

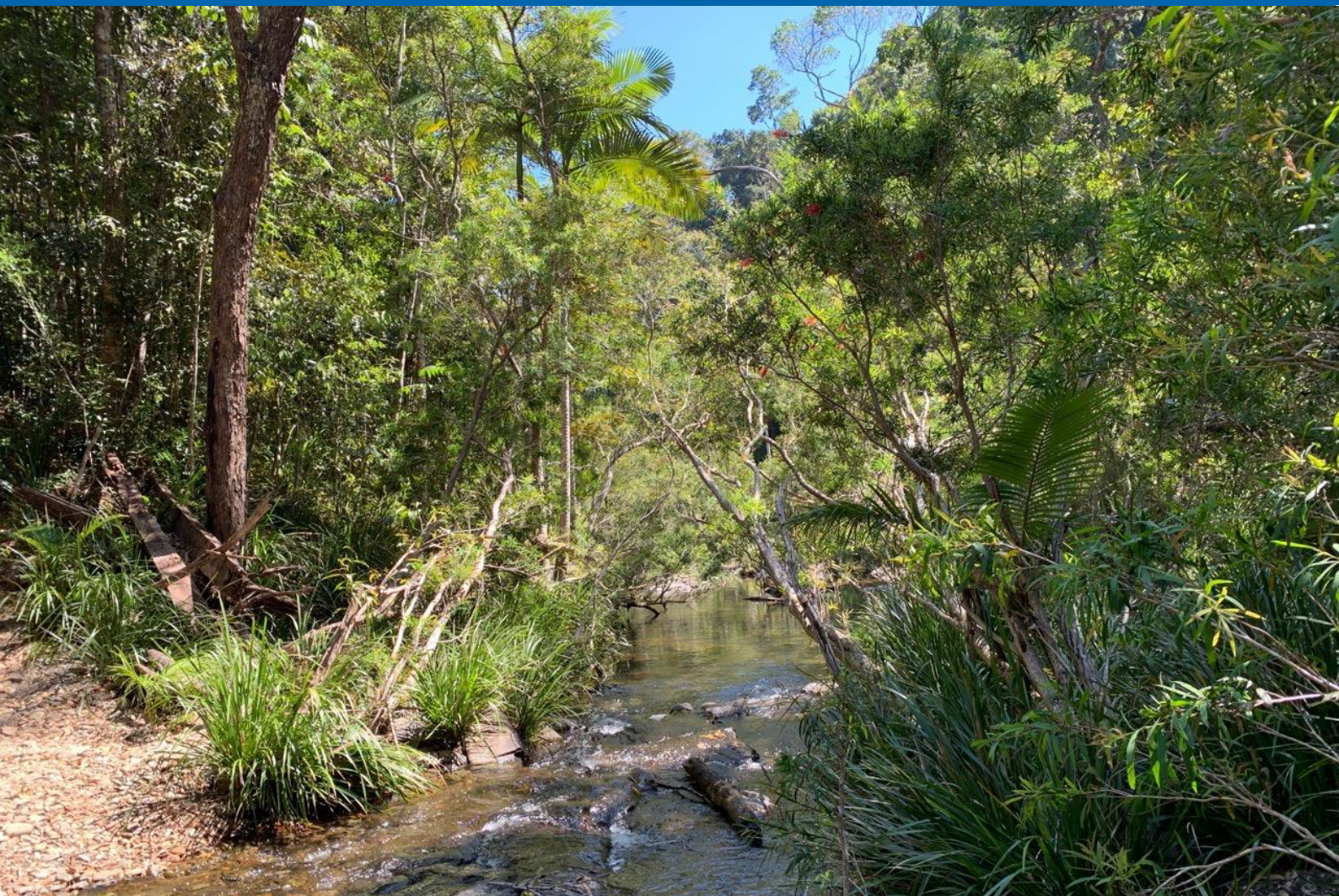


Department of State Development, Tourism, and Innovation

Wangetti Trail South Section (Wangetti to Palm Cove)

Preliminary Traffic Management Plan

July 2021



Abbreviation and acronyms

Abbreviation/acronym	Definition
AS	Australian Standards
DES	Department of Environment and Science
DoR	Department of Resources
DSDTI	Department of State Development, Tourism and Innovation
DTMR	Department of Transport and Main Roads
FNQ	Far North Queensland
km	Kilometre
MNES	Matters of National Environmental Significance
MTBA TDRS	Mountain Bike Trail Guidelines Trail Difficulty Rating System
MUTCD	Manual of Uniform Traffic Control Devices
PPE	Personal Protective Equipment
Project	Wangetti Trail – Wangetti South
TARS	Traffic Analysis and Reporting System
TDPD	Tourism Development Projects Division
TMP / Report	Traffic Management Plan
WTMA	Wet Tropics Management Authority
WTWHA	Wet Tropics World Heritage Area

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1. Introduction

1.1 Project background

The Department of State Development, Tourism and Innovation (DSDTI) – Tourism Development Projects Division (TDPD) is proposing to establish the Wangetti Trail – Wangetti South ('Project') Section, a 29.7 kilometre (km) shared use trail to accommodate both mountain bike users and hikers from the southern boundary Lot 2 SP309094 in the township of Wangetti, to Palm Cove.

Development of a preliminary Traffic Management Plan ('TMP' or 'Report') is required to support environmental approval applications for proposed works associated with the Project and to demonstrate to the regulatory authorities how traffic and the movement of vehicles will be managed to avoid and minimise impacts on matters of national environmental significance (MNES): during the construction and operational phase of the project. This report also discusses the mitigation measures to be implemented during the construction and operational phases.

This TMP has been developed with consideration of the:

- Manual of Uniform Traffic Control Devices (MUTCD), Austroads Guide to Traffic Management
- The Department of Transport and Main Roads Specifications MRTS02 Provision for Traffic and the scope of services described below in Section 1.2.
- Queensland Parks and Wildlife Service Technical Manual - Infrastructure and Equipment QPWS road works signage (for works on very low-volume roads in rural areas) (QPWS Technical Manual QPWS road works signage)
- Operational Policy: Mountain Biking in QPWS Managed Areas dated 2011
- Wangetti Trail Construction Methodology Manual April 2020
- Wangetti Trail prepared by World Trail July 2017
- Work Health and Safety legislation
- Tourism Australia – Great Walks -Guidelines for trail planning, design and management
- Advice from Department of Environment and Science (DES)and Wet Tropics Management Authority (WTMA).

1.2 Purpose

This TMP provides preliminary guidance to help establish appropriate traffic control and traffic management procedures to manage potential hazards associated with the traffic environment during the Project and to reduce potential adverse impacts to people and wildlife during the construction and operational phases of the Project. It also helps establish appropriate controls for users of the shared use trail and management procedures to manage potential hazards such as interactions with hikers and cyclist and interactions with wildlife.

It is expected that prior to any construction activity and operational activity for the Project, a detailed work specific TMP will be developed by the Contractor as part of the Environmental Management Plan (EMP). The Contractor should review the preliminary guidance provided in this Report and provide greater detail based on construction methodology, operational activities, and timing of works. The TMP will also need to be in general accordance with the MUTCD,

1.3 Scope and limitations

This report: has been prepared by GHD for Department of State Development, Tourism and Innovation and may only be used and relied on by Department of State Development, Tourism and Innovation for the purpose agreed between GHD and the Department of State Development, Tourism and Innovation as set out in section 1.1 of this report.

GHD otherwise disclaims responsibility to any person other than Department of State Development, Tourism and Innovation 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.

The opinions, conclusions and any recommendations in this report are based on assumptions made by GHD described in this report. GHD disclaims liability arising from any of the assumptions being incorrect.

