Environmental Impact Statement

Tippogoree Hills Trail Network Proposal

George Town Mountain Bike Trail Development

Prepared by

Peter Rickards | Project Manager | George Town Council

January 2022

Document Control

Amendment Record

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1	08/01/2021	Peter Rickards	Document created
2	16/02/2021	Peter Rickards	First draft finalised
3	12/03/2021	Peter Rickards	Reviewed and updated by author
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7	20/12/2021	Peter Rickards	Reviewed and updated by author
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Executive Summary

Since 2017, George Town Council have commenced planning on a proposal for a network of mountain bike trails and facilities within the George Town municipality.

Specifically, this report has been prepared as supporting documentation for the proposed Tippogoree Hills Trail Network, to satisfy the requirements of a Level 2 Reserve Activity Assessment under the *National Parks and Reserves Management Act 2002.*

This report specifically details information relevant to the construction and operation of mountain bike trails and associated infrastructure within the Tippogoree Hills Conservation Area.

This report encapsulates the environmental and cultural heritage impacts to be considered and management strategies discussed and proposed. Environmental Consulting Options Tasmania (ECOTas) has been directly consulted regarding impacts to flora and Fauna, and Cultural Heritage Management Australia (CHMA) has been directly consulted regarding Aboriginal heritage impacts of the project.

This report indicates the proposal is unlikely to constitute an action resulting in: -

- Significant impact to matters of national environmental significance under the Environmental Protection and Biodiversity Conservation Act 1999 and such the proposal has not been referred to the Commonwealth;
- Significant impact on any known Aboriginal heritage sites; or
- Compromise the broad intent of objectives for management of a Conservation Area under the *National Parks and Reserves Management Act 2002.*

Based on the supporting studies it is deemed the project is unlikely to result in any significant impact to the surrounding natural or cultural environment.

Contents

Glossary and Abbreviations

AHO - Aboriginal Heritage Officer

AHT - Aboriginal Heritage Tasmania

AHR - Aboriginal Heritage Register

BBA - Bell Bay Aluminium

CHMA - Cultural Heritage Management Australia

CMP - Committed Management Plans

CEMP - Construction and Environmental Management Plan

DSG - Department of Sate Growth

ECOTas - Environmental Consulting Options Tasmania

FFDI - Forest Fire Danger Index

FPA - Forest Practices Authority

FPO - Forest Practices Officer

FPP - Forest Practices Plan

GPS - Global Positioning System

GTC - George Town Council

GTIPS - George Town Interim Planning Scheme 2013

LISTMaps - Land Information Systems Tasmania Maps

LUPAA - Land Use Planning and Approvals Act 1993

PID - Property Identification Number

PSTR - Pre-Start Trail Review

PWS - Parks and Wildlife Services

TFB - Total fire Ban

TIA - Traffic Impact Assessment

UDP - Unanticipated Discovery Plan

1.0 Introduction

1.1 Purpose and Report Structure

The purpose of this report is to satisfy requirements of a Level 3 Reserve Activity Assessment (RAA) in accordance with the Tasmanian Parks and Wildlife Service (PWS) environmental impact assessment procedure. Whilst this report covers the entire Tippogoree Hills Trail Network (both the Lower Section and Upper Section), approval is only being sought for those trails located within the Tippogoree Hills Conservation Area.

This report outlines environmental and cultural heritage impacts considered, and management strategies discussed and proposed, in order to gain consent from landowners and for a development application to be made to Council. This report also outlines planning considerations given to the construction of the proposed trail network, and the operational period as a publicly accessible recreational facility.

1.2 Project Background and Current Status

1.2.1 Background

Since 2017, George Town Council have commenced planning on a proposal for a network of mountain bike trails and facilities within the George Town municipality. Initial stakeholder and landowner consultations has revealed confidence in the proposal, and in the continuity of growth for mountain bike tourism in the Northern Tasmania region. Regional development organisations, local businesses, and a range of community members have also indicated strong support for the proposal.

Over the last two years, several reports have been prepared and provided to assist George Town Council in the planning, most notably: -

- *George Town Site Visit Report*, World Trail (2017). Provided initial impressions, observations, and assessment of suitability of the area for a future mountain bike trail development;
- *George Town Mountain Bike Feasibility Study*, Dirt Art (2018). Provided an exploration into potential for a mountain bike trail development in George Town, and suggested strategic objectives and planning processes; and,
- *George Town Mountain Bike Proposal Economic Analysis*, Derek Le Marchant (2019). Provided a broad assessment of the George Town Mountain Bike Trail proposal, and an overview of the potential tangible deliverables to the George Town area.

All documents suggested optimistic outlooks for viability of the project, although it is noted that building a network of mountain bike trails will not necessarily ensure a successful mountain biking destination.

In October 2019, George Town Council obtained Commonwealth funding through the Community Development Grant Program totalling $4.4 million dollars to construct up to 100 kilometres of trails. In February 2020, council went to tender for the design and construction of 60-100-kilometre of mountain bike trails.

In April 2020 World Trail were awarded the contract to undertake the work, offering approximately 70-80-kilometres of trails over two trail networks.

1.2.2 Current Status

The proposed network centred in the Tippogoree Hills, referred to as the Tippogoree Hills Trail Network, represents the second stage of the George Town Mountain Bike Trail Development.

Detailed designs for the Tippogoree Hills Trail Network have been produced, environmental and cultural assessments have been conducted, proposed trail alignments confirmed, and have in-principle support from landowners. For planning purposes, the Tippogoree Hills Trail Network was divided into an upper and lower section. Construction of the Tippogoree Hills Trail Network - Lower Section (entirely on private land) commenced in June 2021 and will continue into early 2022.

Council is now seeking planning approvals and formal permission from landowners so the Tippogoree Hills Trail Network - Upper Section can progress into the construction phase.

1.3 Project Objectives and Outcomes

1.3.1 Objectives

The George Town Mountain Bike Trail Development has five key objectives, including: -

- Boosting the visitor economy of existing core service businesses;
- Diversifying the tourism portfolio of the municipality;
- Providing new business opportunities specific to mountain bike tourism;
- Improving the appeal of the George Town municipality as a tourist destination; and
- Provide recreational opportunities for George Town Council residents.

These objectives align with George Town Council's Strategic Goals 1 and 2 Strategic Plan, being: -

1. Foster the growth of a diverse business and industry mix and to foster population growth; and
2. Support an active, vibrant, and culturally diverse community life that enjoys liveable and amenity rich neighbourhoods.

1.3.2 Outcomes

The outcome of the George Town Mountain Bike Trail Development will be approximately 70-80 kilometres of purpose-built mountain bike trails over two separate networks acting as a key driver for tourism and economic development.

1.4 Proponent Details

1.4.1 Proponent Details

Name of Proponent (legal entity)	George Town Council
Name of Proponent (trading name)	George Town Council
Registered Address	16-18 Anne Street, George Town, Tasmania 7352
Postal Address	PO Box 161, George Town, Tasmania 7253
ABN Number	68 300 116 092

1.4.2 Proponent Contact Person Details

Name	Peter Rickards
Position	Project Manager
Organisation	George Town Council
Telephone	03 6382 8800
Mobile	0429 345 328
Email Address	peterr@georgetown.tas.gov.au

1.5 Annexed Documents/Files and Committed Management Plans

Annexed Documents/Files		
Reference	**Document/File Name**	**Description**
Annexure 1	Finalised Trail Alignments - Tippogoree Hills Trail Network	Electronic GPS trail alignments of proposed trail corridors.
Annexure 2	George Town Mountain Bike Economic Analysis - Derek Le Marchant	Broad assessment of the proposal's potential to deliver benefits to the George Town municipality.
Annexure 3	Signage Plan - Tippogoree Hills Network (Upper Section)	Prepared by GTC indicating approximate locations and examples of information boards and wayfinding signage.
Annexure 4	Trail Maintenance Plan - George Town Mountain Bike Trail Development	GTC will develop a Trail Maintenance Plan prescribing operational procedures and scheduling for trail inspections and maintenance works.
Annexure 5	George Town MTB Trails CEMP - Version 3	Prepared by World Trail outlining management treatments during construction. This is a dynamic document that is continually updated throughout the project.
Annexure 6	Tippogoree Hills Trail Network - Ecological Assessment - ECOTas	Prepared by ECOtas to ensure that the requirements of the identified ecological values are appropriately considered during any further project planning under local, State and Commonwealth government approval protocols
Annexure 7	Tippogoree Hills Trail Network - AH Assessment - CHMA (with Trail 16 & 45 addendums)	Prepared by CHMA to identify any potential Aboriginal heritage constraints.
Annexure 8	Weed Management Plan - Tippogoree Hills Trail Network	Prepared by GTC outlining management treatments for the prevention of spread of weeds and diseases.
Annexure 9	Unanticipated Discovery Plan	Outlines the management of unanticipated discoveries of Aboriginal relics in accordance with the *Aboriginal Heritage Act 1975* and the *Coroners Act 199*5.
Annexure 10	Traffic Impact Assessment - Bridport Road & Service Road Access	Outlines impacts the traffic increase created by the proposed service road entrance will have on Bridport Road.
Annexure 11	Traffic Impact Assessment - Bridport Road at Lauriston Park	Outlines impacts the traffic increase created by the proposed trail head carparking area will have on Bridport Road.
Annexure 12	Trail Mate Opportunity - George Town Mountain Bike Trail Development	Draft prospectus for the trail maintenance funding program.
Committed Management Plans (CMP)		
Reference	**Document/File Name**	**Description**
CMP 1	Trail Safety Management Plan - George Town Mountain Bike Trail Development	GTC will develop a Trail Safety Management Plan prescribing operational procedures for user safety, emergency access and evacuation procedures in conjunction and consultation with emergency services.

1.6 Legislation

Acts	**Compliant**	**Potentially Compliant**	**Not compliant**	**Act not Applicable**	Details
Core Acts (always check)					
National Parks and Reserves Management Act 2002		Y			Part of the project are is on Reserved land. Project subject to RAA approval.
Crown Lands Act 1976	Y				Part of the project are is on Crown Land, managed by PWS.
Nature Conservation Act 2002	Y				Natural and cultural values of the area will be maintained.
Threatened Species Protection Act 1995	Y				A permit to take some threatened species is required.
Aboriginal Relics Act 1975	Y				A full Aboriginal Heritage Assessment was undertaken with one new site identified. Unanticipated discovery plan to be implemented if any suspected Aboriginal archaeology is discovered
Historic Cultural Heritage Act 1995				X	No listed heritage sites present.
Land Use Planning and Approvals Act 1993		Y			Project subject to planning approval.
Forest Practices Regulations 2017		Y			Awaiting formal advice from FPA as to whether a certified FPP is required.
Environment Protection and Biodiversity Conservation Act 1999	Y				No World Heritage, National Heritage, RAMSAR Wetlands affected. No impacts on threatened species are anticipated.
Tasmanian Wildlife (General) Regulations 2010	Y				No species are likely to be directly physically affected.
Tasmanian Weed Management Act 1999	Y				Construction Environmental Management Plan (CEMP) and Weed Management Plan addresses statutory requirements for declared weeds.
Environmental Management and Pollution Control Act 1994	Y				No significant impacts as referred to by the Act.
Water Management Act 1999 / State Policy on Water Quality Management 1997	Y				Erosion control on tracks will be implemented as per IMBA guidelines
Fire Service Act 1979	Y				No burning is proposed.

Acts	**Compliant**	**Potentially Compliant**	**Not compliant**	**Act not Applicable**	Details
					Bushfire evacuation plan will be prepared as part of the operational Trail Safety Management Plan.
Forest Practices Act 1985				X	Verbal advice from the FPA is that an FPP is not required.
Living Marine Resources Management Act 1995				X	Not in a marine environment
Mineral Resources Development Act 1995	Y				Proposal will not preclude any future mining
Building Act 2000 Building Reg's 2004, Plumbing Reg's 2004				X	No building or plumbing proposed
State Coastal Policy 1996				X	Not in a coastal environment
Work Health and Safety Act 2012	X				Proponent and Contractors to manage under their WHS systems

2.0 Proposal Description

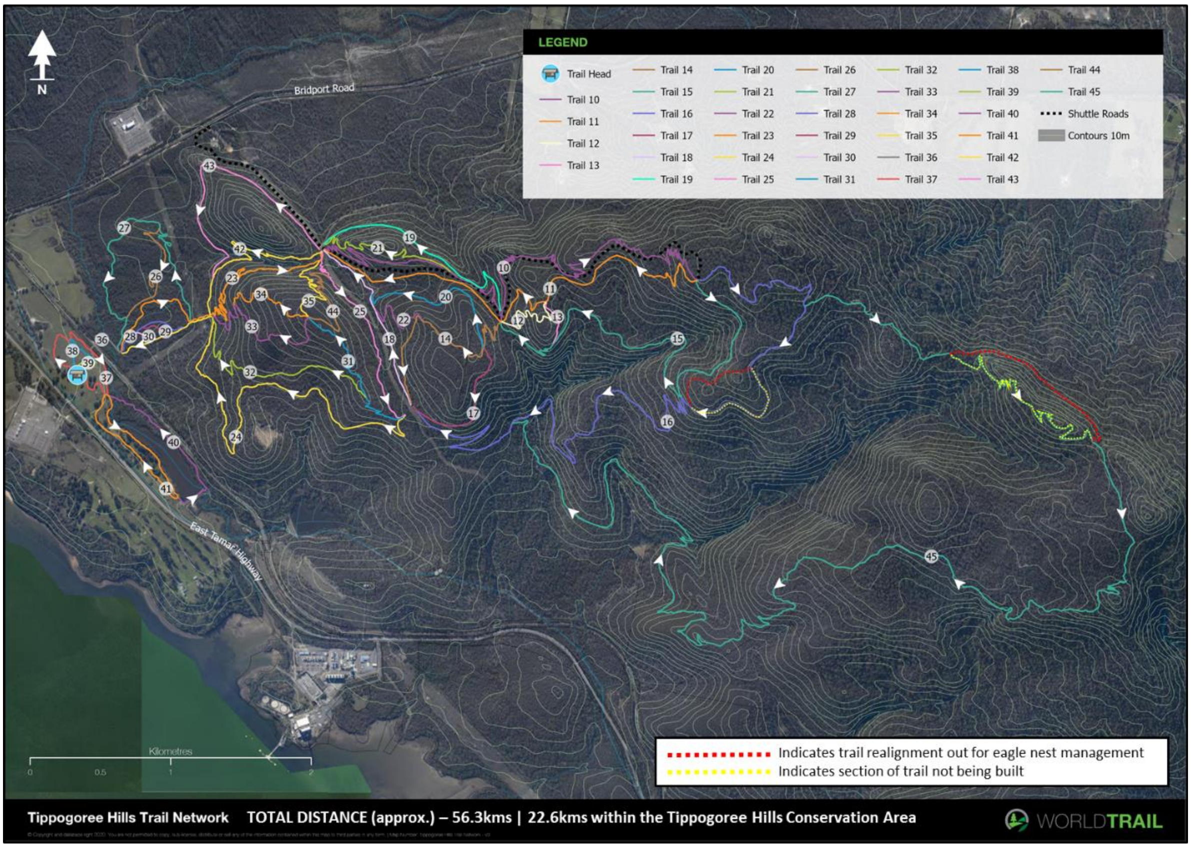
2.1 Description of Project

The complete Tippogoree Hills Trail Network design offers approximately 56.3-kilometres over 36 trails, construction of a 1.3-kilometre public access road and carparking area, and a proposed 3.9-kilometre service access road, 2.8-kilometre of which is newly constructed through mostly undisturbed bushland.

All trail alignments within the Tippogoree Hills Trail Network have been finalised and assessed for natural and cultural values.

A map of the trail network layout can be seen below and in Appendix A, and illustrates the proposed alignments and how they interact with each other and the access points. GPS shape files have been provided as annexed files to this document.

Image 1: Proposed Tipoggoree Hills Trail Network Design



All trails will be standard single-track mountain bike trails, and will be a mix of trail build styles and difficulty ratings, catering for a wide range of users. The exact width of a constructed trail varies and is determined by the specific build style of a trail, and the terrain in which the trail is constructed. Newly constructed trail width is generally between 1-2m, although often the width will decrease over time to match the usage footprint.

The primary access point (commonly referred as the trail head) will be located at Lauriston Park. The trail head will encompass carparking for approximately 40-60 vehicles, a bus pullover bay (24 seater bus max, but more likely 12 seater buses), and include a prominent information board displaying maps, code of conduct, emergency contact details, and advance notice of trail closures (e.g. total fire bans).

A summary of the proposed trail breakdown has been provided in the table below.

Table 1: Trail Summary Breakdown

Trail No.	Type	Difficulty Rating	Trail Style	Length (m)
Upper Section				
Trail 10	MTB Trail	Easy	Adventure	4278
Trail 11	MTB Trail	Intermediate	Airflow	2830
Trail 12	MTB Trail	Intermediate Difficult	Airflow	639
Trail 13	MTB Trail	Intermediate Difficult	Gravity	261
Trail 14	MTB Trail	Intermediate	Adventure	1426
Trail 15	MTB Trail	Intermediate	Gravity	2854
Trail 16	MTB Trail	Easy	Adventure	5632
Trail 17	MTB Trail	Intermediate	Airflow	801
Trail 18	MTB Trail	Easy Intermediate	Airflow	1017
Trail 19	MTB Trail	Easy Intermediate	Airflow	1335
Trail 20	MTB Trail	Easy Intermediate	Airflow	947
Trail 21	MTB Trail	Easy Intermediate	Airflow	1011
Trail 22	MTB Trail	Easy Intermediate	Airflow	501
			SUB-TOTAL	**23532**
Lower Section				
Trail 23	MTB Trail	Intermediate	Adventure	2219
Trail 24	MTB Trail	Easy Intermediate	Gravity	2997
Trail 25	MTB Trail	Easy Intermediate	Adventure	1187
Trail 26	MTB Trail	Easy	Adventure	834
Trail 27	MTB Trail	Easy Intermediate	Gravity	1831
Trail 28	MTB Trail	Easy Intermediate	Gravity	432
Trail 29	MTB Trail	Intermediate	Gravity	160
Trail 30	MTB Trail	Intermediate	Gravity	114
Trail 31	MTB Trail	Intermediate	Adventure	981
Trail 32	MTB Trail	Intermediate	Adventure	1368
Trail 33	MTB Trail	Intermediate Difficult	Gravity	1068
Trail 34	MTB Trail	Difficult	Gravity	648
Trail 35	MTB Trail	Difficult	Gravity	716
Trail 36	MTB Trail	Easy Intermediate	Pathway	481
Trail 37	MTB Trail	Easy	Airflow	1144
Trail 38	MTB Trail	Easy Intermediate	Airflow	386
Trail 39	MTB Trail	Easy Intermediate	Airflow	186
Trail 40	Shared-use	Easy Intermediate	Adventure	982
Trail 41	Shared-use	Very Easy	Pathway	1543
Trail 42	MTB Trail	Intermediate Difficult	Gravity	1178
Trail 43	MTB Trail	Easy	Airflow	1538
Trail 44	MTB Trail	Difficult	Adventure	803
Trail 45	MTB Trail	Intermediate	Adventure	9990
			SUB-TOTAL	**32786**
			TOTAL	**56318**

World Trail have assigned an intended trail style to each proposed trail. The trail style refers to the character of the trail, and provides insight into the how the construction will be undertaken. Definitions for each intended trail style listed in Table 1 have been provided in the below table.

