in the area of clearing and works following completion of works.	Active revegetation will be undertaken for the project. The project is to be undertaken prior to the 2015/2016 Wet Season and the revegetation will be undertaken at the start of the 2016 dry season. During the Wet Season the rocks will be allowed to settle as water velocities may achieve rates of up to 3 m/ second. The revegetation is to occur after the rocks have had a change to settle and when there are slower flows to provide plants an increased chance of survival
PO7 Development avoids or minimises adverse impacts on fish passage.	AO7.1 Development avoids, or minimises adverse impacts on fish passage during works and the carrying out of the activity.	N/A not creating a barrier
PO8 Development avoids or minimises impacts on fish habitat values.	AO8.1 Works are located, designed, and constructed to minimise impacts on fish habitat values and function.	There will be temporary disturbance, ie increases to turbidity and suspended sediments, to the water in the Daintree during operational works. These works will be minimised wherever possible through implementation of the Contractors EMP that will require measures to be in place to protect water quality and fisheries values. Conditions of environmental approvals will be addressed within the Contractors EMP.
PO9 Development avoids or minimises impacts on natural drainage lines or flow paths, during both construction and operation.	No acceptable outcome is prescribed.	N/A no natural drainage lines
PO10 Development avoids or minimises any adverse impacts on environmental values and water quality objectives for receiving waters (surface and groundwater) from pollutants on site or leaving a	AO10.1 Development demonstrates best practice environmental management to meet relevant environmental values and water quality objectives of the <i>Environmental Protection (Water) Policy</i> or relevant to the ERA to be carried out on the site. OR	A contractor EMP will be implemented to manage issues related to sediment control, stockpiling, re-fuelling of machinery and handling waste for the project. This aims to demonstrate best environmental practice to comply with the EPP(Water) and requirements in the environmental

Performance outcomes	Acceptable outcomes	Response
site located in a strategic environmental area.	<p>AO10.2 All stormwater, wastewater, discharges and overflows leaving the site are:</p> <p>(1) treated to the quality of the receiving waters prior to discharge, OR;</p> <p>(2) reclaimed or re-used such that there is no export of pollutants to receiving waters.</p>	<p>approval.</p> <p>The contractor will minimise the chance of overland flow into the Daintree River from the works site by diverting clean water around disturbed areas and treating contaminated water prior to any run-off.</p> <p>It is proposed that the works are completed in the shortest possible period to minimise the timeframe for disturbance of earthen materials on the banks.</p> <p>The Contractors EMP will identify measures to be implemented to protect water quality.</p>

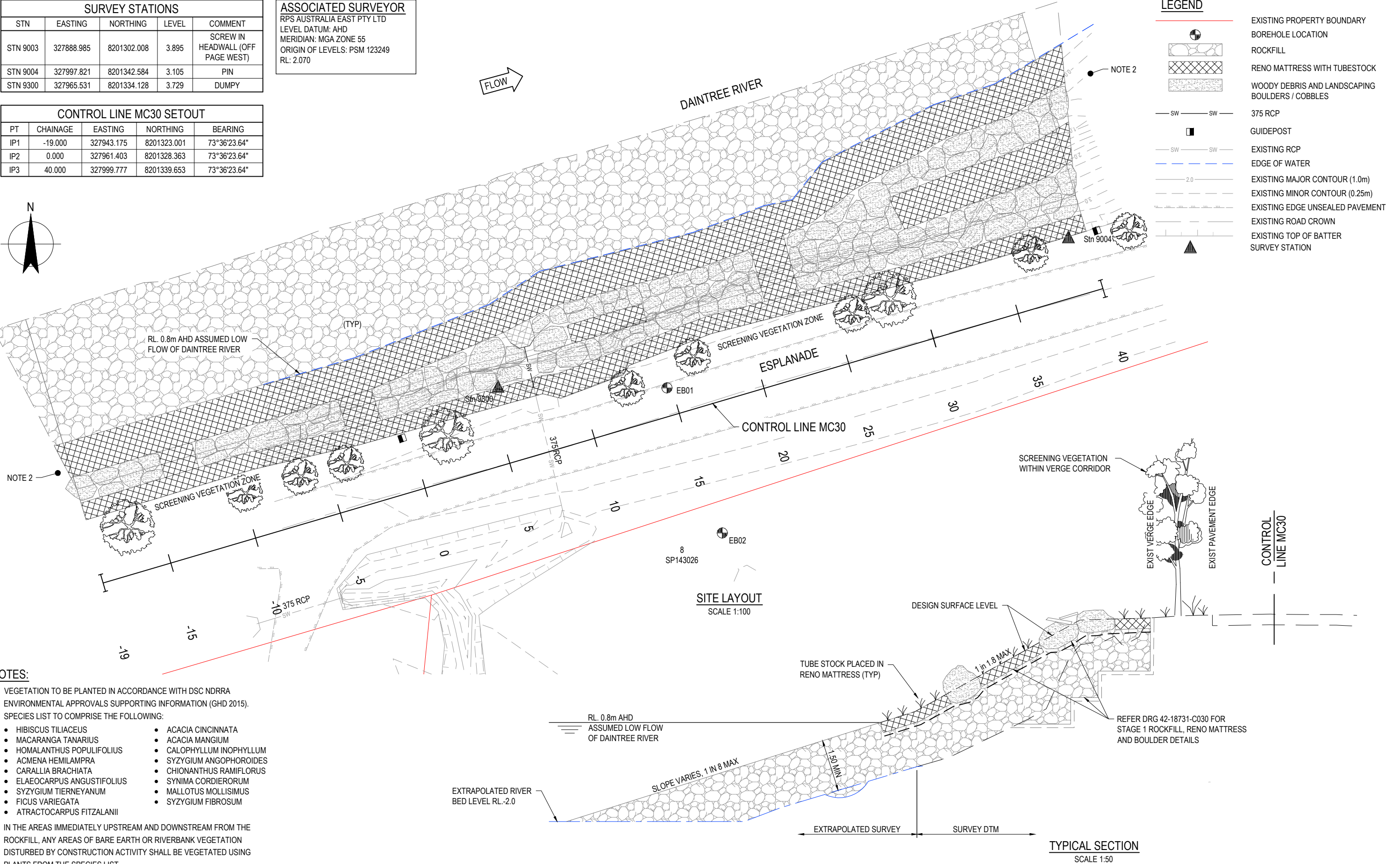
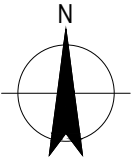
Appendices

Appendix A – Construction drawings

SURVEY STATIONS				
STN	EASTING	NORTHING	LEVEL	COMMENT
STN 9003	327888.985	8201302.008	3.895	SCREW IN HEADWALL (OFF PAGE WEST)
STN 9004	327997.821	8201342.584	3.105	PIN
STN 9300	327965.531	8201334.128	3.729	DUMPY

CONTROL LINE MC30 SETOUT				
PT	CHAINAGE	EASTING	NORTHING	BEARING
IP1	-19.000	327943.175	8201323.001	73°36'23.64"
IP2	0.000	327961.403	8201328.363	73°36'23.64"
IP3	40.000	327999.777	8201339.653	73°36'23.64"

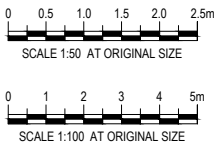
ASSOCIATED SURVEYOR
RPS AUSTRALIA EAST PTY LTD
LEVEL DATUM: AHD
MERIDIAN: MGA ZONE 55
ORIGIN OF LEVELS: PSM 123249
RL: 2.070



NOTES:

- VEGETATION TO BE PLANTED IN ACCORDANCE WITH DSC NDRRA ENVIRONMENTAL APPROVALS SUPPORTING INFORMATION (GHD 2015). SPECIES LIST TO COMPRISE THE FOLLOWING:
 - HIBISCUS TILIACEUS
 - MACARANGA TANARIUS
 - HOMALANTHUS POPULIFOLIUS
 - ACMENA HEMILAMPRA
 - CARALLIA BRACHIATA
 - ELAEOCARPUS ANGUSTIFOLIUS
 - SYZYGIUM TIERNEYANUM
 - FICUS VARIEGATA
 - ATRACTOCARPUS FITZALANII
 - ACACIA CININNATA
 - ACACIA MANGIUM
 - CALOPHYLLUM INOPHYLLUM
 - SYZYGIUM ANGOPHOROIDES
 - CHIONANTHUS RAMIFLORUS
 - SYNIMA CORDIERORUM
 - MALLOTUS MOLLISIMUS
 - SYZYGIUM FIBROSUM
- IN THE AREAS IMMEDIATELY UPSTREAM AND DOWNSTREAM FROM THE ROCKFILL, ANY AREAS OF BARE EARTH OR RIVERBANK VEGETATION DISTURBED BY CONSTRUCTION ACTIVITY SHALL BE VEGETATED USING PLANTS FROM THE SPECIES LIST.

0	APPROVED ISSUE		AL	AW*	JG*	24.09.15
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date



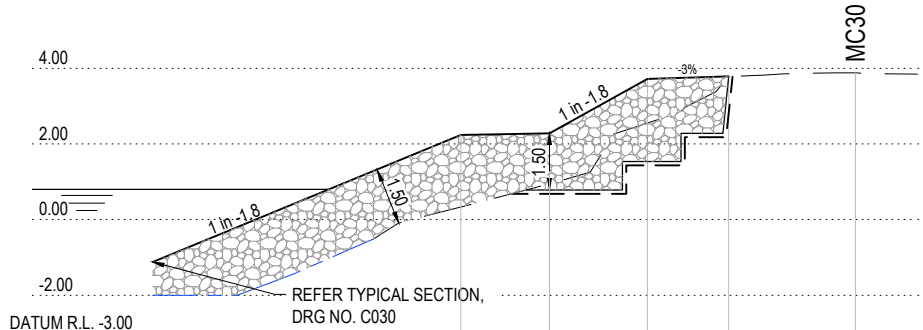
Registered Professional G.NEWNHAM	
Registration RPEQ	
Registration Discipline GEOTECHNICAL	
Signature G.NEWNHAM*	No. 7452 Date 24.09.15

GHD
Level 1, 85 Spence Street, Cairns QLD 4870 Australia
PO Box 819, Cairns QLD 4870
T 61 7 4044 2222 F 61 7 4044 2288
E cnsmail@ghd.com.au W www.ghd.com.au

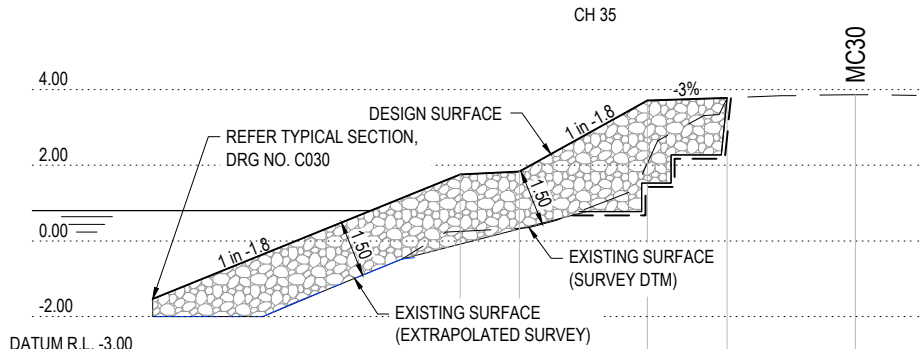
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Drawn A.LEE	Designer P.THAKUR
Drafting Check D.DAHL*	Design Check G.NEWNHAM*
Approved (Project Director) J.GREATOREX*	Date 22.09.15
Scale AS SHOWN	This Drawing must not be used for Construction unless signed as Approved

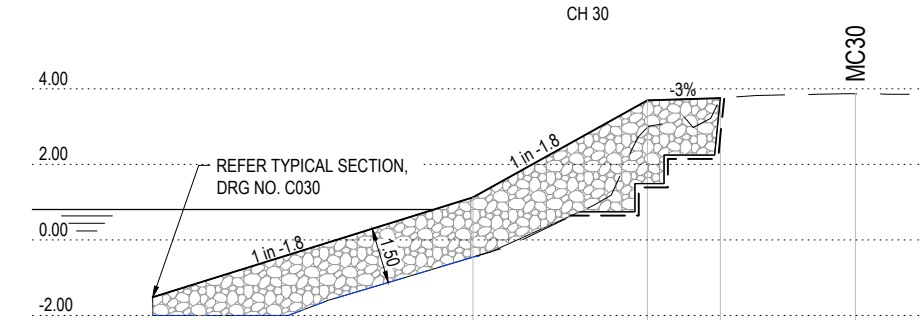
Client	DOUGLAS SHIRE COUNCIL		
Project	LANDSLIP REMEDIAL WORKS		
Title	SITE 3 - ESPLANADE		
	SITE LAYOUT AND TYPICAL SECTION - STAGE 2 WORKS		
Original Size	A1	Drawing No: 42-18731-C033	Rev: 0



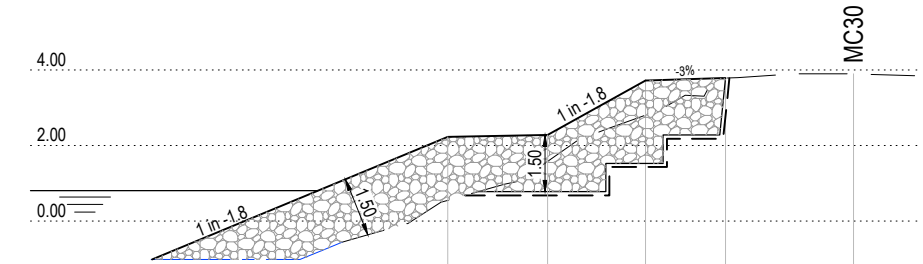
DESIGN SURFACE LEVEL	2.237	2.283	3.724	3.788	
DEPTH CUT - / FILL +	1.91	1.32	1.17	-0	
EXISTING SURFACE LEVEL	0.33	0.96	2.56	3.79	3.88
OFFSET FROM CENTRELINE	-10.44	-8.09	-5.5	-3.35	0



DESIGN SURFACE LEVEL	1.757	1.838	3.718	3.781	
DEPTH CUT - / FILL +	1.43	1.50	1.66	0	
EXISTING SURFACE LEVEL	0.33	0.34	2.05	3.78	3.87
OFFSET FROM CENTRELINE	-10.47	-8.88	-5.5	-3.39	0

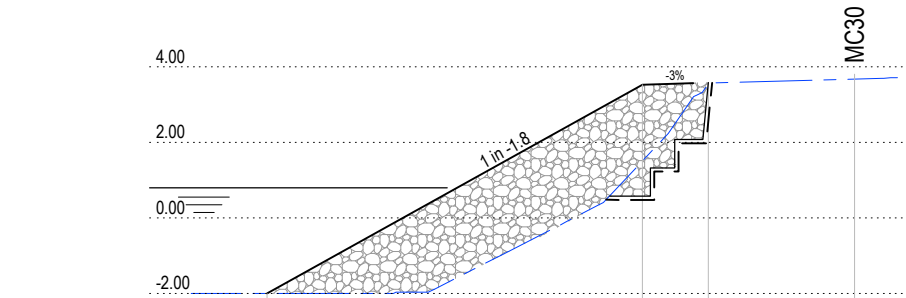


DESIGN SURFACE LEVEL	1.127	3.689	3.747	
DEPTH CUT - / FILL +	1.58	0.71	-0	
EXISTING SURFACE LEVEL	-0.45	2.98	3.75	3.865
OFFSET FROM CENTRELINE	-10.11	-5.5	-3.57	0



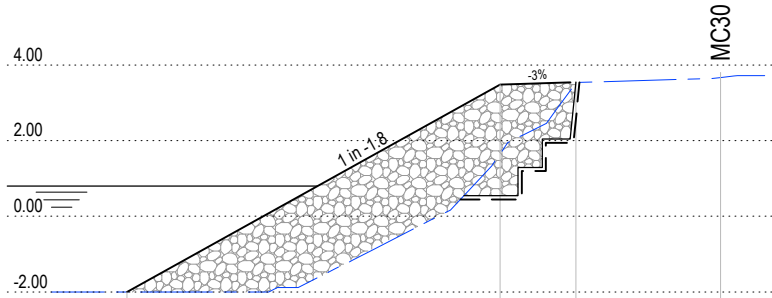
DESIGN SURFACE LEVEL	2.225	2.278	3.718	3.782	
DEPTH CUT - / FILL +	1.68	0.68	0.92	-0	
EXISTING SURFACE LEVEL	0.55	1.60	2.8	3.78	3.893
OFFSET FROM CENTRELINE	-10.74	-8.09	-5.5	-3.38	0

NOTE:
RENO MATTRESS AND LANDSCAPING DETAILS ARE OMITTED FROM THESE ANNOTATED CROSS SECTIONS FOR CLARITY. THE OUTER DESIGN SURFACE SHOWN HERE CORRESPONDS TO THE UPPER SURFACE OF THE RENO MATTRESS (DESIGN SURFACE LEVEL) AS SHOWN ON TYPICAL SECTION DRAWING 42-18731-C030.



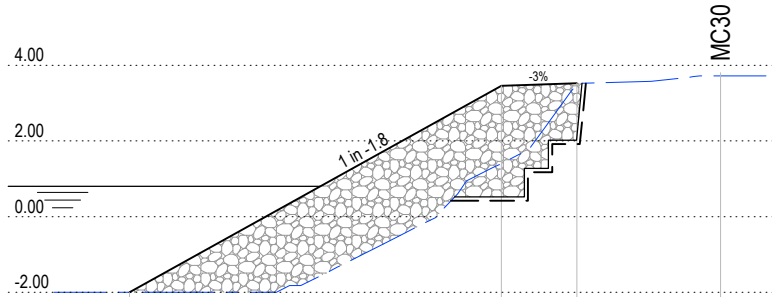
DATUM R.L. -3.00				
DESIGN SURFACE LEVEL	-2		3.522	3.574
DEPTH CUT - / FILL +	0		2.01	0
EXISTING SURFACE LEVEL	-15.44	-2	1.51	3.57
OFFSET FROM CENTRELINE			-5.5	-3.76
				0

CH -10



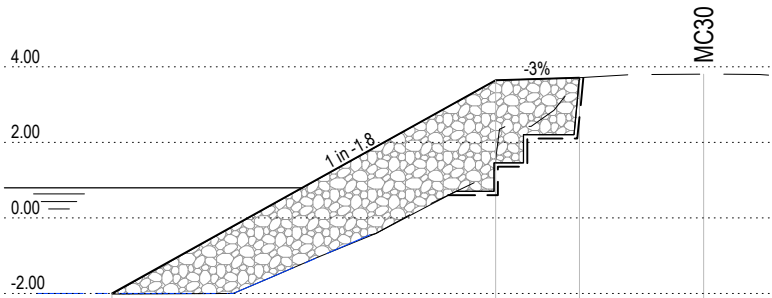
DATUM R.L. -3.00				
DESIGN SURFACE LEVEL	-2		3.487	3.547
DEPTH CUT - / FILL +	0		1.83	0
EXISTING SURFACE LEVEL	-15.6	-2	1.66	3.55
OFFSET FROM CENTRELINE			-5.72	-3.72
				0

CH -15



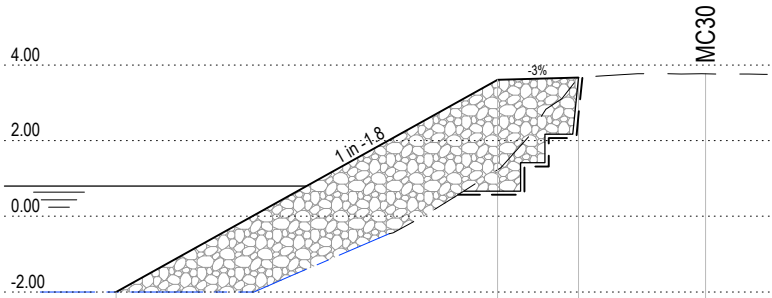
DATUM R.L. -3.00				
DESIGN SURFACE LEVEL	-2		3.464	3.524
DEPTH CUT - / FILL +	0		2.06	0
EXISTING SURFACE LEVEL	-15.53	-2	1.40	3.52
OFFSET FROM CENTRELINE			-5.69	-3.69
				0

CH -19



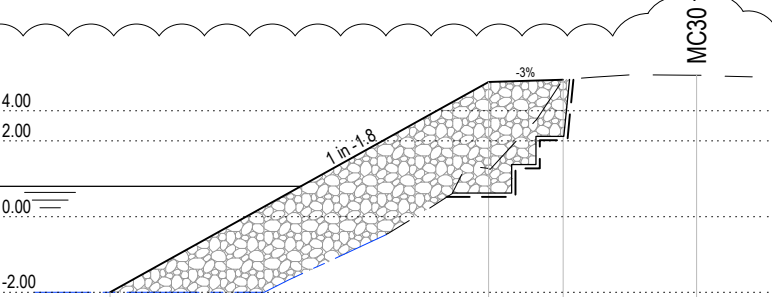
DATUM R.L. -3.00				
DESIGN SURFACE LEVEL	-2		3.643	3.71
DEPTH CUT - / FILL +	0		2.1	0
EXISTING SURFACE LEVEL	-15.66	-2	1.54	3.71
OFFSET FROM CENTRELINE			-5.5	-3.28
				0

CH 5



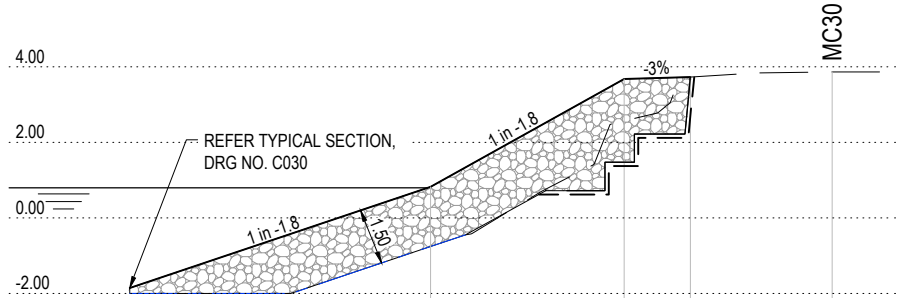
DATUM R.L. -3.00				
DESIGN SURFACE LEVEL	-2		3.609	3.673
DEPTH CUT - / FILL +	0		2.38	0
EXISTING SURFACE LEVEL	-15.6	-2	1.23	3.67
OFFSET FROM CENTRELINE			-5.5	-3.36
				0