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1.4 Objective and strategies

As part of the scope of services for this Report, GHD is to provide preliminary traffic management strategies in accordance with the standards outlined in the MUTCD, Transport and Main Roads Specifications MRTS02 Provision for Traffic, Queensland Parks and Wildlife Service Technical Manual - Infrastructure and Equipment QPWS road works signage (for works on very low-volume roads in rural areas) and advice provided by Department of Environment and Science (DES) and TDPD. The following outcomes will be delivered in this Report:

- Identification of disturbed areas throughout the project site, where applicable
- Identification of the type of controls likely required for each disturbed area and indicative locations
- Preliminary guidance on traffic control measures

The objectives of the TMP are to ensure:

- The safety of the workers
- All road users, including vulnerable road users, are safely guided around, through or past any work site
- Reduce impacts to wildlife
- The performance of the road network is not unduly impacted and the disruption and inconvenience to all road users are minimised for the duration of the works

- Impacts on users of the road reserve and adjacent properties and facilities are minimised.

In an effort to meet these objectives the Traffic Management Plan will incorporate the following strategies:

- Ensuring traffic delays are minimised
- Ensuring all road users are managed including motorists, pedestrians, cyclists, people with disabilities and people using public transport (as applicable and necessary)
- Ensuring work activities are carried out sequentially to minimise adverse impacts to the environment, wildlife and road users
- Provision will be made for works personnel to enter the work area in a safe manner in accordance with safety procedures
- All entry and exit movements to and from traffic streams shall be in accordance with the requirements of safe working practices.

2. Project overview

2.1 Location

Wangetti South Section is located between Wangetti Township and Palm Cove in Far North Queensland (FNQ). The land parcels that Wangetti South Section intersects are outlined in Table 2-1.

Table 2-1 Wangetti South Project subject properties

Affected property	Address / Coordinates	Owner Details	Tenure	Locality	Proposed works
Reserves					
31SP129117	Captain Cook Highway, Ellis Beach, South Reserve	State of QLD (Department of Resources (DoR)	Reserve	Ellis Beach	Trail
6SP309107	Captain Cook Highway Wangetti	State of QLD (DoR)	Reserve	Wangetti	Service track Trail
National Park					
174NPW930	Macalister Range National Park	State of QLD (DoR)	National Park	Macalister Range	Trail Service track Dark Jungle
Road Reserves					
Road Reserve	Captain Cook Highway	Department of Transport and Main Roads (DTMR)	Road Reserve	Palm Cove – Port Douglas	Trail
Leasehold					
13NR5512	Captain Cook Highway Ellis Beach	Lessee Bellbird Park Developments Pty Ltd	State Leasehold Land Non-competitive lease 9/2568 – Tourism purposes namely tourist accommodation and ancillary facilities	Ellis Beach	Service track

The Wangetti South Section is located within Douglas Shire Council local government area and Cairns Regional Council local government area. The shared use trail within Wangetti South Section extends over 29.7 km and is constrained by the Coral Sea to the east and the Macalister Ranges to the west and is almost entirely located within the Macalister Range National Parks and the Wet Tropics World Heritage Area (WTWHA) (refer to Figure 2-1 for a locality plan of the trail).

2.2 Proposed works during construction and operational phases

The Wangetti South Section will comprise of the following components:

- 29.7 km shared use trail to accommodate both mountain bike users and hikers, consisting of natural ground and surface treatments, which will be a maximum of 1.5 m wide. The 1.5m wide trail will be located within a 40 m survey corridor, referred to as the construction allowance corridor, to allow flexibility for the placement of infrastructure during the construction phase. The trail has been designed to be a 'Mountain Biking – intermediate (blue square with blue outline) as defined in the Australian Mountain Bike Trail Guidelines Trail Difficulty Rating System (MTBA TDRS) and grade 3 for hikers, as defined in the Australian Walking Track Grading System (AWTGS), which also equates to Class 3 in the Australian Standard for Walking Tracks, Part 1: Classification and Signage (AS 2156.1-2001). The trail will have an average gradient of <10% and a maximum gradient no greater than 15% (for short distances only). Built structures proposed as part of the trail include gully crossings, bridges, staircases, platforms, rock armouring and signage, where appropriate and required
- A number of waterway crossings along the shared use trail that will comprise of the following: rock armouring, boulder crossings and low-level bridge (minor water crossing)
- Dark Jungle (public camping node and amenities block)
- The formalisation of existing access tracks into service tracks to provide restricted access to the shared use trail and Dark Jungle for construction purposes, operational purposes, maintenance purpose and for emergency purposes.

Details of the general construction methodology for the trail and Dark Jungle are outlined in World Trail Pty Ltd (2020) Wangetti Trail Construction – Final Version. During the construction phase the works will be staged and the Contractor will be responsible for determining appropriate construction staging.

All high-risk activities associated with bulk earthworks, pavement works and revegetation / stabilisation must be completed within the proposed construction works period.

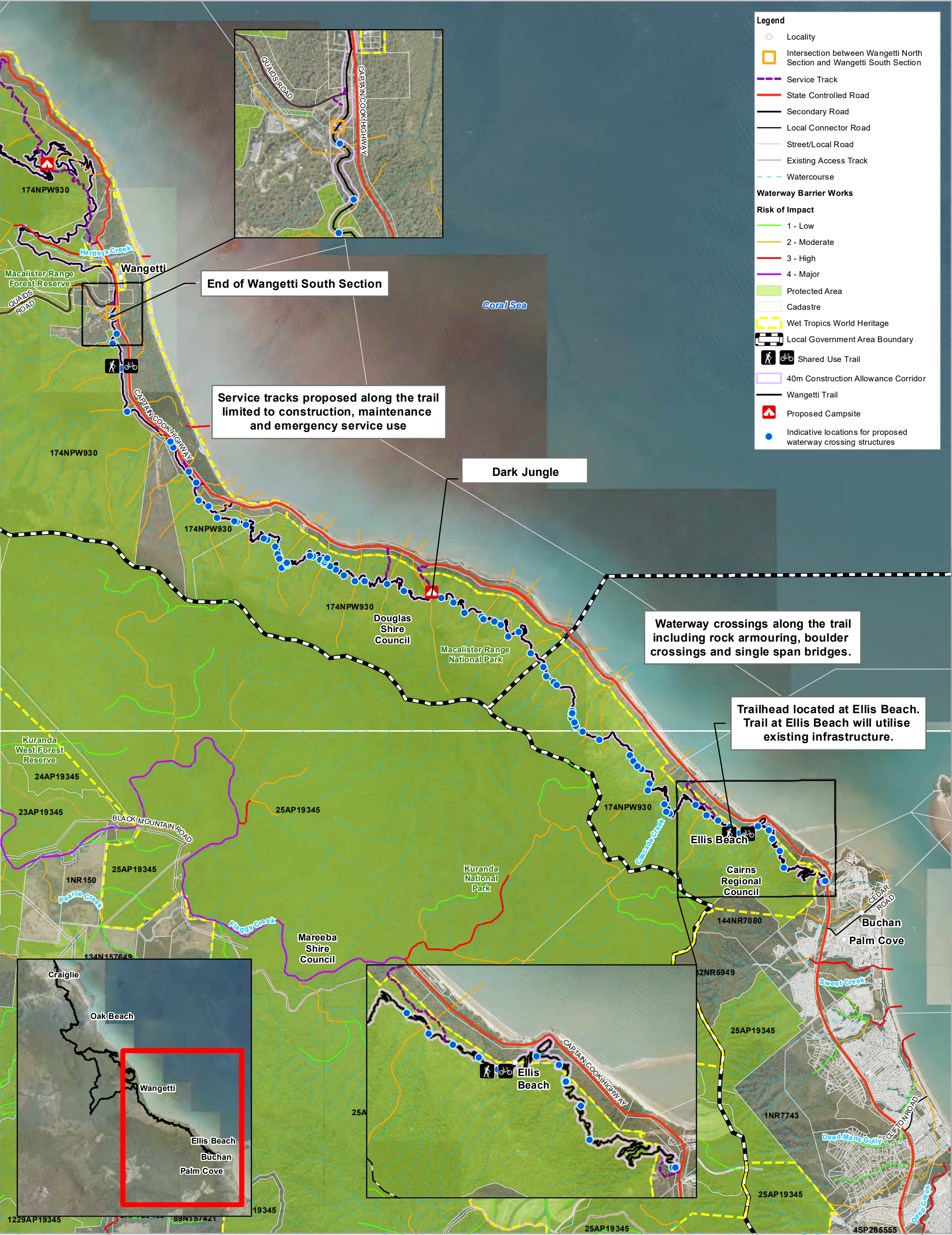
During the operational phase of the project the shared use trail will only be used by mountain bike users and hikers. Maintenance vehicles will be able to access Wangetti South Section via the nominated service tracks.