Table 2: World Trail Build Style Definitions

Build Style	Description
Shared-use	Shared Use is intended for use by walkers and cyclists. It equates to an MTBA rating of Very Easy and is analogous to a rail trail. It should be 1.5-3m in width, should have a modified, semi-hardened surface (i.e. crushed rock, granitic sand, road base etc., but not asphalt or concrete), with very gentle gradients, long sight-lines, no obstacles or features and is generally intended to be dual directional.
Adventure	Machine-cut flowing contoured trail. May include features such as switchback corners, berms, rollers, jumps, drops etc. Typically equates to a climbing, descending cross-country trail. Generally no greater than 1m in width.
Flow	One of four descending styles, Flow offers wide appeal to all MTB riders. Gentle gradients, bermed corners, rollers and achievable rollable obstacles, often integrated into grade reversals. Generally 1-1.5m in width depending on terrain and available ride lines.
Airflow	Airflow is similar to Flow, but with the emphasis on jumps. Airflow has bigger and more frequent jumps than Flow, but still offers a smooth, flowing ride, with numerous berms and optional lines. Obstacles are usually rollable, tabletop style. Generally 1-2m in width depending on terrain and available ride lines.
Gravity	Gravity trails offer a mix of Flow, Airflow and Downhill, combining numerous elements into one challenging descending trail. Best tackled on enduro / trail bikes, they may include occasional short uphill sections, and a variety of features. Generally 1-2m in width depending on terrain and available ride lines

World Trail have assigned an intended trail difficulty to each proposed trail. The Trail Difficulty Rating System used by World Trail is the new system outlined by Mountain Bike Australia (MTBA) in their 2019 publication 'Australian Mountain Bike Trail Guidelines', and definitions of each classification used have been provided in the below table. The goal was to provide a variable mix of difficulty, focused on providing for the mass appeal market.

Table 3: Trail Difficulty Rating Descriptions of Proposed Trails

Difficulty Rating	Description
Very Easy	Wide trail with a gentle gradient smooth surface and no obstacles. Suitable for beginner cyclists with basic bike skills, and most bikes.
Easy	Wide trail with a gentle gradient smooth surface; Some obstacles such as roots, logs and rocks; Suitable for beginner cyclists with basic mountain bike skills, and off-road bikes.
Easy / Intermediate	Likely to be single track with a moderate gradient, variable surface and some obstacles; Some obstacles such as roots, logs and rocks; Suitable for mountain bikers with mountain bikes.
Intermediate	Single trail with moderate gradients, variable surface and obstacles; May include steep sections; Suitable for skilled mountain bikers with mountain bikes.
Intermediate / Difficult	Suitable for competent mountain bikers, used to physically demanding routes; Expect large and unavoidable obstacles and features; May include some steep sections; Suitable for skilled mountain bikers with mountain bikes.
Difficult	Suitable for experienced mountain bikers, used to physically demanding routes; Navigation and personal survival skills are highly desirable. Expect large, dangerous and unavoidable obstacles and features; Challenging and variable with long steep climbs or descents and loose surfaces; Some section will be easier to walk.

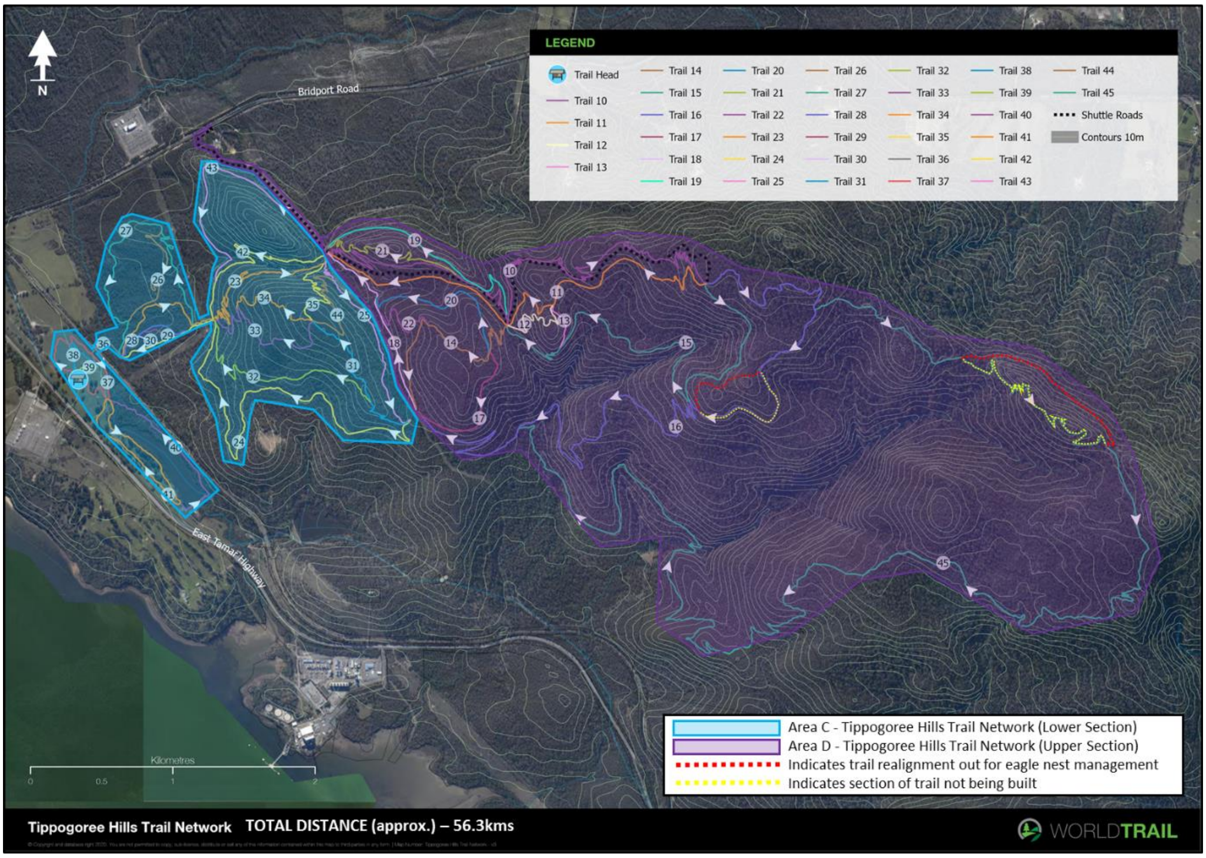
(Source: Australian Mountain Bike Trail Guidelines, MTBA, 2019)

For planning purposes, the Tippogoree Hills Trail Network was divided into an upper and lower section. Construction of the Tippogoree Hills Trail Network - Lower Section (entirely on private land) commenced in June 2021 and will continue into early 2022.

Council is now seeking planning approvals and formal permission from landowners so the Tippogoree Hills Trail Network - Upper Section can progress into the construction phase.

The division of the lower and upper section of the Tippogoree Hills Trail Network is indicated in the image below and in Appendix D

Image 2: Planning Area Map - Tippogoree Hills Trail Network



2.2 Need and Demand

2.2.1 Need

George Town has a distinct history, from early colonial settlement to industrial manufacturing, and like many Council's around Tasmania, George Town Council is looking to boost and diversify its economic and tourism opportunities with the development of mountain bike trails. Council wants the municipality to be placed firmly on the map as a family-friendly tourist destination, that offers a range of activities for the whole family, including mountain biking.

Dorset and Break O'Day Councils have experienced a significant and transformative increase in employment and economic activity as a direct result of their respective mountain bike trail networks. The economic analysis conducted by Derek le Marchant (provided as Annexure 2) supports a similar result for the George Town Municipality, indicating that the direct economic impact could be between \$1.5m - \$3.4m from up to 26,000 unique visitors per annum three years after construction.

The George Town Municipality is ideally located to benefit from both intrastate visitations, particularly from Launceston, and interstate visitations due to proximity to the Blue Derby trail network and a major airport. This project aims to compliment and complete the mountain biking narrative in North East Tasmania.

2.2.2 Demand

Demand is best detailed in Annexure 2 - George Town Mountain Bike Proposal - Economic Analysis by Derek Le Marchant (2019), the relevant extract from which is below: -

The overall picture for tourism demand in Tasmania is positive. Tourism Tasmania data shows that tourism demand in Northern Tasmania is strong with annual rising from 565 500 in 2015, to 707 600 in 2018 (Tourism Tasmania, 2019).

Other demand indications are also strong. Between 2016 and 2018: -

- *Visitation to George Town:* *Up from approx. 80 000 to 85 000*
- *Overnight stays in George Town:* *Up from approx. 12 000 to 17 000*
- *Tamar Valley Touring Route Visitors:* *Up from approx. 123 000 to 131 000*

(Tourism Tasmania, 2019).

The overall picture for cycle tourism is also positive. Between 2015 and 2018, visitors that engaged in MTB activity is up 18%, other forms of cycling up 30% and total cycling activities are up 24% (Tourism Tasmania, 2019). Prior to the development of the North Eastern Mountain Bike Project in 2014 (encompassing Hollybank, Derby and Blue Tier), Northern Tasmania had a distinct lack of suitable MTB infrastructure to encourage any significant growth in mountain bike visitation from interstate or overseas (Six Dot Consulting, 2011). Whilst there were existing "back country" trails and local riding facilities in areas like the Blue Tier, this infrastructure was not necessarily targeted at visiting riders. Six years on, and this situation has altered significantly. Tasmania is experiencing a boom in the construction of MTB trail infrastructure. This follows the rise of MTB as a recreational pursuit as well as the increased number of tourists that MTB whilst visiting Tasmania. The quantity of high-quality purpose-built trail in Tasmania has more than doubled between 2014 (~120km) and 2019 (~270km). Total trail distance is forecast to reach almost 460km by 2024.

For areas looking to develop new trail proposals, this increased supply of MTB trail is a double-edged sword. More trail in Tasmania helps to create a critical mass of trail experiences. But it also creates competition for the attention of local riders and visitors with an ever-increasing range of riding options and choices. Therefore, new MTB infrastructure developments must have a clear point of difference to attract new visitors to Tasmania to prevent the dilution of the market for existing trails (TRC Tourism, 2016).

2.2.3 Economic Viability

Economic viability is best detailed in Annexure 2 - George Town Mountain Bike Proposal - Economic Analysis by Derek Le Marchant (2019), the relevant extract from which is below: -

The GTMTB proposal has merit. It comes at a time of considerable optimism for the future of cycle tourism in Tasmania. Stakeholder consultations reveal continued confidence in the ongoing growth of MTB visitation. There is strong support from regional development organisations, local *businesses and a range of community members. The GTMTB proposal also fits an identified need for more regional-level trail networks that can support existing and proposed iconic MTB trails in Tasmania (TRC Tourism, 2016). This analysis also shows that the direct economic impact for Stage One could be between $1.5M - $3.4M from up to 26,000 unique visitors per annum three years after construction. This is a strong result for an initial investment of around $2.8M.*

Further project planning, consultation and market research will assist to provide the GTMTB proposal with a clear direction, point of difference and governance framework to create a successful MTB development. Given the projected benefits and the recent demonstrations of community and business support for the project, the GTMTB proposal is an attractive opportunity for the community and economic development in the George Town area.

Additionally, Derek le Marchant created a Multi Criteria Analysis comparison by inserting the George Town Mountain Bike Trail Development into a multi criteria analysis conducted in 2011 prior to the North East Mountain Bike project being initiated (meaning at a similar stage in the project lifecycle).

Table 4: Multi Criteria Analysis Comparison - Blue Derby and George Town

	Landowner Support	Planning	Community and Rider Support	Market Appeal	Benefit to Local Economies	Access	Profile and Other Attractions	Existing Trails	Existing Support Facilities	**TOTAL**
Blue Derby	6	4	6	6	6	1	3	2	2	**36**
George Town	4	4	4	4	6	3	3	1	2	**31**

(source: George Town Mountain Bike Proposal - Economic Analysis by Derek Le Marchant (2019))

As a comparison of interest, the below table provides a snapshot of the George Town proposal as a commercial product when compared to existing mountain bike trail destinations that have proven to be successful. The comparison has been made on the trails in each trail network that represents the core trails, that is, the trails that start/finish in the same geographic location. The comparison has also only been made on gravity trails that would make sense to utilise a shuttle service to access (i.e. doesn't have significant section of uphill pedalling, or not directly accessed from the shuttle service drop-off point).

Table 5: Product Comparison of George Town Proposal

Trail Destination	**KM of trail***	**Number/Length of Gravity Trails Directly Serviced by a Shuttle Bus****	**Notes**
Blue Derby	70.3km	8 trails / 21.8km	Doesn't include Atlas, Blue Tier, Branxholm link or the Weldborough trails which are not part of the core trail network.
St Helens	64.9km	6 trails / 17.1km	Doesn't include Bay of Fires Trail, The Dreaming Pools or the town link trail which are not part of the core trail network.
George Town	72.8km	12 trails / 23.7	Doesn't include linking trail to town.
*Refers to the total kilometres of trail on offer from core trail network (doesn't include non-comparable products, i.e. long wilderness trails, town links etc). **The number of gravity trails (no significant uphill) directly serviced by a shuttle bus are defined as trails that have a significant benefit in catching the shuttle bus.			

2.2.4 Operational Costs

Maintaining world-class trails require regular maintenance and improvements. Whilst a professionally designed and constructed trail network should only require minimal maintenance, a formal management program will need to be initiated as soon as the network opens (possibly sooner) to provide a pro-active instead of re-active approach.

Trail maintenance programs can be expensive, estimated to cost around 2.5-5% of the project's capital expenditure. This ratio can vary, depending on the quality of trail construction, weather conditions, soil and geological conditions, and usage thresholds.

George Town Council has developed a trail maintenance funding program that aims to generate an annual trail maintenance budget of 5% of the capital expenditure, with a dollar-value of approximately $150,000. The program is based on similar programs from already established mountain bike trail networks, which have proven to return positive results. Businesses and organisations can sign up to a sponsorship-style, annually recurring program in exchange for direct exposure to mountain bike tourism market. The program has three levels of financial commitment representing three tiers of recognition as return on investment, to remain achievable for both large and small business and organisations.

This model of generating funds for reinvestment into trail maintenance is both popular, and proven to work, being adopted by existing trail destinations such as Blue Derby and St Helens, and oversees trail destinations like Rotorua in New Zealand.

2.3 Sites Identified for Development and Works Description

2.3.1 Land Parcels

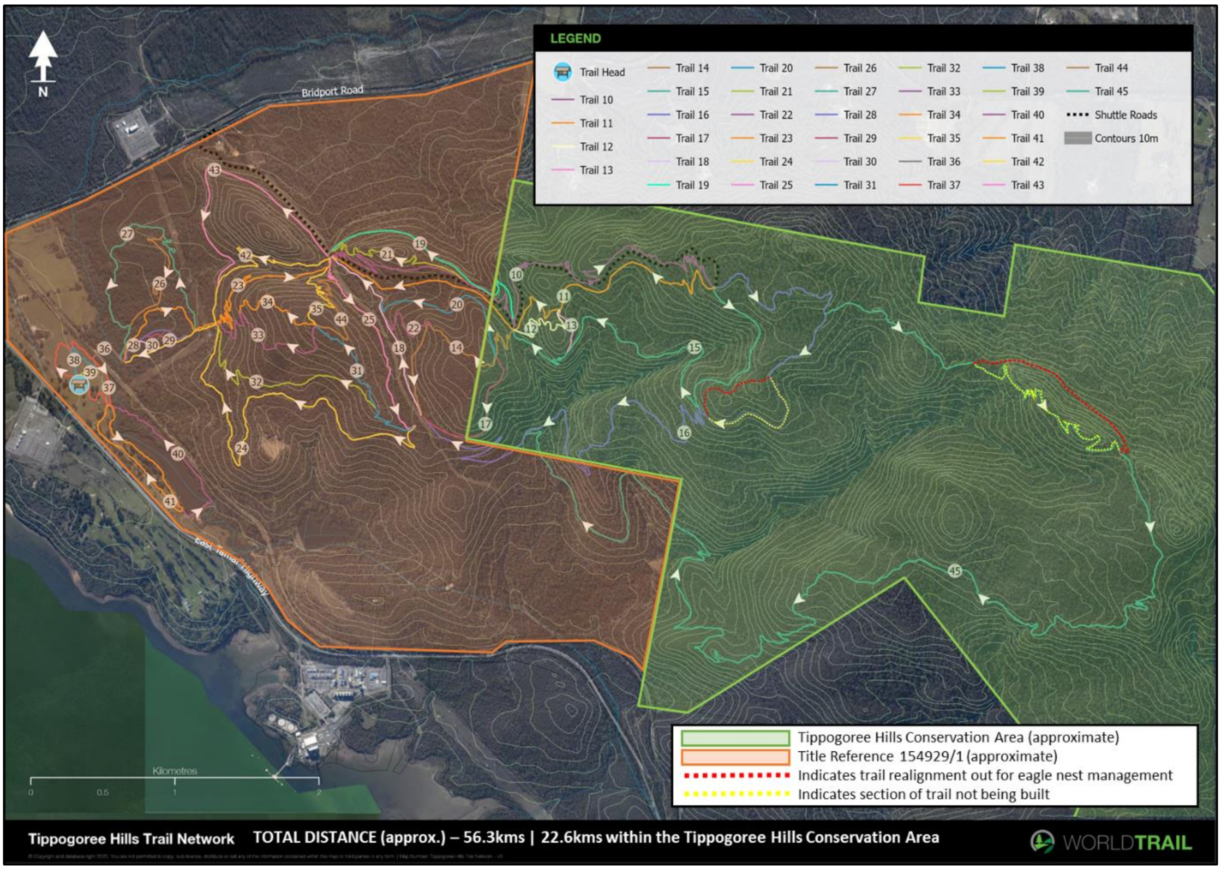
The proposed Tippogoree Hills Trail Network is located on the following land parcels as indicated in the table below, with the landowner, land tenure, planning zone, and passive recreation status.

Table 6: Land Parcels - Tippogoree Hills Trail Network

Land Parcel	Owner / Land Manager	Land Tenure
PID - 2830796 Title Ref - 154929/1 Address - 135 BELL BAY RD BELL BAY TAS 7253	Rio Tinto Aluminium (Bell Bay) Limited	Private Freehold
PID - N/A (Tippogoree Hills Conservation Area) Title Ref - N/A (Tippogoree Hills Conservation Area) Address - GEORGE TOWN TAS 7253	DPIPWE / PWS	Crown Land

An image illustrating positioning of land parcels in terms of the trail network layout can be seen below and in Appendix C.

Image 3: Land Parcels - Tippogoree Hills Trail Network



The proposed land parcels were chosen for maximum viability to deliver the project outcomes, based on layout, topography, and proximity to George Town. All landowners have provided in-principle support for the project, and are familiar with the current concept of the Tippogoree Hills Trail Network.

2.3.2 Proposed Works

A summary of the proposed works within the Tippogoree Hills Conservation Area are: -

- construction of approximately 14.2 kilometres of mountain bike trails;
- construction of approximately 1.88 kilometres of private entry access road;
- installation of map and information boards and internal wayfinding signage; and
- public operational usage, and ongoing maintenance of the trail network.

These works have been further detailed in the following sections.

Construction of Mountain Bike Trails

Approximately 56.3-kilometres over 36 trails of purpose-built mountain bike trails are proposed to occur within the Tippogoree Hills Trail Network. Of the 56.3-kilometres of trails, 22.6-kilometres of trails are proposed to occur on Reserved Land within Tippogoree Hills Conservation Area, forming approximately 40% of the entire trail network. These trail alignments have been fully surveyed and assessed for cultural and natural values, and are ready to proceed into the construction phase once all permits and approvals have been granted.

A breakdown of the trails, including the kilometres of trails occurring in the Tippogoreee Hills Conservation, can be seen in the table below.