CH 0



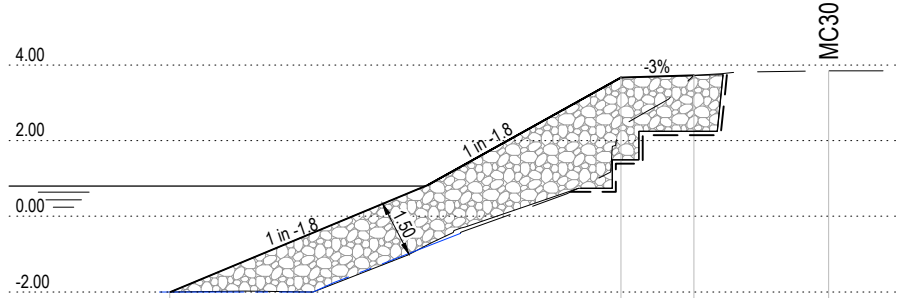
DATUM R.L. -3.00				
DESIGN SURFACE LEVEL	-2		3.565	3.624
DEPTH CUT - / FILL +	0		2.29	0
EXISTING SURFACE LEVEL	-15.52	-2	1.27	3.62
OFFSET FROM CENTRELINE			-5.5	-3.53
				0

CH -5



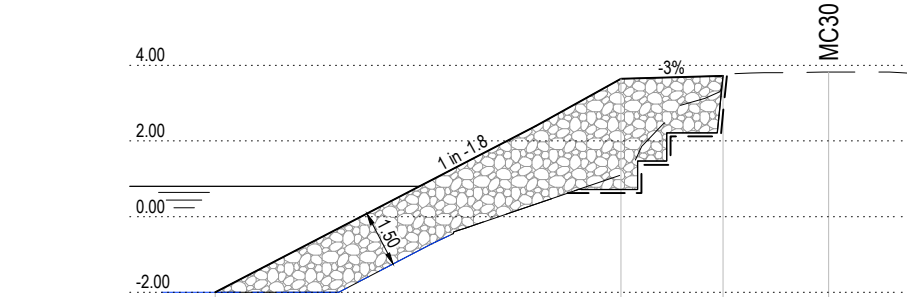
DATUM R.L. -3.00				
DESIGN SURFACE LEVEL			0.827	3.674
DEPTH CUT - / FILL +			1.59	1.11
EXISTING SURFACE LEVEL			-10.11	-0.76
OFFSET FROM CENTRELINE			-5.5	-3.75
				0

CH 20



DATUM R.L. -3.00				
DESIGN SURFACE LEVEL	-2		3.668	3.726
DEPTH CUT - / FILL +	0		1.3	0
EXISTING SURFACE LEVEL	-17.43	-2	2.37	3.73
OFFSET FROM CENTRELINE			-5.5	-3.56
				0

CH 15



DATUM R.L. -3.00				
DESIGN SURFACE LEVEL	-2		3.644	3.725
DEPTH CUT - / FILL +	0		2.54	-0.05
EXISTING SURFACE LEVEL	-16.20	-2	1.1	3.78
OFFSET FROM CENTRELINE			-5.5	-2.8
				0

CH 10

NOTE:
RENO MATTRESS AND LANDSCAPING DETAILS ARE OMITTED FROM THESE ANNOTATED CROSS SECTIONS FOR CLARITY. THE OUTER DESIGN SURFACE SHOWN HERE CORRESPONDS TO THE UPPER SURFACE OF THE RENO MATTRESS (DESIGN SURFACE LEVEL) AS SHOWN ON TYPICAL SECTION DRAWING 42-18731-C030.

1	LANDSLIP REMEDIATION LENGTH EXTENDED		CWF	AW*	JG*	24.09.15
0	APPROVED ISSUE		BMJ	AW*	JG*	12.06.15
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date



Registered Professional G.NEWNHAM	
Registration RPEQ	
Registration Discipline GEOTECHNICAL	
Signature G.NEWNHAM*	No. 7452 Date 12.06.15



Level 1, 85 Spence Street, Cairns QLD 4870 Australia
PO Box 819, Cairns QLD 4870
T 61 7 4044 2222 F 61 7 4044 2288
E cnsmail@ghd.com.au W www.ghd.com.au

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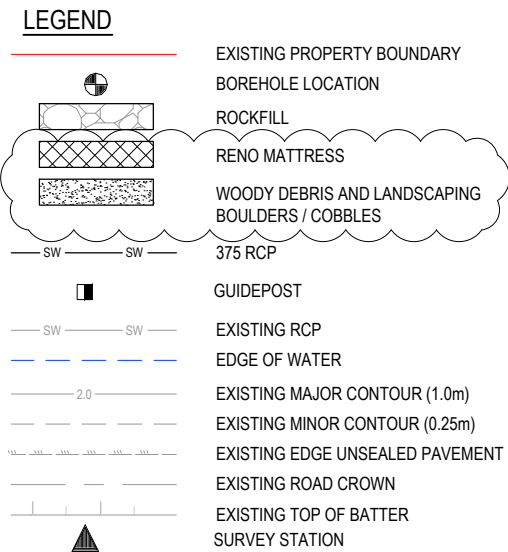
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Drafting Check D.DAHL*	Design Check G.NEWNHAM*
Approved (Project Director) J.GREATOREX*	Date 12.06.15
Scale AS SHOWN	This Drawing must not be used for Construction unless signed as Approved

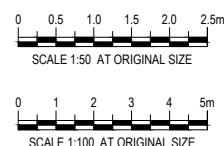
Client DOUGLAS SHIRE COUNCIL	Project LANDSLIP REMEDIAL WORKS
Title SITE 3 - ESPLANADE	ANNOATED CROSS SECTIONS - SHEET 1 OF 2
Original Size A1	Drawing No: 42-18731-C031
Rev: 1	

ASSOCIATED SURVEYOR
RPS AUSTRALIA EAST PTY LTD
LEVEL DATUM: AHD
MERIDIAN: MGA ZONE 55
ORIGIN OF LEVELS: PSM 123249
RL: 2.070

CONTROL LINE MC30 SETOUT				
PT	CHAINAGE	EASTING	NORTHING	BEARING
IP1	-19.000	327943.175	8201323.001	73°36'23.64"
IP2	0.000	327961.403	8201328.363	73°36'23.64"
IP3	40.000	327999.777	8201339.653	73°36'23.64"



2	LANDSLIP REMEDIATION LENGTH EXTENDED, STAGES ADDED	CWF	AW*	JG*	24.09.15
1	AMENDED TO CLIENT COMMENTS	BMJ	AW*	JG*	21.07.15
0	APPROVED ISSUE	BMJ	AW*	JG*	12.06.15
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing			
		Drawn	Job Manager	Project Director	Date



Registered Professional G.NEWNHAM	
Registration RPEQ	
Registration Discipline GEOTECHNICAL	
Signature G.NEWNHAM*	No. 7452 Date 12.06.15



Level 1, 85 Spence Street, Cairns QLD 4870 Australia
PO Box 819, Cairns QLD 4870
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Drawn	B.JOHNSON
Drafting Check	D.DAHL*
Approved (Project Director)	J.GREAT
Date	12.06.15
Scale	AS SHOWN

Designer	P.THAKUR
Design Check	G.NEWNHAM*
COREX*	
This Drawing must not be used for Construction unless signed as Approved	

Client	DOUGLAS SHIRE COUNCIL		
Project	LANDSLIP REMEDIAL WORKS		
Title	SITE 3 - ESPLANADE		
	SITE LAYOUT AND TYPICAL SECTION - STAGE 1 WORKS		
ss	Original Size	Drawing No: 42-18731-C030	Rev: 2

DOUGLAS SHIRE COUNCIL LANDSLIP REMEDIAL WORKS



LOCALITY PLAN

SITE NO.	ASSET / ROAD NAME
1	HIBISCUS COURT
2	STEWART CREEK ROAD
3	ESPLANADE
4	UPPER DAINTREE ROAD - LOCATION 1
5	UPPER DAINTREE ROAD - LOCATION 2
6	UPPER DAINTREE ROAD - LOCATION 3

DRAWING INDEX	
DRAWING NUMBER	DRAWING TITLE
42-18731-C001	LOCALITY PLAN AND DRAWING INDEX
42-18731-C002	CONSTRUCTION NOTES
42-18731-C010	SITE 1 - HIBISCUS COURT - SITE LAYOUT AND TYPICAL SECTION
42-18731-C020	SITE 2 - STEWART CREEK ROAD - SITE LAYOUT AND TYPICAL SECTION
42-18731-C021	SITE 2 - STEWART CREEK ROAD - ANNOTATED CROSS SECTIONS
42-18731-C030	SITE 3 - ESPLANADE - SITE LAYOUT AND TYPICAL SECTION - STAGE 1 WORKS
42-18731-C031	SITE 3 - ESPLANADE - ANNOTATED CROSS SECTIONS SHEET 1 OF 2
42-18731-C032	SITE 3 - ESPLANADE - ANNOTATED CROSS SECTIONS SHEET 2 OF 2
42-18731-C033	SITE 3 - ESPLANADE - SITE LAYOUT AND TYPICAL SECTION - STAGE 2 WORKS
42-18731-C040	SITE 4 - UPPER DAINTREE ROAD - SITE LAYOUT AND TYPICAL SECTION
42-18731-C041	SITE 4 - UPPER DAINTREE ROAD - ANNOTATED CROSS SECTIONS SHEET 1 OF 2
42-18731-C042	SITE 4 - UPPER DAINTREE ROAD - ANNOTATED CROSS SECTIONS SHEET 2 OF 2
42-18731-C050	SITE 5 - UPPER DAINTREE ROAD - SITE LAYOUT AND TYPICAL SECTION
42-18731-C051	SITE 5 - UPPER DAINTREE ROAD - ANNOTATED CROSS SECTIONS SHEET 1 OF 4
42-18731-C052	SITE 5 - UPPER DAINTREE ROAD - ANNOTATED CROSS SECTIONS SHEET 2 OF 4
42-18731-C053	SITE 5 - UPPER DAINTREE ROAD - ANNOTATED CROSS SECTIONS SHEET 3 OF 4
42-18731-C054	SITE 5 - UPPER DAINTREE ROAD - ANNOTATED CROSS SECTIONS SHEET 4 OF 4
42-18731-C060	SITE 6 - UPPER DAINTREE ROAD - SITE LAYOUT AND TYPICAL SECTION
42-18731-C061	SITE 6 - UPPER DAINTREE ROAD - ANNOTATED CROSS SECTIONS SHEET 1 OF 2
42-18731-C062	SITE 6 - UPPER DAINTREE ROAD - ANNOTATED CROSS SECTIONS SHEET 2 OF 2

SERVICE LOCATIONS

It is the responsibility of the Foreman to contact the relevant service authorities to ascertain the exact location of services prior to construction.



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Appendix B – Protected Plants Flora Survey Report



Douglas Shire Council

Douglas Shire Council NDRRA

Site 3 Protected Plants Flora Survey Report

September 2015

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Appendices

Appendix A – Site Layout Drawing

Appendix B – Database Search Results

Appendix C - Curriculum Vitae

Appendix D – Field Survey Flora Species List

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1. Introduction

1.1 Background and Project Description

GHD Pty Ltd (GHD) has been commissioned by Douglas Shire Council (DSC) under the provisions of the Natural Disaster Relief and Recovery Arrangements (NDRRA) to provide engineering services related to restoration of various landslips along roads in shire. As part of this project, GHD has been engaged to assist DSC in acquiring the relevant development approvals, licences and permits/authorities where exemptions do not apply.

Five landslips/erosion sites are subject to NDRAA project funding within the Daintree River catchment. All of these sites are on roads immediately beside watercourses where erosion of the banks/bed as a result of flood flows and/or failure in road structures, has resulted in landslips which either do, or have the potential, to create hazardous road conditions.

The NDRAA provides funding for 'like for like' replacement and repair of infrastructure, and while some exemptions do apply in relation to permits and approvals for this work there are still formal requirements under legislation (covered in the next section) which must be addressed.

This document relates to a NDRAA funding approved site in the lower Daintree River catchment, specifically an area of collapsed banks of the Daintree River referred to in the NDRAA as 'Site 3'. Specifically, this project relates to the stabilisation and reinstatement of the southern bank of the Daintree River abutting McDowall Lane along a section of approximately 55m. Site 3 is located approximately 760m west (upstream) of the Daintree River ferry and is approximately 12.3km by road east of Daintree village. Refer to Figure 1 for Site location. Refer to Appendix A for the general layout of the proposed works.

Figure 1 NDRRA Site 3, McDowall lane



Site 3: NDRRA,
McDowall Lane,
Daintree River

Works involve bank
stabilisation, drainage
works, road
reinstatement

1.2 Purpose of this report

This document has been prepared in accordance with the recent changes to the *Nature Conservation Act 1992* (NC Act) and *Nature Conservation (Wildlife Management) Regulation 2006*. The Protected Plants Legislative Framework and Flora Survey Guidelines (May 2014) have been released which has created a new risk-based approach to regulate the clearing of protected plants in Queensland. Based on confirmed specimen records of flora species classed

as 'endangered', 'vulnerable' and 'near threatened' (EVNT) Protected Plants Flora Survey Trigger Mapping has been derived for Queensland. Under the provisions of the *Nature Conservation (Wildlife Management) Regulation (2006)* proposed development within areas identified as 'high risk' on the trigger mapping must assess the likelihood of species listed as EVNT being impacted by the development. This is to be undertaken through a formal flora survey in accordance with the Flora Survey Guidelines – Protected Plants (*Nature Conservation 1992*).

Site 3 is located within a 'high risk' area identified on the Protected Plants Flora Survey Trigger Map and as such a flora survey was undertaken as required in accordance with the survey guidelines.

No protected flora species listed under the schedules of the *Nature Conservation (Wildlife) Management Regulation 2006* was identified within the 100m surveyed clearing impact buffer area or clearing impact (works) area.

Subsequently this report forms part of the notification to the Department of Environment and Heritage Protection (EHP) supporting an exemption from a clearing permit for the works associated with NDRAA Site 3 under Section 261ZA of the *Nature Conservation (Wildlife Management) Regulation 2006*.

1.3 Project Location and Proposed Development

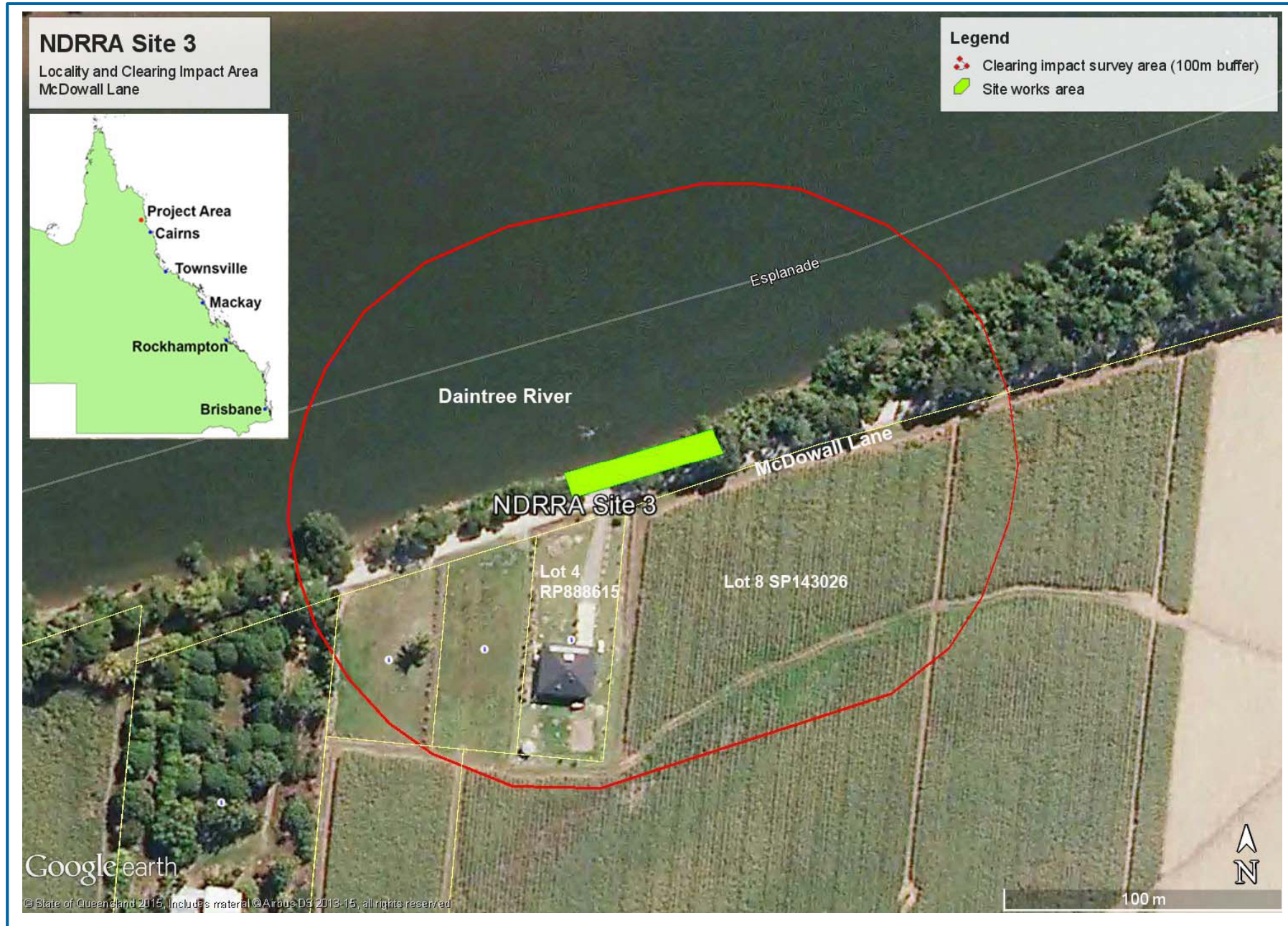
The proposed works at NDRAA Site 3 are to be undertaken within the road reserve/ esplanade along approximately 55m of the southern bank of the Daintree River 760m west of the Daintree River ferry. McDowall Lane runs along the top bank of the Daintree River in a number of locations. This is a narrow unsealed road that serves as the only access to multiple landholders in this locality on the south bank of the Daintree River. Severe flooding associated with Cyclone Ita resulted in bank scouring and a significant bank collapse and without stabilisation works engineering assessment has concluded that the Daintree River bank and McDowall Lane is at risk of further erosion and destabilisation and poses a potential risk to the road and infrastructure (including a nearby house).

The proposed works area comprises the immediate area of the river bank beside the lane. It is proposed to rock fill and stabilise the bank, reinstate culverts and reinstate the road verges and drainage infrastructure. Refer to Appendix A. The location of Site 3 and the 'clearing impact area' (including the 100m buffer about the works area) is shown in Figure 2. Douglas Shire Council has applied for approvals under *Marine Parks Act 2004* as the works are to occur in a Marine Park Conservation Zone. The works area is also within a local government tidal area and constitutes Prescribed Tidal Works, subsequently Douglas Shire Council have also applied for approvals under the *Sustainable Planning Act 2009*.

The immediate surrounding land use is sugar cane cultivation on freehold Lot 8 SP143026 and residential on Lot 4 RP888615 adjoining McDowall Lane (on the south bank of the Daintree River). The nearest residence is on McDowall Lane on the other side of the western end of the slip and is approximately 50m to the south of the works area (Lot 4 RP888615). At its closest point the Daintree National Park is approximately 320m to the north of the clearing impact area (on the north bank of the Daintree River). The general landscape on the south side of the Daintree River is characterised by sugarcane properties, extensively cleared, with remnant vegetation along creek and drainage lines.

Remediation works are expected to begin in October 2015 and be complete prior to the wet season in January 2016. Vegetation clearing will be limited to that on the banks of the river adjacent the slumping river bank area itself. No works will be undertaken on the eastern side of the road reserve.

Figure 2 Clearing Impact Area and site works area



2. Methodology

2.1 Desktop Assessment

A desktop assessment was undertaken to support the flora field survey. This included reviews of a number of databases including:

- HERBREC: Queensland Herbarium database, which provides actual locational information for flora species.
- Wildlife Online: a buffer of 5km about the site was undertaken to capture representative habitats in the locality (<https://environment.ehp.qld.gov.au/report-request/species-list/>).
- Regulated vegetation management mapping (<http://www.qld.gov.au/environment/land/vegetation/map-request/>).
- Queensland Globe and Category Globes including biota, boundaries, environment.

The relevant results are discussed below.

2.1.1 Protected Plants Trigger Mapping

A review of the Department of Environment and Heritage Protection (EHP) Protected Plants Flora Survey trigger maps identifies NDRRA Site 3 as being located in a “High Risk Area” for protected plants under the *Nature Conservation Act 1992* (NC Act). Subsequently a field flora survey was required in accordance with the EHP’s “Flora Survey Guidelines – Protected Plants” to determine if any species listed as Endangered, Vulnerable, or Near Threatened (EVNT) are present within the works area and the ‘clearing impact area’ including the required 100 m buffer about the development site. The flora survey area with respect to the High Risk Mapping trigger area is shown in Figure 3.

2.1.2 Regulated Vegetation Mapping

The review of the Regulated Vegetation Management Mapping (Figure 4) identifies Site 3 as including reef-regrowth watercourse vegetation (Category R), remnant vegetation (Category B), and non-regulated vegetation (Category X). The entirety of the actual works area is within Category B.