The Wangetti South Section is being proposed over four properties located within the Douglas Shire Council and Cairns Regional Council local government areas. The project area intersects both the Macalister Range National Park and the Wet Tropics World Heritage Area (WTWHA).

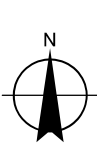
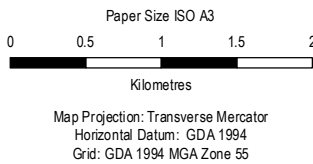
Central to the location of the Wangetti Trail, from a traffic perspective, is the Captain Cook Highway linking Palm Cove to Port Douglas. No treatments are proposed along the Captain Cook Highway road reserve as part of the project.

2.3 Site assessment and site constraint/impacts to existing traffic and road environment

The proposed Wangetti Trail will comprise a 1.5m wide shared use trail (mountain bikers and hikers). Additional facilities will include a trail head to be located at Ellis Beach, a campsite (raised platforms for tents with ablutions at Dark Jungle) and the trail end at Wangetti.



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DITID
Environment Assessment Stage 2 Wangetti Trail

Wangetti Trail Project Locality Plan
Wangetti South Section

Project No. 41-32458
Revision No. 0
Date 16/12/2020

FIGURE 2-1

It is proposed that existing access tracks that feed off the Captain Cook Highway will be utilised to provide access during construction and maintenance (they are referred to as service tracks). An existing access track will be utilised to service the campsite and ablutions at Dark Jungle. A description of the service tracks are outlined in Appendix A.

The following is noteworthy:

- No new access roads are to be constructed to provide access to the trail and amenities from the Captain Cook Highway
- The existing access roads will be closed to the public and general users of the trail
- No modifications or works are anticipated to be constructed along the Captain Cook Highway
- A marginal increase in vehicle traffic (approx. a maximum of 10 vehicles per day) is expected along the Captain Cook Highway associated with the construction phase of the project. No major construction plant is required as no major earthworks are anticipated
- Once the trail is operational, a marginal increase in vehicle traffic is expected by users of the facility (return trips by car from Ellis Beach, Wangetti or Port Douglas) (estimated <20 cars per day).

2.3.1 Captain Cook Highway

The Captain Cook Highway is a state-controlled road administered by the DTMR. Captain Cook Highway provides direct linkage between the Cairns City, Northern Beaches of Cairns and destinations further north to Port Douglas, Mossman and Daintree.

Between Palm Cove and Wangetti, speed limits range from 60 to 100 kph. The road is typically winding with restricted site distances and limited passing opportunities. Current users of the road are vehicle traffic moving between Cairns and Port Douglas, tourists and occasional cyclists. There is no dedicated cycle lane along this section of the Captain Cook Highway. There is not much pedestrian activity along the road apart from at Ellis Beach where pedestrians cross the Captain Cook Highway from the pub and car park to access the beach.

Other hazards to road users include wildlife such as wallabies, feral pigs and the occasional cassowaries which frequent the area.

According to the Traffic Analysis and Reporting System (TARS) Average Annual Daily Traffic measured at Craiglie (just south of Port Douglas) the following traffic volumes were recorded for 2019 (Queensland Government, 2020):

- AADT Average Week Day traffic – 6,257
- AADT Average Weekend Day Traffic – 6,069
- Traffic growth in last 10 years – 1.47%
- Traffic growth last year - -3.71%
- Light vehicles – 90.99%
- Heavy vehicles – 9.00%.

2.3.2 Trail head for the shared use trail

During the operational phase of the project, the trail head will start at Ellis Beach where the trail connects to the Captain Cook Highway road reserve at Ellis Beach to be situated on Lot 31 SP129117 (refer to Figure 2-1 and 2-2). Access to the trail head is via an unnamed informal access track off the Captain Cook Highway.

At the trail head, there are existing carparks at Ellis Beach that will be used by trail users. Approval from Cairns Regional Council will be required to establish the trail head, as part of the development application process under the Planning Act 2016. No treatments to Captain Cook Highway road reserve are proposed. TDPD proposes to install shade structures and signage at the trail head to guide users to the trail entrance. There is an existing pedestrian crossing over Captain Cook Highway at Ellis Beach that allows trail users to cross the road to access the trail.



Figure 2-2 Trail head at Ellis Beach

2.3.3 End of the shared used trail at Wangetti

The shared use trail will end at Wangetti at the intersection of Quaid's Road and the Captain Cook Highway road reserve as shown in Figure 2-1 and 2-3 below. No treatments are proposed with Captain Cook Highway road reserve other than signs and marking as agreed by DTMR. Users of the shared use trail would be responsible for making their own transport arrangements once they complete the trail. For guided tours a shuttle service would be organised as arranged by the operator.



Figure 2-3 End of the Shared Use Trail

3. Traffic hazard risk assessment

Traffic related risks that have been identified within the Project and could arise during the construction and operational phases of the Project are discussed below.

3.1 Construction phase

The construction phase will involve the construction of a new shared use trail, associated infrastructure, and Dark Jungle within the project area. Potential impacts arising from the construction phase to MNES include:

- Disruption to traffic along Captain Cook Highway associated with construction vehicles accessing the trail and Dark Jungle campsite. High risk areas are where the existing access roads and tracks meet the Captain Cook Highway
- Interference with wildlife by construction vehicles along access roads causing potential injury, mortalities and disturbance.
- Collision with mobile plant and people.
- Damage to protected flora species.
- Damage to sensitive environmental/cultural areas by vehicles/plant.

3.2 Operation phase

The operational phase will involve the shared use trail and Dark Jungle being used by hikers and cyclists. Maintenance and emergency vehicles will be able to access the trail and Dark Jungle via service tracks. Potential impacts arising from the operational phase to MNES and MSES include:

- Congestion by vehicles from trail users and general public at parking areas (Ellis Beach and trail end points such as Palm Cove and Wangetti)
- Increased traffic volumes on the Captain Cook Highway
- Increased pedestrian and cyclist activity on the Captain Cook Highway as a result of trail users returning from the trail back to Palm Cove or Wangetti
- Accidental damage to protected flora species.
- Interference with wildlife by maintenance vehicles along access roads and trail users causing potential mortalities and disturbance.

3.3 Methodology

The purpose of this section is to qualitatively determine the risk of potential traffic impacts that could occur as a result of the Wangetti Trail.

The risk assessment methodology in the DTMR's Technical Manual Environmental Processes Manual has been adopted for this document. An initial risk has been assigned to potential impacts occurring during the construction and operational phase in the absence of controls (refer to Table 3-3).

Recommendations to mitigate and manage these impacts are made within Section 4). The significance of the residual impact of the project, taking into consideration the full

implementation of these recommendations, is also determined and is discussed in Section 4
Table 3-2 provides the criteria used to assess significance.

Table 3-1 Impact significant criteria

Significance	Criteria	
	Initial Impact	Residual Impact
Negligible	Works are not likely to result in identifiable impacts to the environmental factor.	Implementation of recommended mitigation measures likely to result in no identifiable impacts to the environmental factor.
Low	In the absence of project-specific mitigation measures, works are likely to result in only minor, short-term impacts to a factor of limited significance	Implementation of recommended mitigation measures may still result in impacts occurring but are likely to be minor and / or short-term in nature.
Medium	In the absence of project-specific mitigation measures, major but recoverable impacts to a factor of significance are likely.	Implementation of recommended mitigation measures may reduce the severity of impacts but are still likely to result in major impacts of short / medium duration.
High	In the absence of project-specific mitigation measures, large-scale, long-term and / or irreversible impacts to a factor of high significance are likely.	Implementation of recommended mitigation measures is unlikely to significantly reduce impacts such that large-scale, long-term and / or irreversible impacts to a factor of high significance are likely.