Table 7: Tippogoree Hills Conservation Area - Trail Breakdown

Trail No.	Type	Difficulty Rating	Trail Style	Total Trail Length (m)	Length of trail within Conservation Area
Trails completely or partially within the Tippogoree Hills Conservation Area					
Trail 10	MTB Trail	Easy	Adventure	4278	2900
Trail 11	MTB Trail	Intermediate	Airflow	2830	1900
Trail 12	MTB Trail	Intermediate / Difficult	Airflow	639	639
Trail 13	MTB Trail	Intermediate / Difficult	Gravity	261	261
Trail 14	MTB Trail	Intermediate	Adventure	1426	561
Trail 15	MTB Trail	Intermediate	Gravity	2854	2854
Trail 16	MTB Trail	Easy	Adventure	5632	3976
Trail 17	MTB Trail	Intermediate	Airflow	801	551
Trail 19	MTB Trail	Easy / Intermediate	Airflow	1335	362
Trail 20	MTB Trail	Easy / Intermediate	Airflow	947	185
Trail 45	MTB Trail	Intermediate	Adventure	9990	8450
			SUB-TOTAL	**30993**	**22639**
Trail occurring on other land tenures					
Trail 18	MTB Trail	Easy / Intermediate	Airflow	1017	-
Trail 21	MTB Trail	Easy / Intermediate	Airflow	1011	-
Trail 22	MTB Trail	Easy / Intermediate	Airflow	501	-
Trail 23	MTB Trail	Easy / Intermediate	Adventure	2219	-
Trail 24	MTB Trail	Easy / Intermediate	Gravity	2997	-
Trail 25	MTB Trail	Easy / Intermediate	Adventure	1187	-
Trail 26	MTB Trail	Easy	Adventure	834	-
Trail 27	MTB Trail	Easy / Intermediate	Gravity	1831	-
Trail 28	MTB Trail	Easy / Intermediate	Gravity	432	-
Trail 29	MTB Trail	Intermediate	Gravity	160	-
Trail 30	MTB Trail	Intermediate	Gravity	114	-
Trail 31	MTB Trail	Intermediate	Adventure	981	-
Trail 32	MTB Trail	Intermediate	Adventure	1368	-
Trail 33	MTB Trail	Intermediate / Difficult	Gravity	1068	-
Trail 34	MTB Trail	Difficult	Gravity	648	-
Trail 35	MTB Trail	Difficult	Gravity	716	-
Trail 36	MTB Trail	Easy / Intermediate	Pathway	481	-
Trail 37	MTB Trail	Easy	Airflow	1144	-
Trail 38	MTB Trail	Easy / Intermediate	Airflow	386	-
Trail 39	MTB Trail	Easy / Intermediate	Airflow	186	-
Trail 40	Shared-use	Easy / Intermediate	Adventure	982	-
Trail 41	Shared-use	Very Easy	Pathway	1543	-
Trail 42	MTB Trail	Intermediate / Difficult	Gravity	1178	-
Trail 43	MTB Trail	Easy	Airflow	1538	-
Trail 44	MTB Trail	Difficult	Adventure	803	-
			SUB-TOTAL	**25325**	**-**
			TOTAL	**56318**	**22639**

Construction of the Private Access Service Road

The proposal includes the construction of a 3.9-kilometre privately accessible (locked gate) roadway for which only select parties will be given access. Of the 3.9-kilometre roadway: -

- the first 1.1-kilometres will be constructed over the existing fire access road;
- 2.8-kilometres is entirely new construction through mostly undisturbed bushland; and
- 1.88-kilometres is proposed to occur on Reserved Land within Tippogoree Hills Conservation Area.

The road will be constructed to design standards stipulated in GTIPS, but mainly characterized by being fit for purpose. The road will be a minimum width of 4m with passing bays of 2m additional carriageway width installed at appropriate locations.

The access point will be via an existing access point from Bridport Road, which is a state-owned road asset, used by Bell Bay Aluminium and Basslink service vehicles and members of the George Town and District Black Powder and Pistol Club. The road will serve as an access for trail maintenance vehicles and select commercial shuttle bus operators, and continue to serve as an existing access for Bell Bay Aluminium and Basslink service vehicles.

Council has undertaken an independent Traffic Impact Assessment (TIA) to determine the safest and most efficient access to the trail head carparking area from Bridport Road. Findings from the TIA recommend the entry point from Bridport Road be upgraded to included turning provisions that won't affect the normal flow of traffic on Bridport Road and meet standards design standards stipulated by DSG and the GTIPS.

The design standards stipulated in GTIPS can be seen in the table below, however these standards apply to properties that trigger the Bushfire Prone Area Code where a physical building is in place. The proposed land use does not trigger the Bushfire Prone Area code, but nevertheless the standards offer appropriate guidelines to the intended standard the road will be constructed to.

Table 8: GTIPS - Table E2 Standards for property access

Element		Requirement
B.	Property access length is 30m or greater; or access is required for a fire appliance to a fire fighting water point.	The following design and construction requirements apply to property access: - a) all-weather construction; b) load capacity of at least 20t, including for bridges and culverts; c) minimum carriageway width of 4m; d) minimum vertical clearance of 4m; e) minimum horizontal clearance of 0.5m from the edge of the carriageway; f) cross falls of less than 3 degrees (1:20 or 5%); g) dips less than 7 degrees (1:8 or 12.5%) entry and exit angle; h) curves with a minimum inner radius of 10m; i) maximum gradient of 15 degrees (1:3.5 or 28%) for sealed roads, and 10 degrees (1:5.5 or 18%) for unsealed roads; and j) terminate with a turning area for fire appliances provided by one of the following: - i. a turning circle with a minimum outer radius of 10m; or ii. a property access encircling the building; or iii. a hammerhead "T" or "Y" turning head 4m wide and 8m long.
C.	Property access length is 200m or greater.	The following design and construction requirements apply to property access: - a) complies with requirements for B above; and b) passing bays of 2m additional carriageway width and 20m length must be provided every 100m

Installation of Signage

Signage will need to be installed to ensure that users can successfully navigate the trail network and receive important information about the trail.

Two types of signage are required: -

- Primary map and information boards; and
- Internal wayfinding signage.

Signage has not yet been designed, but full details of signage, including content, placement, and examples can be found in Annexure 3 - Signage Plan - Tippogoree Hills Trail Network.

At the trail head carparking area, a primary map and information board will be installed, providing a map of the trail network layout and important information such as trail safety, emergency information, codes of conduct, and trail closure information. The information board will be approximately 1800mm x 2400mm, erected vertically in a logical location and orientated to be clearly visible from various area of the carparking area.

Internal wayfinding signage encompass two types of signs, serving to provide three functions. The two sign types are: -

- Directional signage; and
- Emergency locator signage.

Internal wayfinding signage serves three primary functions, those being: -

- Navigate users through the network;
- Assist in determining location and access routes during incident response; and
- In the event of an emergency or evacuation, assist riders in finding the safest route to safety.

Directional signage will be constructed from large rocks collected from the trail construction spoils. Affixed to the will be stainless steel plates with stickers displaying the trail name, trail difficulty rating, and a small pictogram associated with that trail.

Emergency locator signage greatly assists emergency services in pinpointing the location of an incident by being placed along a trail specified intervals, and displaying a sequenced number. If an incident occurs and emergency services contacted, that number can be provided to the emergency service to narrow down the incident location, and help determine the best access route for emergency services to take.

Emergency locator will be a 1.6mm steel guidepost approximately 1.35m in length which will be simply driven into the ground. An all-weather sticker will be attached displaying the required information. These stickers will also be placed on the directional signage posts, effectively providing a dual-purpose for that post.

Steel guideposts will also be used at the end of single-direction trails to inform users of that no entry is permitted from that direction, indicated by a large “X”.

Operational Usage

Once construction has been completed, the resulting use will be as a public mountain bike trail network. Before the operational phase can commence, a trail maintenance program will be initiated, and a trail safety strategy will be put in place to ensure the safety of intended users.

A Trail Maintenance Plan has been developed and included as part of this report as Annexure 4.

A Trail Safety Plan will be developed before operational usage of the trail network can commence. This has been noted as a Committed Management Plan.

2.3.3 Supporting Infrastructure

The trails proposed to be constructed within the Tippogoree Hills Conservation Area only form a small part of the overall trail network. To support the usage of the trail network as a publicly accessible recreational facility, a primary user access point, commonly referred to as a Trail Head, will be constructed in Lauriston Park on the corner of Bridport Road and East Tamar Highway. The works involved with this is detailed in the following section.

Construction of the Access Road and Trail Head Carparking Area

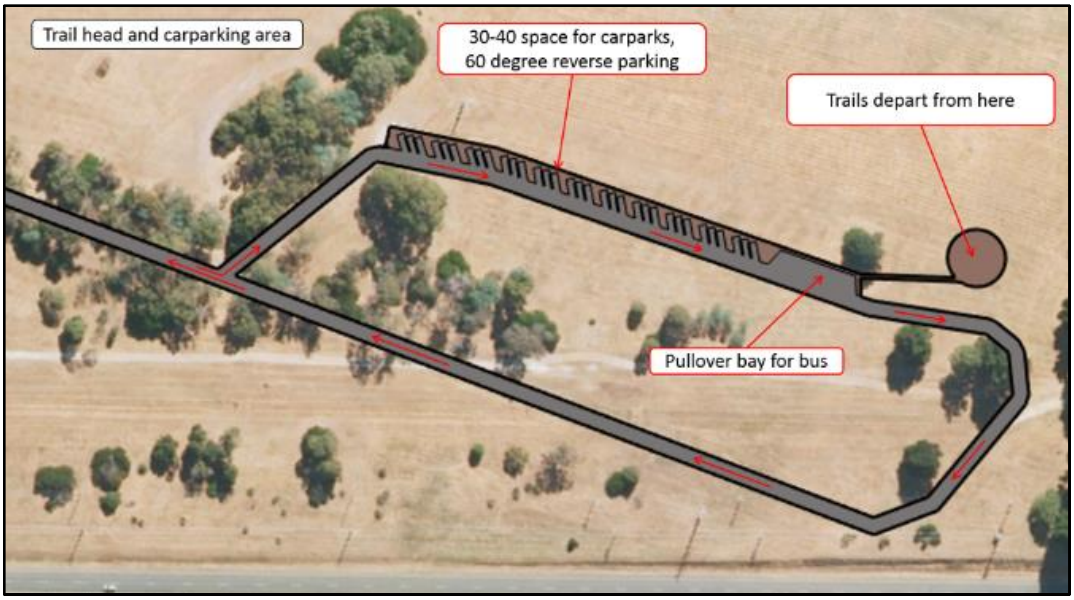
The proposed access road from Bridport Road is approximately 1300m in length and will be constructed mostly over the existing public access road. The first 800m of road will be dual-direction and at a width of road will be 5.5m, followed by a 400m one-way loop road at 4m width. The entire roadway will be constructed using a minimum of 100mm gravel pavement. Drainage systems will be considered to ensure water movement is not impeded.

Council has undertaken an independent Traffic Impact Assessment (TIA) to determine the safest and most efficient access to the trail head carparking area from Bridport Road. Findings from the TIA recommend the entry point from Bridport Road be upgraded to included turning provisions that won't affect the normal flow of traffic on Bridport Road and meet standards design standards stipulated by DSG and the GTIPS.

The carparking area will form the primary user access point for the Tippogoree Hills Trail Network, utilising Lauriston Park which is an existing public recreational area. The carparking area will contain approximately 40-60 carparks, a bus pullover bay, and pathways for user movements from their vehicles to the start of the trails.

The entire carparking area will be contained within a one-way ring road. Carparks will be 60- or 90-degree reverse access at 3.0m wide, 6m long, and with a 5.5m access strip as per planning requirements. The pullover bay will be 3.6m wide and 10m in length. A concept image can be seen in Image 4 on the following page.

Image 4: Example of Trail Head Carparking Area - Lauriston Park



The entire area is approximately 3,450m2, and will be constructed of a minimum 100mm gravel pavement. Carparks and paths will be de-lineated using large landscaping boulders, concrete bumper stops and line marking dots. The access road and carpark will be constructed to design standards stipulated in GTPS and has been further discussed in section 4.10

2.4 Trail Design Methodology and Approach Taken

The following section outlines the design methodology and approach taken to get the project to the current status of detailed design.

2.4.1 Design Methodology

All World Trail design and construction methodologies align with modern best practice for sustainable trail construction, as outlined below: -

- Sustainable trails align with users' needs, provide social and economic benefits, minimise environmental impact and require less maintenance. To be sustainable, a trail must be the right trail, in the right area, built the right way and for the right reasons;
- Trails must be planned, designed and constructed to the highest environmental standards;
- Trails should be appropriate to the landscape, sense of place and add value to the area;
- Trails should not destabilise soils or slopes. Vegetation should not be cleared or damaged beyond the bounds of the required trail footprint. Trails should be used to manage recreation within wildlife and vegetation habitats in a positive way. Trails should be designed and constructed in a way that minimises the potential spread of pathogens, diseases and weeks; and
- Trail development must be consistent with the sustainable provision of resources to manage the trail and associated infrastructure. Design and construction of trails should minimise maintenance requirements and ongoing costs.

World Trail has produced its own in-house Trail Design Knowledge Manual to help guide best-practice trail design. This manual has been developed over many years, and all staff members are familiar with and rely on this document for all aspects of their work.

2.4.2 Approach Taken

The design process began with World Trail reviewing the concepts provided in the tender brief and discussed during an inception meeting with George Town Council. World Trail provided an initial design developed using desktop GPS programs, which was then provided to George Town to seek feedback from landowners and key stakeholders, including flora and fauna experts and cultural heritage experts.

Feedback was used to fine tune the design before progressing into the ground-truthing phase, where the GPS alignments are walked by the construction crew and further adjustments made to either avoid or include certain obstacles based on the intended trail usage.

Ground-truthing determines a formalised trail corridor, and generally defines the boundaries for subsequent lease arrangements with landowners. A trail corridor width of 20m (10m outwards either side of the centreline) is considered standard practice and has been followed in this project, the purpose being to allow flexibility for trail placement within that corridor to ensure the trail does not impact on significant flora and fauna or cultural heritage sites.

Once ground-truthing was completed, the trail corridor alignments were assessed for flora and fauna and cultural heritage values to identify micro-sites that need to be avoided during construction.

Council is now seeking planning approvals and formal permission from landowners so the Tippogoree Hills Trail Network - Upper Section can progress into the construction phase.

2.5 Trail Construction Methodology and Approach Taken

2.5.1 Construction Methodology

Trail construction will be undertaken by World Trail, who’s methodologies have been honed and refined over more than fifteen years of working across a range of Australian environments and climates.

Best practice is for trails to comply with IMBA guidelines for sustainable trail construction, and the more recent MTBA Australian Mountain Bike Trail Guidelines. However, World Trail often impose stricter, tighter design parameters on some trails due to environmental factors.

World Trail uses the following external references provide guidance on construction of sustainable mountain bike trails: -

- Australian Mountain Bike Trail Guidelines, Mountain Bike Australia, 2019;
- Bike Parks: IMBA’s Guide to New School Trails, International Mountain Bicycling Association, 2014;
- Managing Mountain Biking: IMBA’s Guide to Providing Great Riding, International Mountain Bicycling Association, 2007; and
- Trail Solutions: IMBA’s Guide to Building Sweet Singletrack, International Mountain Bicycling Association, 2004.

World Trail acknowledges further guidelines and documentation may be supplied by landowners to guide trail design and construction, including additional environmental considerations.

Note that if the flagging tape is no longer in place when construction commences, the GPS alignment recorded during ground-truthing should be used as the indicative centreline. If the GPS alignment and the flagging tape do not align with each other, the flagging tape should be given priority.

Broadly speaking, the process of constructing a standard mountain biking trail is as follows: -

1. Prior to commencing work, each separate trail is to be walked and assessed with George Town Council and/or the Land Manager, as part of a Pre-Start Trail Review (PSTR). The purpose of a PSTR is to ensure that the alignment has been clearly marked with flagging tape, that all construction treatments have been identified and agreed upon (including variances) and that any known areas of environmental or cultural heritage sensitivity have been adequately avoided and/or protected. At the completion of the PSTR the exact alignment of the trail will have been re-flagged so there is no ambiguity or uncertainty about the exact trail alignment.
2. Clear the Construction Corridor of vegetation. The Construction Corridor is defined as the horizontal corridor from the top of the upslope batter to the toe of the downslope batter and the vertical corridor to about 2m high (sufficient to allow passage of the excavator). Clearing of the Construction Corridor is usually undertaken manually using motorized tools such as brush cutters, chainsaws and hedge trimmers and hand tools like loppers, hand saws and secateurs. Large trees do not need to be removed, as the trail can be routed to avoid them, however, it is likely that small boughs and limbs may need to be removed. All vegetation that is removed is cut into small pieces and dispersed throughout the surrounding area – no large windrows or stockpiles should be present. At this stage, all vegetation is removed except for ground covers, herbs and grasses (which are left in place for later removal by the excavator).
3. Cut the bench using balanced cut and fill technique. The topsoil and mineral earth removed from the inner side of the bench are used to build up the outer edge of the bench. The excavator works forwards, cutting the bench ahead of it and then moving forward onto the bench. The bench must be wide enough and stable enough for the excavator to operate safely on. Using a small rubber-tracked mini-excavator with a minimum track width of about 900mm, the bench is generally constructed at 1m width. Note that the cut material (i.e. the spoil) may be moved locally forward or backwards along the trail to areas where fill material is required. Overall, cut and fill is always balanced, with no fill material removed off-site. On steeper slopes, the outer edge of the bench may need to be retained. This is generally done using dry stone rock walls, built from rock sourced during the construction of the bench, with the excavator creating the foundations for the base course and moving the largest rocks into place. From time to time, hand construction may be necessary in the following situations: -

a) It is not physically possible to get the mini excavator to the location. For example, there is a steep-sided creek requiring the construction of a bridge, which will not be trafficable by a mini-excavator, or there are large boulders that prevent access of the machine;
b) It is not safe to use a mini excavator, e.g. on extremely steep side slopes, in locations with unstable ground, or on sloping rock slabs, it may not be deemed safe to operate a mini excavator;
c) Areas of high environmental or cultural heritage values, requiring minimal excavation;
d) Close to large tree roots, especially buttress style roots that run along the surface of the ground.

4. Any additional variances, such as Rock Armouring, Imported Tread Surfacing, Rock Support Walls, Boardwalks/Bridges etc., are generally constructed at this stage, prior to the finishing of the trail as defined below. Variances are important construction techniques that usually comprise a small percentage of the overall trail length, but are required to ensure long-term trail sustainability and provide a high-quality riding experience.
5. Define the preferred riding line by placing rocks, logs and other obstacles as necessary. Large obstacles work best and should be manoeuvred into place by the excavator. The ideal riding line is generally on the inner side of the bench, at the toe of the upslope batter, where the soil is firm and compacted. Obstacles are manually and deliberately placed to control rider speed and position riders towards the inside of the bench.
6. Clean up the trail tread, removing loose rocks and roots, compacting the tread, back sloping the batter and managing drainage (for example, ensuring grade reversals flow correctly or that the trail is outsloped where practical). This step is undertaken manually by trail labourers working behind the excavator and ensures the trail is finished as it advances, satisfying erosion and sediment control requirements. All track marks will be raked smooth.

After completion, the trail will be allowed to rest for a period before allowing riders/hikers to use it. This process is called 'curing' and allows the trail tread to consolidate before being subjected to use.

2.5.2 Approach Taken

All contractors undertaking construction activities during the construction phase will be required to produce a Construction and Environmental Management Plan (CEMP), or adopt and adhere to a generic CEMP provided by council.

World Trail, the contractors undertaking the trail construction, have developed a CEMP to guide construction activities associated with the construction of the Tippogoree Hills Trail Network. The CEMP details measures to minimise impacts to the environment, and ensure compliance with all permits, approvals and legislative requirements. The CEMP will apply for the duration of the construction phase, with monitoring of construction activities will be undertaken by council to ensure compliance.

World Trail's CEMP forms a key component of this plan and can be found as Annexure 5.

3.0 Planning Considerations

A summarised list of key planning milestones has been listed in the table below.