2.1.3 Supporting Vegetation Management Regional Ecosystem Mapping

The certified RE mapping (Figure 5) identifies approximately two thirds of the impact clearing area mapped as ‘of concern’ RE 7.1.4a. This area of RE within the clearing impact area is within mapped essential habitat (southern cassowary- Figure 5).

Figure 3 High Risk Flora Survey Trigger Mapping

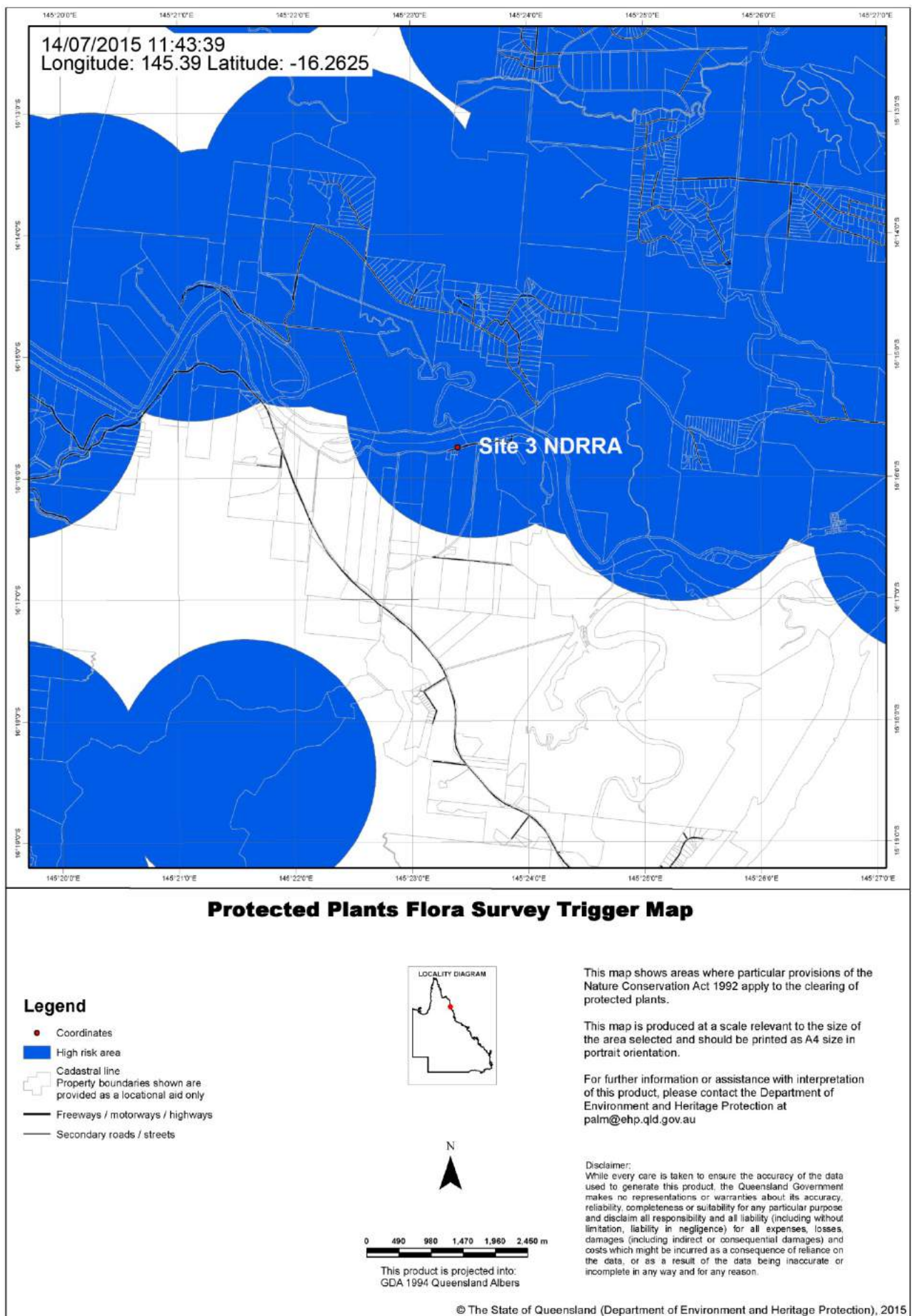


Figure 4 Regulated Vegetation Management Mapping

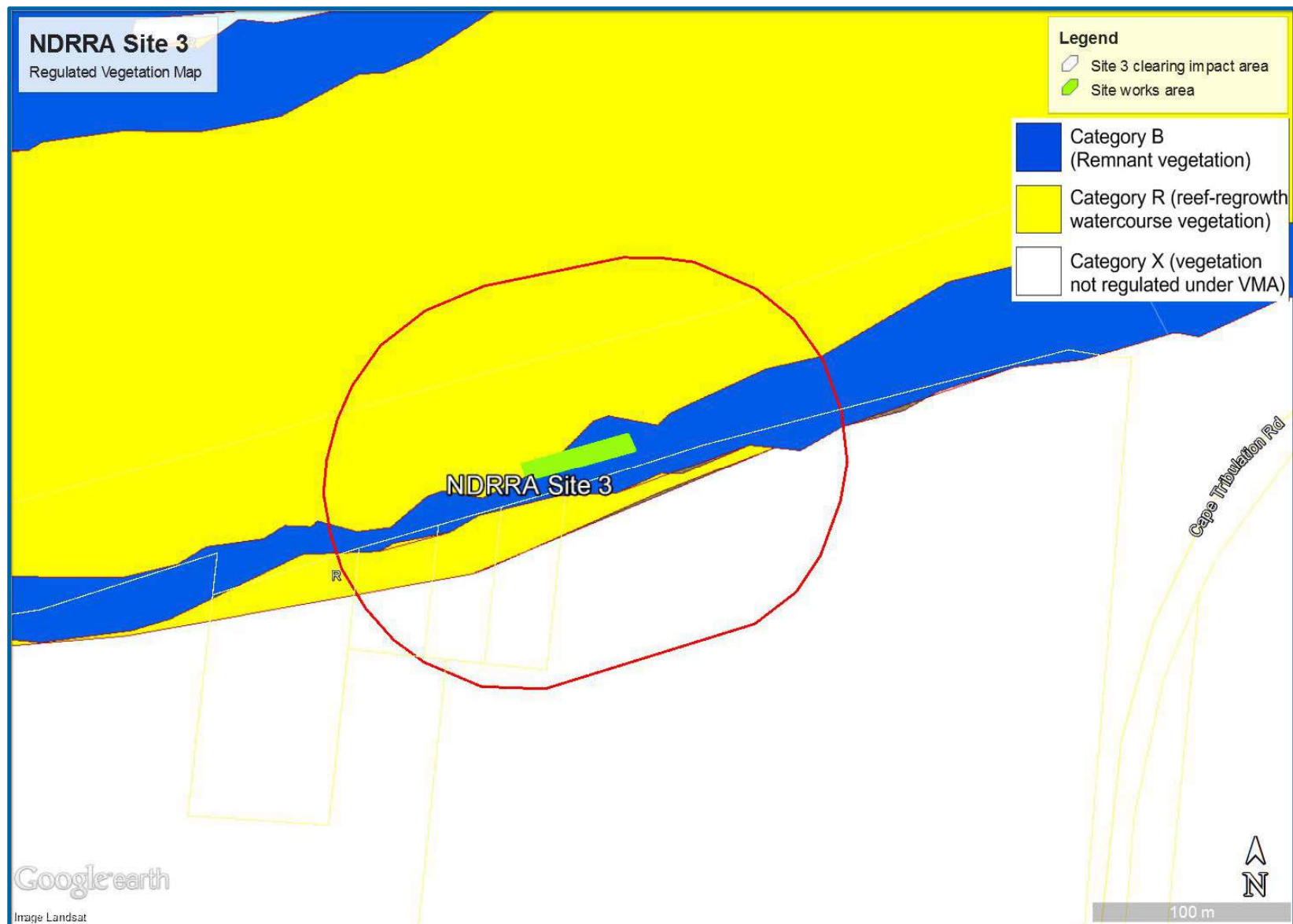
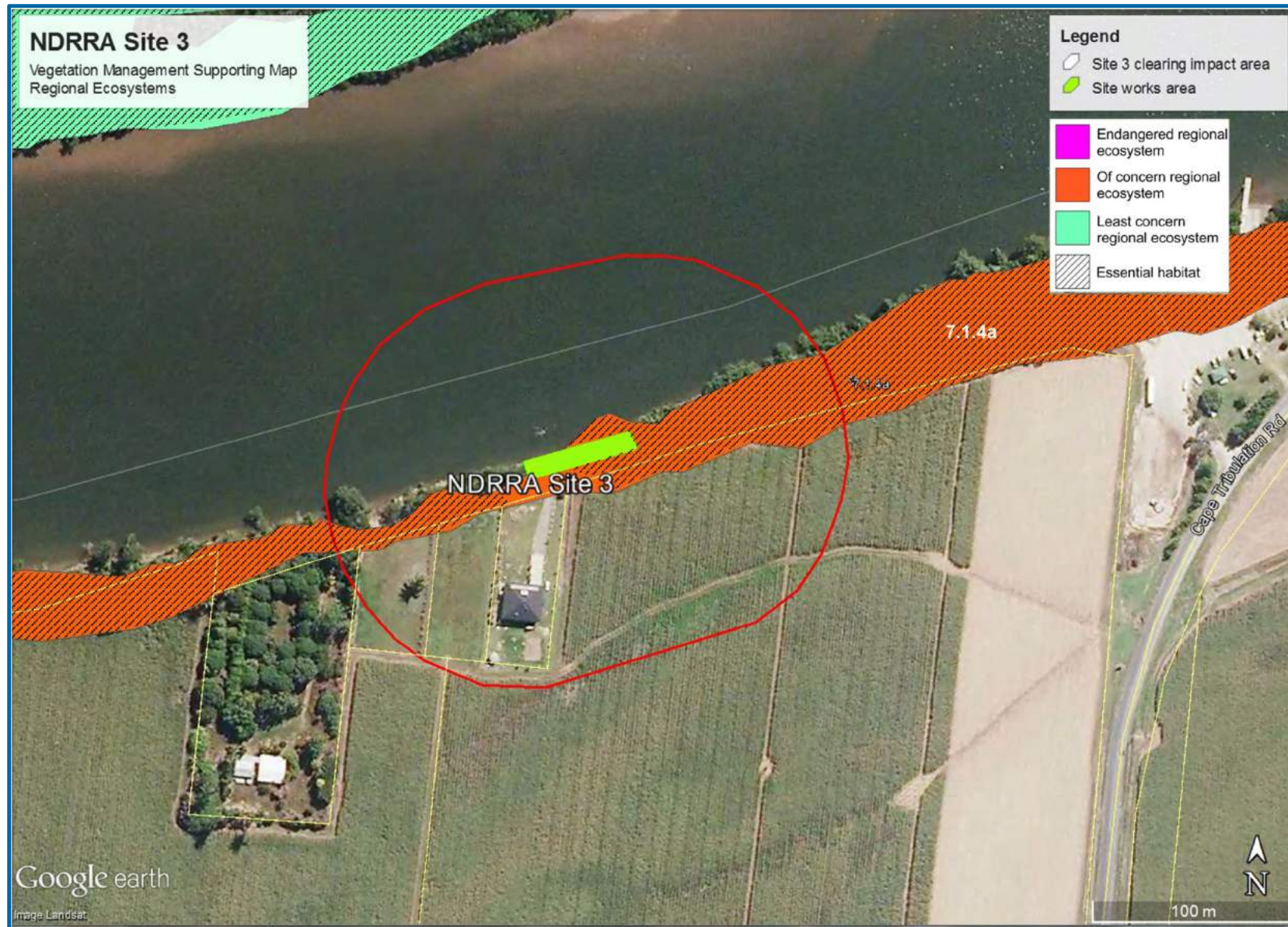


Figure 5 Regional Ecosystem and Essential Habitat Mapping



2.1.4 Database Search Results

A Wildlife Online search was undertaken with a 5 km buffer surrounding Site 3. An *Environmental Protection and Biodiversity Conservation Act 1999* (EPBC Act) Protected Matters Search Tool (PMST) report was also undertaken for Site 3 with the same buffer of 5 km. The database search results are outlined in Table 1, with the full search results attached in Appendix B.

It should be noted that the database searches returned many species which are altitudinally restricted i.e. occur at much higher altitudes than the altitude of the clearing impact area (approximately 15m AHD). This is due to the proximity of Thornton Peak (1374m) and the occurrence of many restricted species on this massif and adjoining highlands. Additionally, the lower slopes of the bank of Site 3 are tidal, and subject to a marine influence thereby severely restricting opportunities for a number of listed species to become established.

Table 1 Database Search Results

Scientific Name	NC Act Status	EPBC Act Status	Likelihood of Occurrence within clearing impact area	Observed during field inspection
Wildlife Online				
<i>Cheilocostus potierae</i>	Endangered	Not listed	Possible – suitable habitat present.	No
<i>Crepidomanes aphlebioides</i>	Endangered	Not listed	Unlikely – preferred habitat conditions not present.	No
<i>Chingia australis</i>	Endangered	Endangered	Unlikely – preferred habitat conditions not present.	No
<i>Hedyotis novoguineensis</i>	Endangered	Not listed	Possible – suitable habitat present.	No
<i>Dioclea hexandra</i>	Vulnerable	Not listed	Possible – suitable habitat present.	No
<i>Endiandra grayi</i>	Vulnerable	Not listed	Possible – suitable habitat present.	No
<i>Acronychia acuminata</i>	Near threatened	Not listed	Possible – suitable habitat present.	No
<i>Austromuellera trinervia</i>	Near threatened	Not listed	Unlikely – preferred habitat conditions not present.	No
<i>Beilschmiedia castrisinensis</i>	Near threatened	Not listed	Possible – suitable habitat present.	No
<i>Demorchis queenslandica</i>	Near threatened	Not listed	Possible – suitable habitat present.	No
<i>Endiandra microneura</i>	Near threatened	Not listed	Possible – suitable habitat present.	No
<i>Mischocarpus albescens</i>	Near threatened	Not listed	Possible – suitable habitat present.	No
<i>Randia audasii</i>	Near threatened	Not listed	Possible – suitable habitat present.	No
<i>Tristellateia australasiae</i>	Near threatened	Not listed	Possible – suitable habitat present.	No

Scientific Name	NC Act Status	EPBC Act Status	Likelihood of Occurrence within clearing impact area	Observed during field inspection
<i>Xanthophyllum fragrans</i>	Near threatened	Not listed	Possible – suitable habitat present.	
EPBC Protected Matters Search Tool				
<i>Acriopsis emarginata</i> Pale Chandelier Orchid	Vulnerable	Vulnerable	Possible – suitable habitat present.	No
<i>Actephila foetida</i>	Vulnerable	Vulnerable	Unlikely – preferred habitat conditions not present.	No
<i>Asplenium wildii</i>	Vulnerable	Vulnerable	Unlikely – preferred habitat conditions not present.	No
<i>Cajanus mareebensis</i>	Endangered	Endangered	Unlikely – preferred habitat conditions not present.	No
<i>Canarium acutifolium</i>	Vulnerable	Vulnerable	Possible – suitable habitat present.	No
<i>Chingia australis</i>	Endangered	Endangered	Unlikely – preferred habitat conditions not present.	No
<i>Crepidomanes endlicherianum</i> Middle Filmy Fern	Not listed	Endangered	Unlikely – preferred habitat conditions not present.	No
<i>Dendrobium bigibbum</i> Cooktown Orchid	Vulnerable	Vulnerable	Possible – suitable habitat present.	No
<i>Dendrobium johannis</i> Chocolate Tea Tree Orchid	Vulnerable	Vulnerable	Unlikely – preferred habitat conditions not present.	No
<i>Durabaculum mirbelianum</i> Antler orchid	Endangered	Endangered	Possible – suitable habitat present.	No
<i>Durabaculum nindii</i> Daintree blue orchid	Endangered	Endangered	Possible – suitable habitat present.	No
<i>Endiandra cooperana</i>	Endangered	Endangered	Unlikely – preferred habitat conditions not present.	No
<i>Myrmecodia beccarii</i> Ant Plant	Vulnerable	Vulnerable	Possible – suitable habitat present.	No
<i>Phaius australis</i> Lesser Swamp-orchid	Endangered	Endangered	Unlikely – preferred habitat conditions not present.	No
<i>Phalaenopsis amabilis subsp rosenstromii</i> Native Moth Orchid	Endangered	Endangered	Unlikely – preferred habitat conditions not present.	No
<i>Phaleria biflora</i>	Vulnerable	Vulnerable	Unlikely – preferred habitat conditions not present.	No
<i>Polyscias bellendenkerensis</i>	Vulnerable	Vulnerable	Unlikely – preferred habitat conditions not present.	No
<i>Ristantia gouldii</i>	Vulnerable	Vulnerable	Unlikely – preferred habitat conditions not present.	No

Scientific Name	NC Act Status	EPBC Act Status	Likelihood of Occurrence within clearing impact area	Observed during field inspection
<i>Tropilis callitrophilis</i> Thin Feather Orchid	Not listed	Vulnerable	Unlikely – preferred habitat conditions not present.	No
<i>Vappodes lithocola</i> Dwarf Butterfly Orchid,	Not listed	Endangered	Unlikely – preferred habitat conditions not present.	No
<i>Vappodes phalaenopsis</i> Cooktown Orchid	Not listed	Vulnerable	Possible – suitable habitat present.	No
<i>Vrydagzynea grayi</i>	Endangered	Endangered	Unlikely – preferred habitat conditions not present.	No
<i>Zeuxine polygonoides</i> Velvet Jewel Orchid	Not listed	Vulnerable	Unlikely – preferred habitat conditions not present.	No

2.2 Survey Methodology

2.2.1 Clearing Impact Area

For clearing within an area defined as high risk, the flora survey is to be undertaken within the clearing impact area, defined under section 249 of the regulation as *‘the area to be cleared to the extent it is within a high risk area, together with a buffer zone – an additional area 100 m in width around the development footprint’*.

As shown in Figure 1 and Figure 2 the clearing impact area comprises predominantly an existing slumping bank of the Daintree River with a small extent of riparian vegetation east and west of the slump. The 100m buffer survey area about the clearing impact comprises further riparian vegetation, the Daintree River, and extensive areas of sugar cane cultivation and three residential properties.

The clearing impact area is approximately 500m² with the buffer survey area (100m about the clearing impact area) being 4.35ha (of which 1.76ha is the Daintree River) and comprises three distinct habitats comprise the survey buffer area.

- Cleared. Areas primarily dominated by sugar cane cultivation and three residential areas of approximately 2.2ha (including McDowalls Lane).
- Riparian vegetation on the high point and banks of the Daintree River, including the works area approximately 0.39 ha of vine forest (600m² within the works area).
- Daintree River (1.76ha), not included in the survey.

The cleared areas of sugar cane and the main channel of the Daintree River was not surveyed.

Surveys for the vegetated component of the clearing impact area were undertaken in accordance with the methods identified in the “Flora Survey Guidelines – Protected Plants”.

2.2.2 Timed Meander Method

The timed meander method has been identified in the “Flora Survey Guidelines – Protected Plants” as the preferential approach to identify and locate EVNT plants potentially impacted by this project. This was deemed a practical approach to surveying the rainforest remnants along the top of the banks owing to the relative heterogeneity of the site.

A single timed meanders were undertaken along the top of the bank and midslope/toe of the bank but incorporating the entirety of the vegetation within the clearing impact area (approximately 0.39 ha of vine forest).

The area of the main channel of the Daintree River was not surveyed. The river is tidal in this location and marine in nature.

GPS tracks were kept of the meander locations, and are shown in Figure 6. Species were recorded in the field and any species where there was doubt over the identification were sampled and compared with reference specimens at the Australian Tropical Herbarium, James Cook University, Cairns Campus.

2.2.3 Reliability of Sampling Methodology

The timed meander methodologies are entirely suitable survey methodologies for EVNT species given the linear nature and small area of the proposed works, the heterogeneous nature of the habitats represented, and the level of existing clearing. Confidence in the sampling methodology to detect EVNT species is very high. The only limitations related to the possible presence of EVNT listed orchids and epiphytic ferns, which may be unobservable in canopy species (some in excess of 25m tall). While binoculars were used to survey any epiphytes noted, small plants high in the canopy may have been unobserved. Notwithstanding, the majority of the possible EVNT species are terrestrial species and sampling power was high, with a >95% confidence level.

2.2.4 Survey Timing

Survey was undertaken in July and August 2015. The phenology of rainforest species is highly variable, and fertile material was present on a number of species. While July/August is not considered an optimal period for collection of fertile material, the EVNT species listed and known to occur in the Daintree River valley are rainforest species with distinctive morphological features and habitat requirements. Thus timing of the surveys was not a restriction in terms of the collection and identification of EVNT species.