Table 3-2 Rating criteria

Rating	Definition of rating for each criterion
Extent	The area over which the impact will be experienced
Local	Confined to project or study area or part thereof i.e. site
Regional	The region, which may be defined in various ways i.e. cadastral, catchment, topographic
(Inter) National	Nationally or beyond

Table 3-3 Risk assessment for construction and operation phases in the absence of mitigation measures

Impact	Extent	Phase	Initial Risk	Comment
Disruption to traffic along Captain Cook Highway	Local	Construction	Low	In the absence of project-specific mitigation measures, works are likely to result in only minor, short-term impacts to a factor of limited significance to matter of national environmental significance (MNES) and matter of state environmental significance (MSES). This risk is considered to result in short term impacts.
Interference with wildlife by construction vehicles	Local	Construction	Low	In the absence of project-specific mitigation measures, works are likely to result in only minor, short-term impacts to a factor of limited significance. This risk is considered to result in short term impacts.
Impacts to sensitive environmental areas by construction vehicles	Local	Construction	Low	In the absence of project-specific mitigation measures, works are likely to result in only minor, short-term impacts to a factor of limited significance.to MNES and MSES. This risk is considered to result in short term impacts.
Congestion of vehicles at existing parking areas	Local	Operational	Negligible	Works are not likely to result in identifiable impacts to the environmental factor
Increased traffic volumes on the Captain Cook Highway	Regional	Operational	Low	In the absence of project-specific mitigation measures, works are likely to result in only minor, short-term impacts to a factor of limited significance to MNES and MSES. This risk is considered to result in short term impacts.
Increased pedestrian and cyclist activity on the Captain Cook Highway	Regional	Operational	Low	In the absence of project-specific mitigation measures, works are likely to result in only minor, short-term impacts to a factor of limited significance to MNES and MSES.

Impact	Extent	Phase	Initial Risk	Comment
				This risk is considered to result in short term impacts.
Interference with wildlife by maintenance vehicles	Local	Operational	Low	<p>In the absence of project-specific mitigation measures, works are likely to result in only minor, short-term impacts to a factor of limited significance.to MNES.</p> <p>This risk is considered to result in short term impacts.</p>
Impacts to sensitive environmental areas by maintenance vehicles	Local	Operational	Low	<p>In the absence of project-specific mitigation measures, works are likely to result in only minor, short-term impacts to a factor of limited significance.to MNES.</p> <p>This risk is considered to result in short term impacts.</p>
Collision of maintenance vehicles with cyclists/hikers	Local	Operational	Medium	<p>In the absence of project-specific mitigation measures, major but recoverable impacts to a factor of significance are likely.</p> <p>This risk is considered to result in short term impacts.</p>
Collision of cyclists with hikers	Local	Operational	Medium	<p>In the absence of project-specific mitigation measures, major but recoverable impacts to a factor of significance are likely.</p> <p>This risk is considered to result in short term impacts.</p>

4. General specifications

4.1 Mitigation measures

This section discusses the mitigation measures that have been developed to minimise the impacts to existing road network, pedestrians and Matters of national environmental significance (MNES) within the Project area and surrounding area associated by the movement of vehicles within the Wangetti South Section, as identified in Section 3.4. Table 4-1 outlines the mitigation measures to be implemented during the construction and operational phases of the project.

Table 4-1 Mitigation measures to be implemented for the construction phase

Factor – traffic
Construction activities resulting in adverse impacts to the project area
<ul style="list-style-type: none"> • Disruption to traffic along Captain Cook Highway • Interference with wildlife by construction vehicles • Increased traffic as a result of construction activities • Construction activities within the road reserve • Damage to protected flora species
MNES and MSES applicable (known, likely or may occur in the Wangetti South Section)
Wet Tropics World Heritage Area and National Heritage Site
MNES and MSES bird species
<ul style="list-style-type: none"> • Southern Cassowary • Migratory birds (e.g. Eastern Curlew, great sand plover) • Non-migratory species (e.g. masked owl)
MNES and MSES flora species
<ul style="list-style-type: none"> • <i>Archontophoenix myolensis</i> (Myola palm) • <i>Anoectochilus yatesiae</i> (Marbled jewel orchid) • <i>Canarium acutifolium</i> • <i>Dendrobium fellowsii</i> • <i>Dendrobium mirbelianum</i> (Dark-stemmed antler orchid) – • <i>Diplazium cordifolium</i> • <i>Diplazium pallidum</i> • <i>Myrmecodia beccarii</i> (Ant plant) • <i>Phaius pictus</i> • <i>Phalaenopsis amabilis</i> subsp. <i>rosenstromii</i> (Native moth orchid) • <i>Polyscias bellendenkerensis</i> • <i>Randia audasii</i> • <i>Rhomboda polygonoides</i>

Factor – traffic

- *Toeichima pterocarpum* (Orange tamarind)
- *Vappodes lithocola* (Dwarf butterfly orchid) (Also known as *Dendrobium lithocola*, and the Queensland Flora Census 2019 groups this species into *Dendrobium biggibum*)
- *Zeuxine polygonoides* (Velvet jewel orchid) (Also known as *Rhomboda polygonoides*)

MNES and MSES amphibian species

- *Litoria dayi* (Australian lace lid)
- *Litoria nannotis* (Waterfall frog)
- *Litoria nyakalensis* (Mountain mistfrog)
- *Litoria rheocola* (Common mistfrog)
- *Litoria serrata* (Tapping green eyed frog)

MNES and MSES mammal species

- *Dasyurus maculatus gracilis* (Spotted-tailed quoll)
- *Dasyurus hallucatus* (Northern quoll)
- *Dendrolagus lumholtzi* (Lumholtz's tree-kangaroo)
- *Hipposideros semoni* (Semon's leaf-nosed bat)
- *Phascolarctos cinereus* (Koala)
- *Pteropus conspicillatus* (Spectacled flying-fox)
- *Rhinolophus robertsi* (Large-eared horseshoe bat)
- *Saccolaimus saccolaimus nudicluniatus* (Bare-rumped sheath-tailed bat)
- *Xeromys myoides* (Water mouse)

MNES and MSES aquatic species

- *Stiphodon semoni* (Opal cling goby)
- *Stiphodon rutilarueus* (Orange cling goby)
- *Stiphodon pelewensis* (Emerald cling goby)
- *Stiphodon surrufus* (Birdsong cling goby)

Initial risk with no control

In the absence of project-specific mitigation measures, works are likely to result in only minor, short-term impacts to a factor of limited significance.

Mitigation measure	Timing	Party responsible
Contractor to implement JSEA safe work method statement. Contractor to implement access management plan for access to site of works. Construction crew operating vehicles and mobile plant to have the appropriate certification and completed the required training The contractor is required to prepare the following documents by a suitably qualified	Prior to construction and during construction	Contractor Project Manager Site supervisor

Factor – traffic

person:

- Site access/vehicle movement plan to show where all site access points within the project area.
- Prepare a TMP and Traffic Guidance Scheme (TGS) by a suitable qualified person. The TGS shows all traffic control devices and their layouts on a plan and shall be consistent with the approved TMP. Where any change to existing traffic arrangements is proposed or where construction conflicts with normal traffic movements, the Contractor shall prepare a TGS which clearly details the revised traffic arrangements at all locations affected by the change or conflict. A separate TGS is required for each stage of the works where changes are made to the traffic control devices.
- Traffic shall be controlled at all times, during construction, in accordance with the provisions of the MUTCD Part 3 and the TMP.