Table 9: Key Planning Milestones

Approval / Permit	Agency / Authority	Documentation and Process	Status
Landowner in-principle support	GTC, BBA, PWS	In principle support has been provided by all landowners, allowing planning to progress.	Complete
Planning Assessment	GTC	Desktop assessment and site visit to determine maximum viability of project areas.	Complete
Concept Design Plans	World Trail	Desktop concept designs prepared by World Trail in accordance with design brief and present to stakeholder for feedback.	Complete
Detailed Design Plans	World Trail	Proposed alignments ground-truthed by World Trail, finalising alignments and detailing anticipated construction treatments. For the Tippogoree Hills Trail Network - Upper Section.	Complete
Flora and Fauna Assessment	ECOtas	Identified ecological values of the project area.	Complete
Aboriginal Heritage Assessment	CHMA	Identified Aboriginal and cultural values of the project area.	Complete
CEMP	World Trail	Prepared by World Trail outlining management treatments during construction.	Complete
Signage Plan	GTC	Prepared by GTC regarding methodology for location and content of signage.	Complete
Weed Management Plan	GTC	Prepared by GTC outlining management treatments for the prevention of spread of weeds and diseases.	Complete
Trail Maintenance Plan	GTC	GTC will develop a Trail Maintenance Plan prescribing operational procedures and scheduling for trail inspections and maintenance works.	Complete
Traffic Impact Assessments	Hubble Traffic	Outlines impacts the traffic increase created by the proposed private access service road and the trail head carparking entrance will have on Bridport Road.	Complete
Crown Land Lease Request Application	Property Services	Prepared by GTC to enter into a lease agreement for the small section of crown land.	Submitted and Pending
Reserve Activity Assessment	PWS	Prepared by GTC outlining environmental and cultural heritage impacts, and management strategies.	Submitted and Pending
Permit to Take Threatened Flora	DPIPWE	Permit to take threatened flora where avoidance is not practical.	Submitted and Pending
Crown Land Works and Development Application	Property Services	Prepared by GTC to gain permission to undertake associated works on crown land.	Pending
Formalised Land-usage Agreement for Construction	BBA	Formalised agreement to construct trail within the 20m trail corridor on BBA land.	Pending
Formalised Land-usage Agreement for Operations	BBA	Formalised lease of the 20m trail corridor on BBA land to maintain trails and operate as a public recreational facility.	Pending
Ground Disturbance Permit Application	BBA	Prepared by GTC to gain permission to undertake associated works on BBA land.	Pending
Development Application	GTC	Prepared by GTC and assessed externally against ability to meet planning requirements.	Pending
Trail Safety Management Plan	GTC	GTC will develop a Trail Safety Management Plan prescribing operational procedures for user safety, emergency access and evacuation procedures.	Commitment

3.1 George Town Interim Planning Scheme

This section will detail the project as it fits with the George Town Interim Planning Scheme 2013, for the purpose of: -

- Setting out the requirements for use or development of land in accordance with the Land Use Planning and Approvals Act 1993;
- Specifying codes that identify areas or planning issues which require compliance with additional provisions set out in the codes;
- Specifying and development standards applying to each zone;
- Ensures that a use or development comply with each applicable standard in a zone, specific area plan or code; and

Below is a summary of the project area land parcels and the considerations regarding the local planning scheme.

Land Parcel(s)	Owner / land Manager	Project Role	Land Tenure	Zone	Codes	Passive Recreation Status
PID - 2830796 Title Ref - 154929/1 Address - 135 BELL BAY RD BELL BAY TAS 7253	Rio Tinto Aluminium (Bell Bay) Limited	Area C - Tippogoree Hills Trail Network (Lower Section)	Private Freehold	General Industrial Utilities Open Space	Bush-fire Prone Area Scenic Management Car Parking and Sustainable Transport Road and Railway Assets Code Signs Code	Discretionary if by a public authority
PID - 2830796 Title Ref - 154929/1 Address - 135 BELL BAY RD BELL BAY TAS 7253	Rio Tinto Aluminium (Bell Bay) Limited	Area D - Tippogoree Hills Trail Network (Upper Section)	Private Freehold	General Industrial	Bush-fire Prone Area Scenic Management Car Parking and Sustainable Transport Road and Railway Assets Code Signs Code	Discretionary if by a public authority
PID - N/A (Tippogoree Hills Conservation Area) Title Ref - N/A (Tippogoree Hills Conservation Area) Address - GEORGE TOWN TAS 7253	Parks and Wildlife Services	Area D - Tippogoree Hills Trail Network (Upper Section)	Conservation Area	Environmental Management	Bush-fire Prone Area Scenic Management Car Parking and Sustainable Transport Biodiversity Road and Railway Assets Code Signs Code	Yes - No permit required

3.1.1 Use Class

Each proposed use or development must be categorised into one of the use classes in Table 8.2 of the GTPS. If a use or development does not readily fit any use class, it must be categorised into the most similar use class.

Once operational, the Tippogoree Hills Trail Network will be approximately 46.3-kilometres of purpose-built mountain bike trails, provided as a publicly accessible recreational facility.

Under the GTIPS, the use class “passive recreation” is deemed the most appropriate, and is defined as: -

> *“use of land for informal leisure and recreation activities principally conducted in the open. Examples include public parks, gardens and playgrounds, and foreshore and riparian reserves”.*

3.1.2 Zones

The project area encompasses two zones as defined under the GTPS, those being General Industrial and Environmental Management.

Below is a table of the prescribed activities and how they relate to the zones defined in the scheme, and in particular the status of the use class Passive Recreation within each zone.

Table 10: Land Parcel Zoning - Tippogoree Hills Network

Land Parcel(s)	Use (in terms of the MTB network)	Zone	Passive Recreation Status
PID - 2830796 Title Ref - 154929/1 Address - 135 BELL BAY RD BELL BAY TAS 7253	Area C - Tippogoree Hills Trail Network (Lower Section)	General Industrial	Discretionary if by a public authority
PID - 2830796 Title Ref - 154929/1 Address - 135 BELL BAY RD BELL BAY TAS 7253	Area C - Tippogoree Hills Trail Network (Lower Section) Trails within Lauriston Park	Open Space	Yes - No permit required
PID - 2830796 Title Ref - 154929/1 Address - 135 BELL BAY RD BELL BAY TAS 7253	Area D - Tippogoree Hills Trail Network (Upper Section)	General Industrial	Discretionary if by a public authority
PID - N/A (Tippogoree Hills Conservation Area) Title Ref - N/A (Tippogoree Hills Conservation Area) Address - GEORGE TOWN TAS 7253	Area D - Tippogoree Hills Trail Network (Upper Section)	Environmental Management	Yes - No permit required

General Industrial Zone

Parts of both land parcels is within a General Industrial Zone, that land parcel being Title Ref - 154929/1 owned by Rio Tinto Aluminium (Bell Bay) Limited.

Zone Purpose Statements, Local Area Objectives, and Desired Future Character Statements for General Industrial Zone as stated in the GTPS don't directly support the project or use class, but also don't exclude it.

The use class status of Passive Recreation is discretionary if by a public authority, meaning the planning authority has a discretion to refuse or permit a use or development if: -

a) *the use is within a use class specified in as being a use which is discretionary;*
b) *the use or development complies with each applicable standard but relies upon a performance criterion to do so; or*
c) *it is discretionary under any other provision of the planning scheme, and the use or development is not prohibited under any other provision of the planning scheme.*

The General Industrial Zone Use Standards for Emissions have the following objective: -

- *To* ensure that: -

  Emissions to air, land and water are reduced to the greatest extent practicable in consideration of proximity to sensitive uses.

The project as conceptualised would not compromise the broad intent of the objective of the General Industrial Zone Use Standards for Emissions. The Acceptable Solution is: -

- *A1 - Use not listed in Table E11.1: Attenuation Distances or E11.2: Attenuation Distances for Sewerage Treatment Plants must be set back from sensitive uses a minimum distance of 100 metres*

Passive Recreation is not list in Table E11.1 or E11.2, therefore the Acceptable Solution is not satisfied. The Performance Criteria are: -

- *P1 - The use must not cause or be likely to cause an adverse impact to the amenity of sensitive uses through emissions including noise, smoke, odour, dust and illumination.*

The nature of mountain biking as Passive Recreation is such that the intent of P1 is not compromised.

The General Industrial Zone Development Standards for Building Design and Siting have the following objective: -

- *To* ensure that: -

  The site and layout, building design and form is visually compatible with surrounding development.

The project as conceptualised would not compromise the broad intent of the objective of the General Industrial Zone Development Standards for Building Design and Siting. All Acceptable Solutions are only applicable to Buildings, therefore the Acceptable Solution is not satisfied. The Performance Criteria are: -

- *P3 - The setback to the side and rear boundary must:*
  - *a) provide adequate access to the site; and*
  - *b) Not result in unreasonable loss of amenity to the occupiers of adjoining uses having regard to the bulk and form of the building; and*
  - *c) impact on the solar access of habitable room windows and private open space; and*
  - *d) size and proportions of the lot;*
  - *e) extent to which the slope, retaining walls, fences or existing vegetation screening reduce or increase the impact of the proposed variation.*

The project is such that the intent of P3 is not compromised.

Open Space Zone

Part of Area C - Tippogoree Hills Trail Network (Lower Section) is within an Open Space Zone, that land parcel being Title Ref - 154929/1 owned by Rio Tinto Aluminium (Bell Bay) Limited, but restricted to the area defined as Lauriston Park.

The use class status of Passive Recreation within an Open Space Zone does not require a permit.

Zone Purpose Statements for Open Space Zones that are relevant to and support the project are: -

- *19.1.1.1: To provide land for open space purposes including for passive recreation and natural or landscape amenity.*

Local Area Objectives that are relevant to and support the project are: -

- *19.1.2: Areas zoned Open Space are to be retained and developed for passive recreation purposes and the enjoyment of the public, although in some areas and circumstances they may be developed in a manner that serves the wider community. Open space areas which serve a local area are to be developed in an appropriate manner that furthers the amenity of adjoining residential areas. Open space areas will also provide safe, accessible and pleasant pedestrian and cycling linkages between activity centres*

Furthermore, Desired Future Character Statements supporting the project are: -

- *29.1.3: The location, size and configuration of Open space areas will have regard to natural characteristics, operational requirements and functionality of the intended use and take into account the amenity of the surrounding area*

The Open Space Zone Use Standards for Open Space Character have the following objective: -

- *To ensure that uses are of an appropriate scale and type for the zone, and to support the local area objectives, if any.*

The Acceptable Solution is: -

- *A1: - The use must:*
  - *a) be for natural and cultural values management or passive recreation; or*
  - *b) not exceed a combined gross floor area of 250m2 over the site.*
- *A2.1: - Commercial vehicles for discretionary uses must be:*
  - *a) parked within the boundary of the property; and*
  - *b) in locations that are not visible from the road or public land.*
- *A3: - Goods or materials storage for discretionary uses must not be outside in locations visible from adjacent properties, the road or public land.*

The project as conceptualised would not compromise the broad intent of the objective of the Open Space Zone Use Standards for Open Space Character.

The Open Space Zone Development Standards for Building Design and Siting have the following objective: -

- *To ensure that the design and siting of buildings:*
  - *a) responds appropriately to the open space and natural values of the site; and*
  - *b) has minimal disturbance to the environment and any adjoining sensitive uses.*

The Acceptable Solution is: -

- *A1: - Building height must not exceed 5m;*
- *A2: - Buildings must be set back 10m from all boundaries;*
- *A3: - The site coverage must not exceed 20%.*

The project as conceptualised would not compromise the broad intent of the objective of the Open Space Zone Development Standards for Building Design and Siting.

The Open Space Zone Development Standards for Landscaping have the following objective: -

- *To ensure that the open space and natural values of the site are retained in a manner that contributes to the broader landscape of the area.*

The Acceptable Solution is: -

- *A1: - If for natural and cultural values management or passive recreation;*

The project as conceptualised would not compromise the broad intent of the objective of the Open Space Zone Development Standards for Landscaping.

Environmental Zone
One of the project land parcels is classified as Environmental Management Zone, that land parcel being the Tippogoree Hills Conservation Area owned and manage by the Parks and Wildlife Service.

The use class status of Passive Recreation within an Environmental Management Zone does not require a permit.

Zone Purpose Statements for Environmental Management Zones that are relevant to and support the project are: -

- *29.1.1.1: To provide for the protection, conservation and management of areas with significant ecological, scientific, cultural or aesthetic value, or with a significant likelihood of risk from a natural hazard.*
- *29.1.1.2: To only allow for complementary use or development where consistent with any strategies for protection and management.*

Local Area Objectives that are relevant to and support the project are: -

- *29.1.2: To protect recognised conservation values and manage land where environmental sensitivities exist.*

Furthermore, Desired Future Character Statements supporting the project are: -

- *29.1.3: Restrict access to areas of relatively intact vegetation and landscape and supporting biodiversity and ecological process.*

The Environmental Management Zone Use Standards for Reserved Land have the following objective: -

- *To ensure that development recognises and reflects relevant values of land reserved under the National Parks and Reserves Management Act 2002or Nature Conservation Act 2002.*

The Acceptable Solution is: -

- *A1: - Use on reserved land is in accordance with a Reserve Activities Assessment approved under the National Parks and Reserves Management Act 2002 or Nature Conservation Act 2002.*

The project as conceptualised would not compromise the broad intent of the objective of the Environmental Management Zone Use Standards for Reserved Land.

The Environmental Management Zone Development Standards for Building Design and Siting have the following objective: -

- *To* ensure that: -

  To ensure that the design and siting of buildings responds appropriately to the natural values of the site and causes minimal disturbance to the environment.

The Acceptable Solution is: -

- *A1 (b): - be in accordance with a Reserve Activities Assessment approved under the National Parks and Reserves Management Act 2002 or Nature Conservation Act 2002.*

The project as conceptualised would not compromise the broad intent of the objective of the Environmental Management Zone Development Standards for Building Design and Siting.

The proposal is subject to being assessed in accordance with a Reserve Activities Assessment and will no procced until all conditions imposed as part of the Reserve Activities Assessment are met.

3.1.3 Codes

Biodiversity Code

The project area is subject to the Biodiversity Code due the following application of: -

- *E8.2.1(b): for the removal of native vegetation.*

The Biodiversity Code Development Standards for Habitat and Vegetation Management have the following objective: -

- *To ensure that: -*
  - *a) vegetation identified as having conservation value as habitat has priority for protection and is appropriately managed to protect those values; and*
  - *b) the representation and connectivity of vegetation communities is given appropriate protection when considering the impacts of use and development.*

That is, the project as conceptualised would not compromise the broad intent of the objective of the Biodiversity Code. The Acceptable Solution (relevant to areas identified as "priority habitat") is: -

- *A1.1 - Clearance or disturbance of native vegetation is in accordance with a certified Forest Practices Plan.*

That is, if a Forest Practices Plan is certified for this project, the Acceptable Solution will be wholly satisfied. Council is not seeking an FPP, therefore the Acceptable Solution is not satisfied. The Performance Criteria are: -

- *P1 - Clearance or disturbance of native vegetation must be consistent with the purpose of this Code and not unduly compromise the representation of species or vegetation communities of significance in the bioregion having regard to the: -*
  - *a) quality and extent of the vegetation or habitat affected by the proposal, including the maintenance of species diversity and its value as a wildlife corridor; and*
  - *b) means of removal; and*
  - *c) value of riparian vegetation in protecting habitat values; and*
  - *d) impacts of siting of development (including effluent disposal) and vegetation clearance or excavations, in proximity to habitat or vegetation; and*
  - *e) need for and adequacy of proposed vegetation or habitat management; and*
  - *f) conservation outcomes and long-term security of any offset in accordance with the General Offset Principles for the RMPS, Department of Primary Industries, Parks, Water and Environment.*

The preceding report has been prepared in accordance with the intent of the opening section of P1. The key phrasing here is *"not unduly compromise the representation of species or vegetation communities of significance in the bioregion"*. The project will result in minor understorey modification of small areas of native vegetation through mainly non-threatened native vegetation types, such that the intent of P1 is not compromised. Noting that this provision is linked to other provisions through the phrase "having regard to", examination of these sub-clauses indicates that the project should not compromise the intent of P1 in any manner.

The Acceptable Solution (relevant to areas not identified as "priority habitat") is: -

- *A2 - Clearance or disturbance of native vegetation is in accordance with a certified Forest Practices Plan.*

That is, if a Forest Practices Plan is certified for this project, the Acceptable Solution will be wholly satisfied. Council is not seeking an FPP, therefore the Acceptable Solution is not satisfied. The Performance Criteria are: -

- *P2.1 - Clearance or disturbance of native vegetation must be consistent with the purpose of this Code and not unduly compromise the representation of species or vegetation communities of significance in the bioregion having regard to the: -*
  - *g) quality and extent of the vegetation or habitat affected by the proposal, including the maintenance of species diversity and its value as a wildlife corridor; and*
  - *h) means of removal; and*

- i) *value of riparian vegetation in protecting habitat values; and*
- j) *impacts of siting of development (including effluent disposal) and vegetation clearance or excavations, in proximity to habitat or vegetation; and*
- k) *need for and adequacy of proposed vegetation or habitat management; and*
- l) *conservation outcomes and long-term security of any offset in accordance with the General Offset Principles for the RMPS, Department of Primary Industries, Parks, Water and Environment.*

The preceding report has been prepared in accordance with the intent of the opening section of P1. The key phrasing here is *"not unduly compromise the representation of species or vegetation communities of significance in the bioregion"*. The project will result in minor understorey modification of small areas of native vegetation through mainly non-threatened native vegetation types, such that the intent of P1 is not compromised. Noting that this provision is linked to other provisions through the phrase "having regard to", examination of these sub-clauses indicates that the project should not compromise the intent of P1 in any manner.

Scenic Management Code

The project area is subject to the Scenic Management Code due the following application of: -

- *E7.2.1: This code applies to use or development of land within the scenic management – tourist road corridor and local scenic management areas.*

The Scenic Management Code Development Standards for Local Scenic Management Areas have the following purpose: -

To ensure that: -

- a) *To site and design buildings, works and associated access strips to be unobtrusive to the skyline and hillsides and complement the character of the local scenic management area; and*
- b) *ensure that siting and design of development in designated scenic management areas is unobtrusive and complements the visual amenity of the locality and landscape.*

That is, the project as conceptualised would not compromise the broad intent of the objective of the Scenic Management Code.

Development standards for Scenic Management – Tourist Road Corridors have the following objectives: -

- a) *To enhance the visual amenity of the identified tourist road corridors through appropriate:*
  - (i) setbacks of development to the road to provide for views that are significant to the traveller experience and to mitigate the bulk of development; and
  - (ii) location of development to avoid obtrusive visual impacts on skylines, ridgelines and prominent locations within the corridor; and

(iii) design and/or treatment of the form of buildings and earthworks to minimise the visual impact of development in its surroundings; and
(iv) retention or establishment of vegetation (native or exotic) that mitigates the bulk or form of use or development; and
(v) retention of vegetation (native or exotic) that provides amenity value to the road corridor due to being in a natural condition, such as native forest, or of cultural landscape interest such as hedgerows and significant, exotic feature trees; and

b) to ensure subdivision provides for a pattern of development that is consistent with the visual amenity objectives described in (a).

Both Bridport Road and East Tamar Highway is classified as a Scenic Management – Tourist Road Corridor, defined as: -

- "the area of land within 100 metres measured from each frontage to the scenic management tourist road corridor indicated on the planning scheme maps"

The relevant Acceptable Solution for development standards for Scenic Management – Tourist Road Corridors listed is: -

- *A1: Development (not including subdivision) must be fully screened by existing vegetation or other features when viewed from the road within the tourist road corridor.*

Only a small portion of works involved as part of the construction of mountain bike trails will be within the defined scenic management tourist road corridor, namely the trails constructed in Lauriston Park which is within the scenic management tourist road corridor of the East Tamar Highway. For these trails, the acceptable solution may not be wholly satisfied, as little or no existing vegetation exists within Lauriston Park.

The Performance Criteria for development standards for Scenic Management – Tourist Road Corridors listed is: -

- P1 h) iii) *Development (not including subdivision) must be fully screened by existing vegetation or other features when viewed from the road within the tourist road corridor, the design and/or treatment of development including: complementing the physical (built or natural) characteristics of the site.*

Mountain bike trails are designed and constructed to blend in with the natural environment and terrain, involves only minimal disturbance of vegetation within the trail corridor, and aligned in such a way to retain the maximum amount of existing vegetation where vegetation is present.