2.3 Field Survey Team

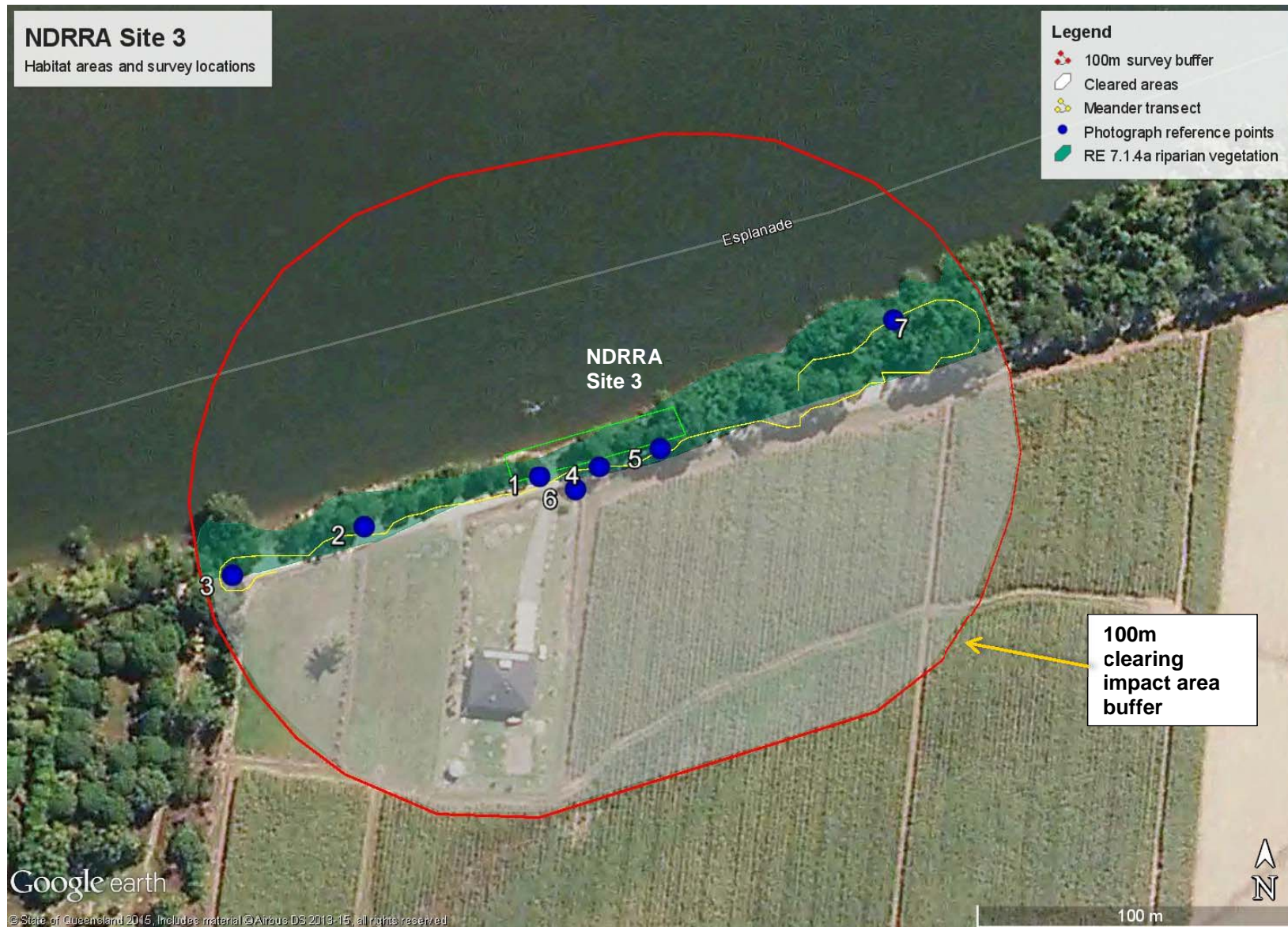
2.3.1 Suitably Qualified Personnel

Dr Andrew Small, Principal Botanist

Andrew is a Principal Botanist with GHD and has previously undertaken numerous EVNT surveys in north Queensland and the Daintree in particular. His PhD thesis was on the contribution of endemic species to the floristic patterns of the Daintree lowland rainforests and he has exceptional knowledge of the ecology of the Daintree, floristic patterns and process and botany in general in the region. He is a regular contributor to Herbarium collections and has provided botanical support for numerous scientific research programs, and authored and/or co-authored many of the subsequent published papers. He is a Director of the Australian Tropical Research Foundation (AusTrop) based at Cape Tribulation and has over 30 years of experience in the Daintree region as a botanist. He is an accredited scientific researcher by EHP, operating under scientific purposes permit WISP06498409.

A detailed curriculum vitae is attached in Appendix C.

Figure 6 Supporting Habitat and Survey Locations



3. Survey Results

3.1 EVNT Species

Site surveys of the clearing impact area were undertaken on 17th July August 2015. No protected plant species listed under the Schedules of the *Nature Conservation (Wildlife) Regulation 2006* were identified in the clearing impact area or in the buffer survey area.

3.2 Description of Supporting Habitat

As noted in Section 2.2.1 three broad habitat areas were identified within the clearing impact area.

- Cleared. Areas primarily dominated by sugar cane cultivation and three residential areas of approximately 2.2ha (including McDowalls Lane).
- Riparian vegetation on the high point and banks of the Daintree River, including the works area approximately 0.39 ha of vine forest (600m² within the works area).
- Daintree River (1.76ha), not included in the survey.

These are discussed below.

3.2.1 Cleared Areas

The local area has been historically cleared for sugar cane production, and three residential blocks (with a house on one block) presented in the western section of the buffer survey area. No surveys were undertaken within this block or within the sugar cane field, however any species located immediately along McDowall Lane (included in the cleared area) were noted. Results of the field flora surveys are provided in Appendix D.

3.2.2 Riparian Vegetation

Riparian vegetation is present along the bank of the Daintree River within the clearing impact area varying in width from approximately 25m in width at the eastern end of the buffer area, to less than 5m within the Site 3 works area.

Approximately 2.2ha is vegetation included as 'Category R' Reef-regrowth watercourse vegetation under the Regulated Vegetation Mapping Vegetation mapping for the locality (refer Figure 4). However 1.75ha of this is mapped over the Daintree River and 0.37ha is mapped over the residential lots and sugar cane. The actual area of vegetation within Category R on site is 0.08ha of riparian vegetation on the western side of the site works area.

Approximately 0.65ha within the buffer survey area is mapped as remnant 'Category B' vegetation, The balance of the survey buffer area (1.5ha) is mapped as 'Category X'.

Owing to proximity to the road and sugar cane fields, residential areas, tidal influences, flooding and bank slumping the riparian vegetation is subject to varying degrees of impact related stresses including weed invasion, dust settlement, bank erosion and road maintenance (slashing and poisoning). This has generally resulted in a strip of vine forest of varying structural integrity with a marine plants component in the lowest tidally affected section. The vegetation has been previously cleared at a point on the western end of the survey buffer area to provide boat access to the Daintree River. This area is now infested by introduced golden bamboo *Phyllostachys aurea*.

4. Impact Management Plan

4.1 Purpose of the Impact Management Plan

This Impact Management Plan has been developed in accordance with the 'Protected Plants Assessment Guidelines' and as per requirements under the NC Act and associated regulations.

No protected plants were observed during the flora survey and no specific Impact Management Plan for any particular species has subsequently been prepared.

The following Impact Management Plan has been developed to generally manage potential issues in relation to the proposed works at Site 3 with respect to the Protected Plants Legislative Framework and addresses the following criteria:

- Avoids and minimise impacts
- Considers the nature of the impact
- The proposed management of potential impacts
- Justification for proposed management of impacts
- Survival of protected plants in the wild.

4.2 Avoid and Minimise Impact

Vegetation clearing of approximately 500m² is necessary to support this project. This clearing is unavoidable, but necessary in order to re-profile the river bank to place rock and geotextile materials.

All attempts have been made in consideration of options that minimise the impacts of the project with respect to vegetation removal and habitat disturbance. The project is a site remediation project, therefore no alternative sites were able to be considered. The extent of clearing is determined by the extent of the bank slumping and destabilisation however all attempts have been made to minimise the area of riparian vegetation to be cleared.

4.3 Nature of Impact

No protected plant species will be directly impacted by the construction works, with no individuals noted within the works areas and buffer survey area. The bank stabilisation works will require earthworks to reshape the slump area, and contour and bench the bank for the purposes of rock armouring and stabilising the bank. The area of vegetation to be cleared (clearing impact area) is approximately 500m² with the volume of fill and rock armouring being approximately 2,600m³. Refer to Appendix A for the site drawings. The earthworks and rock placement will result in the loss of all vegetation within the landslip area.

The vegetation to be cleared is mapped 'Category R' Reef-regrowth watercourse and 'Category B' remnant under the Regulated Vegetation Management Mapping (see Figure 4) and as 'of concern' RE 7.1.4a under the regional ecosystem Vegetation Management Supporting Mapping. Only 'least concern' and introduced species will be removed.

4.4 Management of Impact

No clearing of EVNT protect plants will be undertaken and subsequently no direct impacts from the remediation works are anticipated. Notwithstanding, there is the potential for vegetated areas about the remediation site to be affected by works activities, including direct vegetation removal, and downstream erosion, and a large number of heavy vehicle movements are required to transport the estimated fill volumes to Site 3. Subsequently the following

management measures will be undertaken to minimise any potential impacts to the clearing impact area and adjacent habitats.

- Notification of clearing at least one week prior to DEHP via exempt clearing notification (protected plants) form.
- Large trees on top of bank outside of the clearing impact area are to be flagged with survey tape, and marked as not to be cleared for works construction to maintain bank stability.
- Vegetation temporary fencing is to be erected to demarcate vegetation to be retained and not disturbed during construction.
- Any conditions related to other approvals e.g. rehabilitation and revegetation requirements, are to be complied with as part of this Impact Management Plan.
- Preparation of a site specific Construction Environmental Management Plan (EMP) that includes (at a minimum) the following elements,
 - Erosion and sediment control plan including monitoring protocols.
 - Track access and vegetation removal layout plan.
 - Fuel and oil and other hazardous substances spill response plan.
 - Traffic management plan during construction, including the large number of dump truck movements required to transport fill material to site along the Daintree – Cape Tribulation Road and McDowall Lane.

4.5 Justification of Proposed Management of Impacts

Remediation and stabilisation of the Daintree River bank at NDRRA Site 3 is necessary to prevent further river erosion and bank slumping which would result in the loss of McDowall Lane in this location. Rock fill and armouring the slip area will restore stability to the steep slope and maintain access for residents along McDowall Lane.

The proposed measures identified to mitigate and manage impacts are commensurate with a scope of works that does not impact on EVNT species. An Impact Management Plan has been included in this flora survey report to demonstrate that adverse impacts on nearby habitats will not occur as a result of the proposed works.

4.6 Survival of the Plant in the Wild

No protected plant species listed under the schedules of the *Nature Conservation (Wildlife) Regulation 2006* were identified within the clearing impact area and survey buffer areas. The proposed works at NDRRA Site 3 on McDowall Lane will not impact of the survival in the wild of any listed protected plant species. Due to the distance of the works from the Daintree National Park and other vegetated habitat there will be no reduction in the viability of local and regional protected plant species populations.

5. Conclusion

The proposed remediation works for NDRRA Site 3 on McDowall Lane will include removal of approximately 500m² of vegetation within a 'high risk' area identified within the Protected Plants Flora Survey Trigger Mapping. Site 3 is located within Category R reef-regrowth vegetation and Category B remnant vegetation which comprises an 'of concern' RE 7.1.4a.

A flora survey in accordance with the Flora Survey Guidelines – Protected Plants determined that there was no protected plant species within the buffer from the clearing impact area for the proposed work area or within the clearing impact area.

This report has been provided to obtain an exemption for clearing within a 'high risk' area from the Department of Environment Heritage and Protection (DEHP). Only Least Concern plants within the mapped 'high risk' area will be cleared for the site remediation works at NDRRA Site 3 on McDowall Lane and there will be no disturbance to any adjacent habitat areas.

No protected plant species listed as EVNT were identified within the clearing impact area. Subsequently an exemption from a clearing permit under 261ZA will be sought for the proposed works at NDRRA Site 3 on McDowall Lane.

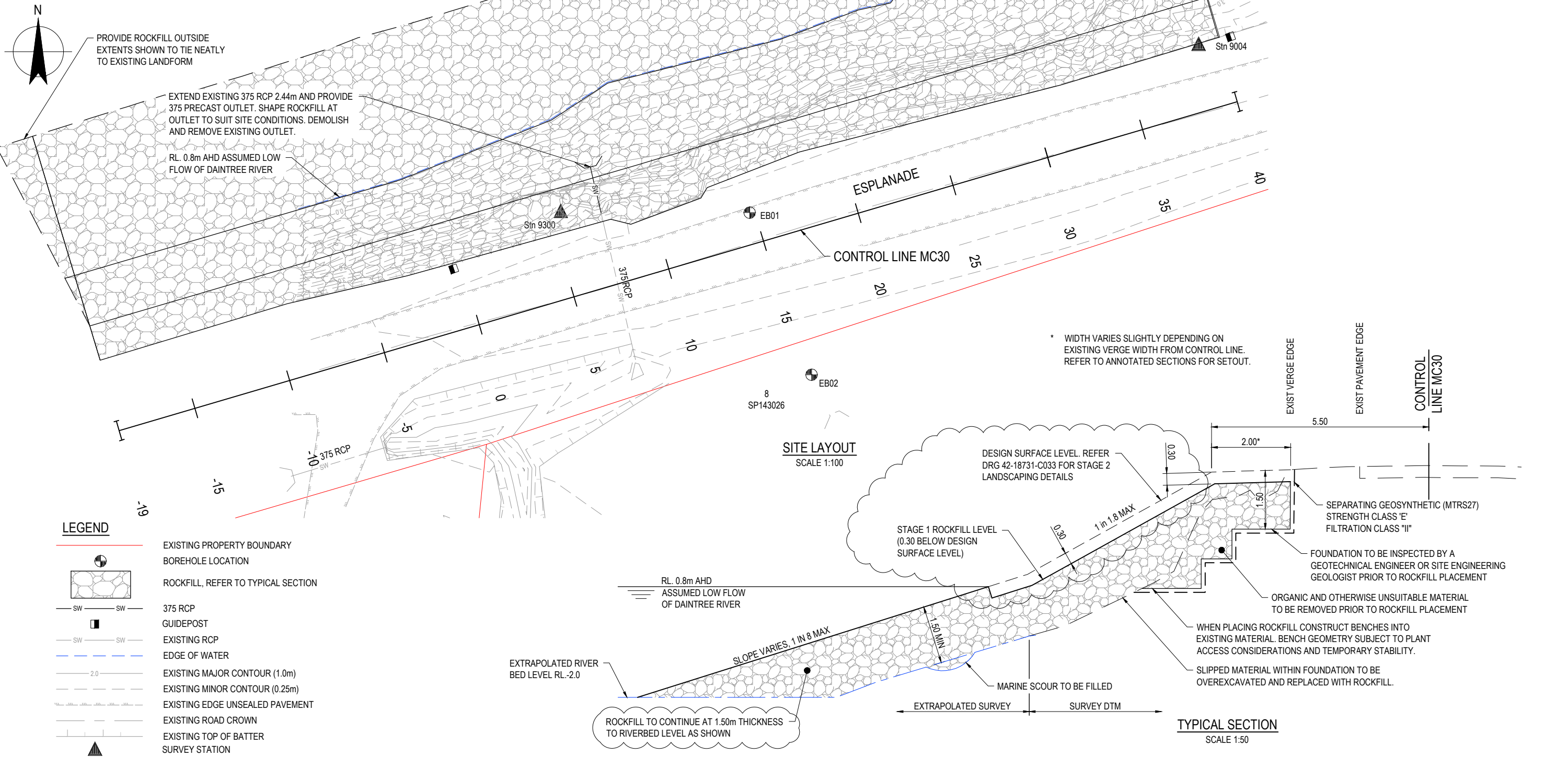
Appendices

Appendix A – Site Layout Drawing

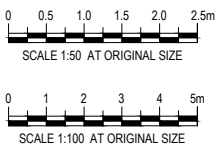
SURVEY STATIONS				
STN	EASTING	NORTHING	LEVEL	COMMENT
STN 9003	327888.985	8201302.008	3.895	SCREW IN HEADWALL (OFF PAGE WEST)
STN 9004	327997.821	8201342.584	3.105	PIN
STN 9300	327965.531	8201334.128	3.729	DUMPY

CONTROL LINE MC30 SETOUT				
PT	CHAINAGE	EASTING	NORTHING	BEARING
IP1	-19.000	327943.175	8201323.001	73°36'23.64"
IP2	0.000	327961.403	8201328.363	73°36'23.64"
IP3	40.000	327999.777	8201339.653	73°36'23.64"

ASSOCIATED SURVEYOR
RPS AUSTRALIA EAST PTY LTD
LEVEL DATUM: AHD
MERIDIAN: MGA ZONE 55
ORIGIN OF LEVELS: PSM 123249
RL: 2.070



2	LANDSLIP REMEDIATION LENGTH EXTENDED, STAGES ADDED	CWF				
1	AMENDED TO CLIENT COMMENTS	BMJ				
0	APPROVED ISSUE	BMJ	AW*	JG*	12.06.15	
No	Revision	Note: * indicates signatures on original issue of drawing or last revision of drawing	Drawn	Job Manager	Project Director	Date



Registered Professional G.NEWNHAM
Registration RPEQ
Registration Discipline GEOTECHNICAL
Signature G.NEWNHAM*
No. 7452
Date 12.06.15

GHD
Level 1, 85 Spence Street, Cairns QLD 4870 Australia
PO Box 819, Cairns QLD 4870
T 61 7 4044 2222 F 61 7 4044 2288
E cnsmail@ghd.com.au W www.ghd.com.au

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Drawn B.JOHNSON
Drafting Check D.DAHL*
Approved (Project Director) J.GREATOREX*
Date 12.06.15
Scale AS SHOWN

Designer P.THAKUR
Design Check G.NEWNHAM*
This Drawing must not be used for Construction unless signed as Approved

Client DOUGLAS SHIRE COUNCIL
Project LANDSLIP REMEDIAL WORKS
Title SITE 3 - ESPLANADE
SITE LAYOUT AND TYPICAL SECTION - STAGE 1 WORKS
Original Size A1
Drawing No: 42-18731-C030
Rev: 2

Appendix B – Database Search Results

Wildlife Online

Protected Matters Search Tool



Queensland Government

Wildlife Online Extract

Search Criteria: Species List for a Specified Point
Species: Plants (including other non-animals such as fungi and protists)
Type: All
Status: All
Records: All
Date: All
Latitude: -16.2626
Longitude: 145.3901
Distance: 5
Email: andrew.small@ghd.com
Date submitted: Tuesday 22 Sep 2015 14:21:05
Date extracted: Tuesday 22 Sep 2015 14:30:03

The number of records retrieved = 390

Disclaimer

As the DSITIA is still in a process of collating and vetting data, it is possible the information given is not complete. The information provided should only be used for the project for which it was requested and it should be appropriately acknowledged as being derived from Wildlife Online when it is used.

The State of Queensland does not invite reliance upon, nor accept responsibility for this information. Persons should satisfy themselves through independent means as to the accuracy and completeness of this information.

No statements, representations or warranties are made about the accuracy or completeness of this information. The State of Queensland disclaims all responsibility for this information and all liability (including without limitation, liability in negligence) for all expenses, losses, damages and costs you may incur as a result of the information being inaccurate or incomplete in any way for any reason.