Signage erected along tracks and roads where the trail connects to inform construction crew of access points to the project area

Prior to construction

Contractor Project Manager
Site supervisor

Signage around awareness of fauna species and sensitive areas.

Prior to construction

Contractor Project Manager
Site supervisor

Site inductions at the start of the construction phase with construction crews regarding:
undertaking works and the movement of vehicles within road reserves, existing access tracks.

Wildlife present within the project area that could pose a hazard to vehicles and mobile plant

Incident response procedures will be developed to detail actions to be taken in the event of wildlife injury or mortality during clearing

Prior to construction

Contractor Project Manager

Gates with locks to be installed at service tracks where they connect to the existing road network to restrict the illegal use of the tracks by members of the public.

At all times

Contractor Project Manager
Site supervisor

Appropriate scheduling of deliveries of

At all times

Contractor Project

Factor – traffic		
<p>construction material to reduce frequency and a nominated set out area to be agreed upon with DES and the construction contractor away from MNES and areas of high ecological significance.</p> <p>Visitors including visiting drivers to be made aware of the work area layout, given a copy of the site access plan prior to visiting the site. Provide drivers with safe access to amenities away from loading areas or other vehicular traffic.</p>		<p>Manager Site supervisor</p>
<p>Construction traffic to use nominated roads and nominated service tracks when accessing and exiting the project area.</p> <p>Designated vehicle routes within the project area to have a firm and even surface, be wide and high enough for the largest vehicle using them and be well maintained and free from obstructions.</p> <p>Service tracks to be clearly sign-posted to indicate speed limits and traffic calming measures (if required)</p> <p>Reducing speed is very important where administrative control measures are the only reasonably practicable approach. Speed limits to be implemented and enforced.</p> <p>Speed limits for to be adopted for the construction phase to be developed in consultation with the construction contractor, TDPD, DES, WTMA and DTMR.</p>	At all times	<p>Contractor Project Manager Site supervisor</p>
<p>Traffic control devices on service tracks to be installed and operated with consideration of the (QPWS Technical Manual QPWS road works signage) this includes the following:</p> <p>Arriving at the works site:</p> <ul style="list-style-type: none"> • Pre-work preparation and work site assessment - On arrival at the work site a series of actions is required before any work can commence including undertaking a risk assessment of the proposed work site to identify all potential hazards to workers required to work on the work site. • Select the most appropriate traffic guidance scheme - The most appropriate standardised Traffic Guidance Scheme shall be selected according to road and 	At all times	<p>Contractor Project Manager Site supervisor</p>

Factor – traffic

traffic conditions at the site and the work requirements of the officer.

- Installation of traffic control devices
- Traffic control devices approved for use by the QPWS technical manual for QPWS road works signage should only be installed according to the approved standardised Traffic Guidance Schemes provided in this document. Any work site requiring a traffic guidance scheme beyond the scope of this document shall require the engagement of an appropriately qualified Traffic Controller or Police Officer.

Operation of the work site:

- The person in control of the work site on or near roads shall:
 - a. ensure traffic control devices remain in good condition while deployed;
 - b. ensure traffic control devices remain in place according to the Traffic Guidance Scheme in use;
 - c. make a record of the time of any inspection or reinspection of the traffic control devices and the Traffic Guidance Scheme being used. Photographs be taken of any changes to the work site; and
 - d. make a record of any incidents that occur on or in relation to the work site that might have ongoing consequences.
- Maintenance of traffic guidance scheme – Personnel should ensure that the traffic control devices remain in place according to the standardised Traffic Guidance Scheme being used.
- Maintenance of devices - Ineffective signs and devices shall be replaced by similar items in good condition, if they cannot be made effective by cleaning or repair. Signs and devices that are no longer in good condition should be returned and replaced. Non-repairable signs should be destroyed so that they are not inadvertently reused.

Factor – traffic		
Regular inspection of service tracks during the construction phase of the project to determine if additional surface treatment is required	At all times	Contractor Project Manager Site supervisor
The contractor will be required to protect pedestrians and wildlife and to make sure people, wildlife and vehicles cannot interact. Spotters to be nominated on the ground to guide plant and ensure no collisions with other workers in the project area.	At all times	Contractor Project Manager Site supervisor
<p>The contractor will be required to make sure clear road markings like reflective paint and signs should be used to alert pedestrians and vehicle operators to traffic hazards in the work area where working within existing road reserves.</p> <p>Signs should be provided to indicate exclusion and safety zones, parking areas, speed limits, movement of wildlife, vehicle crossings and hazards like blind corners and steep gradients. Signs and road markings should be regularly checked and maintained so they can be easily seen.</p>	At all times	Contractor Project Manager Site supervisor
Warning signs and speed limiting signs on approaches to bridges over permanent water where cassowaries may be likely to be encountered	At all times	Contractor Project Manager Site supervisor
<p>If reasonably practicable the construction personnel should eliminate the need for reversing by using drive-through loading and unloading systems, multi-directional mobile plant. Where this is not possible consider:</p> <p>using devices like reversing sensors, reversing cameras, mirrors, rotating lights or audible reversing alarms</p> <p>using a person to direct the reversing vehicle if they cannot see clearly behind—this person should be in visible contact with the driver at all times and wear high-visibility clothing</p> <p>providing designated clearly marked, signposted and well-lit reversing areas, and excluding non-essential workers from the area.</p>	At all times	Contractor Project Manager Site supervisor
Construction activities will only occur during daytime hours.	At all time	Contractor Project Manager Site supervisor

Factor – traffic		
Vehicles will be required to service the construction of the facilities. Motorised vehicles may range from quad bikes (or similar) to 4WD vehicles and light trucks. All drivers are to be aware of speed limits for the varying sections of road/track.	Prior to construction	Contractor Project Manager Site supervisor
Residual risk with control in place		
Implementation of recommended mitigation measures likely to result in no identifiable impacts to the environmental factor.		
Performance indicator		
<ul style="list-style-type: none"> No vehicle or mobile plant collision with fauna species within the project area. No vehicle or mobile plant adversely impacting environmental sensitive area and/or cultural heritage areas. Record register of the traffic management training completed by the construction crew. No vehicle or mobile plant collision with other road users/construction crew. 		
Corrective actions		
<p>Handling of any traffic complaints will be managed by the process developed by Construction Contractor and TPDP and will be recorded in a complaints register.</p> <p>Investigations will be undertaken in the case of any traffic incident and in consultation with TPDP.</p>		
Monitoring		
<p>The following parameters will be included in a monitoring program to be developed by the construction contractor:</p> <ul style="list-style-type: none"> The speed limits throughout the project area (regular basis) Vehicle routes within project area and on existing road network (regular basis) Driver behaviour within project area (Ongoing on a case by case basis) Traffic flow to manage congestion (as required) Interactions with wildlife (Ongoing on a case by case basis) Interactions with other road users (Ongoing on a case by case basis) Traffic Management Inspection to be undertaken for the project. Regular performance/compliance audits of the Contractor's traffic control measures to be undertake and feedback provided. 		