That is, the project as conceptualised would not compromise the broad intent of the objective of the Scenic Management Code. There are no Acceptable Solutions listed, however the Performance Criteria are: -

- *P1: Development (not including subdivision) must have regard to the: -*
  - *a) character statement and scenic management objectives of the particular area set out in Table E7.1 – local scenic management areas; and*
  - *b) impact on skylines, ridgelines and prominent locations; and*
  - *c) retention or establishment of vegetation to provide screening in combination with other requirements for hazard management; and*
  - *d) design or treatment of development including:*
    - *i. the bulk and form of buildings including materials and finishes; and*
    - *ii. earthworks for cut or fill; and*
    - *iii. complementing the physical (built or natural) characteristics of the site or area.*

Regarding P1 a), Table E7.1 is not used in the GTIPS.

Construction of mountain bike trails involves only minimal disturbance of vegetation within the immediate width of the trail tread, and aligned in such a way to retain the maximum amount of existing vegetation such that the intent of P2 b) is not compromised.

The trails are highly unlikely to visually impact on skylines, ridgelines and prominent locations such that the intent of P2 c) is not compromised.

Mountain bike trails are designed and constructed to blend in with the natural environment and terrain such that the intent of P2 d) is not compromised.

Construction of the private access service road will involve as minimal disturbance of vegetation as possible, and aligned in such a way to retain the maximum amount of existing vegetation such that the intent of P2 b) is not compromised.

Construction of the private access service road is unlikely to visually impact on skylines, ridgelines and prominent locations such that the intent of P2 c) is not compromised.

The private access service road will be aligned in such a way to blend in with the natural environment and terrain such that the intent of P2 d) is not compromised.

Bushfire-Prone Areas Code

The project area is subject to the Bushfire-prone Areas Code due the following application of: -

- *E1.2.1(b): a use, on land that is located within, or partially within, a bushfire-prone area, that is a vulnerable use or hazardous use.*

Whilst the project area is located within a bushfire-prone area, Passive Recreation is not considered a vulnerable or hazardous use.

However, bushfire risk mitigation treatments for the construction period is outlined World Trail's CEMP (Annexure 5), and will be addressed in section 4.4.1 of this document. The Trail Safety

Management Plan (committed document) prescribing operational procedures and strategies for bushfire risk mitigation will be implemented prior to the network becoming operational.

Car Parking and Sustainable Transport Code

Construction of a carpark is been proposed for Area C: Tippogoree Hills Trail Network - Lower Section, acting as the primary access point for users of the network, triggering the Car Parking and Sustainable Transport Code due the following application of: -

- *E6.2.1: This code applies to all use and development of land.*

The Car Parking and Sustainable Transport Code Use Standards have the following objectives for: -

- *E6.6.1: Carparking Numbers: To ensure that an appropriate level of car parking is provided to service use.*
- *E6.6.2: Bicycle Parking Numbers: To encourage cycling as a mode of transport within areas subject to urban speed zones Car Parking and Sustainable Transport Code Page E-42 by ensuring safe, secure and convenient parking for bicycles*
- *E6.6.3: Taxi Drop-off and Pickup: To ensure that taxis can adequately access developments.*
- *E6.6.4: Motorbike Parking Provisions: To ensure that motorbikes are adequately provided for in parking considerations.*

In all of the above Use Standards, the Acceptable Solutions relates to parking requirements listed in Table E6.1: Parking Space Requirements against the prescribed Use, for which no requirements for the use of Passive Recreation is stipulated. That is, the project as conceptualised would not compromise the broad intent of the objectives of the Car Parking and Sustainable Transport Code Use Standards.

The Car Parking and Sustainable Transport Code Development Standards have the following objectives for: -

- *E6.7.1: Construction of Car Parking Spaces and Access Strips: To ensure that car parking spaces and access strips are constructed to an appropriate standard.*
- *E6.7.2: Design and Layout of Car Parking: To ensure that car parking and manoeuvring space are designed and laid out to an appropriate standard.*
- *E6.7.3: Car Parking Access, Safety and Security: To ensure adequate access, safety and security for car parking and for deliveries.*
- *E6.7.4: Parking for Persons with a Disability: To ensure adequate parking for persons with a disability.*
- *E6.7.6: Loading and Unloading of Vehicles, Drop-off and Pickup: To ensure adequate access for people and goods delivery and collection and to prevent loss of amenity and*
- *adverse impacts on traffic flows.*

The Car Parking and Sustainable Transport Code Provisions for Sustainable Transport have the following objectives for: -

- *E6.8.1: Bicycle End of Trip Facilities: To ensure that cyclists are provided with adequate end of trip facilities.*
- *E6.8.2: Bicycle Parking Access, Safety and Security: To ensure that parking and storage facilities for bicycles are safe, secure and convenient.*
- *E6.8.5: Pedestrian Walkways: To ensure pedestrian safety is considered in development.*

Acceptable Solutions for the above Development Standards and Provisions for Sustainable Transport all refer to design requirements stipulated is various relevant tables, and standards. The satisfaction of the acceptable solutions will be discussed in section 4.10 of this document.

Road and Railway Assets Code

The project area is subject to the Road and Railway Assets Code because of the intensification of two existing entrances on Bridport Road. The two new entrances are: -

- The main existing entrance off Bridport Road to the Lauriston Park for the proposed trail head carparking area as part of Area C - Tippogoree Hills Trail Network (Lower Section); and
- The existing entrance off Bridport Road used by Bell Bay Aluminium and Basslink maintenance vehicles, and members of the George Town and Districts Black Powered and Pistol Club for the proposed private access service road as part of Area D - Tippogoree Hills Trail Network (Upper Section).

A Traffic Impact Assessment (TIA) has been conducted on both entrances to determine the amount of traffic currently using the access, and how the expected increase in traffic movements generated by this use will impact the roadways.

The TIA for the entrance to the proposed private access service road has been included as Annexure 10 and was prepared to satisfy the requirements of Austroads, Guide to Traffic Management Part 12: Traffic Impacts of Developments, 2019. The report concluded that from a traffic engineering and road safety perspective, traffic generated by this development use is not expected to create any adverse safety, amenity, or transport efficiency problems, as: -

- The amount of traffic generated is considered low, and there if sufficient capacity along the Bridport Main Road to absorb the extra traffic movements;
- The development will utilise an existing licensed access that will be relocated closer to the East Tamar Highway to maximise available sight lines;
- A short right turn lane will be provided on Bridport Main Road; traffic modelling has indicated the number of right turners is not expected to create any queueing issues, or adversely impact the East Tamar Highway traffic performance;
- The relocated development access and marked right turn lane is not expected to create any adverse impact to the operation of the current weigh bridge site;
- The new development access will be constructed to meet the Department of State Growth standard for a rural access;

- Available sight distance at the new development access will exceed the required Safe Intersection Sight Distance, to enable vehicles to enter and leave the Bridport Main Road safely and without disrupting current users;
- There will be more than sufficient on-site parking spaces to meet the reasonable demand without causing any overflow to the public road network; and
- The internal access road will be constructed to provide safe and efficient two-way traffic movements between the Bridport Main Road and the on-site car park.

The Traffic Impact Assessment found no reasons for this development not to proceed.

The TIA for the entrance to the Lauriston Park trail head carparking area has been included as Annexure 11 and was prepared to satisfy the requirements of Austroads, Guide to Traffic Management Part 12: Traffic Impacts of Developments, 2019. The report concluded that from a traffic engineering and road safety perspective, traffic generated by this development use is not expected to create any adverse safety, amenity, or transport efficiency problems, as: -

- The amount of traffic generated is considered low, and there if sufficient capacity along the Bridport Main Road to absorb the extra traffic movements;
- The development access will be controlled, with only contracted shuttle bus operators and trail maintenance vehicles provided access to the internal road;
- Shuttle bus drivers will be prohibited from turning right out of the access;
- The new development will use an existing access off the Bridport Main Road, and this access will be upgraded to meet the DSG standard for a rural access;
- The development will undertake off site road improvements to construct a marked right turn lane on the Bridport Main Road; and
- The new use will not create a parking demand.

This Traffic Impact Assessment found no reasons for this development not to proceed.

Signs Code
The project area is subject to the Signs Code due the following application of: -

- *E14.2.1(a): A new sign.*

Signage is proposed as part of the project, serving the primary purpose of assisting users with navigation through the trail network, mostly adequately described as an "community information sign" as defined in the Table E14.3: Signs Type Definition in the GTPS as: -

- *"a sign erected by a statutory authority for the purpose of providing community information."*

Community information signs are listed in Table E14.4: Exempt Sign, meaning they are exempt from the Signs Code. The largest proposed signs for the trail networks will be the Primary Map and Information Board located at the trail heads. This sign surface area will be 1800mm tall by 2400mm wide, meaning the sign will have *a* maximum area of 4.3m2.

Further information regarding signage specifications, placement and content can be found in Annexure 3 - Signage Plan - George Town Mountain Bike Trail Development.

3.1.4 Vegetation Clearing

A permit for vegetation clearing as part of the trail construction is likely required under the GTIPS, and this will be addressed in section 4.1.3 later in this report.

A permit under the Tasmanian Threatened Species Protection Act 1995 will be required to take certain flora individuals of where re-routing of the alignments is not an option.

3.2 Approvals Process

The Tippogoree Hills Trail Network is proposed over two separately owned land parcels each with their own approvals process. These landowner approvals processes have been outlined in the following sections.

3.2.1 Crown Land Works Lease Application

Part of Area D: Tippogoree Hills Trail Network - Upper Section is proposed on reserved land managed by Parks and Wildlife Services. George Town Council have submitted a lease application for the relevant section of reserved land.

3.2.2 Crown Land Works and Development Application

Part of Area D: Tippogoree Hills Trail Network - Upper Section is proposed on reserved land managed by Parks and Wildlife Services. The proposal requires Works and Development Application to be submitted to Property Services prior to construction commencing.

3.2.3 Planning Permits

The proposal requires development applications to be submitted to George Town Council that demonstrates compliance with the George Town Interim Planning Scheme 2013 (GTIPS) pursuant to section 57 of the Land Use Planning and Approvals Act 1993.

Part of Area D: Tippogoree Hills Trail Network - Upper Section is proposed on reserved land managed by Parks and Wildlife Services which constitutes as Crown land. Crown Land consent must be provided before development application can be submitted, and the proposal will be assessed by Parks and Wildlife Services as the managing agency of the Reserved Land as part of a Reserve Activity Assessment. If approved, Crown land consent to submit a development application will be provided.

3.2.4 Private Landowner Construction and Land Use Agreement

All of Area C: Tippogoree Hills Trail Network - Lower Section and part of Area D: Tippogoree Hills Trail Network - Upper Section is proposed on land owned by Rio Tinto Aluminium (Bell Bay) Limited. The proposal requires a construction and land use agreement, including maintenance, of the 20m trail corridor alignment be formalised before works can commence.

3.2.5 Private Landowner Works Permits

All of Area C: Tippogoree Hills Trail Network - Lower Section and part of Area D: Tippogoree Hills Trail Network - Upper Section is proposed on land owned by Rio Tinto Aluminium (Bell Bay) Limited. The proposal requires a Ground Disturbance Permit application to be submitted to Rio Tinto Aluminium (Bell Bay) Limited prior to construction commencing.

3.2.6 Reserve Activity Assessment

Part of Area D: Tippogoree Hills Trail Network - Upper Section is proposed on reserved land managed by Parks and Wildlife Services. The proposal will need to undergo a Reserve Activity Assessment before works and the operational period can commence.

3.2.7 Permit Under the Tasmanian Threatened Species Protection Act 1995

A permit under the Tasmanian Threatened Species Protection Act 1995 will be required to take certain flora individuals of where re-routing of the alignments is not an option, primarily for the alignment of the proposed service road.

If any listed threatened flora cannot be avoided and will be impacted upon by the proposed development, then a permit to take under the Tasmanian Threatened Species Protection Act 1995 will be required.

4.0 Impacts and their Management

4.1 Natural Values: Flora and Fauna

George Town Council engaged Environmental Consulting Options Tasmania (ECOtas) to undertake a natural values assessment of the proposed project area, to ensure that the requirements of the identified ecological values are appropriately considered during any further project planning under local, State and Commonwealth government approval protocols.

The ecological assessment of Tippogoree Hills Trail Network - Upper Section is provided as the attached report titled Annexure 6 - Tippogoree Hills Trail Network - Ecological Assessment - ECOTas. All ecological assessment information contained within sections 4.1 and 4.2 of this report was sourced and referenced as ECOtas (2021).

4.1.1 Flora

Fire History

Fire history is mentioned because it can significantly influence the potential occurrence of flora species with a priority for conservation management. The Tippogoree Hills part of the study area was subject to an extensive bushfire on 27 November 2006 (Incident Number: 128420; Fire Name: "Tippogoree Hills").

Vegetation Types

The project area was mapped as supporting the following TASVEG mapping units: -

- Eucalyptus amygdalina forest and woodland on dolerite (TASVEG code: DAD);
- Eucalyptus obliqua dry forest (TASVEG code: DOB);
- Eucalyptus ovata forest and woodland (TASVEG code: DOV);
- Eucalyptus amygdalina-Eucalyptus obliqua damp sclerophyll forest (TASVEG code: DSC);
- Eucalyptus obliqua forest with broad-leaf shrubs (TASVEG code: WOB);
- Allocasuarina verticillata forest (TASVEG code: NAV);
- Extra-urban miscellaneous (TASVEG code: FUM);

Conservation Significance of Vegetation Types

The following section has been directly taken from Annexure 6 - Tippogoree Hills Trail Network - Ecological Assessment - ECOTas.

> *DAD, DOB, DCS, WOB and NAV are not classified as threatened under Schedule 3A of the Tasmanian Nature Conservation Act 2002 and do not equate to threatened ecological communities on the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.*
>
> *DOV is classified as threatened under Schedule 3A of the Tasmanian Nature Conservation Act 2002. Patches of DOV can equate to Tasmanian Forests and Woodlands dominated by Black Gum or Brookers Gum (Eucalyptus ovata/Eucalyptus brookeriana), which is a threatened ecological community classified as Critically Endangered on the Commonwealth Environment Protection and Biodiversity Conservation Act 1999, where the key diagnostic characteristics and condition thresholds are met, mainly related to patch size, composition and condition (CofA 2019).*

For DOV to be listed as the EPBCA-listed entity, an interaction of the following criteria is used to determine if a minimum condition threshold is met: -

- *size of the patch (⩾0.5 or ⩾2.0 ha);*
- *contiguity of the patch with a native vegetation remnant ⩾2.0 ha;*
- *proportion of the understorey that is native (⩾70% or ⩾50%);*
- *quantity of large or hollow-bearing trees; and*
- *understorey species diversity in 0.5 ha area.*

In the case of the study area, the areas allocated to DOV may marginally exceed 0.5 ha (the patch can extend beyond the immediate "disturbance footprint" i.e. extend up and down the associated gully, are contiguous with larger patches of native vegetation, are wholly native in composition and have a relatively high understorey diversity. Hollow-bearing trees are absent (due largely to fire history), although in the absence of further disturbance, this would be a temporary situation (albeit perhaps 50-100 years away). On balance, the patches technically qualify as the EPBCA-listed entity.

However, the installation and use of a narrow mountain bike track through the understorey of the densely shrubby wet/dry forest dominated by Eucalyptus ovata is not anticipated to have a significant impact at any reasonable level.

Known Threatened Flora

The project area was not found to support any records of flora listed as threatened on the Commonwealth Environment Protection and Biodiversity Conservation Act 1999.

Four flora species listed as threatened on the Tasmanian Threatened Species Protection Act 1995 were located from the project area. A summary of the species located in the project area are listed below, noting that not all species were located within the Tippogoree Hills Conservation Area: -

- **Aphelia gracilis (slender fanwort):** Aphelia gracilis is a small tufted annual herb with potential habitat limited to low-lying flatter terrain. The species likely to be most prevalent on anthropogenically-created bare ground such as tracks, drains and easements, although natural habitat may include rock plates with seepages. This is a highly ephemeral annually-flowering herb that is present for short periods in spring/early summer, depending on seasonal conditions.

  Aphelia gracilis was located on the firebreak in the west of the study area on disturbed and moist areas associated with the vehicle track along the firebreak. This site is the convergence point of all tracks and the shuttle road will be constructed partially across the site supporting the species. Avoiding the population is not likely to be practical and not considered warranted. The species has clearly taken advantage of an anthropogenically-created patch of habitat and only persists because of ongoing maintenance of the firebreaks by the land manager. In the absence of ongoing disturbance, the species would almost certainly disappear (at least until the next major disturbance event, such as fire, created more bare ground). The site represents neither a range extension nor infilling, with the species known from several populations in the greater East Tamar area. Any loss would represent a miniscule proportion of the Statewide population. A permit will be required under the Tasmanian Threatened Species Protection Act 1995 to take some of the plants within the study area.

No occurrences of Aphelia gracilis were found within the Tippogoree Hills Conservation Area.

- **Glycine microphylla (small-leaf glycine):** Glycine microphylla is a small twining perennial herb that occurs in dry to dampish sclerophyll forest and woodland in the north and east of the State. It is a distinctive perennial herb that is detectable and identifiable at any time of the year, and is known to respond positively to disturbance. Potential habitat is widespread in throughout the project area.

  Glycine microphylla was located at several locations both on the proposed shuttle road and along proposed trails including within the Tippogoree Hills Conservation Area. The locations along the proposed bike trails have been flagged with red tape and the bike trails will simply be re-aligned to at least 2m either side of the flagged locations to avoid disturbance at these sites. The sites located along the proposed service access road will be difficult to avoid due to the site being on a steep slope with outcropping dolerite occurring upslope. It is likely that this species is widespread in the greater Tippogoree Hills area considering that there are known records nearby and the number of locations located during the current survey. A permit is required under the Tasmanian Threatened Species Protection Act 1995 to take some of the plants at this location and will be sought prior to commencing construction of the proposed service access road.

- **Pimelea flava subsp. flava (yellow riceflower):** Pimelea flava subsp. flava is a distinctive yellow-flowered perennial shrub to 1.5 m high. The greater East Tamar area (Dilston through to George Town) is a stronghold for this species, where it occurs naturally in heathland and dry sclerophyll forest and into the transition between dry and wet vegetation types but is most prevalent on anthropogenic habitats such as plantations, old paddocks, highway and road batters, drains, old forest tracks, powerline easements, etc. It thrives on disturbance, proliferating after clearing and fire. Within the study area there are several known records, mainly associated with marked vehicular tracks.

  The survey located this species at numerous sites across the project area, from highly disturbed areas such as the main firebreak in the west, old vehicle tracks, along powerline easements and within eucalypt woodland. Occurrences of Pimelea flava subsp. flava were found within the Tippogoree Hills Conservation Area. The greatest abundance is in disturbed areas where this species is common. As noted above, this species responds favourably to disturbance. A permit is required under the Tasmanian Threatened Species Protection Act 1995 to take some of the plants within the study area and will be sought where avoidance is not possible.

- **Scutellaria humilis (dwarf skullcap):** Scutellaria humilis a small perennial herb to 30 cm high of the mint (Lamiaceae) family. This species has been found in moist, shady places in the northeast and southeast of the State. Recent sites have been associated with rocky slopes and rises.

The current survey located this species on a low rocky dolerite ridge in Allocasuarina verticillata woodland. At this site, the species occupied a relatively small area (ca. 225 m2) but population abundance was locally high (mid-100s of individuals, although precise counts difficult because of dense grass). A second smaller population (ca. 1 m2 of ca. 20-30 plants) was also detected further west several metres off the flagged route of the trail. No occurrences of Scutellaria humilis were found within the Tippogoree Hills Conservation Area.