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
fungi	sac fungi	Ramalinaceae	<i>Ramalina subfraxinea</i> var. <i>subfraxinea</i>			C		3/3
fungi	sac fungi	Ramalinaceae	<i>Ramalina tropica</i>			C		4/4
fungi	sac fungi	Trichotheliaceae	<i>Porina elixiana</i>			C		1/1
fungi	sac fungi	Usneaceae	<i>Usnea baileyi</i>			C		2/2
fungi	sac fungi	Usneaceae	<i>Usnea nidifica</i>			C		3/3
plants	conifers	Podocarpaceae	<i>Podocarpus grayae</i>			C		1/1
plants	cycads	Zamiaceae	<i>Lepidozamia hopei</i>	Hope's cycad		C		2/2
plants	cycads	Zamiaceae	<i>Bowenia spectabilis</i>			C		1/1
plants	ferns	Adiantaceae	<i>Taenitis pinnata</i>	morse fern		C		1/1
plants	ferns	Angiopteridaceae	<i>Angiopteris evecta</i>	giant fern		C		1/1
plants	ferns	Blechnaceae	<i>Blechnum cartilagineum</i>	gristle fern		C		1/1
plants	ferns	Blechnaceae	<i>Stenochlaena palustris</i>	climbing swamp fern		C		1/1
plants	ferns	Blechnaceae	<i>Blechnum orientale</i>			C		1/1
plants	ferns	Cyatheaceae	<i>Cyathea cooperi</i>			C		1/1
plants	ferns	Dryopteridaceae	<i>Tectaria confluens</i>			C		1/1
plants	ferns	Gleicheniaceae	<i>Dicranopteris linearis</i> var. <i>altissima</i>			C		1/1
plants	ferns	Gleicheniaceae	<i>Dicranopteris linearis</i> var. <i>linearis</i>			C		1/1
plants	ferns	Hymenophyllaceae	<i>Crepidomanes aphlebioides</i>			E		2/2
plants	ferns	Hymenophyllaceae	<i>Vandenboschia johnstonensis</i>			C		1/1
plants	ferns	Hymenophyllaceae	<i>Cephalomanes atrovirens</i>			C		1/1
plants	ferns	Lindsaeaceae	<i>Lindsaea ensifolia</i> subsp. <i>ensifolia</i>			C		1/1
plants	ferns	Lindsaeaceae	<i>Lindsaea repens</i>			C		1/1
plants	ferns	Lindsaeaceae	<i>Lindsaea obtusa</i>			C		1/1
plants	ferns	Lindsaeaceae	<i>Lindsaea media</i>			C		1/1
plants	ferns	Lindsaeaceae	<i>Lindsaea ensifolia</i> subsp. <i>agatii</i>			C		1/1
plants	ferns	Lindsaeaceae	<i>Lindsaea brachypoda</i>			C		3/3
plants	ferns	Lomariopsidaceae	<i>Bolbitis taylorii</i>			C		2/2
plants	ferns	Nephrolepidaceae	<i>Arthropteris palisotii</i>			C		1/1
plants	ferns	Ophioglossaceae	<i>Ophioglossum pendulum</i>	ribbon fern		C		1/1
plants	ferns	Polypodiaceae	<i>Pyrrosia longifolia</i>			C		3/3
plants	ferns	Polypodiaceae	<i>Colysis ampla</i>			C		1/1
plants	ferns	Pteridaceae	<i>Acrostichum speciosum</i>	mangrove fern		C		4/4
plants	ferns	Pteridaceae	<i>Acrostichum aureum</i>	golden mangrove fern		C		1/1
plants	ferns	Schizaeaceae	<i>Lygodium reticulatum</i>			C		4/4
plants	ferns	Schizaeaceae	<i>Schizaea dichotoma</i>	branched comb fern		C		1/1
plants	ferns	Schizaeaceae	<i>Lygodium microphyllum</i>	snake fern		C		1/1
plants	ferns	Thelypteridaceae	<i>Chingia australis</i>			E	E	2/2
plants	ferns	Thelypteridaceae	<i>Pronephrium asperum</i>			C		2/2
plants	ferns	Thelypteridaceae	<i>Amphineuron queenslandicum</i>			C		1/1
plants	higher dicots	Acanthaceae	<i>Acanthus ilicifolius</i>			C		1/1
plants	higher dicots	Acanthaceae	<i>Hemigraphis alternata</i>		Y			1/1
plants	higher dicots	Acanthaceae	<i>Hemigraphis reptans</i>		Y			2/2
plants	higher dicots	Anacardiaceae	<i>Blepharocarya involucrigera</i>			C		1/1
plants	higher dicots	Apocynaceae	<i>Alstonia muelleriana</i>	hard milkwood		C		1/1
plants	higher dicots	Apocynaceae	<i>Allamanda cathartica</i>	yellow allamanda	Y			1/1
plants	higher dicots	Apocynaceae	<i>Parsonsia latifolia</i>	green-leaved silkpod		C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	higher dicots	Apocynaceae	<i>Melodinus australis</i>	southern melodinus		C		1/1
plants	higher dicots	Apocynaceae	<i>Gymnanthera oblonga</i>			C		1/1
plants	higher dicots	Apocynaceae	<i>Alstonia scholaris</i>	white cheesewood		C		1/1
plants	higher dicots	Apocynaceae	<i>Kopsia arborea</i>			C		1/1
plants	higher dicots	Apocynaceae	<i>Alyxia spicata</i>			C		1/1
plants	higher dicots	Apocynaceae	<i>Hoya pottsii</i>			C		1/1
plants	higher dicots	Apocynaceae	<i>Dischidia nummularia</i>	button orchid		C		1/1
plants	higher dicots	Apocynaceae	<i>Melodinus acutiflorus</i>	bellbird vine		C		2/2
plants	higher dicots	Apocynaceae	<i>Marsdenia glandulifera</i>			C		1/1
plants	higher dicots	Apocynaceae	<i>Melodinus baccellianus</i>			C		1/1
plants	higher dicots	Apocynaceae	<i>Hoya australis subsp. tenuipes</i>			C		2/2
plants	higher dicots	Aquifoliaceae	<i>Ilex arnhemensis subsp. ferdinandi</i>			C		3/3
plants	higher dicots	Araliaceae	<i>Polyscias australiana</i>	ivory basswood		C		2/2
plants	higher dicots	Araliaceae	<i>Polyscias nodosa</i>			C		1/1
plants	higher dicots	Araliaceae	<i>Polyscias mollis</i>			C		1/1
plants	higher dicots	Asteraceae	<i>Elephantopus mollis</i>	tobacco weed	Y			2/2
plants	higher dicots	Asteraceae	<i>Eclipta prostrata</i>	white eclipta	Y			3/3
plants	higher dicots	Asteraceae	<i>Parthenium hysterophorus</i>	parthenium weed	Y			1/1
plants	higher dicots	Begoniaceae	<i>Begonia cucullata</i>		Y			1/1
plants	higher dicots	Bignoniaceae	<i>Saritaea magnifica</i>		Y			1/1
plants	higher dicots	Bignoniaceae	<i>Pandorea nervosa</i>			C		1/1
plants	higher dicots	Bignoniaceae	<i>Deplanchea tetraphylla</i>			C		1/1
plants	higher dicots	Byttneriaceae	<i>Commersonia macrostipulata</i>			C		1/1
plants	higher dicots	Byttneriaceae	<i>Melochia corchorifolia</i>			C		1/1
plants	higher dicots	Caesalpiniaceae	<i>Senna alata</i>		Y			1/1
plants	higher dicots	Caesalpiniaceae	<i>Senna obtusifolia</i>		Y			1/1
plants	higher dicots	Caesalpiniaceae	<i>Caesalpinia crista</i>			C		1/1
plants	higher dicots	Caesalpiniaceae	<i>Senna pendula var. glabrata</i>	Easter cassia	Y			1/1
plants	higher dicots	Caesalpiniaceae	<i>Cynometra iripa</i>			C		3/3
plants	higher dicots	Cardiopteridaceae	<i>Cardiopteris moluccana</i>			C		1/1
plants	higher dicots	Casuarinaceae	<i>Allocasuarina littoralis</i>			C		1/1
plants	higher dicots	Celastraceae	<i>Salacia chinensis</i>			C		5/5
plants	higher dicots	Clusiaceae	<i>Garcinia warrenii</i>			C		1/1
plants	higher dicots	Combretaceae	<i>Lumnitzera littorea</i>			C		1/1
plants	higher dicots	Connaraceae	<i>Rourea brachyandra</i>			C		1/1
plants	higher dicots	Convolvulaceae	<i>Merremia umbellata subsp. orientalis</i>			C		1/1
plants	higher dicots	Convolvulaceae	<i>Merremia peltata</i>	Cook's glory		C		1/1
plants	higher dicots	Convolvulaceae	<i>Erycibe coccinea</i>			C		1/1
plants	higher dicots	Convolvulaceae	<i>Ipomoea littoralis</i>			C		1/1
plants	higher dicots	Crassulaceae	<i>Bryophyllum pinnatum</i>	resurrection plant	Y			1/1
plants	higher dicots	Cunoniaceae	<i>Pullea stutzeri</i>	hard alder		C		1/1
plants	higher dicots	Cunoniaceae	<i>Davidsonia pruriens</i>			C		1/1
plants	higher dicots	Cunoniaceae	<i>Gillbeea whypallana</i>			C		1/1
plants	higher dicots	Dilleniaceae	<i>Dillenia alata</i>			C		3/3
plants	higher dicots	Dilleniaceae	<i>Hibbertia scandens</i>			C		1/1
plants	higher dicots	Dilleniaceae	<i>Tetracera nordtiana var. nordtiana</i>			C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	higher dicots	Dilleniaceae	<i>Tetracera nordtiana</i> var. <i>wuthiana</i>			C		1/1
plants	higher dicots	Dilleniaceae	<i>Tetracera nordtiana</i> var. <i>moluccana</i>			C		1/1
plants	higher dicots	Dilleniaceae	<i>Tetracera daemeliana</i>			C		1/1
plants	higher dicots	Ebenaceae	<i>Diospyros uvida</i>			C		1/1
plants	higher dicots	Ebenaceae	<i>Diospyros laurina</i>			C		1/1
plants	higher dicots	Elaeocarpaceae	<i>Elaeocarpus grandis</i>	blue quandong		C		1/1
plants	higher dicots	Elaeocarpaceae	<i>Aceratium megalospermum</i>			C		4/4
plants	higher dicots	Elaeocarpaceae	<i>Elaeocarpus foveolatus</i>			C		2/2
plants	higher dicots	Elaeocarpaceae	<i>Elaeocarpus bancroftii</i>			C		4/4
plants	higher dicots	Elaeocarpaceae	<i>Elaeocarpus michaelii</i>			C		4/4
plants	higher dicots	Elaeocarpaceae	<i>Elaeocarpus grahamii</i>			C		2/2
plants	higher dicots	Elaeocarpaceae	<i>Elaeocarpus</i>			C		1/1
plants	higher dicots	Euphorbiaceae	<i>Excoecaria agallocha</i>	milky mangrove		C		2/2
plants	higher dicots	Euphorbiaceae	<i>Croton triacros</i>			C		2/2
plants	higher dicots	Euphorbiaceae	<i>Macaranga involucrata</i> var. <i>mallotoides</i>			C		1/1
plants	higher dicots	Euphorbiaceae	<i>Aleurites rockinghamensis</i>			C		1/1
plants	higher dicots	Euphorbiaceae	<i>Mallotus paniculatus</i>			C		1/1
plants	higher dicots	Euphorbiaceae	<i>Macaranga polyadenia</i>			C		3/3
plants	higher dicots	Fabaceae	<i>Erythrina fusca</i>			C		1/1
plants	higher dicots	Fabaceae	<i>Dalbergia candenatensis</i>			C		4/4
plants	higher dicots	Fabaceae	<i>Derris trifoliata</i>			C		1/1
plants	higher dicots	Fabaceae	<i>Derris</i>			C		2/2
plants	higher dicots	Fabaceae	<i>Arachis pintoii</i>		Y	C		1/1
plants	higher dicots	Fabaceae	<i>Austrosteenisia stipularis</i>			C		1/1
plants	higher dicots	Fabaceae	<i>Dioclea hexandra</i>			V		1/1
plants	higher dicots	Fabaceae	<i>Ormosia ormondii</i>			C		1/1
plants	higher dicots	Flacourtiaceae	<i>Homalium</i> sp. (Johnstone River N.Michael 176)			C		1/1
plants	higher dicots	Flacourtiaceae	<i>Casearia dallachii</i>			C		2/2
plants	higher dicots	Flacourtiaceae	<i>Scolopia braunii</i>	flintwood		C		1/1
plants	higher dicots	Gentianaceae	<i>Fagraea cambagei</i>			C		1/1
plants	higher dicots	Gentianaceae	<i>Fagraea berteriana</i>			C		1/1
plants	higher dicots	Gesneriaceae	<i>Lenbrassia australiana</i> var. <i>glabrescens</i>			C		3/3
plants	higher dicots	Goodeniaceae	<i>Velleia spathulata</i>	wild pansies		C		1/1
plants	higher dicots	Lamiaceae	<i>Clerodendrum floribundum</i>			C		1/1
plants	higher dicots	Lamiaceae	<i>Clerodendrum paniculatum</i>		Y			2/2
plants	higher dicots	Lamiaceae	<i>Mesosphaerum pectinatum</i>		Y			2/2
plants	higher dicots	Lamiaceae	<i>Clerodendrum tracyanum</i>			C		1/1
plants	higher dicots	Lamiaceae	<i>Gmelina dalrympleana</i>			C		1/1
plants	higher dicots	Lamiaceae	<i>Vitex queenslandica</i>			C		2/2
plants	higher dicots	Lamiaceae	<i>Clerodendrum inerme</i>	coastal lolly bush		C		2/2
plants	higher dicots	Lamiaceae	<i>Hyptis capitata</i>		Y			2/2
plants	higher dicots	Lecythidaceae	<i>Barringtonia racemosa</i>			C		2/2
plants	higher dicots	Lentibulariaceae	<i>Utricularia uliginosa</i>	asian bladderwort		C		1/1
plants	higher dicots	Leptaulaceae	<i>Citronella smythii</i>			C		1/1
plants	higher dicots	Loganiaceae	<i>Geniostoma rupestre</i> var. <i>australianum</i>			C		1/1
plants	higher dicots	Loganiaceae	<i>Mitrasacme oasena</i>			C		1/1

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plants	higher dicots	Loranthaceae	<i>Amylotheca dictyophleba</i>			C		1/1
plants	higher dicots	Loranthaceae	<i>Amyema quaternifolia</i>			C		2/2
plants	higher dicots	Loranthaceae	<i>Diplatia tomentosa</i>			C		1/1
plants	higher dicots	Loranthaceae	<i>Amyema conspicua subsp. conspicua</i>			C		1/1
plants	higher dicots	Maesaceae	<i>Maesa dependens var. pubescens</i>			C		1/1
plants	higher dicots	Malpighiaceae	<i>Tristellateia australasiae</i>			NT		1/1
plants	higher dicots	Melastomataceae	<i>Dissotis rotundifolia</i>		Y			1/1
plants	higher dicots	Melastomataceae	<i>Tristemma mauritianum var. mauritianum</i>		Y			1/1
plants	higher dicots	Melastomataceae	<i>Melastoma malabathricum subsp. malabathricum</i>			C		1/1
plants	higher dicots	Meliaceae	<i>Dysoxylum arborescens</i>			C		2/2
plants	higher dicots	Meliaceae	<i>Dysoxylum pettigrewianum</i>			C		1/1
plants	higher dicots	Meliaceae	<i>Xylocarpus granatum</i>	cedar mangrove		C		2/2
plants	higher dicots	Meliaceae	<i>Dysoxylum papuanum</i>			C		1/1
plants	higher dicots	Meliaceae	<i>Dysoxylum klanderii</i>			C		1/1
plants	higher dicots	Memecylaceae	<i>Memecylon pauciflorum</i>			C		1/1
plants	higher dicots	Mimosaceae	<i>Acacia celsa</i>			C		1/1
plants	higher dicots	Mimosaceae	<i>Acacia mangium</i>			C		4/4
plants	higher dicots	Mimosaceae	<i>Mimosa diplotricha var. diplotricha</i>	giant sensitive plant	Y			1/1
plants	higher dicots	Mimosaceae	<i>Entada phaseoloides</i>	matchbox bean		C		1/1
plants	higher dicots	Mimosaceae	<i>Acacia pubirhachis</i>			C		1/1
plants	higher dicots	Moraceae	<i>Trophis scandens subsp. scandens</i>			C		1/1
plants	higher dicots	Moraceae	<i>Ficus pantoniana var. pantoniana</i>			C		1/1
plants	higher dicots	Moraceae	<i>Ficus congesta var. congesta</i>			C		1/1
plants	higher dicots	Moraceae	<i>Ficus septica</i>			C		1/1
plants	higher dicots	Moraceae	<i>Ficus copiosa</i>			C		1/1
plants	higher dicots	Moraceae	<i>Ficus benjamina var. benjamina</i>	weeping fig		C		1/1
plants	higher dicots	Myrsinaceae	<i>Ardisia pachyrrhachis</i>			C		1/1
plants	higher dicots	Myrsinaceae	<i>Ardisia brevipedata</i>			C		1/1
plants	higher dicots	Myrsinaceae	<i>Embelia caulialata</i>			C		1/1
plants	higher dicots	Myrsinaceae	<i>Myrsine porosa</i>			C		1/1
plants	higher dicots	Myrsinaceae	<i>Aegiceras corniculatum</i>	river mangrove		C		1/1
plants	higher dicots	Myrtaceae	<i>Melaleuca</i>			C		1/1
plants	higher dicots	Myrtaceae	<i>Syzygium sayeri</i>			C		2/2
plants	higher dicots	Myrtaceae	<i>Acmena graveolens</i>			C		2/2
plants	higher dicots	Myrtaceae	<i>Syzygium fibrosum</i>	fibrous satinash		C		3/3
plants	higher dicots	Myrtaceae	<i>Eucalyptus pellita</i>	large-fruited red mahogany		C		1/1
plants	higher dicots	Myrtaceae	<i>Lithomyrtus obtusa</i>			C		1/1
plants	higher dicots	Myrtaceae	<i>Rhodomyrtus effusa</i>			C		1/1
plants	higher dicots	Myrtaceae	<i>Syzygium cormiflorum</i>	bumpy satinash		C		5/5
plants	higher dicots	Myrtaceae	<i>Syzygium monospermum</i>			C		3/3
plants	higher dicots	Myrtaceae	<i>Melaleuca leucadendra</i>	broad-leaved tea-tree		C		2/2
plants	higher dicots	Myrtaceae	<i>Rhodamnia sessiliflora</i>			C		2/2
plants	higher dicots	Myrtaceae	<i>Rhodomyrtus macrocarpa</i>	finger cherry		C		1/1
plants	higher dicots	Myrtaceae	<i>Syzygium angophoroides</i>			C		2/2
plants	higher dicots	Myrtaceae	<i>Syzygium cryptophlebium</i>			C		2/2
plants	higher dicots	Myrtaceae	<i>Acmenosperma claviflorum</i>	grey satinash		C		1/1

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plants	higher dicots	Myrtaceae	<i>Acmena hemilampra</i> subsp. <i>hemilampra</i>			C		4/4
plants	higher dicots	Myrtaceae	<i>Melaleuca cajuputi</i> subsp. <i>platyphylla</i>			C		5/5
plants	higher dicots	Myrtaceae	<i>Melaleuca viridiflora</i> var. <i>viridiflora</i>			C		1/1
plants	higher dicots	Nyctaginaceae	<i>Pisonia umbellifera</i>	birdlime tree		C		1/1
plants	higher dicots	Oleaceae	<i>Jasminum didymum</i>			C		1/1
plants	higher dicots	Onagraceae	<i>Ludwigia hyssopifolia</i>		Y			1/1
plants	higher dicots	Passifloraceae	<i>Passiflora foetida</i>		Y			1/1
plants	higher dicots	Passifloraceae	<i>Passiflora kuranda</i>			C		1/1
plants	higher dicots	Phyllanthaceae	<i>Breynia</i>			C		1/1
plants	higher dicots	Phyllanthaceae	<i>Antidesma erostre</i>			C		2/2
plants	higher dicots	Phyllanthaceae	<i>Bridelia insulana</i>			C		1/1
plants	higher dicots	Phyllanthaceae	<i>Glochidion harveyanum</i>			C		1/1
plants	higher dicots	Phyllanthaceae	<i>Glochidion sumatranum</i>	umbrella cheese tree		C		1/1
plants	higher dicots	Phyllanthaceae	<i>Breynia cernua</i>			C		3/3
plants	higher dicots	Phyllanthaceae	<i>Phyllanthus</i>			C		1/1
plants	higher dicots	Phyllanthaceae	<i>Cleistanthus myrianthus</i>			C		6/6
plants	higher dicots	Phyllanthaceae	<i>Glochidion</i>			C		1/1
plants	higher dicots	Pittosporaceae	<i>Pittosporum rubiginosum</i>			C		2/2
plants	higher dicots	Plantaginaceae	<i>Limnophila fragrans</i>			C		1/1
plants	higher dicots	Polygalaceae	<i>Xanthophyllum fragrans</i>			NT		1/1
plants	higher dicots	Polygalaceae	<i>Xanthophyllum octandrum</i>			C		1/1
plants	higher dicots	Polygonaceae	<i>Persicaria barbata</i>			C		1/1
plants	higher dicots	Polygonaceae	<i>Persicaria dichotoma</i>			C		1/1
plants	higher dicots	Proteaceae	<i>Austromuellera trinervia</i>			NT		1/1
plants	higher dicots	Proteaceae	<i>Darlingia darlingiana</i>			C		1/1
plants	higher dicots	Proteaceae	<i>Grevillea baileyana</i>			C		1/1
plants	higher dicots	Proteaceae	<i>Cardwellia sublimis</i>			C		1/1
plants	higher dicots	Proteaceae	<i>Helicia nortoniana</i>			C		1/1
plants	higher dicots	Rhamnaceae	<i>Sageretia hamosa</i>			C		2/2
plants	higher dicots	Rhizophoraceae	<i>Rhizophora apiculata</i>			C		1/1
plants	higher dicots	Rhizophoraceae	<i>Bruguiera parviflora</i>			C		2/2
plants	higher dicots	Rhizophoraceae	<i>Ceriops tagal</i>	yellow mangrove		C		1/1
plants	higher dicots	Rhizophoraceae	<i>Carallia brachiata</i>	carallia		C		2/2
plants	higher dicots	Rhizophoraceae	<i>Bruguiera gymnorhiza</i>	large-fruited orange mangrove		C		2/2
plants	higher dicots	Rhizophoraceae	<i>Ceriops pseudodecandra</i>			C		1/1
plants	higher dicots	Rosaceae	<i>Rubus moluccanus</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Ixora biflora</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Randia audasii</i>			NT		1/1
plants	higher dicots	Rubiaceae	<i>Geophila repens</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Hedyotis radicans</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Neonauclea glabra</i>			C		2/2
plants	higher dicots	Rubiaceae	<i>Spermacoce exilis</i>		Y			1/1
plants	higher dicots	Rubiaceae	<i>Mitracarpus hirtus</i>		Y			1/1
plants	higher dicots	Rubiaceae	<i>Morinda citrifolia</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Nauclea orientalis</i>	Leichhardt tree		C		1/1
plants	higher dicots	Rubiaceae	<i>Wendlandia inclusa</i>			C		3/3