Table 4-2 Mitigation measures to be implemented for the operational phase

Factor – traffic
Construction activities resulting in adverse impacts to the project area
<ul style="list-style-type: none"> • Congestion of vehicles at existing parking areas • Increased traffic volumes on the Captain Cook Highway • Increased pedestrian and cyclist activity on the Captain Cook Highway • Interference with wildlife by maintenance vehicles • Accidental damage to protected flora species
MNES and MSES applicable (known, likely or may occur in the Wangetti South Section)
<p>Wet Tropics World Heritage Area and National Heritage Site</p> <p>MNES and MSES bird species</p> <ul style="list-style-type: none"> • Southern Cassowary • Migratory birds (e.g. Eastern Curlew, great sand plover) • Non-migratory species (e.g. masked owl) <p>MNES and MSES flora species</p> <ul style="list-style-type: none"> • <i>Archontophoenix myolensis</i> (Myola palm) • <i>Anoectochilus yatesiae</i> (Marbled jewel orchid) • <i>Canarium acutifolium</i> • <i>Dendrobium fellowsii</i> • <i>Dendrobium mirbelianum</i> (Dark-stemmed antler orchid) – • <i>Diplazium cordifolium</i> • <i>Diplazium pallidum</i> • <i>Myrmecodia beccarii</i> (Ant plant) • <i>Phaius pictus</i> • <i>Phalaenopsis amabilis subsp. rosenstromii</i> (Native moth orchid) • <i>Polyscias bellendenkerensis</i> • <i>Randia audasii</i> • <i>Rhomboda polygonoides</i> • <i>Toechima pterocarpum</i> (Orange tamarind) • <i>Vappodes lithocola</i> (Dwarf butterfly orchid) (Also known as <i>Dendrobium lithocola</i>, and the Queensland Flora Census 2019 groups this species into <i>Dendrobium biggibum</i>) • <i>Zeuxine polygonoides</i> (Velvet jewel orchid) (Also known as <i>Rhomboda polygonoides</i>) <p>MNES and MSES amphibian species</p> <ul style="list-style-type: none"> • <i>Litoria dayi</i> (Australian lace lid) • <i>Litoria nannotis</i> (Waterfall frog) • <i>Litoria nyakalensis</i> (Mountain mistfrog)

Factor – traffic

- *Litoria rheocola* (Common mistfrog)
- *Litoria serrata* (Tapping green eyed frog)

MNES and MSES mammal species

- *Dasyurus maculatus gracilis* (Spotted-tailed quoll)
- *Dasyurus hallucatus* (Northern quoll)
- *Dendrolagus lumholtzi* (Lumholtz's tree-kangaroo)
- *Hipposideros semoni* (Semon's leaf-nosed bat)
- *Phascolarctos cinereus* (Koala)
- *Pteropus conspicillatus* (Spectacled flying-fox)
- *Rhinolophus robertsi* (Large-eared horseshoe bat)
- *Saccolaimus saccolaimus nudiclunatus* (Bare-rumped sheath-tailed bat)
- *Xeromys myoides* (Water mouse)

MNES and MSES aquatic species

- *Stiphodon semoni* (Opal cling goby)
- *Stiphodon rutilarueus* (Orange cling goby)
- *Stiphodon pelewensis* (Emerald cling goby)
- *Stiphodon surrufus* (Birdsong cling goby)

Initial risk with no control

In the absence of project-specific mitigation measures, medium but recoverable impacts to a factor of significance are likely.

Mitigation measure	Timing	Party responsible
Operator to implement JSEA safe work method statement. Operator to implement access management plan. Maintenance staff crew operating vehicles to have the appropriate certification and completed the required training	At all times	Operator
Signage erected along tracks to inform: Users of fauna species and sensitive areas Maintenance staff of access points to the project area.	Prior to operation	Operator
Site inductions during operational phase with maintenance staff regarding: undertaking works and the movement of vehicles within road reserves, existing access tracks. Wildlife present within the project area that could pose a hazard to vehicles and mobile plant	Prior to operation	Operator/DES/QPWS

Factor – traffic		
<p>Incident response procedures will be developed to detail actions to be taken in the event of wildlife injury or mortality during clearing a</p> <p>Incident response procedures will be developed to detail actions to be taken in the event of injury or mortality to hikers or cyclist.</p>		
Gates with locks to be installed at service tracks where it connects to the existing road network to restrict the illegal use of the tracks by members of the public.	At all times	Operator
<p>Appropriate scheduling of deliveries to reduce frequency and a nominated set out area to be agreed upon with DES and the operator away from MNES and areas of high ecological significance.</p> <p>Visitors including visiting drivers are made aware of the work area layout, the route they should take and safe working procedures for the work area.</p>	At all times	Operator
<p>Operational and maintenance traffic to use nominated roads and nominated service tracks when accessing the exiting the project area.</p> <p>Designated vehicle routes within the project area to have a firm and even surface, be wide and high enough for the largest vehicle using them and be well maintained and free from obstructions.</p> <p>Service tracks to be clearly sign-posted to indicate speed limits and traffic calming measures (if required)</p> <p>Reducing speed is very important where administrative control measures are the only reasonably practicable approach. Speed limits to be implemented and enforced and traffic calming devices like speed humps considered</p> <p>Speed limits for to be adopted for the operational phase to be developed in consultation with TDPD, DES, WTMA and DTMR.</p> <p>Signs and road markings should be regularly checked and maintained so they can be easily seen.</p>	At all times	Operator
Regular inspection of service tracks to determine if additional surface treatment is	At all times	Operator

Factor – traffic		
required		
Where powered mobile plant is used the operator is required to ensure it does not collide with pedestrians and/or wildlife or other powered mobile plant.	At all times	Operator
Signs should be provided to indicate exclusion and safety zones, parking areas, speed limits, movement of wildlife, vehicle crossings and hazards like blind corners and steep gradients. Signs and road markings should be regularly checked and maintained so they can be easily seen.	At all times	Operator
The use the of shared use trail will be available to be used during daytime hours. Camp areas that will remain operational overnight, but with movement restricted to the immediate camp surrounds.	At all times	Operator
Motorised vehicles may range from quad bikes (or similar) to 4WD vehicles and light trucks. All drivers are to be aware of speed limits for the varying sections of road/track.	At all times	Operator
Cyclists must not use any trail before first light and after last light each day, times dependent on the season. Times to be set by camp/trail operators with consideration of seasonal visibility early morning/late afternoon to minimise impacts to fauna (the southern cassowary in particular).	At all times	Operator
Cyclists and hikers to be educated on: the environmental values associated the project area, procedures to following if an accident occurs on the trail, accessing and exiting the trail and the appropriate use of the trail. This information can be presented on the Wangetti Trail website, at the trail head and presented by the operational staff.	At all times	Operator
Residual risk with control in place		
Implementation of recommended mitigation measures likely to result in no identifiable impacts to the environmental factor.		
Performance indicator		
<ul style="list-style-type: none"> No vehicle or mobile plant collision with fauna species within the project area. No damage to environmental sensitive areas/cultural heritage areas by 		

Factor – traffic

vehicles/cyclists/mobile plant.

- Record register of the traffic management training completed by the operational and maintenance crew.
- No vehicle or mobile plant collision with other road users, hikers and/or cyclists.

Corrective actions

Traffic to be managed strictly in accordance with the approved TGS and TMP and any non-conformances that occur the Contractor to raise a non-conformance report.

Handling of any traffic complaints will be managed by the process developed by Operator and TPDP and will be recorded in a complaints register.

Investigations will be undertaken in the case of any traffic incident and in consultation with TPDP.

Monitoring

The following parameters will be included in a monitoring program to be developed by the operator:

- The speed limits throughout the project area (regular basis)
- Vehicle routes within project area and on existing road network (regular basis)
- Driver behaviour within project area (Ongoing on a case by case basis)
- Traffic flow to manage congestion (as required)
- Interactions with wildlife (Ongoing on a case by case basis)
- Interactions with other road users (Ongoing on a case by case basis)
- Traffic Management Inspection to be undertaken for the project.
- Regular performance/compliance audits of the Contractor's traffic control measures to be undertake and feedback provided.