While the species is listed as rare (i.e. the lowest conservation status), its distribution, number of extant/confirmed populations and usually low abundance suggests a higher status may be warranted. TSS (2003) states that the species “may qualify for uplisting given the paucity of recent records, though more information may be required for a meaningful reassessment”. Based on this, we consider the novel location to have high conservation significance. The species is probably highly tolerant of both natural and anthropogenic disturbance and a narrow mountain bike track dissecting the population may have little long-term impact (in fact, minor canopy gap creation and exposure of some bare soil may actively encourage proliferation of the species). However, given the species’ status, we recommend that the trail in this section be re-routed to avoid direct impact on the species. To that end, on the day of assessment, the extent of the patch upslope and downslope of the currently marked track was assessed. Recognising that any re-routes need to be undertaken from some distance either side of a “pivot point” (i.e. the patch to avoid), the extension survey also included several hundred metres either side of the mapped patch.

The extent of the population was flagged with bright green flagging tape (different colour to the flagged route) such that the patch can be sighted from a suitable distance each side to facilitate the required grade/curve of the suggested re-route. Either upslope or downslope of the patch is considered acceptable. When this is achieved, a permit will not be required under the Tasmanian *Threatened Species Protection Act 1995*.

Matters of National Environmental Significance – Threatened Ecological Communities

DOV is listed as threatened on Schedule 3A of the Tasmanian Nature Conservation Act 2002 and equates to a threatened ecological community under the Commonwealth Environment Protection and Biodiversity Conservation Act 1999, viz. Tasmanian Forests and Woodlands dominated by Black Gum or Brookers Gum (Eucalyptus ovata / E. brookeriana).

4.1.2 Fauna

The project area provides very good habitat for fauna in particularly in existing uncleared areas. This includes numerous habitat trees, fallen logs and additional habitat values that provide good quality fauna habitat for foraging, nesting and denning opportunities; however, there is significant habitat that is of equal or superior quality in the surrounding area outside the project area.

Known Threatened Fauna

The project area does not support any previous records of fauna listed as threatened on the Commonwealth Environment Protection and Biodiversity Conservation Act 1999 and/or the Tasmanian Threatened Species Protection Act 1995.

A single scat of the Tasmanian devil was found in the project area. This species has been commonly recorded in the greater area in the past. Given the mobility of some of these species it is also feasible that individuals may migrate to the proposed site before works commence. Therefore, if any dens are subsequently located during works then these should be managed in accordance with the Survey Guidelines and Management Advice for Development Proposals That May Impact on The Tasmanian Devil (Sarcophilus harrisii).

An aerial and ground survey of the project area for eagle nests was completed in March 2020 by ECOtas, with the findings discussed in the report provided as Annexure 6.

At the time, the trail alignments were in very early design phase, so the intent was for findings to guide final design of trail alignments. There were three known nests (RND#130, RND#1401 and RND#2221) of the wedge-tailed eagle, all occurring within the Tippogoree Hills Conservation Area. Data has been provided to the NVA on all nest locations.

The aerial survey and follow-up ground survey returned the following points: -

- That all previously reported nest sites are technically no longer present;
- No evidence of RND#1401 nor RND#2221 could be found. There is no apparently obvious reason for the loss of these two nest sites; and
- A novel nest was located very close to the original location of RND#130 (such that it will retain this RND designation).

ECOtas made the following recommendations to guide the trail design: -

- where possible design trails to be a minimum of 500m or 1km line-of-sight from wedge-tailed eagle nest sites;
- avoid construction of a permanent feature such as a service/shuttle road or drop-off/pick-up points within 500m or 1km line-of-sight from active wedge-tailed eagle nest sites;
- anticipate that any construction activities will need to assume that the wedge-tailed eagle nest site is active and that therefore breeding season restrictions will apply to any works within 500m or 1km line-of-sight from active wedge-tailed eagle nest sites between July to January, inclusive.

The service access road is located approximately 1.1-kilometres away from the closest nest sites (RND#130 and RND#2221) and is not within line-of-sight.

Although ongoing trail use may have less impacts than trail works and construction, evidence suggests that Wedge-tailed eagles are more prone to disturbance directed at the nest (on ground activities, pedestrian traffic etc.) rather than other forms of more incidental disturbance. During the operational phase, users of the trail network will simply be travelling along the trails, with no opportunity and minimal likelihood of stopping to view or visit the nest areas.

Trail Re-Alignment

In initial designs, Trail 16 and Trail 45 were aligned within 500m and 1km line-of-sight of the wedge-tailed eagle nest sites RND#130. Geographical constraints meant shifting the alignment was difficult, however with careful ground surveying the following re-alignments occurred: -

- Trail 16 re-aligned to be wholly outside the 500m zone and wholly outside 1km line-of-sight from active wedge-tailed eagle nest sites; and
- Trail 45 has been re-aligned to be wholly outside the 1km line-of-sight zone from active wedge-tailed eagle nest sites;
- A section of Trail 45 (about 900m) does occur within the 500m zone of Nest RND#1401, although noting the nest is lost.
- A small section of Trail 45 (about 150m) does occur within the 500m zone of Nest RND#130.

Construction activities for Trail 45 will be scheduled to occur outside of the known breeding season (construction occurring from February to June only).

Line-of-sight modelling was set at a nest height of 20-25m, as shown in the image below or within: -

Image 5: Trail Re-Alignment to Avoid Active Eagle Nest 500m Buffer and 1km Line-of-Sight

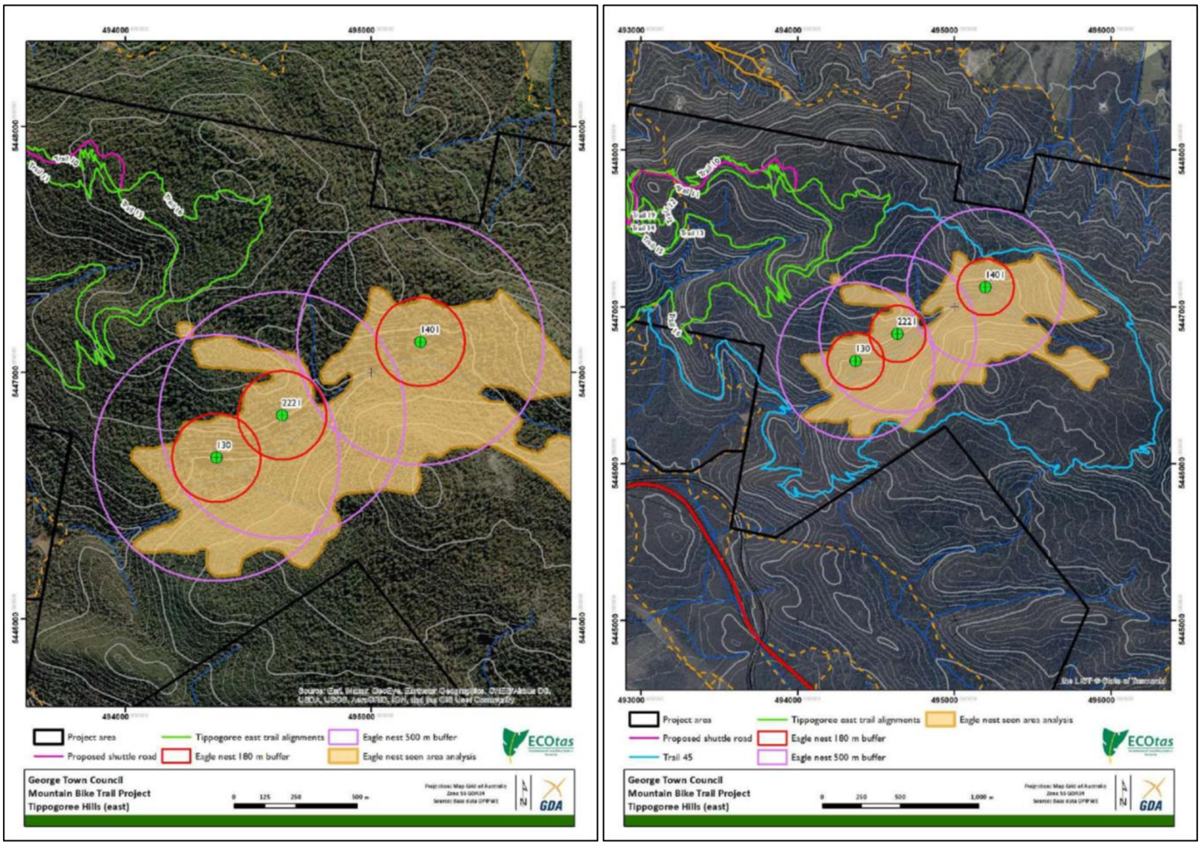


Image source: - ECOtas (2021).

Potential Habitat Analysis

The project area presents as marginal potential habitat for most species whose ranges coincides with the project area and special management is not recommended for these species in the context of the small-scale works associated with the project.

4.1.3 Vegetation Clearing

Whilst all efforts are made to minimise the level of necessary vegetation clearing, the construction of mountain bike trails inevitably involves the removal of some vegetation a permit for vegetation clearing as part of the trail construction is required under the GTIPS.

The Forest Practices Authority advised that a Forest Practices Plan is not required for vegetation clearing associated with the trails and shuttle road, therefore vegetation clearing as part of the proposal has been addressed under the GTIPS, which uses the Land Use Planning and Approvals Act's (LUPAA) definition of "development" and "works", being: -

- ***"development"*** *(c) the construction or carrying out of works"; and*
- *"**works** includes any change to the natural or existing condition or topography of land including the removal, destruction or lopping of trees and the removal of vegetation or topsoil, but does not include forest practices, as defined in the Forest Practices Act 1985 , carried out in State forests."*

The project area is subject to the Biodiversity Code due the following application of: -

- *E8.2.1(b): for the removal of native vegetation.*

The Biodiversity Code Development Standards for Habitat and Vegetation Management have the following objective: -

- *To ensure that: -*
  - *c) vegetation identified as having conservation value as habitat has priority for protection and is appropriately managed to protect those values; and*
  - *d) the representation and connectivity of vegetation communities is given appropriate protection when considering the impacts of use and development.*

The project as conceptualised would not compromise the broad intent of the objective of the Biodiversity Code. The Acceptable Solution (relevant to areas not identified as "priority habitat") is: -

- *A2 - Clearance or disturbance of native vegetation is in accordance with a certified Forest Practices Plan.*

World Trail's CEMP, provided as Annexure 5, outlines their environmental objective to minimise disturbance to vegetation and surrounding ecosystems in order to maintain environmental quality and natural values of the surrounding areas.

Once the trail network becomes operational, some minor vegetation clearing, predominately just trimming. Under section 6.3.1 and 6.3.2 of the GTIPS, vegetation clearance of up to 1m for the maintenance, repair and protection of lawfully constructed buildings or infrastructure including tracks and cycle paths is allowed without a permit. For any major works, such as track-re-routing, involving vegetation clearing of greater than 1m, a planning permit shall be sought.

4.1.4 Trail 16 Re-Alignment

Trail 16 has been re-aligned to be wholly outside the 500m zone and 1km line-of-sight zone from active wedge-tailed eagle nest sites. All maps within this report clearly showed the re-aligned section of Trail 16 in addition to the original re-alignment.

4.1.5 Trail 45 Alignment

Trail 45 has been re-aligned to be wholly outside the 1km line-of-sight zone from active wedge-tailed eagle nest sites. Although, a section of Trail 45 (about 900m) does occur within the 500m zone of Nest RND#1401 (noting the nest is lost), and a small section of about 150m long does occur within the 500m zone of Nest RND#130. All maps within this report clearly showed the re-aligned section of Trail 45 in addition to the original re-alignment.

4.1.5 Management, Mitigation and Monitoring

World Trail's CEMP provided as Annexure 5 outlines management, mitigation and monitoring strategies in the following sections: -

- 5.2.4 - Vegetation
- 5.2.5 - Fauna

World Trail's CEMP includes the following treatments: -

- Vegetation clearing is restricted to only the minimum as required for the safe construction and operation of the mountain bike trails and associated infrastructure;
- Clearly flag alignment of trail corridor to minimise vegetation clearance and protect the surrounding vegetation / habitat;
- Sediment and erosion control measures such will be in place on the downslope side of the works to prevent sediment drainage impacts;
- Marked locations of known threatened flora habitats as 'no go' areas, and rerouting to avoid;
- Dangerous goods such as fuel and oils should not be stored at any time in an unsecure location; and
- A permit under the Tasmanian Threatened Species Protection Act 1995 will be required to take certain flora individuals where re-routing of the alignments is not an option.

Management and mitigation considerations specific to findings and recommendations of the natural values assessment are: -

- ***Vegetation Types:*** In general, the disturbance of native vegetation be minimised as far as practical. Parts of the proposed mountain bike trail alignments pass through short sections of Eucalyptus ovata forest and woodland (TAVEG code: DOV). This is a resilient and robust vegetation type, and the construction and use of a mountain bike track not more than an average about 1.2 m wide through the understorey will not have a material impact on the extent, viability and ecological condition of the patches.

- ***Flora:*** Four plant species listed as threatened on the Tasmanian Threatened Species Protection Act 1995 are known from the project area. The following recommendations have been developed for each species: -
    - ***Pimelea flava subsp. flava* (yellow riceflower)**. The only plants to be potentially affected from the construction of mountain bike trails occur within the BassLink powerline easement. These plants have been flagged with blue tape, and under the current proposal, it is practical to avoid these individuals. If any of these individuals are likely to be disturbed, and a permit under the Tasmanian Threatened Species Protection Act 1995 will be sought to take individuals of Pimelea flava subsp. Flava. All other occurrences along the trail alignments will be avoided. Avoidance is impractical in terms of the service access road, and in this instance a permit under the Tasmanian Threatened Species Protection Act 1995 will be sought to take individuals of Pimelea flava subsp. Flava.
    - ***Aphelia gracilis* (slender fanwort)**. Occurrences on the alignment of the service access road. Avoidance is impractical in terms of the service access road, and in this instance a permit under the Tasmanian Threatened Species Protection Act 1995 will be sought to take individuals of Aphelia gracilis;
    - ***Glycine microphylla* (small-leaf glycine)**. Occurrences in southern section of project area will be avoided where practical (already flagged). Avoidance is impractical in terms of the service access road, and in this instance a permit under the Tasmanian Threatened Species Protection Act 1995 will be sought to take individuals of Glycine microphylla;
    - ***Scutellaria humilis* (dwarf skullcap)**. A short section of the alignment will be re-routed to avoid a particularly dense patch of the species. The population extent already flagged in the field to facilitate this.

    These recommendations should not require on-site consultation with a qualified botanist.

- ***Fauna:*** Apart from the generic recommendation to minimise the extent of “clearance and conversion” and/or “disturbance” to native vegetation, specific management in relation to threatened fauna is limited to those related to the wedge-tailed eagle as follows: -
    - Where possible design trails to be a minimum of 500m or 1 km line-of-sight from the wedge-tailed eagle nest site;
    - Trail 16 has been re-aligned to be wholly outside the 500m buffer and 1km line-of-sight of active wedge-tailed eagle nest sites;
    - Trail 45 has been re-aligned to be wholly outside the 1km line-of-sight zone from active wedge-tailed eagle nest sites, although a section of about 900m does occur within the 500m zone of Nest RND#1401 (noting the nest is lost), and a small section of about 150m long does occur within the 500m zone of Nest RND#130;
    - Avoid construction of a permanent feature such as a service/shuttle road or drop-off/pick-up points within 500m or 1km line-of-sight from active wedge-tailed eagle nest site;
    - Anticipate that any construction activities will need to assume that wedge-tailed eagle nest sites are active and that therefore breeding season restrictions will apply

to any works within 500m or 1km line-of-sight from active wedge-tailed eagle nest site between July to January, inclusive;

- Avoid directing disturbance of trail works and construction, towards the nest;
- If any Tasmanian Devil (Sarcophilus harrisii) dens are located during works they should be managed in accordance with the *Survey Guidelines and Management Advice for Development Proposals that may Impact on the Tasmanian Devil (Sarcophilus harrisii)* (DPIPWE, 2015);
- It is assumed that there should be no requirement to remove larger trees that may be hollow-bearing and provide potential habitat for species such as the masked owl as part of the construction of mountain bike trails. Avoidance of all larger tress in terms of construction of the service access road may not be practical, but removal of larger trees will be minimised as much as possible.

4.1.5 Commitments

Commitment 1 - The CEMP will include controls to limit the extent of vegetation clearing.

Commitment 2 - The CEMP will include controls to minimise disturbance of native vegetation as far as practical, and to completely avoid occurrences of threatened flora species as far as practical. Where avoidance of threatened flora species is not practical, a permit under the Tasmanian Threatened Species Protection Act 1995 will be sought to take threatened flora individuals.

Commitment 3 - The CEMP will include controls to minimise disturbance of native vegetation as far as practical.

Commitment 4 - Any Tasmanian Devil (Sarcophilus harrisii) dens located during works then these will be managed in accordance with the Survey Guidelines and Management Advice for Development Proposals That May Impact on The Tasmanian Devil (Sarcophilus harrisii).

Commitment 5 - Construction activities within 500m or 1km line-of-sight from wedge-tailed eagle nest sites will assume nest is active and that therefore breeding season restrictions will apply to any works between July to January, inclusive.

4.2 Weed and Disease Management

4.2.1 Weed Species

Three plant species classified as a declared weed within the meaning of the Tasmanian Weed Management Act 1999 were detected from within and adjacent to the project area namely: -

- **Erica lusitanica (spanish heath).** This species is common along the northern end of the firebreak towards Bridport Road, along the northern and western end of the Basslink easement near Bridport Road and the railway easement, and an extensive infestation at the convergence of trails 32, 33, 34, 35 and 36 within Lauriston Park. Generally speaking, the railway easement within Lauriston Park is extensively infested with erica lusitanica;
- **Rubus anglocandicans (blackberry).** Very localised in distribution and currently a low risk of spreading given the intensive management of the Lauriston Park area. Easily managed by herbicide application with follow-up monitoring. The location of these species poses a low risk of transportation by vehicles including bikes.

- **Ulex europaeus (gorse).** Very localised in distribution and currently a low risk of spreading given the intensive management of the Lauriston Park area. Easily managed by herbicide application with follow-up monitoring. The location of these species poses a low risk of transportation by vehicles including bikes.

Any management actions should aim to minimise the risk of introducing or further spreading weeds within the project area. The key to this will be hygiene protocols for machinery, vehicles and personnel entering the area during works, particularly if they have come from a potentially weed-affected site.

No weeds were discovered occurring within the Tippogoree Hills Conservation Area, highlighting the importance of keeping the area weed-free.

Development of a Construction Environmental Management Plan (CEMP) or equivalent type of document for construction activities and post-construction monitoring is recommended due to the abundance of Erica lusitanica (spanish heath) along the firebreak, which is the location that the proposed shuttle road is to be sited. This plan should include consideration of the order of construction of the shuttle road and track sections, ideally working within the vicinity of the most heavily weed-infested area near the firebreak last, as this provides the means to minimising the risk of introducing weeds to other parts of the track network.

ECOtas recommended that preconstruction herbicide application occur prior to construction of the service access road, and the tracks occurring within the infestation area in Lauriston Park. This will minimise the risk of introducing this species to the weed-free area in the east. Consideration should also be given to the implementation of a washdown area in the vicinity of the point that the shuttle road and trail network enter the upper Tippogoree Hills area, and in the vicinity of the point that the trail network enters the area east of the railway easement. This will be important given the currently weed-free status of the majority of the project area.

4.2.2 Diseases

Phytophthora Cinnamomi

The vegetation types identified from the study area are not recognised as being particularly susceptible to Phytophthora cinnamomi in most circumstances and no evidence of the pathogen was observed. No special management is recommended but note that the planning manuals listed under Weeds provides further information on hygiene protocols.

Myrtle Wilt

Myrtle wilt, caused by a wind-borne fungus (Chalara australis), occurs naturally in rainforest where myrtle beech (Nothofagus cunninghamii) is present. Nothofagus cunninghamii is entirely absent from the project area. No special management is required.