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plants	higher dicots	Rubiaceae	<i>Antirhea tenuiflora</i>			C		2/2
plants	higher dicots	Rubiaceae	<i>Atractocarpus hirtus</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Wendlandia urceolata</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Cyclophyllum brevipes</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Gynochthodes sessilis</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Hedyotis novoguineensis</i>			E		3/3
plants	higher dicots	Rubiaceae	<i>Lasianthus chlorocarpus</i>			C		2/2
plants	higher dicots	Rubiaceae	<i>Psychotria coelospermum</i>			C		4/4
plants	higher dicots	Rubiaceae	<i>Cyclophyllum multiflorum</i>			C		2/2
plants	higher dicots	Rubiaceae	<i>Cyclophyllum rostellatum</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Timonius timon</i> var. <i>timon</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Uncaria lanosa</i> var. <i>appendiculata</i>			C		2/2
plants	higher dicots	Rubiaceae	<i>Hedyotis auricularia</i> var. <i>melanesica</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Tarenna dallachiana</i> subsp. <i>dallachiana</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Atractocarpus fitzalanii</i> subsp. <i>fitzalanii</i>			C		2/2
plants	higher dicots	Rubiaceae	<i>Ophiorrhiza australiana</i> subsp. <i>australiana</i>			C		1/1
plants	higher dicots	Rubiaceae	<i>Psychotria</i> sp. (Mt Lewis V.K.Moriarty 2445)			C		1/1
plants	higher dicots	Rutaceae	<i>Brombya platynema</i>			C		1/1
plants	higher dicots	Rutaceae	<i>Acronychia acuminata</i>			NT		4/4
plants	higher dicots	Rutaceae	<i>Melicope broadbentiana</i>			C		1/1
plants	higher dicots	Rutaceae	<i>Melicope xanthoxyloides</i>			C		1/1
plants	higher dicots	Rutaceae	<i>Acronychia acronychioides</i>			C		1/1
plants	higher dicots	Sapindaceae	<i>Jagera madida</i>			C		2/2
plants	higher dicots	Sapindaceae	<i>Mischocarpus lachnocarpus</i>			C		1/1
plants	higher dicots	Sapindaceae	<i>Mischocarpus exangulatus</i>			C		3/3
plants	higher dicots	Sapindaceae	<i>Lepiderema sericolignis</i>			C		2/2
plants	higher dicots	Sapindaceae	<i>Toechima erythrocarpum</i>			C		1/1
plants	higher dicots	Sapindaceae	<i>Sarcopteryx reticulata</i>			C		1/1
plants	higher dicots	Sapindaceae	<i>Mischocarpus albescens</i>			NT		3/3
plants	higher dicots	Sapindaceae	<i>Diploglottis bernieana</i>			C		2/2
plants	higher dicots	Sapindaceae	<i>Castanospora alphandii</i>	brown tamarind		C		1/1
plants	higher dicots	Sapindaceae	<i>Cupaniopsis foveolata</i>	narrow-leaved tuckeroo		C		2/2
plants	higher dicots	Sapindaceae	<i>Sarcotoechia villosa</i>			C		1/1
plants	higher dicots	Sapindaceae	<i>Arytera pauciflora</i>			C		2/2
plants	higher dicots	Sapindaceae	<i>Harpullia arborea</i>	Cooktown tulipwood		C		2/2
plants	higher dicots	Sapindaceae	<i>Allophylus cobbe</i>			C		5/5
plants	higher dicots	Sapotaceae	<i>Niemeyera prunifera</i>			C		2/2
plants	higher dicots	Sapotaceae	<i>Palaquium galactoxylon</i>			C		2/2
plants	higher dicots	Sapotaceae	<i>Vanroyena castanosperma</i>			C		1/1
plants	higher dicots	Sapotaceae	<i>Pleioluma xerocarpa</i>			C		2/2
plants	higher dicots	Solanaceae	<i>Solanum torvum</i>	devil's fig	Y			1/1
plants	higher dicots	Solanaceae	<i>Solanum magnifolium</i>			C		1/1
plants	higher dicots	Stemonuraceae	<i>Gomphandra australiana</i>			C		2/2
plants	higher dicots	Sterculiaceae	<i>Sterculia quadrifida</i>	peanut tree		C		1/1
plants	higher dicots	Sterculiaceae	<i>Argyrodendron peralatum</i>	red tulip oak		C		1/1
plants	higher dicots	Symplocaceae	<i>Symplocos cyanocarpa</i> var. <i>cyanocarpa</i>			C		1/1

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plants	higher dicots	Symplocaceae	<i>Symplocos paucistaminea</i>			C		2/2
plants	higher dicots	Ulmaceae	<i>Trema tomentosa</i> var. <i>tomentosa</i>			C		1/1
plants	higher dicots	Urticaceae	<i>Pouzolzia zeylanica</i>			C		1/1
plants	higher dicots	Verbenaceae	<i>Stachytarpheta cayennensis</i>		Y			2/2
plants	higher dicots	Vitaceae	<i>Cayratia saponaria</i>			C		1/1
plants	higher dicots	Vitaceae	<i>Cayratia japonica</i>			C		1/1
plants	higher dicots	Vitaceae	<i>Cissus repens</i>			C		1/1
plants	lower dicots	Annonaceae	<i>Annona glabra</i>	pond apple	Y			1/1
plants	lower dicots	Annonaceae	<i>Cananga odorata</i>	Ylang-ylang		C		2/2
plants	lower dicots	Annonaceae	<i>Polyalthia xanthocarpa</i>			C		1/1
plants	lower dicots	Annonaceae	<i>Pseuduvaria froggattii</i>			C		1/1
plants	lower dicots	Aristolochiaceae	<i>Pararistolochia deltantha</i>			C		1/1
plants	lower dicots	Atherospermataceae	<i>Doryphora aromatica</i>			C		1/1
plants	lower dicots	Avicenniaceae	<i>Avicennia marina</i> subsp. <i>australasica</i>			C		1/1
plants	lower dicots	Hernandiaceae	<i>Hernandia albiflora</i>			C		9/9
plants	lower dicots	Lauraceae	<i>Endiandra glauca</i>			C		1/1
plants	lower dicots	Lauraceae	<i>Endiandra wolfei</i>			C		3/3
plants	lower dicots	Lauraceae	<i>Litsea bindoniana</i>			C		1/1
plants	lower dicots	Lauraceae	<i>Cryptocarya oblata</i>			C		2/2
plants	lower dicots	Lauraceae	<i>Endiandra insignis</i>			C		2/2
plants	lower dicots	Lauraceae	<i>Neolitsea dealbata</i>	white bolly gum		C		1/1
plants	lower dicots	Lauraceae	<i>Cryptocarya grandis</i>			C		3/3
plants	lower dicots	Lauraceae	<i>Cryptocarya murrayi</i>	Murray's laurel		C		1/1
plants	lower dicots	Lauraceae	<i>Endiandra acuminata</i>			C		1/1
plants	lower dicots	Lauraceae	<i>Endiandra monothyra</i>			C		1/1
plants	lower dicots	Lauraceae	<i>Endiandra hypotephra</i>	blue walnut		C		3/3
plants	lower dicots	Lauraceae	<i>Endiandra microneura</i>			NT		10/10
plants	lower dicots	Lauraceae	<i>Beilschmiedia volckii</i>	Boonjee blush walnut		C		1/1
plants	lower dicots	Lauraceae	<i>Cryptocarya corrugata</i>			C		1/1
plants	lower dicots	Lauraceae	<i>Cryptocarya laevigata</i>			C		1/1
plants	lower dicots	Lauraceae	<i>Endiandra leptodendron</i>			C		2/2
plants	lower dicots	Lauraceae	<i>Beilschmiedia bancroftii</i>			C		1/1
plants	lower dicots	Lauraceae	<i>Beilschmiedia obtusifolia</i>	hard bolly gum		C		1/1
plants	lower dicots	Lauraceae	<i>Cryptocarya mackinnonianiana</i>			C		1/1
plants	lower dicots	Lauraceae	<i>Endiandra longipedicellata</i>			C		1/1
plants	lower dicots	Lauraceae	<i>Beilschmiedia castrisinensis</i>			NT		3/3
plants	lower dicots	Lauraceae	<i>Endiandra grayi</i>			V		5/5
plants	lower dicots	Lauraceae	<i>Litsea leefeana</i>			C		3/3
plants	lower dicots	Menispermaceae	<i>Carronia protensa</i>			C		1/1
plants	lower dicots	Menispermaceae	<i>Hypserpa laurina</i>			C		2/2
plants	lower dicots	Menispermaceae	<i>Hypserpa decumbens</i>			C		1/1
plants	lower dicots	Monimiaceae	<i>Wilkiea pubescens</i>			C		1/1
plants	lower dicots	Monimiaceae	<i>Steganthera laxiflora</i> subsp. <i>laxiflora</i>			C		1/1
plants	lower dicots	Monimiaceae	<i>Palmeria scandens</i>	anchor vine		C		1/1
plants	lower dicots	Myristicaceae	<i>Myristica globosa</i> subsp. <i>muelleri</i>	native nutmeg		C		1/1
plants	lower dicots	Piperaceae	<i>Piper</i>			C		1/1

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plants	lower dicots	Piperaceae	<i>Piper macropiper</i>			C		1/1
plants	lower dicots	Piperaceae	<i>Piper caninum</i>	peppervine		C		1/1
plants	lower dicots	Piperaceae	<i>Piper hederaceum</i> var. <i>hederaceum</i>			C		1/1
plants	monocots	Arecaceae	<i>Linospadix minor</i>			C		2/2
plants	monocots	Arecaceae	<i>Licuala ramsayi</i> var. <i>ramsayi</i>			C		1/1
plants	monocots	Arecaceae	<i>Calamus vitiensis</i>			C		1/1
plants	monocots	Arecaceae	<i>Normanbya normanbyi</i>	black palm		C		7/7
plants	monocots	Arecaceae	<i>Calamus australis</i>	hairy mary		C		1/1
plants	monocots	Arecaceae	<i>Ptychosperma elegans</i>	solitaire palm		C		1/1
plants	monocots	Costaceae	<i>Costus dubius</i>		Y			1/1
plants	monocots	Costaceae	<i>Cheilocostus potierae</i>			E		1/1
plants	monocots	Costaceae	<i>Tapeinochilos ananassae</i>			C		1/1
plants	monocots	Cyperaceae	<i>Cyperus sphacelatus</i>		Y			1/1
plants	monocots	Cyperaceae	<i>Scleria terrestris</i>			C		1/1
plants	monocots	Cyperaceae	<i>Hypolytrum nemorum</i>			C		4/4
plants	monocots	Cyperaceae	<i>Scleria polycarpa</i>			C		3/3
plants	monocots	Cyperaceae	<i>Schoenus sparteus</i>			C		1/1
plants	monocots	Cyperaceae	<i>Gahnia sieberiana</i>	sword grass		C		2/2
plants	monocots	Cyperaceae	<i>Cyperus kyllingia</i>		Y			1/1
plants	monocots	Cyperaceae	<i>Baumea rubiginosa</i>	soft twigrush		C		2/2
plants	monocots	Cyperaceae	<i>Scleria caricina</i>			C		2/2
plants	monocots	Cyperaceae	<i>Scleria levis</i>			C		1/1
plants	monocots	Cyperaceae	<i>Mapania macrocephala</i>			C		1/1
plants	monocots	Cyperaceae	<i>Rhynchospora brownii</i>	beak rush		C		1/1
plants	monocots	Cyperaceae	<i>Scirpodendron ghaeri</i>			C		2/2
plants	monocots	Cyperaceae	<i>Scleria scrobiculata</i>			C		1/1
plants	monocots	Cyperaceae	<i>Schoenus calostachyus</i>			C		2/2
plants	monocots	Cyperaceae	<i>Rhynchospora corymbosa</i>			C		2/2
plants	monocots	Cyperaceae	<i>Fimbristylis littoralis</i>			C		2/2
plants	monocots	Cyperaceae	<i>Cyperus odoratus</i>			C		1/1
plants	monocots	Cyperaceae	<i>Rhynchospora heterochaeta</i>			C		1/1
plants	monocots	Cyperaceae	<i>Fimbristylis schoenoides</i>			C		1/1
plants	monocots	Dracaenaceae	<i>Pleomele angustifolia</i>			C		2/2
plants	monocots	Flagellariaceae	<i>Flagellaria indica</i>	whip vine		C		3/3
plants	monocots	Laxmanniaceae	<i>Cordyline cannifolia</i>			C		1/1
plants	monocots	Laxmanniaceae	<i>Eustrephus latifolius</i>	wombat berry		C		1/1
plants	monocots	Musaceae	<i>Musa banksii</i>			C		1/1
plants	monocots	Orchidaceae	<i>Dendrobium discolor</i>			C		1/1
plants	monocots	Orchidaceae	<i>Dendrobium canaliculatum</i>			C		1/1
plants	monocots	Orchidaceae	<i>Demorchis queenslandica</i>			NT		1/1
plants	monocots	Pandanaceae	<i>Freycinetia scandens</i>			C		2/2
plants	monocots	Pandanaceae	<i>Freycinetia marginata</i>			V		1/1
plants	monocots	Pandanaceae	<i>Freycinetia excelsa</i>	climbing pandanus		C		1/1
plants	monocots	Poaceae	<i>Eulalia trispicata</i>			C		1/1
plants	monocots	Poaceae	<i>Ottochloa nodosa</i>			C		1/1
plants	monocots	Poaceae	<i>Isachne sharpii</i>			C		1/1

Kingdom	Class	Family	Scientific Name	Common Name	I	Q	A	Records
plants	monocots	Poaceae	<i>Isachne confusa</i>			C		1/1
plants	monocots	Poaceae	<i>Sacciolepis indica</i>	Indian cupscale grass		C		1/1
plants	monocots	Poaceae	<i>Centotheca lappacea</i>			C		1/1
plants	monocots	Poaceae	<i>Coelachne pulchella</i>			C		1/1
plants	monocots	Poaceae	<i>Lophatherum gracile</i>			C		2/2
plants	monocots	Poaceae	<i>Oplismenus compositus</i>			C		1/1
plants	monocots	Poaceae	<i>Oplismenus imbecillis</i>			C		1/1
plants	monocots	Poaceae	<i>Cyrtococcum oxyphyllum</i>			C		1/1
plants	monocots	Poaceae	<i>Centotheca philippinensis</i>	creek grass		C		1/1
plants	monocots	Poaceae	<i>Mullerochloa moreheadiana</i>			C		1/1
plants	monocots	Poaceae	<i>Hymenachne amplexicaulis</i> cv. <i>Olive</i>		Y			1/1
plants	monocots	Poaceae	<i>Garnotia stricta</i> var. <i>longiseta</i>			C		2/2
plants	monocots	Smilacaceae	<i>Smilax aculeatissima</i>			C		1/1
plants	monocots	Smilacaceae	<i>Smilax blumei</i>			C		1/1
plants	monocots	Xyridaceae	<i>Xyris complanata</i>	yellow-eye		C		1/1
plants	monocots	Zingiberaceae	<i>Pleuranthodium racemigerum</i>			C		2/2
plants	mosses	Calymperaceae	<i>Calymperes moluccense</i>			C		1/1
plants	mosses	Neckeraceae	<i>Neckeropsis cyclophylla</i> (Muell.Hal.) <i>S.Olsson, Enroth & D.Quandt</i>			C		2/2
plants	spike mosses	Selaginellaceae	<i>Selaginella australiensis</i>			C		1/1
plants	spike mosses	Selaginellaceae	<i>Selaginella longipinna</i>			C		1/1
plants	whisk ferns	Psilotaceae	<i>Psilotum nudum</i>	skeleton fork fern		C		2/2
protists	brown algae	Phaeophyceae	<i>Dictyotopsis propagulifera</i>			C		1/1

CODES

I - Y indicates that the taxon is introduced to Queensland and has naturalised.

Q - Indicates the Queensland conservation status of each taxon under the *Nature Conservation Act 1992*. The codes are Extinct in the Wild (PE), Endangered (E), Vulnerable (V), Near Threatened (NT), Least Concern (C) or Not Protected ().

A - Indicates the Australian conservation status of each taxon under the *Environment Protection and Biodiversity Conservation Act 1999*. The values of EPBC are Conservation Dependent (CD), Critically Endangered (CE), Endangered (E), Extinct (EX), Extinct in the Wild (XW) and Vulnerable (V).

Records – The first number indicates the total number of records of the taxon for the record option selected (i.e. All, Confirmed or Specimens).

This number is output as 99999 if it equals or exceeds this value. The second number located after the / indicates the number of specimen records for the taxon.

This number is output as 999 if it equals or exceeds this value.



EPBC Act Protected Matters Report

This report provides general guidance on matters of national environmental significance and other matters protected by the EPBC Act in the area you have selected.

Information on the coverage of this report and qualifications on data supporting this report are contained in the caveat at the end of the report.

Information is available about [Environment Assessments](#) and the EPBC Act including significance guidelines, forms and application process details.

Report created: 14/07/15 11:47:15

[Summary](#)

[Details](#)

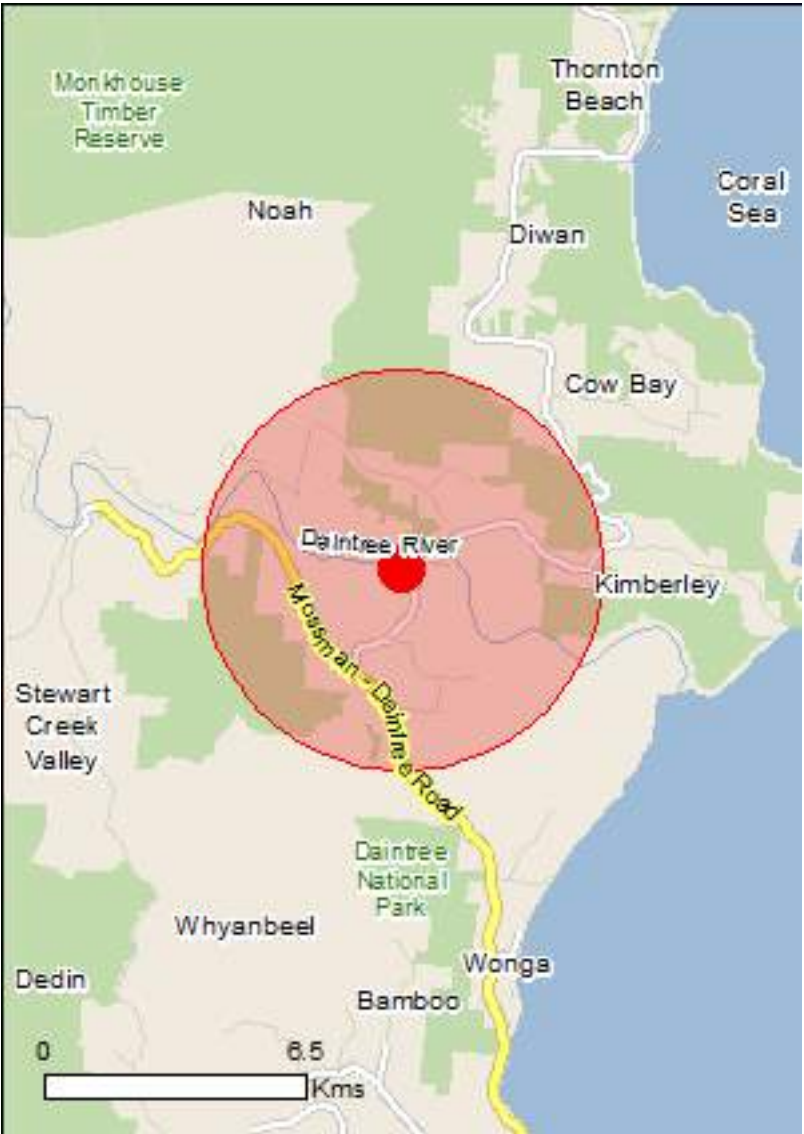
[Matters of NES](#)

[Other Matters Protected by the EPBC Act](#)

[Extra Information](#)

[Caveat](#)

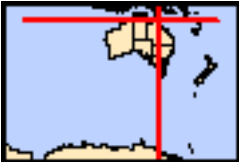
[Acknowledgements](#)



This map may contain data which are ©Commonwealth of Australia (Geoscience Australia), ©PSMA 2010

[Coordinates](#)

[Buffer: 5.0Km](#)



Summary

Matters of National Environmental Significance

This part of the report summarises the matters of national environmental significance that may occur in, or may relate to, the area you nominated. Further information is available in the detail part of the report, which can be accessed by scrolling or following the links below. If you are proposing to undertake an activity that may have a significant impact on one or more matters of national environmental significance then you should consider the [Administrative Guidelines on Significance](#).

World Heritage Properties:	2
National Heritage Places:	3
Wetlands of International Importance:	None
Great Barrier Reef Marine Park:	None
Commonwealth Marine Area:	None
Listed Threatened Ecological Communities:	1
Listed Threatened Species:	49
Listed Migratory Species:	23

Other Matters Protected by the EPBC Act

This part of the report summarises other matters protected under the Act that may relate to the area you nominated. Approval may be required for a proposed activity that significantly affects the environment on Commonwealth land, when the action is outside the Commonwealth land, or the environment anywhere when the action is taken on Commonwealth land. Approval may also be required for the Commonwealth or Commonwealth agencies proposing to take an action that is likely to have a significant impact on the environment anywhere.

The EPBC Act protects the environment on Commonwealth land, the environment from the actions taken on Commonwealth land, and the environment from actions taken by Commonwealth agencies. As heritage values of a place are part of the 'environment', these aspects of the EPBC Act protect the Commonwealth Heritage values of a Commonwealth Heritage place. Information on the new heritage laws can be found at <http://www.environment.gov.au/heritage/index.html>

A [permit](#) may be required for activities in or on a Commonwealth area that may affect a member of a listed threatened species or ecological community, a member of a listed migratory species, whales and other cetaceans, or a member of a listed marine species.

Commonwealth Land:	None
Commonwealth Heritage Places:	None
Listed Marine Species:	67
Whales and Other Cetaceans:	3
Critical Habitats:	None
Commonwealth Reserves Terrestrial:	None
Commonwealth Reserves Marine:	None

Extra Information

This part of the report provides information that may also be relevant to the area you have nominated.