4.2 Responsibilities of contractors

All contractors involved in the construction and operation of the Wangetti South Section should:

- Be mindful of their responsibility to provide, as far as practicable, safe and convenient travelling conditions for road users and a safe workplace for personnel and plant under their control
- Be educated on the wildlife and areas of environmental significance within the project area
- Ensure the workplace is safe and without risk of injury or illness to anyone coming to the workplace to work and to abide by the provisions in the Work Health and Safety Act and Work Health and Safety Regulation.
- Ensure the workplace is safe and without risk of illness or injury from any plant or substance used properly in the course of work
- Remember that they, and personnel under their control, should at all times be courteous to road users. Personnel should not allow themselves to be provoked by members of the public. By exercising restraint they will strengthen their position both then and in the event of any subsequent inquiry into an incident or during any subsequent proceedings
- Ensure that personnel assigned to signing the works are adequately trained to perform the task and that traffic controllers are appropriately trained and informed of their duties
- Be familiar with, and act as far as is practicable, in accordance with the provisions of this procedure and Part 3 of the Manual of Uniform Traffic Control Devices (Queensland Department of Main Roads 2003).
- Provide a safe workplace environment that minimises, as far as practicable, the likelihood of injury to workers by traffic within or adjacent to the work area.
- Steps should be taken to warn the public of prevailing conditions and to guard, delineate and, where necessary, illuminate work that may pose a hazard to road users. Care should be taken to avoid, wherever possible, long delays or detours that may cause unnecessary inconvenience to road users.

4.3 General procedures

The construction contractor and operational contractor to ensure that as a minimum the following practices will be adopted:

- Signage to be erected on public roads around the site to warn road users of the project
- Signage erected on service tracks and gates secured to avoid the public access them
- All speed limits are to be obeyed, and construction workers are to give way to public road users at all times
- No new access roads or tracks are to be created.

4.4 Signage and road marking

During the construction phase signage and road marking within the project area will be required and the following signage and road markings are proposed:

- Clear road markings like reflective paint and signs should be used to alert pedestrians, cyclists and vehicle operators to potential traffic hazards particularly at the trail head at Ellis Beach and at the end of the trail at Wangetti.

- Signs should be provided to indicate exclusion and safety zones, parking areas, speed limits, vehicle crossings and hazards like blind corners and steep gradients
- Signs and road markings should be regularly checked and maintained so they can be easily seen.
- Appropriate temporary road signage and appropriate marking to be agreed with DTMR and installed at the intersections of the service tracks and Captain Cook Highway road reserve.

During the operational phase signage and road marking within the project area will be required. A suite of different signs is recommended for use on the shared use trail and the service tracks and includes:

- Trailhead Signs - A 'trailhead' is a designated entry point to a trail and it is the place where most people would park their car and embark on a ride or walk. Trail head signs will be used at the trail head at Ellis Beach. It will also include information about trail etiquette and encouraging courtesy and harmony between users.
- Decision Point Signs - A Decision Point Sign should be used at the start of each section, link trail and alternate trail to enable trail users to make an informed decision about whether to proceed or not. These signs will be installed at various locations along the use trail.
- Directional Signs/ Waymarkers - A Waymarker is a simple bollard or post (generally about 100mm wide x 100mm thick x 1500- 2000mm tall [with approximately 600mm embedded in the ground]) with symbols on it to guide trail users in the correct direction at any point of uncertainty. This will be used along various sections of the trail to guide the uses.
- Signs should be provided to indicate exclusion and safety zones, parking areas, speed limits, vehicle crossings and hazards like blind corners and steep gradients. Signs and road markings should be regularly checked and maintained so they can be easily seen.
- Signs will used where the trail intersects service tracks to inform the users that service tracks are restricted to emergency and maintenance vehicles.
- Clear road markings like reflective paint and signs should be used to alert pedestrians, cyclists and vehicle operators to potential traffic hazards particularly at the trail head at Ellis Beach and at the end of the trail at Wangetti.
- All signage and collateral must reinforce the trails' shared use status and must include the message that the trail was designed and constructed for both user groups and a 'code of conduct' for trail users.
- Appropriate road signage and appropriate marking to be agreed with DTMR and installed at the intersections of the service tracks and Captain Cook Highway road reserve.

4.5 Service tracks

All contractors undertaking works on the service tracks within the WTWHA or Macalister Range National Park are to implement the Technical Manual: Infrastructure and Equipment QPWS road works signage (for works on very low-volume roads in rural areas) as accessed at: https://parks.des.qld.gov.au/_data/assets/pdf_file/0022/161833/tm-pk-ie-qpws-road-work-signage.pdf

4.6 Works within a road corridor

All ancillary works and encroachments within the road corridor along the Captain Cook Highway require a permit from DTMR according to the *Transport Infrastructure Act 1994*. Anticipated structures and activities proposed within the Captain Cook Highway road reserve for the project include (but not limited to):

- Signs/devices
- Fences
- Gates
- Formalisation of existing access tracks
- Property name signs
- Earthworks including vegetation clearing.

4.7 Intersections of the trail at Captain Cook Highway road reserve

Within the project area, there are a number of locations of where the Captain Cook Highway (state-controlled) road reserve is impacted by the proposed works and they are outlined below:

- Existing dirt track from Captain Cook Highway at Palm Cove (refer to service track 1 in Appendix A). At this location the track will be used by construction vehicles during the construction phase and by both hikers, cyclists and maintenance vehicles during the operational phase. Visibility at the crossing point should be free and clear of obstacles (overhanging vegetation etc.) Both pedestrians and vehicles should have good visibility. Procedures indicating who has right of way at crossings should also be established. Appropriate road marking and signage installed as discussed in Section 4.4.
- Trail head at Ellis Beach. At this location the track will be used by both hikers and cyclists during the operational phase. Visibility at the crossing point should be free and clear of obstacles (overhanging vegetation etc.) Cyclists and hikers should have good visibility. Procedures indicating who has right of way at crossings should also be established. Appropriate road marking and signage installed as discussed in Section 4.4.
- Existing dirt track from Captain Cook Highway at Ellis Beach (refer to service track 2 in Appendix A). At this location the track will be used by construction vehicles during the construction phase and used by emergency and maintenance vehicles during the operational phase. Visibility at the crossing point should be free and clear of obstacles (overhanging vegetation etc.) Procedures indicating who has right of way at crossings should also be established. Appropriate road marking and signage installed as discussed in Section 4.4.
- Service track from Ellis Beach intersecting the alignment in the Ellis Beach South Reserve (refer to service track 3 in Appendix A). At this location the track will be used by construction vehicles during the construction phase and used by emergency and maintenance vehicles during the operational phase. Visibility at the crossing point should be free and clear of obstacles (overhanging vegetation etc.) Procedures indicating who has right of way at crossings should also be established. Appropriate road marking and signage installed as discussed in Section 4.4.
- Service track begins at Redcliff Point area at Captain Cook Highway, the road extends to the Wangetti Trail and continues to the end point. Access road needs to be cut off where it transects the trail (refer to service track 4 in Appendix A). At this location the track will be

used by construction vehicles during the construction phase and used by emergency and maintenance vehicles during the operational phase. Visibility at the crossing point should be free and clear of obstacles (overhanging vegetation etc.) Procedures indicating who has right of way at crossings should also be established. Appropriate road marking and signage installed as discussed in Section 4.4.

- Sealed road providing access to the trail via 2 points, from the Captain Cook Highway (refer to Appendix A). At this location the track will be used by construction vehicles during the construction phase and used by emergency and maintenance vehicles during the operational phase. Visibility at the crossing point should be free and clear of obstacles (overhanging vegetation etc.) Procedures indicating who has right of way at crossings should also be established. Appropriate road marking and signage installed as discussed in Section 4.4.
- Service track near Rifle Range Road (refer to Appendix A). At this location the track will be used by construction vehicles during the construction phase and used by emergency and maintenance vehicles during the operational phase. Visibility at the crossing point should be free and clear of obstacles (overhanging vegetation etc.) Procedures indicating who has right of way at crossings should also be established. Appropriate road marking and signage installed as discussed in Section 4.4.

4.8 Training

Personnel working during the construction and operational phases of the Wangetti South Project will be required to undergo site specific induction which includes traffic management requirements on site and the environmental values associated with the project area including MNES fauna species. Appropriate training suiting the different roles and responsibilities is to be undertaken in accordance with appropriate standards as advised by DES, QPWS, Wet Tropics Management Authority (WTMA) and TDPD. Regular toolbox meetings are also conducted.

The construction contractor personnel will be required to ensure the operators of the mobile plant have received the appropriate training and inductions necessary to protect them and others from the risks associated with traffic in the project area.