Myrtle Rust

Myrtle rust is a disease limited to plants in the Myrtaceae family. This plant disease is a member of the guava rust complex caused by Austropuccinia psidii, a known significant pathogen of Myrtaceae plants outside Australia. No evidence of myrtle rust was noted. No special management should be required in relation to the proposed works.

Chytrid Fungus and Other Freshwater Pathogens

The project area is not known to support frog chytrid disease and there is limited potential habitat for amphibian species within the anticipated project footprint (generally very well-drained terrain).

4.2.3 Management, Mitigation and Monitoring

World Trail's CEMP provided as Annexure 5 outlines management, mitigation and monitoring strategies in the following sections: -

- 5.2.6 - Weed and Pest Management

Weed, disease and pest considerations have been incorporated into World Trail's CEMP, and GTC Weed and Disease Management Plan including weed and disease hygiene management.

Primary management and mitigation strategies include: -

- Implementation of a Weed and Disease Management Plan as outlined in the CEMP and in accordance with the *Weed and Disease Planning and Hygiene Guidelines - Preventing the spread of weeds and diseases in Tasmania* (DPIPWE, 2015)*;*
- Targeted control of weeds (with herbicide) prior to construction where appropriate;
- Washdown and inspection of vehicles, machinery and boots before leaving/entering the site to ensure no viable plant materials or large clods of soil are transported onsite;
- Washdown to be conducted in accordance with the Tasmanian Washdown Guidelines for Weed and Disease Control (DPIPWE, 2004), and any additional landowner requirements;
- Consideration to the order in which trails are constructed, ideally working within the vicinity of the most heavily weed-infested area last;
- Control of material brought onto the site to ensure it is weed and disease free; and
- Implement an ongoing Weed Management Plan (provided as Annexure 8) for the operational period.

Specific consideration has been given to initial and ongoing management for the heavy infestations of Spanish Heath (Erica lusitanica) along the proposed service access road alignment, and the rail line corridor adjoining Lauriston Park. The George Town municipality is located within Statutory Weed Management Zone B for Spanish Heath which stipulates Containment as the required level of management. However, the heavy infestations of Spanish Heath (Erica lusitanica) will be managed as if located within Statutory Weed Management Zone A, which stipulates Eradication.

In practice, the management strategy will be executed in three stages, with eradication being the primary objective, and targeting the infestations located within the 20m trail and road construction corridors. Where the infestations continue into the adjoining land not within the 20m trail and road construction corridors, the infestations will be managed to the greatest extent as practicably possible to protect and prevent re-infestation to inside the construction corridors.

The three stages of the management strategy are: -

- Pre-construction - initial treatment with an approved herbicide to serve as reduction in active growth, with follow up treatment of an approved herbicide within six months or after spring growth has occurred;
- Monitoring every three months during the construction phase, with follow up treatment of an approved herbicide as necessary; and
- Ongoing monitoring throughout the operational phase as trail maintenance inspections, with follow up treatment of an approved herbicide applied as necessary.

It is thought that ongoing monitoring with treatment as needed will be the most effective means of keeping the heavy infestations of Spanish Heath (Erica lusitanica) from spreading into the weed-free areas of the proposed trail network.

4.2.4 Commitments

Commitment 6 - The Weed and Disease Management Plan will include weed and hygiene management principles as part of the Project CEMP.

4.3 Climate

The George Town area has a temperate maritime climate with a moderate temperature range, with daily maximum temperature around 21°C in the summer months, and 12.5°C in the winter months.

4.3.1 Rainfall

The George Town municipality has an average annual rainfall of less than 800 mm, with monthly averages around 27mm in in the summer months and 82mm in the winter months. Contractors will to the best of their ability incorporate the following drainage requirements into the design of the trail: -

a) trail grade should not exceed half of the traversing hillside or side-slope grade;
b) knicks, rolling grade dips and grade reversals should be incorporated where required to shed water from the trail, and should be placed no further apart than twenty (20) metres;
c) rolling crown switchbacks should be used when a hillside turn requires specific drainage; and
d) the application of the most appropriate out-slope or in-slope trail building technique.

4.3.2 Greenhouse Gas Emissions

Air quality is unlikely to be a quantifiable aspect of this project as major earthmoving and construction are not required. The primary aspect would be the additional movement of trucks or machinery accessing the trail alignment, but this unlikely to result in a frequency that would generate significant fumes or odour that would impact on residents.

4.3.3 Management, Mitigation and Monitoring

World Trail’s CEMP provided as Annexure 5 outlines management, mitigation and monitoring strategies in the following sections: -

- 5.2.1 - Erosion and Sediment Control
- 5.2.8 - Water / Air Quality

World Trail's CEMP includes an Erosion and Sediment Control Plan, developed to help control off-site impacts arising from vegetation disturbance and earthworks on site. In particular, the plan addresses specifics for drainage treatments for trail construction: -

- Drainage may be by culvert (piped), grade dips (reversals) or water bars;
- If areas of high erodible soils are found in track surface or table drains the area must be armoured with rock, gravel or low erodibility soils;
- Drainage must be installed on approaches to watercourse crossings so that where possible a 30m buffer of vegetation is achieved to act as a filter strip;
- All drainage must direct water onto vegetation and not exposed fill material; and
- Unless the trail tread is out sloped (i.e. it drains to the lower side of the track) and no table drain is required on the upper side, cross drains/water bars/grade reversals must be installed at no greater distance apart than shown below: -

Trail Gradient	Maximum Drain Spacing
1-5%	70m
6-10%	40m
11-20%	30m
>20%	20m

In order to reduce carbon emissions and implement best practice greenhouse impact management, the following management and mitigation is proposed for the project: -

- Use of modern machinery and vehicles to maximise fuel efficiency; and
- Regular scheduled maintenance of machinery and vehicles to ensure exhaust emissions remain acceptably clean.

Once operational, there is a possibility for the need to close the trail network in the wetter months to protect the trail tread from damage. This won't be known until the trails have been constructed, and has been added to the Trail Maintenance program as a consideration.

4.4 Natural Hazards

4.4.1 Bushfire

During construction, the primary hazards relating to bushfire are: -

- The risk of works being conducted onsite acting as an ignition source for a bushfire; and
- The risk of a bushfire in the region impacting on site works.

Bushfires pose a significant risk to property and human safety, both during the construction phase and operational phase of the project, as well as neighbouring residents, and workers not associated with the project.

Whilst the entire project area is located within an area covered by the Bushfire-Prone Areas code (103.FRE), the prescribed use is not considered a vulnerable or hazardous use, and therefore the standards do not apply.

The vegetation types found in the project area in terms of fire attributes as classified by LISTMaps can be seen in the table below: -

Table 11: Fire Attributes as Classified in LISTMaps

Vegetation Community Description	Vegetation Code	Fire Sensitivity	Flammability
Eucalyptus amygdalina forest and woodland on dolerite	DAD	Low	High
Eucalyptus amygdalina - Eucalyptus obliqua damp sclerophyll forest	DSC	Medium	Medium-High
Eucalyptus obliqua forest with broad-leaf shrubs	WOB	High	Medium-Low
Rainforest fernland	RFE	High	Low
Eucalyptus obliqua forest over rainforest	WOR	High	Low
Nothofagus - Atherosperma rainforest	RMT	Extreme	Low
Permanent easements	FPE	N	N
Wet heathland	SHW	Low	Very High

(LISTMaps, 2021)

The bushfire season runs from 1 October until at least 30 April in the following year, as determined by the Tasmanian Fire Service.

The last significant bushfire in the Tippogoree Hills part of the study area was on 27th November 2006 (Incident Number: 128420; Fire Name: “Tippogoree Hills”).

Many cleared areas occur throughout the project area in the form of access roads and fire breaks.

4.4.2 Extreme Weather

The project area location is exposed to natural extreme weather patterns, primarily including periods of heavy and extensive rain, and high levels of wind.

4.4.3 Management, Mitigation and Monitoring

World Trail’s CEMP provided as Annexure 5 outlines management, mitigation and monitoring strategies in the following sections: -

- 5.2.7 - Bushfire
- 5.2.9 - Emergency Response

The full mitigation management plans during construction can be view in World Trail’s CEMP, although given their importance, key point have been provided below.

General mitigation for bushfire prevention during trail construction activities include: -

- Fire extinguishers to be kept in all vehicles, as well as the project site office.
- For all construction operations, the following equipment to be maintained on site in working condition and ready for immediate use in case of fire: -
    - i. Two (2) rake hoes;
    - ii. A filled knapsack or charged air- water fire extinguisher of a least 9 litre capacity will be kept within 30 metres of chainsaw operations and carried on each unit of machinery on site.

Mitigation for trail construction operations during the fire season include: -

- At the start of each working week (or other agreed schedule) contractors will monitor weather forecasts and note any potential high-risk days, and provide a Council with a construction plan for anticipated activities for that week;
- Local fire bans will be checked to see if they are in place (via http://www.fire.tas.gov.au/map);
- Ensure that each team has at least one team member who has been trained in basic bushfire awareness with the appropriate skills to undertake fire weather monitoring and calculation of the Forest Fire Danger Index.
- Contractor teams must have: -
  i. a team member trained in basic bushfire awareness with the appropriate skills to undertake fire weather monitoring and calculate the Forest Fire Danger Index (FFDI);
  ii. Viable, functioning, two-way communications – e.g. mobile phone, UHF radio or satellite phone;
  iii. Weather instruments capable of measuring temperature, wind speed and humidity;
  iv. Fire Weather Logbook.

  During the fire season, the following weather monitoring protocols apply: -
  i. Before construction activities commence in the morning and after lunch break, check weather observations and calculate FFDI and record in Fire Weather Logbook;
  ii. If the FFDI is equal or greater than 12 (High), consider implementing protocols below as per TFB day.
- Chainsaw work to be scheduled for early in the morning, when fire danger risk is lowest. Prior to starting chainsaw work: -
  i. Ensure that the immediate area has been manually cleared of twigs, leaves, scrub and other flammable material;
  ii. Have another staff member act as spotter. Spotter to standby at all times while chainsaw is being used;
  iii. Ensure that the knapsack is on hand, filled and ready for use.
- Monitor local weather warnings, fire ban announcements, and planned burn announcements.

Mitigation for construction operations on Total Fire Ban (TFB) days include: -

- All trail construction activities will cease until landowner approval provided;
- Construction activities approved to proceed on TFB days require adherence to the following rules must be applied;
  i. Only work in areas with good communication including mobile phone reception;
  ii. Only work in areas with quick/easy access where vehicles can be parked close by;
  iii. No operating excavators, chainsaws, brushcutters, or any other machinery / equipment that could conceivably emit sparks during operation;
  iv. Generally, all work should be conducted with hand tools only;
  v. Ensure all workers work to the conditions, have adequate sun protection and drink plenty of water.

- On TFB days, the following weather monitoring protocols apply: -
    i. Before construction activities commence morning, returning to work after morning smoko, and returning to work after lunch, check weather observations and calculate FFDI and record in Fire weather logbook;
    ii. If the FFDI is equal or greater than 20 (High), consider suspending operations and leaving site.

Before the trail network can transition into the operational phase as a publicly accessible facility, a Trail Safety Management Plan will be developed to manage, mitigate and monitor potential risk of bushfire (and other events) hazard to maintenance staff and users.

4.4.4 Commitments

Commitment 7 - The CEMP will include a Bushfire Hazard Management Plan for trail construction operations.

Commitment 8 - A Trail Safety Management Plan will be developed manage, mitigate and monitor potential risk of bushfire (and other events) hazard to maintenance staff and users.

4.5 Soil, Geology and Topography

4.5.1 Soil and Geology

Geology is mentioned because it can have a strong influence on the classification of vegetation communities and the presence of plant species with a priority for conservation management (and to a lesser extent on fauna species with a priority for conservation management). The project area is mapped as: -

- Jurassic-age “dolerite (tholeiitic) with locally developed granophyre” (geocode: Jd.) mapped across virtually the entire project area; and
- Quaternary-age “talus, vegetated and active” (geocode: Qpt): occurs as a small slither on the north-facing slopes of the Tippogoree Hills.

LISTmap indicates that no part of the study area includes sites of geo-conservation significance.

Acid Sulfate Soils

The very southern section of Lauriston Park is located within one identified Coastal Acid Sulfate Soils feature (Cj(p3)) according to the LIST database (NVA 2017) indicating an extremely low probability occurrence (1-5% of mapping unit), occurring in small areas (NVA 2017).

Lauriston Park is within the Tippogoree Hills Trail Network (Lower Section) project area considered as a very low risk of encountering Acid Sulfate Soils, and impacts associated with disturbance from the project is not anticipated.

4.5.2 Topography

The Tippogoree Hills part of the study area is on relatively complex topography broadly referred to as the Tippogoree Hills, which is a long ridgeline trending northwest-southeast but with several more complex ridge systems and associated generally steep slopes of various aspects. The elevation is between 40-350m above sea level. Tributaries of Four Mile Creek, Williams Creek and un-named drainages are present.

There are also numerous old vehicle tracks, firebreaks and roads. However, most of the area supports largely undisturbed native vegetation (forest).

4.5.3 Management, Mitigation and Monitoring

World Trail’s CEMP provided as Annexure 5 outlines management, mitigation and monitoring strategies in the following sections: -

- 5.2.1 - Erosion and Sediment Control
- 5.2.2 - Contaminated Land, Fuel and Hazardous Substances

World Trail’s CEMP includes an Erosion and Sediment Control Plan, developed to help control impacts arising from earthworks on site.

In general, studies have shown that there is no statistically significant difference in activity induced soil erosion or trail widening between biking and similar recreational activities (hiking, trail running, horse riding). Erosion on trails caused by mountain biking depends predominately on the trail design, maintenance, treatments of water management, soil properties, and usage thresholds.

4.5.4 Commitments
Commitment 9 - An Erosion and Sediment Control Plan will be included as part of the CEMP.

4.7 Cultural Values

4.7.1 Aboriginal Heritage
An Aboriginal heritage assessment for the Tippogoree Hills Trail Network was undertaken by CHMA of the project area in December 2020 and March 2021 as recommended by Aboriginal Heritage Tasmania, and in accordance with the provisions of the Aboriginal Heritage Act 1975. The full report has been included as Annexure 7.

All Aboriginal relics are protected under the Aboriginal Heritage Act 1975 (The Act). It is illegal to destroy, damage, deface, conceal or otherwise interfere with a relic, unless in accordance with the terms of a permit granted by the Minister.

All cultural heritage assessment information contained within section 4.7 of this report was sourced and referenced as CHMA (2021).

Desktop Survey
The desktop component of the assessment found twenty-eight registered Aboriginal sites situated within an approximate 5km radius of the study area on the Aboriginal Heritage Register (AHR). These known sites were used to determine the design of the trail alignments, completely avoiding the known sites was achieved.

Once the trail alignments were finalised, a review showed eight known sites were situated within an approximate 200m radius of the proposed mountain bike trail alignments and associated infrastructure such as the prosed service access road.

Field Survey and Results
The field survey assessment for the proposed Tippogoree Hills Trail Network alignments and associated vehicle access road alignments resulted in the recording of a total of three Aboriginal heritage sites (sites AH13879, AH13905 and AH9741). Two of these sites are new recordings (AH13879 and AH13905), with site AH9741 being a re-recording of a previously registered site. All three sites are classified as an Artefact scatters. Two of these sites are new recordings (AH13879 and AH13905), with site AH9741 being a re-recording of a previously registered site. Besides these three sites, no other new Aboriginal heritage sites or features were identified during the field survey program, and it is advised that there is a very low potential for additional undetected Aboriginal sites to be present.

The field survey confirmed an additional seven registered Aboriginal sites are located within a 200m radius of the proposed trail alignments, making a total ten registered Aboriginal sites that are situated within a 200m radius of the proposed trail alignments.

All AH sites are being avoided, although several mountain bike trails, and some associated infrastructure, are situated in close proximity to sites AH13879, AH13905 and AH9741. As mitigation, a series of management recommendations will be put in place to ensure that these sites are avoided and protected during the construction and operation of the mountain bike trails.

4.7.2 Historic Heritage

All relevant heritage registers were searched via desktop, with no listings for the project area were returned, concluding that there is low potential for undetected historic heritage features to occur within the study area. Therefore, potential impacts to historic heritage sites as a result of the project are not expected or likely.

4.7.3 Trail 16 Re-Alignment

Trail 16 has been re-aligned to be wholly outside the 500m zone and 1km line-of-sight zone from active wedge-tailed eagle nest sites. The re-alignment meant that Trail 16 passed very near to AH7482. CHMA returned to the site to assess the Trail 16 re-alignment, with the findings included as an addendum within the report provided as Annexure 7 - Tippogoree Hills Trail Network - AH Assessment - CHMA (with Trail 16 addendum). In short, the field survey found no Aboriginal heritage sites or features, and advised that there is a very low potential for additional undetected Aboriginal sites to be present.

4.7.5 Management, Mitigation and Monitoring

All Aboriginal relics are protected under the Aboriginal Heritage Act 1975 (The Act). It is illegal to destroy, damage, deface, conceal or otherwise interfere with a relic, unless in accordance with the terms of a permit granted by the Minister.

There is a total of ten registered Aboriginal sites that are situated within a 200m radius of the proposed trail alignments. All seven sites are currently avoided by the proposed development footprint. The following controls have been put in place: -

- All AH sites were plotted onto the design plans for the George Town Mountain Bike Trail Development;
- Trail construction contractors will be informed of the location of the sites and informed that sites are not to be impacted;
- Protection of AH13879, AH13905 and AH9741 sites will be managed in accordance with management recommendations outlined in the Aboriginal Heritage Assessment Report by Stuart Huys and Vernon Graham CHMA 2021 (Annexure 7);
- If any of the identified sites cannot be avoided or are likely to be impacted by trail construction works, then George Town Council will apply for and obtain a Permit to impact the sites, prior to trail works commencing; and
- The Aboriginal Heritage Tasmania Unanticipated Discovery Plan (UDP) will be kept on hand during ground disturbance works and processes outlined in the UDP enacted should previously undetected Aboriginal heritage be located or suspected.

4.7.4 Commitments

Commitment 10 - The project will avoid all known Aboriginal heritage sites.

Commitment 11 - Sites AH13879, AH13905 and AH9741 will be barricaded to avoid disturbance.

Commitment 12 - The CEMP will include an Unanticipated Discovery Plan for Aboriginal heritage sites.

4.8 Visual Impact

4.8.1 Trail Design

Mountain bike trails are design to be sympathetic and of minimal impact to the visual environment.

4.8.2 Management, Mitigation and Monitoring

Removed vegetation will be spread on cleared areas where possible, or if not possible cut into small pieces and distributed within surrounding areas, avoiding the creation of large piles and away from retained vegetation. Vegetation clearing within the trail corridor will be minimised to retain the vegetated visual character of the environment. Trails have been designed to complement the terrain, geology, and natural environment.

4.9 Social and Recreational Values

4.9.1 Benefits

The construction of mountain bike trails will create a valuable recreational asset for the community. The availability of this asset presents an opportunity to increase community engagement in a physical activity, appealing to both males and females, families and individuals, from a wide age bracket, at little or no cost.

7.4.2 Impacts

It is unlikely that any negative impacts will be created during the construction period. The operation of machinery will be limited to reasonable hours of operation. The machines used for trail construction generally create minimal dust and noise, and will not be close to residences. All complaints and enquiries will be managed through the George Town Council generic email and phone number, and forwarded to Council's Project Manager. Some possible negative side effects of the George Town Mountain Bike Trail Development have been identified below from a combination of general feedback and concerns from stakeholders, reference groups, and community members.

User Conflict

The majority of the project area is not currently available to be publicly accessed, and is not currently used for any recreational pursuits. The development is for the construction of mountain bike trails only, and therefore no user conflict is anticipated to occur.

Illegal Trail Activity

The construction of trails will inevitably increase illegal use of trails, primarily off-road motorcycles. It should be noted that a well-built mountain bike trail is unappealing for motorbike riders, due to complexity and level of manoeuvrability demanded by mountain bike trail features.