State and Territory Reserves:	6
Regional Forest Agreements:	None
Invasive Species:	22
Nationally Important Wetlands:	1
Key Ecological Features (Marine)	None

Details

Matters of National Environmental Significance

World Heritage Properties		[Resource Information]
Name	State	Status
Great Barrier Reef	QLD	Declared property
Wet Tropics of Queensland	QLD	Declared property

National Heritage Properties		[Resource Information]
Name	State	Status
Natural		
Great Barrier Reef	QLD	Listed place
Wet Tropics of Queensland	QLD	Listed place
Indigenous		
Wet Tropics World Heritage Area (Indigenous Values)	QLD	Within listed place

Listed Threatened Ecological Communities

[Resource Information]

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

Name	Status	Type of Presence
Broad leaf tea-tree (Melaleuca viridiflora) woodlands in high rainfall coastal north Queensland	Endangered	Community may occur within area

Listed Threatened Species

[Resource Information]

Name	Status	Type of Presence
Birds		
Casuarius casuarius johnsonii Southern Cassowary (Australian), Southern Cassowary [25986]	Endangered	Species or species habitat known to occur within area
Erythrotriorchis radiatus Red Goshawk [942]	Vulnerable	Species or species habitat known to occur within area
Rostratula australis Australian Painted Snipe [77037]	Endangered	Species or species habitat may occur within area
Tyto novaehollandiae kimberli Masked Owl (northern) [26048]	Vulnerable	Species or species habitat likely to occur within area
Frogs		
Litoria dayi Australian Lace-lid, Lace-eyed Tree Frog [86707]	Endangered	Species or species habitat likely to occur within area
Litoria nannotis Waterfall Frog, Torrent Tree Frog [1817]	Endangered	Species or species habitat likely to occur within area
Litoria rheocola Common Mistfrog [1802]	Endangered	Species or species habitat known to occur within area
Mammals		

Name	Status	Type of Presence
Dasyurus hallucatus Northern Quoll [331]	Endangered	Species or species habitat may occur within area
Dasyurus maculatus gracilis Spotted-tailed Quoll or Yarri (North Queensland subspecies) [64475]	Endangered	Species or species habitat likely to occur within area
Hipposideros semoni Semon's Leaf-nosed Bat, Greater Wart-nosed Horseshoe-bat [180]	Endangered	Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Breeding known to occur within area
Mesembriomys gouldii rattoides Black-footed Tree-rat (north Queensland) [87620]	Vulnerable	Species or species habitat likely to occur within area
Phascolarctos cinereus (combined populations of Qld, NSW and the ACT) Koala (combined populations of Queensland, New South Wales and the Australian Capital Territory) [85104]	Vulnerable	Species or species habitat may occur within area
Pteropus conspicillatus Spectacled Flying-fox [185]	Vulnerable	Species or species habitat known to occur within area
Rhinolophus philippinensis (large form) Greater Large-eared Horseshoe Bat [66890]	Endangered	Species or species habitat known to occur within area
Saccolaimus saccolaimus nudicluniatus Bare-rumped Sheathtail Bat [66889]	Critically Endangered	Species or species habitat likely to occur within area
Xeromys myoides Water Mouse, False Water Rat, Yirrkoo [66]	Vulnerable	Species or species habitat may occur within area
Plants		
Acriopsis emarginata Pale Chandelier Orchid [83928]	Vulnerable	Species or species habitat known to occur within area
Actephila foetida [12078]	Vulnerable	Species or species habitat known to occur within area
Asplenium wildii [19154]	Vulnerable	Species or species habitat known to occur within area
Cajanus mareebensis [8635]	Endangered	Species or species habitat may occur within area
Canarium acutifolium [23956]	Vulnerable	Species or species habitat likely to occur within area
Chingia australis [24603]	Endangered	Species or species habitat known to occur within area
Crepidomanes endlicherianum Middle Filmy Fern [65889]	Endangered	Species or species habitat likely to occur within area
Dendrobium bigibbum Cooktown Orchid [10306]	Vulnerable	Species or species habitat may occur within area

Name	Status	Type of Presence
Dendrobium johannis Chocolate Tea Tree Orchid [13585]	Vulnerable	Species or species habitat likely to occur within area
Durabaculum mirbelianum an orchid [78703]	Endangered	Species or species habitat likely to occur within area
Durabaculum nindii an orchid [78704]	Endangered	Species or species habitat known to occur within area
Endiandra cooperana [52889]	Endangered	Species or species habitat likely to occur within area
Myrmecodia beccarii Ant Plant [11852]	Vulnerable	Species or species habitat likely to occur within area
Phaius australis Lesser Swamp-orchid [5872]	Endangered	Species or species habitat may occur within area
Phalaenopsis rosenstromii Native Moth Orchid [15984]	Endangered	Species or species habitat likely to occur within area
Phaleria biflora [82049]	Vulnerable	Species or species habitat likely to occur within area
Polyscias bellendenkerensis [7237]	Vulnerable	Species or species habitat likely to occur within area
Ristantia gouldii [18776]	Vulnerable	Species or species habitat likely to occur within area
Tropilis callitrophilis Thin Feather Orchid [82771]	Vulnerable	Species or species habitat likely to occur within area
Vappodes lithocola Dwarf Butterfly Orchid, Cooktown Orchid [78893]	Endangered	Species or species habitat may occur within area
Vappodes phalaenopsis Cooktown Orchid [78894]	Vulnerable	Species or species habitat may occur within area
Vrydagzynea grayi [83575]	Endangered	Species or species habitat likely to occur within area
Zeuxine polygonoides Velvet Jewel Orchid [46794]	Vulnerable	Species or species habitat likely to occur within area
Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area

Name	Status	Type of Presence
Egernia rugosa Yakka Skink [1420]	Vulnerable	Species or species habitat may occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Sharks		
Pristis pristis Largetooth Sawfish, Freshwater Sawfish, River Sawfish, Leichhardt's Sawfish, Northern Sawfish [60756]	Vulnerable	Species or species habitat known to occur within area
Pristis zijsron Green Sawfish, Dindagubba, Narrowsnout Sawfish [68442]	Vulnerable	Species or species habitat known to occur within area
Listed Migratory Species		
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
[Resource Information]		
Name	Threatened	Type of Presence
Migratory Marine Birds		
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Migratory Marine Species		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Manta birostris Giant Manta Ray, Chevron Manta Ray, Pacific Manta Ray, Pelagic Manta Ray, Oceanic Manta Ray [84995]		Species or species habitat may occur within area
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Breeding known to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species

Name	Threatened	Type of Presence
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		habitat may occur within area Species or species habitat likely to occur within area
Migratory Terrestrial Species		
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Migratory Wetlands Species		
Ardea alba Great Egret, White Egret [59541]		Species or species habitat known to occur within area
Ardea ibis Cattle Egret [59542]		Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Pandion cristatus Eastern Osprey [82411]		Breeding known to occur within area
Other Matters Protected by the EPBC Act		
Listed Marine Species		[Resource Information]
* Species is listed under a different scientific name on the EPBC Act - Threatened Species list.		
Name	Threatened	Type of Presence
Birds		
Anseranas semipalmata Magpie Goose [978]		Species or species habitat may occur within area
Apus pacificus Fork-tailed Swift [678]		Species or species habitat likely to occur within area
Ardea alba Great Egret, White Egret [59541]		Species or species

Name	Threatened	Type of Presence
Ardea ibis Cattle Egret [59542]		habitat known to occur within area Species or species habitat may occur within area
Gallinago hardwickii Latham's Snipe, Japanese Snipe [863]		Species or species habitat may occur within area
Haliaeetus leucogaster White-bellied Sea-Eagle [943]		Species or species habitat known to occur within area
Hirundapus caudacutus White-throated Needletail [682]		Species or species habitat may occur within area
Hirundo rustica Barn Swallow [662]		Species or species habitat may occur within area
Merops ornatus Rainbow Bee-eater [670]		Species or species habitat may occur within area
Monarcha melanopsis Black-faced Monarch [609]		Species or species habitat known to occur within area
Monarcha trivirgatus Spectacled Monarch [610]		Species or species habitat known to occur within area
Myiagra cyanoleuca Satin Flycatcher [612]		Species or species habitat known to occur within area
Pandion haliaetus Osprey [952]		Breeding known to occur within area
Rhipidura rufifrons Rufous Fantail [592]		Species or species habitat known to occur within area
Rostratula benghalensis (sensu lato) Painted Snipe [889]	Endangered*	Species or species habitat may occur within area
Fish		
Acentronura tentaculata Shortpouch Pygmy Pipehorse [66187]		Species or species habitat may occur within area
Bulbonaricus davaoensis Davao Pughead Pipefish [66190]		Species or species habitat may occur within area
Choeroichthys brachysoma Pacific Short-bodied Pipefish, Short-bodied Pipefish [66194]		Species or species habitat may occur within area
Choeroichthys sculptus Sculptured Pipefish [66197]		Species or species habitat may occur within area
Choeroichthys suillus Pig-snouted Pipefish [66198]		Species or species habitat may occur within area
Corythoichthys amplexus Fijian Banded Pipefish, Brown-banded Pipefish [66199]		Species or species habitat may occur within

Name	Threatened	Type of Presence
Corythoichthys flavofasciatus Reticulate Pipefish, Yellow-banded Pipefish, Network Pipefish [66200]		area Species or species habitat may occur within area
Corythoichthys intestinalis Australian Messmate Pipefish, Banded Pipefish [66202]		Species or species habitat may occur within area
Corythoichthys ocellatus Orange-spotted Pipefish, Ocellated Pipefish [66203]		Species or species habitat may occur within area
Corythoichthys paxtoni Paxton's Pipefish [66204]		Species or species habitat may occur within area
Corythoichthys schultzi Schultz's Pipefish [66205]		Species or species habitat may occur within area
Cosmocampus maxweberi Maxweber's Pipefish [66209]		Species or species habitat may occur within area
Doryrhamphus dactyliophorus Banded Pipefish, Ringed Pipefish [66210]		Species or species habitat may occur within area
Doryrhamphus excisus Bluestripe Pipefish, Indian Blue-stripe Pipefish, Pacific Blue-stripe Pipefish [66211]		Species or species habitat may occur within area
Doryrhamphus janssi Cleaner Pipefish, Janss' Pipefish [66212]		Species or species habitat may occur within area
Festucalex cinctus Girdled Pipefish [66214]		Species or species habitat may occur within area
Festucalex gibbsi Gibbs' Pipefish [66215]		Species or species habitat may occur within area
Halicampus dunckeri Red-hair Pipefish, Duncker's Pipefish [66220]		Species or species habitat may occur within area
Halicampus grayi Mud Pipefish, Gray's Pipefish [66221]		Species or species habitat may occur within area
Halicampus macrorhynchus Whiskered Pipefish, Ornate Pipefish [66222]		Species or species habitat may occur within area
Halicampus mataafae Samoan Pipefish [66223]		Species or species habitat may occur within area
Halicampus nitidus Glittering Pipefish [66224]		Species or species habitat may occur within area
Halicampus spinirostris Spiny-snout Pipefish [66225]		Species or species habitat may occur within area
Hippichthys cyanospilos Blue-speckled Pipefish, Blue-spotted Pipefish [66228]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Hippichthys heptagonus Madura Pipefish, Reticulated Freshwater Pipefish [66229]		Species or species habitat may occur within area
Hippichthys penicillus Beady Pipefish, Steep-nosed Pipefish [66231]		Species or species habitat may occur within area
Hippichthys spicifer Belly-barred Pipefish, Banded Freshwater Pipefish [66232]		Species or species habitat may occur within area
Hippocampus bargibanti Pygmy Seahorse [66721]		Species or species habitat may occur within area
Hippocampus histrix Spiny Seahorse, Thorny Seahorse [66236]		Species or species habitat may occur within area
Hippocampus kuda Spotted Seahorse, Yellow Seahorse [66237]		Species or species habitat may occur within area
Hippocampus planifrons Flat-face Seahorse [66238]		Species or species habitat may occur within area
Hippocampus zebra Zebra Seahorse [66241]		Species or species habitat may occur within area
Micrognathus andersonii Anderson's Pipefish, Shortnose Pipefish [66253]		Species or species habitat may occur within area
Micrognathus brevirostris thorntail Pipefish, Thorn-tailed Pipefish [66254]		Species or species habitat may occur within area
Microphis brachyurus Short-tail Pipefish, Short-tailed River Pipefish [66257]		Species or species habitat may occur within area
Nannocampus pictus Painted Pipefish, Reef Pipefish [66263]		Species or species habitat may occur within area
Phoxocampus diacanthus Pale-blotched Pipefish, Spined Pipefish [66266]		Species or species habitat may occur within area
Siokunichthys breviceps Softcoral Pipefish, Soft-coral Pipefish [66270]		Species or species habitat may occur within area
Solegnathus hardwickii Pallid Pipehorse, Hardwick's Pipehorse [66272]		Species or species habitat may occur within area
Solenostomus cyanopterus Robust Ghostpipefish, Blue-finned Ghost Pipefish, [66183]		Species or species habitat may occur within area
Solenostomus paegnius Rough-snout Ghost Pipefish [68425]		Species or species habitat may occur within area
Solenostomus paradoxus Ornate Ghostpipefish, Harlequin Ghost Pipefish, Ornate Ghost Pipefish [66184]		Species or species habitat may occur within area

Name	Threatened	Type of Presence
Syngnathoides biaculeatus Double-end Pipehorse, Double-ended Pipehorse, Alligator Pipefish [66279]		Species or species habitat may occur within area
Trachyrhamphus bicoarctatus Bentstick Pipefish, Bend Stick Pipefish, Short-tailed Pipefish [66280]		Species or species habitat may occur within area
Trachyrhamphus longirostris Straightstick Pipefish, Long-nosed Pipefish, Straight Stick Pipefish [66281]		Species or species habitat may occur within area

Reptiles		
Caretta caretta Loggerhead Turtle [1763]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Chelonia mydas Green Turtle [1765]	Vulnerable	Foraging, feeding or related behaviour known to occur within area
Crocodylus porosus Salt-water Crocodile, Estuarine Crocodile [1774]		Species or species habitat likely to occur within area
Dermochelys coriacea Leatherback Turtle, Leathery Turtle, Luth [1768]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Eretmochelys imbricata Hawksbill Turtle [1766]	Vulnerable	Species or species habitat known to occur within area
Lepidochelys olivacea Olive Ridley Turtle, Pacific Ridley Turtle [1767]	Endangered	Foraging, feeding or related behaviour likely to occur within area
Natator depressus Flatback Turtle [59257]	Vulnerable	Foraging, feeding or related behaviour known to occur within area

Whales and other Cetaceans		[Resource Information]
Name	Status	Type of Presence
Mammals		
Megaptera novaeangliae Humpback Whale [38]	Vulnerable	Breeding known to occur within area
Orcaella brevirostris Irrawaddy Dolphin [45]		Species or species habitat may occur within area
Sousa chinensis Indo-Pacific Humpback Dolphin [50]		Species or species habitat likely to occur within area

Extra Information

State and Territory Reserves	[Resource Information]
Name	State
Acaciavale	QLD
Daintree	QLD
Eastern Kuku Yalanji	QLD
Kaba-Kada	QLD
Rainforest Rescue	QLD
The Swamp Forest	QLD

Invasive Species[Resource Information]

Weeds reported here are the 20 species of national significance (WoNS), along with other introduced plants that are considered by the States and Territories to pose a particularly significant threat to biodiversity. The following feral animals are reported: Goat, Red Fox, Cat, Rabbit, Pig, Water Buffalo and Cane Toad. Maps from Landscape Health Project, National Land and Water Resouces Audit, 2001.

Name	Status	Type of Presence
Birds		
Acridotheres tristis Common Myna, Indian Myna [387]		Species or species habitat likely to occur within area
Columba livia Rock Pigeon, Rock Dove, Domestic Pigeon [803]		Species or species habitat likely to occur within area
Lonchura punctulata Nutmeg Mannikin [399]		Species or species habitat likely to occur within area
Passer domesticus House Sparrow [405]		Species or species habitat likely to occur within area
Streptopelia chinensis Spotted Turtle-Dove [780]		Species or species habitat likely to occur within area
Sturnus vulgaris Common Starling [389]		Species or species habitat likely to occur within area
Frogs		
Rhinella marina Cane Toad [83218]		Species or species habitat likely to occur within area
Mammals		
Canis lupus familiaris Domestic Dog [82654]		Species or species habitat likely to occur within area
Felis catus Cat, House Cat, Domestic Cat [19]		Species or species habitat likely to occur within area
Feral deer Feral deer species in Australia [85733]		Species or species habitat likely to occur within area
Rattus rattus Black Rat, Ship Rat [84]		Species or species habitat likely to occur within area
Sus scrofa Pig [6]		Species or species habitat likely to occur within area
Plants		

Name	Status	Type of Presence
<p>Annona glabra</p> <p>Pond Apple, Pond-apple Tree, Alligator Apple, Bullock's Heart, Cherimoya, Monkey Apple, Bobwood, Corkwood [6311]</p> <p>Anredera cordifolia</p> <p>Madeira Vine, Jalap, Lamb's-tail, Mignonette Vine, Anredera, Gulf Madeiravine, Heartleaf Madeiravine, Potato Vine [2643]</p> <p>Cenchrus ciliaris</p> <p>Buffel-grass, Black Buffel-grass [20213]</p>		<p>Species or species habitat likely to occur within area</p> <p>Species or species habitat likely to occur within area</p> <p>Species or species habitat may occur within area</p>
<p>Cryptostegia grandiflora</p> <p>Rubber Vine, Rubbervine, India Rubber Vine, India Rubbervine, Palay Rubbervine, Purple Allamanda [18913]</p> <p>Hymenachne amplexicaulis</p> <p>Hymenachne, Olive Hymenachne, Water Stargrass, West Indian Grass, West Indian Marsh Grass [31754]</p>		<p>Species or species habitat likely to occur within area</p> <p>Species or species habitat likely to occur within area</p>
<p>Lantana camara</p> <p>Lantana, Common Lantana, Kamara Lantana, Large-leaf Lantana, Pink Flowered Lantana, Red Flowered Lantana, Red-Flowered Sage, White Sage, Wild Sage [10892]</p> <p>Parthenium hysterophorus</p> <p>Parthenium Weed, Bitter Weed, Carrot Grass, False Ragweed [19566]</p>		<p>Species or species habitat likely to occur within area</p> <p>Species or species habitat likely to occur within area</p>
<p>Sagittaria platyphylla</p> <p>Delta Arrowhead, Arrowhead, Slender Arrowhead [68483]</p>		Species or species habitat likely to occur within area
<p>Salvinia molesta</p> <p>Salvinia, Giant Salvinia, Aquarium Watermoss, Kariba Weed [13665]</p>		Species or species habitat likely to occur within area

Reptiles
<p>Hemidactylus frenatus</p> <p>Asian House Gecko [1708]</p>
Species or species habitat likely to occur within area

Nationally Important Wetlands	[Resource Information]
Name	State
Lower Daintree River	QLD

Caveat

The information presented in this report has been provided by a range of data sources as acknowledged at the end of the report.

This report is designed to assist in identifying the locations of places which may be relevant in determining obligations under the Environment Protection and Biodiversity Conservation Act 1999. It holds mapped locations of World and National Heritage properties, Wetlands of International and National Importance, Commonwealth and State/Territory reserves, listed threatened, migratory and marine species and listed threatened ecological communities. Mapping of Commonwealth land is not complete at this stage. Maps have been collated from a range of sources at various resolutions.

Not all species listed under the EPBC Act have been mapped (see below) and therefore a report is a general guide only. Where available data supports mapping, the type of presence that can be determined from the data is indicated in general terms. People using this information in making a referral may need to consider the qualifications below and may need to seek and consider other information sources.

For threatened ecological communities where the distribution is well known, maps are derived from recovery plans, State vegetation maps, remote sensing imagery and other sources. Where threatened ecological community distributions are less well known, existing vegetation maps and point location data are used to produce indicative distribution maps.

For species where the distributions are well known, maps are digitised from sources such as recovery plans and detailed habitat studies. Where appropriate, core breeding, foraging and roosting areas are indicated under 'type of presence'. For species whose distributions are less well known, point locations are collated from government wildlife authorities, museums, and non-government organisations; bioclimatic distribution models are generated and these validated by experts. In some cases, the distribution maps are based solely on expert knowledge.

Only selected species covered by the following provisions of the EPBC Act have been mapped:

- migratory and
- marine

The following species and ecological communities have not been mapped and do not appear in reports produced from this database:

- threatened species listed as extinct or considered as vagrants
- some species and ecological communities that have only recently been listed
- some terrestrial species that overfly the Commonwealth marine area
- migratory species that are very widespread, vagrant, or only occur in small numbers

The following groups have been mapped, but may not cover the complete distribution of the species:

- non-threatened seabirds which have only been mapped for recorded breeding sites
- seals which have only been mapped for breeding sites near the Australian continent

Such breeding sites may be important for the protection of the Commonwealth Marine environment.

Coordinates

-16.26258 145.39005

Acknowledgements

This database has been compiled from a range of data sources. The department acknowledges the following custodians who have contributed valuable data and advice:

- [-Department of Environment, Climate Change and Water, New South Wales](#)
- [-Department of Sustainability and Environment, Victoria](#)
- [-Department of Primary Industries, Parks, Water and Environment, Tasmania](#)
- [-Department of Environment and Natural Resources, South Australia](#)
- [-Parks and Wildlife Service NT, NT Dept of Natural Resources, Environment and the Arts](#)
- [-Environmental and Resource Management, Queensland](#)
- [-Department of Environment and Conservation, Western Australia](#)
- [-Department of the Environment, Climate Change, Energy and Water](#)
- [-Birds Australia](#)
- [-Australian Bird and Bat Banding Scheme](#)
- [-Australian National Wildlife Collection](#)
- Natural history museums of Australia
- [-Museum Victoria](#)
- [-Australian Museum](#)
- [-SA Museum](#)
- [-Queensland Museum](#)
- [-Online Zoological Collections of Australian Museums](#)
- [-Queensland Herbarium](#)
- [-National Herbarium of NSW](#)
- [-Royal Botanic Gardens and National Herbarium of Victoria](#)
- [-Tasmanian Herbarium](#)
- [-State Herbarium of South Australia](#)
- [-Northern Territory Herbarium](#)
- [-Western Australian Herbarium](#)
- [-Australian National Herbarium, Atherton and Canberra](#)
- [-University of New England](#)
- [-Ocean Biogeographic Information System](#)
- [-Australian Government, Department of Defence](#)
- [-State Forests of NSW](#)
- [-Geoscience Australia](#)
- [-CSIRO](#)
- Other groups and individuals

The Department is extremely grateful to the many organisations and individuals who provided expert advice and information on numerous draft distributions.

Please feel free to provide feedback via the [Contact Us](#) page.