Workers including contractors who are required to perform duties associated with traffic management within the project area will undergo appropriate training and inductions and will be required to hold the relevant certification.

4.9 Reporting

Records collected as part of traffic management activities will be retained by the Contractor and the TDPD for the legally required period of time. Environmental records include but may not be limited to:

- Site inspection checklists
- Environmental audit reports
- Training records
- Monitoring data
- Complaints and associated records of communication
- Meeting minutes.

During construction phase the contractor will make these records available to the TDPD or any relevant authorities and their representatives on request. During the operational phase, the

Proponent will make these records available to any relevant authorities and their representatives on request and where justified and in accordance with legislation.

4.10 Monitoring

Monitoring is an essential component of any TMP as it assists in determining how well control methods are working. Personnel will be nominated during the construction phase and the operational phases of the project to undertake monitoring of traffic management controls in accordance with an established schedule for the project.

4.11 Emergency, incidents and complaints

Construction personnel and operational personnel are required to report any hazardous items encountered or abnormal occurrences to their Supervisor/Team Leader or Workplace Health and Safety Representative (WHSR).

TDPD will be verbally notified of an incident on the day it occurs and as soon as practicable of the responsible person becoming aware of the incident, and in writing within 24 hours.

All notifications to authorities will be undertaken by TDPD.

The Contractor will be required to provide an Emergency Response Plan and for this plan to be thoroughly communicated to all staff members in the Construction Induction. The Emergency Response Plan should identify evacuation routes, mustering points, communication protocols and provide key contact details for local authorities and services. It should be compatible with the internal emergency response protocols of the various land managers.

When reporting traffic incidents to TDPD, the following information is to be provided:

- The name and contact details of the reporting person
- The date and time the environmental incident occurred
- The activity that was being undertaken when the incident occurred
- How the incident occurred
- Any containment measures put in place to reduce or contain environmental harm
- An assessment of the amount of environmental harm that occurred
- If any other stakeholders are aware of the incident.

The contractor during the construction phase to develop an emergencies, incidents and complaints protocols and reporting documentation to be agreed by TDPD.

The contractor during the operational phase to develop an emergencies, incidents and complaints protocols and reporting documentation to be agreed by TDPD.

4.12 Corrective Actions

The Project Manager is responsible for ensuring that on receipt of a complaint relating to traffic management, an investigation should be undertaken promptly, and appropriate actions undertaken. All corrective actions should be implemented to meet the required outcomes of the Administering Authorities.

5. References

Department of Environment and Science. 2011. *Operational Policy: Mountain Biking in QPWS Managed Areas dated 2011*.

Department of Transport and Main Roads 2020. Technical Specification Transport and Main Roads Specifications MRTS02 Provision for Traffic July 2020. Available from: <https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Specifications/Specifications-Index>

Department of Transport and Main Roads 2013. Technical Manual Environmental Processes Manual August 2013. Available from: <https://www.tmr.qld.gov.au/business-industry/Technical-standards-publications/Environmental-processes-manual.aspx> GHD Pty Ltd 2020. *Department of State Development, Tourism and Innovation - Wangetti Trail South Section (Wangetti to Palm Cove) Matters of National Environmental Significance Baseline Ecology and Impact Assessment Report*, Final Version, July 2020



Queensland Government 2020. Traffic Analysis and Reporting System. AADT Segment Report Area 403 - Far North District Road Section 20A - Captain Cook Highway (Cairns - Mossman)

World Trail Pty Ltd (2020), *Wangetti Trail Construction Methodology Manual April 2020*

World Trail Pty Ltd (2017), *Wangetti Trail 2017*.

Appendices

Appendix A - Proposed Service Tracks

Service Tracks	
Proposal appreciation	The project will include ancillary service tracks to allow for restricted vehicle access along the alignment during the construction phase, operational phase, and maintenance phase and for emergency access. These will connect to the to the existing road network and will predominantly be used by side by side vehicles during maintenance and larger construction vehicles. The service tracks will be gated to members of the public, discouraging access and use. Passive surveillance from users of the trail and monitoring of the trail by QPWS and the trail operator will assist in making sure that the unlawful activities e.g. motorbike riding does not occur with the project area
Key Structures	Grading/improvements of some of the existing access tracks may be undertaken to allow them to cater for the vehicles to be used for the project.
Utility connections	No utility connections are required.
Vegetation	Limited vegetation is required to remove vegetation that has grown over the existing access tracks. Only overhanging vegetation over the existing access tracks will be cut back. Ongoing vegetation management will be required.
Service Track 1: Unnamed	
<p>Description: Existing dirt track from Captain Cook Highway at Palm Cove.</p> <p>Location:</p> <p>-16.739, 145.664 -16.739, 145.663</p> <p>Real property descriptions: 13NR5512, 174NPW930, Captain Cook Highway Road reserve</p>	 

Service Tracks

Service Track 2: Unnamed

Description: Existing dirt track from Captain Cook Highway at Ellis Beach.

Location:

-16.72560, 145.64559

-16.73084, 145.64819

Real property descriptions:
13NR5512, 174NPW930, Captain Cook Highway Road reserve



Service track 3: Unnamed (Ellis Beach area)

Description: Service track from Ellis Beach intersecting the alignment in the Ellis Beach South Reserve.

Location:

-16.69678, 145.60883

-16.70038, 145.60947

Real property description:
Captain Cook Highway Road reserve, 39SP309107, 174NPW930



Service Tracks

Service Track 4: Unnamed (Red Cliff Point Area – south east)

Description: Service track begins at Redcliff Point area at Captain Cook Highway within Section 2. The road extends to the Wangetti Trail and continues to the end point. Access road needs to be cut off where it transects the trail.

Location:

-16.69439, 145.60331

-16.6982.19, 145.60313

Real property descriptions:
39SP309107, 174NPW930,
Captain Cook Highway Road
reserve



Service Track 5: Unamed (Red Cliff Point Area – west)

Description: Service track extends from the Captain Cook Highway and intersects with the Wangetti Trail in Section 2.

Location:

-16.682.189, 145.57818

-16.68646, 145.57689

Real property descriptions:
6SP309107, 174NPW930, Captain
Cook Highway Road reserve



Service Tracks

Service Track 6: Rifle Range Road

Description: Sealed road providing access to the trail via 2 points, from the Captain Cook Highway.

Location:

-16.68023, 145.57397

-16.68392, 145.57544

Real property descriptions:
6SP309107 and 11AP17379



Service Track 7: Rifle Range Road

Description: Service track near Rifle Range Road

Location:

-16.67833, 145.57188

-16.67846, 145.57145

-16.68023, 145.57396

-16.68037, 145.57377

Real property descriptions:
Captain Cook Highway Road reserve, 6SP309107



Construction

Materials and equipment
Methodology

Limited works will occur to the existing access tracks other than removal of vegetation where it obstructs the movement of vehicles and some minor surface treatments to provide safe passage for vehicles.

Service Tracks

Operation and maintenance

Operation and maintenance phase

The service tracks will be managed in accordance with QPWS trail maintenance procedures manuals.

The service tracks will be used by the operators and managers of Wangetti Trail and will be used for the following purposes:

- Deliver equipment and supplies to the camp sites
- Be used by emergency vehicles for emergencies
- Be used to access the trail and camp sites for maintenance purposes
- The service tracks will be gated to restrict access to the general public.

The trail and service tracks will be maintained in accordance with QPWS trail maintenance/ procedures/manuals for those parts of the service tracks that are within the protected area estate.

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
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4132458-40294-

145/<https://projects.ghd.com/oc/sqoc2/wangettitrackapprova/Delivery/Documents/4132458 - Wangetti Trail Traffic Management Plan.docx>

Document Status

Revision	Author	Reviewer		Approved for Issue		
		Name	Signature	Name	Signature	Date
1	B Steytler	C Hooper	On file	G Squires		28/7/21

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