Appendix C - Curriculum Vitae

Dr Andrew Small



Curriculum Vitae

Andrew Small Principal Scientist



Qualified. PhD (Ecology), (SIMAB, Universiti de Tucuman)
BSc (Ecology), Biodiversity Monitoring and Inventory (Smithsonian Institute, USA), Director: Australian Tropical Research Centre (AUSTROP)

Relevance to project. Andrew has more than 27 years of experience involved in a range of ecology environmental planning and management issues throughout northern Australia, the south-west Pacific, south-east Asia and the Americas. In particular he has extensive experience in botanical and ecological surveys, identification of water quality thresholds for aquatic ecosystem health, and in biodiversity monitoring and impact assessment. His PhD was undertaken in the Daintree lowlands and he maintains ongoing research projects in the area focusing on the distribution of endemic species.

Project Gondwana, Wet Tropics Management Authority

On behalf of the Wet Tropics Management Authority he was a recipient of a Project Gondwana grant and mapped and reported on the distribution of a number of endemic species in the lowlands Daintree area. This included a number of extremely rare species whose populations were under threat as a result of ongoing rural-residential expansion in the Daintree River to Cape Tribulation area.

Daintree Vegetation Audit, Douglas Shire Council

In collaboration with James Cook University, AUSTROP and the CSIRO Tropical Forest Research Centre he undertook extensive audits and surveys over the period 1988 to 2006 to produce a mapping audit of the endemic, restricted and otherwise EVNT species of the area between the Daintree River and Cape Tribulation. This also included extensive habitat mapping, forest type assessment, vegetation mapping and large scale (1ha) plot inventories at a number of sites. The Daintree Vegetation Audit formed the cornerstone of the technical data used by the Commonwealth as part of the \$23M Daintree Buyback Program to make prioritise purchases and management actions. This project continues to be used by the Douglas Shire Council to assist in management and development decisions north of the Daintree River. This project is now being reviewed, and research is ongoing.

Surat Basin Transmission Project, Powerlink Queensland EVNT surveys

The Surat Basin project is a large project with over 200km of transmission lines and seven substation/switching yards. The project required the development of nine Environmental Impact Statements and associated Environmental Management Plans. To support permits for this project EVNT surveys were required for extensive lengths of transmission lines in

accordance with the May 2014 DEHP Protected Plants Survey Guidelines.

Lannercost Bridge Upgrade, Hinchinbrook Shire Council

Hinchinbrook Shire Council are currently proposing to upgrade a single lane bridge to a double lane over Lannercost Creek in north Queensland. Initial inspections identified the presence of the listed EVNT species *Livistona drudei*. (Halifax fan palm). Andrew was responsible for all field surveys, species identifications and report preparation in accordance with the Protected Plants Survey Guidelines. This is an ongoing project.

Upper Daintree NDRRA EVNT Site

Assessments, Douglas Shire Council

Under the provisions of the National Disaster Relief and Restoration Authority (NDRRA) Douglas Shire have embarked on a program to repair roads damaged through flooding, cyclones and other recent natural disasters. Andrew has lead the flora surveys and headed up the reporting for 5 sites in the upper Daintree area where vegetation clearing will be required. All the sites are within high risk flora trigger areas and surveys for the five sites were undertaken over a two week period for EVNT in accordance with the DEHP Protected Plants Survey Guidelines. Reporting and submission of clearing permits and/or applications for exemptions are ongoing as of August 2015.

Daintree Powerline EIS, FNQEB

The FNQEB commissioned GHD to undertake an EIS for a proposed mains electricity grid to the area north of the Daintree River. Andrew led all the flora and fauna survey components of the project and was responsible for the lead authorship of the relevant sections of the EIS. Surveys associated with this EIS expanded the known range of many endemic, EVNT and collected the first known records of a number of species from the Daintree.



Curriculum Vitae

Gulf LNG Project, InterOil, PNG

On behalf of InterOil between 2011 and ongoing into 2012/2013, Andrew is currently project managing the Environmental Impact Assessment Process and subsequent EIS for a large LNG infrastructure project in the Gulf Province of PNG. This is an ongoing project of national significance to the PNG government and as such he has developed a close working relationship with government agencies. Andrew is directly responsible for the technical flora and aquatic environment risk assessment and identification of the project parameters impacting on human and ecological health. Reporting entails satisfying the requirements of the Department of Environment and Conservation of the PNG government. This project is ongoing and is now transitioning into the next phase of the project.

Bauxite Hills Alumina Project, Cape Alumina

GHD was engaged by Cape Alumina to undertake flora/fauna baseline assessments for the proposed Bauxite Hills Project. Andrew's role involved liaison and finalisation of survey methodologies with (then) DERM biodiversity officers, with a team to undertake wet season and dry season baseline surveys with the purpose for these to be incorporated into a potential future EIS study. GHD has finalised survey methodologies and approaches, but the current commission is on indefinite "hold" pending the outcome of the Pisolite Hills EIA process.

Wet Tropics Road Environmental

Management Plan: Dept Main Roads

Andrew was the Manager and lead investigator for the preparation of road side management plans for the World Heritage sections of the Cook Highway and Rex Range within Douglas Shire. This entailed systematic investigation of the various ecological and World Heritage features of these sections of road and producing Environmental Management Plans for these sections of road for the Department of Main Roads.

Cairns Regional Council Water Supply Options: Cairns Water

GHD was engaged by CRC/NQ Water to undertake baseline assessments for either new or upgraded water supply options for the previous Douglas Shire. Andrew's role was the assessment of environmental flow implications for abstraction locations including Rex Creek, Mossman River, Stewart Creek, Hartley Creek. He was also responsible for the site specific assessment of infrastructure upgrade impacts on environmental values, specifically with reference to EVNT flora species.

Other General Botany/Ecology Experience

Biodiversity impacts assessment (fauna/flora), development of monitoring protocols and planning, Ulu Temburong National Park, Batu Apoi Forest Reserve, Brunei (Universiti Brunei Darussalam, Brunei Forestry).

In conjunction with Griffith University (Australia) and Earthwatch International, worked in conjunction with agencies of the Brunei government and the local Iban community, to identify the biodiversity values of an area in the Batu Apoi Forest Reserve with a view to declaring the first ever National Park in Brunei. Over a period of 3 years a comprehensive management and planning framework was established for the newly declared park. This included the continuation of research work (Kuala Belalong Field Study Centre), tourism opportunities and habitat management and preservation.

Suriname National Forest Program, biodiversity and habitat resource assessment, management planning; rehabilitation and monitoring protocols (University of Suriname, Forest Research and Conservation Centre).

Under the Smithsonian Man and Biosphere Biodiversity Monitoring Program worked in cooperation with the Suriname government through the University of Suriname to undertake a large scale assessment of the countries natural resources, and potential impacts of timber concessions. A management plan was prepared which identified native Indian interests, potential timber cutting coups, and nature reserves. As of August 2000, over half of the management recommendations, including declaration of all nature reserves, had been fulfilled.

Etna Bay habitat and resource assessment, West Papua, Indonesia. (UNESCO Man and Biosphere Project), recommendations on future management options for area.

Etna Bay (on the north coast of West Papua) is an area rich in natural resources. The forest community is relatively undisturbed, however there are large commercial deposits of gold and other minerals in the area which have been identified for mining. The challenge was to firstly undertake an assessment of the natural values of the area, and secondly to identify a series of natural resource management programs to mitigate the mining activity to be undertaken.

Fauna/flora survey and habitat assessment, Danum Valley Conservation Area, Sabah, Malaysia (Innoprise Jungle Lodge Sdn Bhd, Danum Valley Field Research Centre and Universiti Kebangsaan).

The Danum Valley Conservation Area is the last remaining intact lowland dipterocarp forest on the east coast of Sabah (Malaysian Borneo). The area is subject to many pressures, including illegal logging, tourism, and pressure from other Malaysian agencies to open the area up for commercial timber cutting and oil palm plantations. In order to justify the continued gazettal of the park at its present size, it was necessary to detail the biological values of the area and to recommend a series of planning and



Curriculum Vitae

management measures to ensure the preservation of these areas without impacting on the environment.

Fauna and flora assessment and monitoring protocol for Malita Community Forestry Program, Solomon Islands (TKM Services, Malita). Malita is one of the largest islands in the Solomon Islands archipelago and retains significant tracts of the last remaining high value forests in the country. These tracts of forest are not only important biologically, but also from a cultural heritage to the islanders. Much of the forest is under pressure from government granted logging coups to overseas logging companies, in opposition to local villagers. The challenge was to identify firstly the biological values of the area, and then to recommend a series of management regimes that would benefit both villagers and the Solomon Island government without requiring the signing over of large tracts of traditional forest to overseas logging interests. A sustainable timber cutting management plan was implemented, utilising portable mill saws that were able to be used by local villagers in areas designated as being suitable for timber cutting. Other areas were declared cultural reserves, and held entirely in the villager's own interests, and opportunities for other commercial ventures, notable tourism were also identified.

Flora baseline surveys, Christmas Island, Indian Ocean (Asia Pacific Space Centre).

On behalf of the Asia Pacific Space Centre established baseline flora surveys and undertook field methodologies in support of the project. Christmas Island is the intended site of a future satellite launch facility, and the establishment of baseline flora data was a required part of the Environmental Management Plan for the construction and operation of the launch facility.

Upper Ramu River catchment flora and fauna field sampling program, Madang Province, Papua New Guinea (Arnold Herbaria, Harvard University, USA).

In conjunction with the Arnold Herbaria prepared a sampling program for area. This program was implemented by the Herbaria and in consultation with the Papuan government and Forestry Institute, and the subsequent results were used to formulate a management plan for the upper Ramu River catchment in Madang Province.

Establishment of permanent monitoring site and development of associated monitoring protocols at Smithsonian Institute Conservation Research Centre, Virginia, USA (UNESCO Man and the Biosphere Program, Smithsonian Institute).

Shenandoah National Park is a well-known National Park on the east coast of the United States that spans over 5 different states. As a component of an integrated approach to the management of this park a series of permanent monitoring program was established which included the establishment of a site at the Conservation

Research Centre, near the town of Front Royal in Virginia.

Development and implementation of rehabilitation and revegetation monitoring programs for Itaipu dam community revegetation project (Uruguay) and Eucalyptus firewood and high altitude oak forest management project (Colombia).

The Itaipu dam is one of the largest in the world, being located on the border of Uruguay and Brazil. As a compensatory measure, World Bank funding and with coordination by the Smithsonian Tropical Forest Research Institute and the joint Uruguay/Brazil Itaipu Management Committee a long term rehabilitation program was planned and implanted with the displaced villagers being retrained to be employed for the program. To alleviate pressures on these forests, fast growing Australian eucalypts (sterile hybrids) were introduced as part of a management plan to reduce villagers reliance on old growth forests. This program is proving to be very successful.

Fauna and flora habitat preference assessment and development of habitat management plans and long term monitoring protocols, Jatun Sacha Forest Reserve, Ecuador

In conjunction with management of the Jatun Sacha Field Studies Centre, undertook training of visiting scientist and students in international best practice in biodiversity monitoring and assessment. Supervised the development of a subsequent planning exercise for the Jatun Sacha Forest Reserve, and recommendations for management of various issues, including weeds, tourism facilities, habitat and future research priorities.

Key areas of experience

- Statutory legislative and planning frameworks, including Ministerial Designation process and Planning/Development Applications
- Environmental planning and ecological assessments
- Community consultation
- Ecological Survey
- Extensive resource industry legislative experience
- Remote area sensing and geographic information systems
- Management of Environmental Impact Assessment process for large scale infrastructure

Appendix D – Field Survey Flora Species List

Flora Species List: NDRRA Site 3 – McDowall Lane Flora Survey July 17th /2015

Codes: I - Y indicates the species is introduced to Queensland

Q – Indicates the conservation status under the Queensland Nature Conservation (Wildlife) Regulation 2006, where:

E – Endangered

V – Vulnerable

NT – Near Threatened

LC – Least Concern

A – Indicates a conservation status under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999*

Family	Species	I	Q	A	Cleared	Riparian Areas (including RE 7.1.4a)
Acanthaceae	<i>Acanthus ilicifolius</i>		LC			x
Anacardiaceae	<i>Euroschinus falcatus</i> var <i>falcatus</i>		LC			x
Anacardiaceae	<i>Semecarpus australiense</i>		LC			x
Apocynaceae	<i>Melodinus acutiflorus</i>		LC			x
Araceae	<i>Epipremnum pinnatum</i>		LC			x
Araliaceae	<i>Polyscias australiana</i>		LC			x
Araliaceae	<i>Schefflera actinophylla</i>		LC			x
Arecaceae	<i>Archontophoenix alexandrae</i>		LC			x
Arecaceae	<i>Calamus moti</i>		LC			x
Arecaceae	<i>Calamus radicalis</i>		LC			x
Aspleniaceae	<i>Asplenium nidus</i>		LC			x
Asteraceae	<i>Sphagnetocola trilobata</i>	Y			x	x
Avicenniaceae	<i>Avicennia marina</i> var <i>eucalyptifolia</i>		LC			x
Blechnaceae	<i>Blechnum cartilagineum</i>		LC		x	x
Cannabaceae	<i>Trema aspera</i>		LC			x
Clusiaceae	<i>Calophyllum inophyllum</i>		LC			x
Connaraceae	<i>Connarus conchocarpus</i>		LC			x
Dilleniaceae	<i>Tetracera daemeliana</i>		LC			x
Elaeocarpaceae	<i>Elaeocarpus angustifolius</i>		LC			x
Euphorbiaceae	<i>Croton triacros</i>		LC			x
Euphorbiaceae	<i>Homalanthus populifolius</i>		LC		x	x
Euphorbiaceae	<i>Macaranga involucre</i> var <i>mallotoides</i>		LC			x
Euphorbiaceae	<i>Macaranga polyadenia</i>		LC			x
Euphorbiaceae	<i>Macaranga tanarius</i>		LC		x	
Euphorbiaceae	<i>Mallotus mollissimus</i>		LC			x
Fabaceae	<i>Clitoria ternua</i>	Y			x	
Fabaceae	<i>Entada phaseoloides</i>		LC			x
Fabaceae	<i>Macroptilium atropurpureum</i>	Y			x	
Fabaceae	<i>Milletia pinnata</i>		LC			x
Flagellariaceae	<i>Flagellaria indica</i>		LC			x
Lamiaceae	<i>Clerodendrum inerme</i>		LC			x
Lamiaceae	<i>Clerodendrum tracyanum</i>		LC			x
Lamiaceae	<i>Hyptis capitata</i>	Y	LC		x	

Family	Species	I	Q	A	Cleared	Riparian Areas (including RE 7.1.4a)
Lauraceae	<i>Cryptocarya cunninghamiana</i>		LC			x
Lauraceae	<i>Cryptocarya laevigata</i>		LC			x
Lauraceae	<i>Cryptocarya vulgaris</i>					x
Lauraceae	<i>Neolitsea brassii</i>		LC			x
Lauraceae	<i>Neolitsea dealbata</i>		LC			x
Malvaceae	<i>Commersonia bartamia</i>		LC			x
Malvaceae	<i>Hibiscus tiliaceus</i>		LC			x
Malvaceae	<i>Urena lobata</i>	Y			x	
Meliaceae	<i>Dysoxylum oppositifolium</i>		LC			x
Mimosaceae	<i>Acacia celsa</i>		LC			x
Mimosaceae	<i>Acacia cincinnata</i>		LC			x
Mimosaceae	<i>Acacia mangium</i>		LC		x	x
Mimosaceae	<i>Mimosa pudica</i>	Y			x	x
Monimiaceae	<i>Palmeria scandens</i>		LC			x
Monimiaceae	<i>Wilkea pubescens</i>		LC			x
Moraceae	<i>Ficus congesta</i>		LC		x	x
Myristicaceae	<i>Myristica globosa</i>		LC			x
Myrtaceae	<i>Acmena hemilampra</i>		LC			x
Myrtaceae	<i>Rhodamnia sessiliflora</i>		LC			x
Myrtaceae	<i>Syzygium angophoroides</i>		LC			x
Myrtaceae	<i>Syzygium hemilamprum</i> subsp <i>hemilamprum</i>		LC			x
Myrtaceae	<i>Syzygium tierneyanum</i>		LC			x
Oleaceae	<i>Chionanthus ramiflorus</i>		LC			x
Phyllanthaceae	<i>Breynia cernua</i>		LC			x
Phyllanthaceae	<i>Glochidion sumatranum</i>		LC			x
Plumbaginaceae	<i>Aegialitis annulata</i>		LC			x
Poaceae	<i>Chloris virgata</i>	Y			x	
Poaceae	<i>Megathyrsus maximus</i>	Y			x	x
Poaceae	<i>Phyllostachys aurea</i>	Y			x	x
Poaceae	<i>Urochloa mutica</i>	Y			x	x
Podocarpaceae	<i>Podocarpus grayae</i>		LC			x
Primulaceae	<i>Maesa dependens</i> var <i>pubescens</i>		LC			x
Proteaceae	<i>Helicia nortoniana</i>		LC			x
Pteridaceae	<i>Acrostichum speciosum</i>		LC			x
Rhamnaceae	<i>Alphitonia oblata</i>		LC			x
Rhizophoraceae	<i>Brugiera gymnorhiza</i>		LC			x
Rhizophoraceae	<i>Brugiera parviflora</i>		LC			x
Rhizophoraceae	<i>Carallia brachiata</i>		LC			x
Rhizophoraceae	<i>Rhizophora apiculata</i>		LC			x

Family	Species	I	Q	A	Cleared	Riparian Areas (including RE 7.1.4a)
Rhizophoraceae	<i>Rhizophora stylosa</i>		LC			x
Rubiaceae	<i>Atractocarpus fitzalanii</i>		LC			x
Rutaceae	<i>Melicope elleryana</i>		LC			x
Sapindaceae	<i>Guioa acutifolia</i>		LC			x
Sapindaceae	<i>Mischocarpus exangulatus</i>		LC			x
Sapindaceae	<i>Synima cordierorum</i>		LC			x
Sapotaceae	<i>Planchonella chartacea</i>		LC			x
Sapotaceae	<i>Pouteria brownlessiana</i>		LC			x
Schizaeaceae	<i>Lygogium flexuosum</i>		LC			x
Verbenaceae	<i>Ageratum conyzoides</i>	Y			x	
Verbenaceae	<i>Stachytarpheta jamaicensis</i>	Y			x	
Vitaceae	<i>Cayratia saponaria</i>		LC			x
Vitaceae	<i>Cayratia maritima</i>		LC			x

Appendix E – Site Reference Photographs

Plate:

Locality and coordinates



Reference photo 1: western end of works area, looking east, Daintree River on left of photo. Cleared residential lot on right (southern) side of McDowall Lane

Lat: -16.2627°

Long: 145.3899°



Reference photo 2: western side of impact clearing area looking to the west.

Lat: -16.2628°

Long: 145.3895°



Reference photo 3: Western edge of survey buffer area, looking west, Daintree River on right.

Lat: -16.2629°

Long: 145.3891°

Plate:

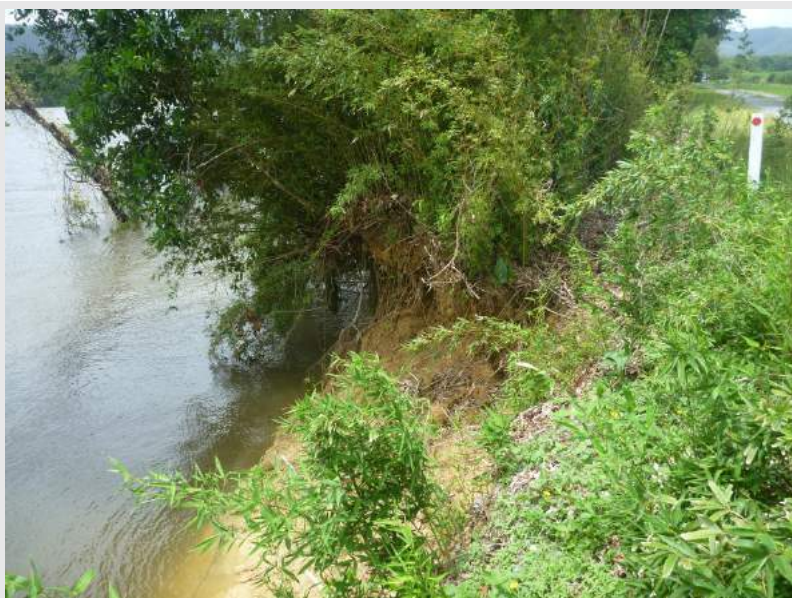
Locality and coordinates



Reference photo 4: Middle Site 3 works area looking to the west.

Lat: -16.2626°

Long: 145.3902°



Reference photo 5: eastern edge of site works area looking to the east.

Lat: -16.2627°

Long: 145.3903°



Reference photo 6: Sugar cane cultivation adjacent works area.

Lat: -16.2627°

Long: 145.3901°

Plate:

Locality and coordinates



Reference photo 7: Edge of steep bank eastern end of buffer survey area in riparian vine forest. Mangroves in tidal zone at base.

Lat: -16.2623°

Long: 145.3910°

This report: has been prepared by GHD for Douglas Shire Council and may only be used and relied on by Douglas Shire Council for the purpose agreed between GHD and the Douglas Shire Council as set out in this report.

GHD otherwise disclaims responsibility to any person other than Douglas Shire Council arising in connection with this report. GHD also excludes implied warranties and conditions, to the extent legally permissible.

The services undertaken by GHD in connection with preparing this report were limited to those specifically detailed in the report and are subject to the scope limitations set out in the report.

The opinions, conclusions and any recommendations in this report are based on conditions encountered and information reviewed at the date of preparation of the report. GHD has no responsibility or obligation to update this report to account for events or changes occurring subsequent to the date that the report was prepared.

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GHD

1st Floor 85 Spence Street Cairns QLD 4870

PO Box 819 Cairns QLD 4870 Australia

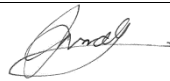
T: 07 4044 2222 F: 07 4044 2288 E: cnsmail@ghd.com.au

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GHD

1st Floor 85 Spence Street Cairns QLD 4870

PO Box 819 Cairns QLD 4870 Australia



T: 07 4044 2222 F: 07 4044 2288 E: cnsmail@ghd.com.au

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