4.9.1 Management, Mitigation and Monitoring

- Operation of machinery and equipment will be restricted to Monday to Friday 6:00am to 6:00pm, and Saturday 7:00am to 6:00pm with a flexibility to work Sunday on request;
- A complaints register to monitor any dust and noise to be maintained, spraying dust generating patches, speed restrictions and rehabilitation of exposed areas as soon as possible;
- Signage will be installed outlining a give-way hierarchy (bicycles give way to pedestrian);
- Sole-use mountain bike trails will be communicated installing informative signage;
- Design will incorporate trail building techniques aimed at restricting ease of access for motorbike users.

4.10 Transport and Parking

4.10.1 Construction Period

Site Access, Traffic Generation and Road Safety

Site access for the Tippogoree Hills Trail Network project area will be via existing entrances from Bridport Road and East Tamar Highway. Many fire trails and bush tracks exist throughout the project area, and these will be used to access the trail alignments where possible. The construction phase of the project is not expected to result in anything other than a negligible increase in traffic on surrounding roads within the capacity of roads to accommodate the minimal increase.

The construction phase of the project is not expected to result in significant adverse impacts on road safety.

4.10.2 Operational Period

Site Access, Traffic Generation and Road Safety

The proposal includes two locations where interaction with public roads are required, them being: -

- Service Access Road Entrance - The existing entrance to Rio Tinto Aluminium (Bell Bay) Limited land currently used by members of the George Town & Districts Black Powder & Pistol Club, Bell Bay Aluminium service and contractor vehicles, and Basslink service and contractor vehicles; and
- Lauriston Park Entrance - The existing and main entrance to Lauriston Park trail head and carparking area off Bridport Road, which will serve as the primary access point for users of the trail network.

Service Access Road Entrance

The proposal includes the construction of a privately accessible (locked gate) roadway for which only select parties will be given access.

The entry point will be via an existing access point from Bridport Road, which is a state-owned road asset, used by Bell Bay Aluminium and Basslink service vehicles and members of the George Town and District Black Powder and Pistol Club. The road will serve as an access for trail maintenance vehicles and select commercial shuttle bus operators, and continue to serve as an existing access for Bell Bay Aluminium and Basslink service vehicles. The access point will be upgraded to meet design standards stipulated by DSG and the GTIPS.

A TIA was conducted on the site, which recommended a road and entrance upgrade to allow for the provision of vehicle movements and turning. The full TIA is available as Annexure 10 - Traffic Impact Assessment - Bridport Road & Service Road Access.

Lauriston Park Entrance

The proposal includes the upgrade and construction of a public access road and carparking area to serve as the primary access point for users of the Tippogoree Hills Trail Network.

The entry point will be off Bridport Road near the intersection with the East Tamar Highway. There is an existing entry point off Bridport Road, but this was deemed inappropriate for the new use and increase in traffic.

A TIA was conducted on the site, which recommended a new entrance be created to replace the existing entrance to accommodate the expected usage. The TIA also put forth recommendations for a road and entrance upgrade to allow for the provision of vehicle movements and turning. The full TIA is available as Annexure 11 - Traffic Impact Assessment - Bridport Road at Lauriston Park.

Parking Considerations

The project includes a new carparking area and loading bay proposed within Lauriston park at the proposed trail head location.

As indicated in Table E6.1: Parking Space Requirements of the Car Parking and Sustainable Transport Code under the GTPS, no parking quantity requirements for vehicles or bicycles have been set for the use class of Passive Recreation. The exact quantity of carparks will be determined by the amount of available space upon completion of preparation works, but it is expected that approximately 40-60 carparks will be possible.

The layout of car spaces and access ways will be designed in accordance with Australian Standards AS 2890.1 - 2004 Parking Facilities, Part 1: Off Road Car Parking.

Under the GTIPS, the Car Parking and Sustainable Transport Code stipulates access widths requirements in Table E6.3: Width of Access and Manoeuvring Space adjacent to Parking Spaces. The intention is for carparks to be 60-degree angle, 6m in length and 3m in width, which exceeds the specification outlined in Table E6.3: Width of Access and Manoeuvring Space adjacent to Parking Spaces.

Under the GTIPS, the Car Parking and Sustainable Transport Code stipulates requirements to facilitate pedestrian movements in Table E6.5: Pedestrian Access. The intention is to construct a 1m wide footpath separated from the driveway and parking aisles with crossing points to accommodate pedestrian movement form carparking to trail network entry point, which satisfies specifications outlined in Table E6.5: Pedestrian Access servicing 11 or more carparks.

Under the GTIPS, the Car Parking and Sustainable Transport Code stipulates access lengths, widths, and height clearance requirements in Table E6.4: Loading bays. The intention is for the loading bay to be 10m in length, 3.6m in width, and have a 4m height clearance, satisfying the specifications outlined in Table E6.4: Loading bays.

4.10.4 Management, Mitigation and Monitoring

To ensure that transport and parking requirements are sufficiently accommodated for, the carparking area at the purpose trail head location will be designed in accordance with: -

- AS/NZS 2890.1, Parking facilities – Part 1: Off-street carparking, 2004;
- DSG design specifications; and
- The Car Parking and Sustainable Transport Code under the GTIPS.

4.11 Waste Management

4.11.1 Construction Period

Trail building has a very minimal waste output of non-hazardous wastes. Waste likely to be generated from the project include: -

- "Slash" or removed vegetation; and
- Personal waste from staff (food wrappers and drink containers).

Complete details for waste management is provided in World Trail's CEMP provided as Annexure 5.

4.11.2 Operational Period

Rubbish and recycling bins will be provided at key access point to the trail network, primarily the trail head at Lauriston Park. Bins will be managed as part of council's standard public bin servicing arrangements. Bins will also be made available in the shuttle buses.

4.11.3 Management, Mitigation and Monitoring

World Trail's CEMP provided as Annexure 5 outlines management, mitigation and monitoring strategies in the following sections: -

- 5.2.3 - Waste

The intent is for any vegetation removed during trail construction is to be distributed into adjoining land and spread on cleared areas in a way that avoids creating of large piles. In some circumstances this is achieved by cutting the removed vegetation into small pieces to be distributed within the surrounding areas. In areas of proximity to threatened and/or significant vegetation, care will be taken to avoid disturbance of existing vegetation.

All waste generated by staff will be bagged and removed from the site to be correctly disposed of.

5.0 Engagement

5.1 Background

Initially it was the George Town Chamber of Commerce who recognized the impact mountain biking destinations were having on boosting local visitor economies, and decided to investigate the possibility of George Town becoming a mountain bike tourist destination. A collaboration between the Chamber of Commerce, Bell Bay Aluminium and the George Town Council resulted in both World Trail and Dirt Art being contracted to conduct feasibility studies, both indication good potential. and subsequently Dirt Art contracted to prepare a draft design, so the project would be shovel ready.

An initial reference group was established to provide insight and feedback, and steer the decision-making process throughout concept development. The stakeholder reference group met every 1 to 2 months, from 9th March 2018 through to 18th February 2019. The reference group membership evolved over that time, but core and guest stakeholders have been listed in the table below.

Table 12: Historic Stakeholder Reference Groups Members

Name	Position/Representing Company	Capacity (Core/Guest)
Andrew Michieletto	President, George Town Chamber of Commerce	Core
Bridget Archer	Councillor and Mayor, George Town Council	Core
Craig Perkins	Chief Executive Officer, Regional Development Australia (Tasmania)	Core
Georgia Brown	Projects Manager, Northern Tasmania Development Corporation	Core
Justine Brooks-Bedelph	General Manager, George Town Council	Core
Kevin Turner	Regional Development Officer, Regional Development Australia (Tasmania)	Core
Lou Clarke	Principal Advisor Communities, Rio Tinto Aluminium (Bell Bay)	Core
Phil Thompson	Regional Planner, Parks and Wildlife	Core
Sam Duncan	Environment and Analytical Superintendent, Rio Tinto Aluminium (Bell Bay)	Core
Sonia Mellor	Industry and Community Liaison Manager, Tourism Northern Tasmania	Core
Stuart Carless	Stakeholder Engagement Manager, TasWater	Guest
Doug Burt	Councillor, George Town Council	Guest
Heather Barwick	Councillor, George Town Council	Guest
John Glisson	Councillor, George Town Council	Guest
Josie Higgins	Governance Support Officer, George Town Council	Guest
Maureen Lacey	Executive Committee Member, George Town Chamber of Commerce	Guest
Rhonda O'Sign	Community Officer, George Town Council	Guest
Simon French	Director, Dirt Art PTY LTD	Guest

The George Town Chamber of Commerce collected letters from local business and organisations outlining testimonial support for the project, including letters from, the Low Head Tourist Park; Sheriff Health and Fitness; Star of the Sea Catholic College; Port Dalrymple School; and South George Town Primary School.

Key landowners were engaged very early in project scoping and included in the reference group to ensure consideration for specific landowner requirements was addressed in all facets of planning. Both Rio Tinto Aluminium (Bell Bay) Limited and Parks and Wildlife Services provided in-principle letters of support for the project to assist with the funding application.

In February 2019, George Town Council also commissioned Derek Le Marchant to prepare an economic analysis. The analysis provided a broad overview and assessment of the project's potential to deliver tangible benefits to the George Town area, and suggested strong potential for the facility and reinforces the Dirt Art findings but also indicates that trail alone do not make a successful MTB destination. A successful campaign secured $4.4m in 2019 from the Australian Government, as part of their Community Development Grants Programme, designed to support needed infrastructure and promote stable, secure and viable local and regional economies.

In September, George Town Council appointed a dedicated project manager to oversee the development, and a new reference group was established.

5.2 Key Stakeholder Engagement

Once the project formally commenced in September 2019, a new reference group was established with members representing relevant departments of council and external stakeholders: -

Table 13: Current Stakeholder Reference Group Members

Name	Position/Representing Company
Peter Rickards	Project Manager, George Town Council
Shane Power	General Manager, George Town Council
Greg Kieser	Mayor, George Town Council
David Richardson	Manager of Works and Infrastructure, George Town Council
Meagan Bennett	Manager of Liveable & Connected Communities, George Town Council
Lou Clarke	Principal Advisor Communities, Rio Tinto Aluminium (Bell Bay)
James Cameron	President, George Town Chambers of Commerce
Andrew Crowden	Regional Planner North, Parks and Wildlife Services
Chris Griffin	Chief Executive Officer, Visit Northern Tasmania (previously Tourism North Tasmania)
Georgie Brown	Projects Manager, North Tasmanian Development Corporation
Kevin Turner	Regional Development Co-ordinator, Regional Development Australia (Tasmania)
Gordon Scrim	Treasurer, Launceston Mountain Bike Club

The reference group aims to consistently meet every two months to discuss progression of the project, provide feedback and insight into key decisions, and act as advocates for the project. Many smaller stakeholders exist depending on land tenure

5.3 Community Engagement

Council has a Community Consultation Framework to establish principles and practices to ensure community views are reflected in the decisions of Council. The framework aligns with Councils strategic goal to *"Ensure Council listens to and understands community needs and continues to make responsible decisions on behalf of the community."*

All projects concerning the community are rated against the Community Consultation Framework to determine to most effective means of community engagement are undertaken to inform and engage the community. Progress of the project has been communicated to the community through the following means: -

- Project update included in the quarterly council newsletter;
- Detailed information about the project displayed in the Council foyer;
- Updated content and news articles on the Council website;
- Dedicated project website showing updated content and news articles, and a "register your interest" submission form;
- Dedicated social media posts;
- Community information sessions at various stages of the development; and
- The dedicated project manager available to receive enquiries via phone or in person.

A community information session for the George Town community was conducted on the 7th February 2019. The session attracted significant attendance, and found the project was strongly supported by the community, with very few issues and concerns raised relevant to the scope of the project. Key issues raised by the community were: -

- How will the ongoing maintenance of the trails be funded?
- How will emergency services respond to incidents requiring medical attention or patient extraction?

Council's consideration of these issues has been outlined in the next section.

More recently, community information sessions were held on the 1st and 3rd of December. Of the two sessions, one was for the general public community to attend as a project update, and the other was specifically tailored for the business community, offering insight on how best to capitalise on George Town becoming a mountain bike tourism destination. Both sessions were well received with maximum capacity being met on both occasions.

Council will continue to keep the community informed and engaged through the development via the means listed above.

5.4 Response to Issues Raised

5.4.1 Ongoing Trail Maintenance

Maintaining world-class trails require regular maintenance and improvements. Whilst a professionally designed and constructed trail network should only require minimal maintenance, a formal management program will need to be initiated as soon as the network opens (possibly sooner) to provide a pro-active instead of re-active approach.

Trail maintenance programs can be expensive, estimated to cost around 2.5-5% of the project's capital expenditure. This ratio can vary, depending on the quality of trail construction, weather conditions, soil and geological conditions, and usage thresholds.

George Town Council has developed a trail maintenance funding program that aims to generate an annual trail maintenance budget of 5% of the capital expenditure, with a dollar-value of approximately $150,000. The program is based on similar programs from already established mountain bike trail networks, which have proven to return positive results. Businesses and organisations can sign up to a sponsorship-style, annually recurring program in exchange for direct exposure to mountain bike tourism market. The program has three levels of financial commitment to remain achievable for both large and small business and organisations.

This model of generating funds for reinvestment into trail maintenance is both popular, and proven to work, being adopted by existing trail destinations such as Blue Derby and St Helens, and oversees trail destinations like Rotorua in New Zealand.

The full draft version of the funding program prospectus has been provided as Annexure 12 - Trail Mate Opportunity - George Town Mountain Bike Trail Development.

5.4.2 Incident Response Planning

George Town Council engaged emergency services very early and through the process to ensure that an incident response plan could be developed that best allows integration with current systems emergency services have in place.

The municipality of George Town has a Tasmanian Fire Service (TFS) brigade, a State Emergency Services (SES) unit, and an Ambulance Tasmania unit located in George Town. The TFS and SES brigades are a combined unit, and it is expected to play a very important role in incident response.

Emergency Locator Signs

Along the trails, Council will install Emergency Locator Signs represented by a red, 1.6mm steel guidepost approximately 1.35m in length. An all-weather sticker will be affixed to the guidepost displaying the following information: -

- Trail name;
- Current location in kilometres in reference to the total trail length;
- The phone number to call in an emergency;
- The unique location ID of the sign;
- The what3words coordinates; and
- The standard lat/long GPS;

An example of the signpost with has been provided in the image below, in this case indicating the sign is located on the trail named "Keystone" at 1.2kms out of a total trail length of 2.8kms.

Image 6: Emergency Locater Sign

If a trail user encounters an incident, or has an incident themselves, they can locate the nearest emergency locater sign by moving forward or backward along the trail. Once a sign is located, they can then call 000 and quote the information displayed on the sign to the operator. The information will then be passed onto the local emergency services and will facilitate a faster incident response time.

The sign locations have also been incorporated into Trailforks (a commonly used mountain bike trail mapping app) as waypoints containing the same information as the stickers, providing a faster alternative to moving the physical sign location.

The specific details on the signs, such as unique location ID, what3words and standard lat/long coordinates will be explained in the following sections.

Unique Location ID

The unique location ID was is a code that identifies the location of the sign, but also provides some level of information through the use of specific numbers and letters. To use the unique location ID shown in Image 6 the ID number GT-MG-1.2.2 once broken down, provides the following information: -

- GT - Represents the municipality where the trail network is;
- MG - Represents the name of the trail network, is this case Mount George Trail Network. This is useful where multiple trail networks exist within a municipality;
- 1 - Represents the trail number. All trails will be assigned a trail name and a number, that will correlate with the data emergency services have access to;
- 2.2 - Represents the number of metres along the trail the location is, going the direction of travel, in this case 2.2km.

Trail users can quote the unique location ID to emergency services who can then pass on that number to the local emergency

What3Words Coordinates

What3words is a platform that divides the world into 3m squares, with each square given a unique combination of three words. In using what3words trail users can easily provide emergency services with their exact location.

What3words has also recently been incorporated into the Emergency Plus App and is regularly used by emergency services. What3words provides a simple solution with less margin for error than quoting long numbers.

Standard Lat/Long Coordinates

Standard lat/long coordinates are a very easy way to pinpoint a location, mainly because they can simply be entered into a search engine such as Google and provide an exact location on the Google Maps overlay. Trail users can quote the coordinates to emergency services, or text the coordinates to a friend, and doesn’t require any additional application other than a smartphone with mobile internet connection.

Interactive Incident Response Map

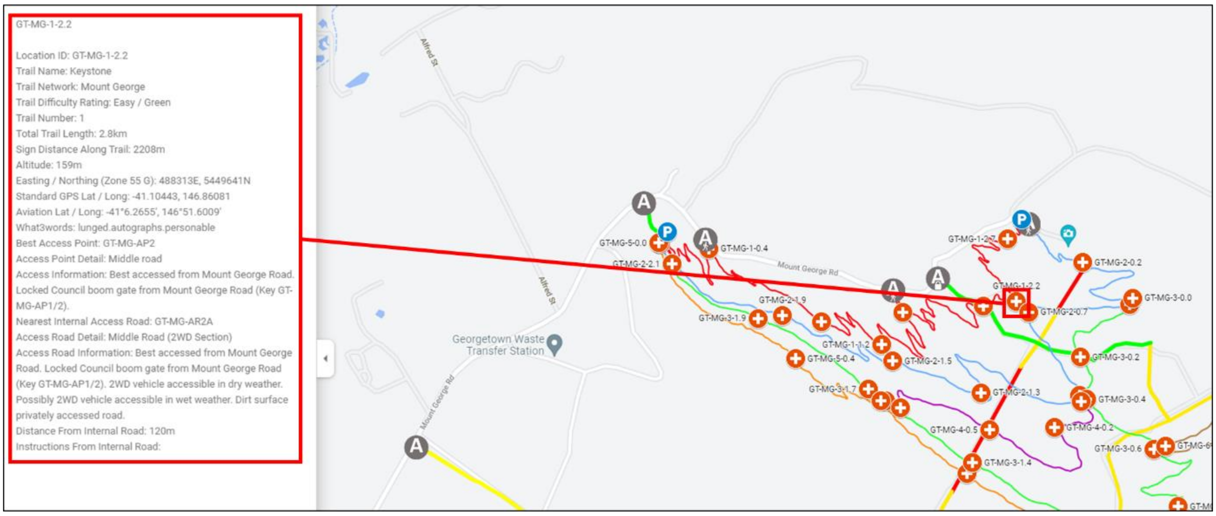
The information shown on the emergency locator signs corresponds with an Incident Response Map created using the My Maps function in Google Maps. A link to the Incident Response Maps has been provided to the local emergency services brigades and units for use in the field by simply using a smartphone or tablet with mobile internet connectivity.

When using the Google Maps app to view the Incident Response Map with mobile internet connectivity, the location of the responder will be geolocated onto the map.

The location of each sign is marked on the Incident Response Map, and when selected will offer additional information regarding how best to access each sign location.

A screenshot of how the Incident Response Map appears is shown in the image below.

Image 7: Incident Response Map Screenshot



The information contained with the Incident Response Map only represents a starting point. Additional data collected from emergency responses or brigade/unit training exercises can be uploaded to better inform subsequent responses.

6.0 Communication and Complaints

6.1 Construction Period

6.1.1 External Communication

Distribution of information to the community and stakeholders will be prepared and administered by George Town Council.

6.1.2 Contractor Communication

World Trail have included communication processes in their CEMP, detailing: -

- Daily toolbox talks on-site for World Trail employees and contractors;
- Monthly communication with George Town Council to discuss content of project process report and achievement of project aims;
- Complaints: to be recorded in Complaints Register held in project site office and communicated to George Town Council; and,
- Incident reporting.

6.1.3 Complaints

All community complaints and enquiries will be managed through the George Town Council generic email and phone number, and forwarded to Council's Project Manager.

Any interactions with the public by World Trail or its contractors will be recorded in an on-site Incidents and Complaints Register, maintained at the project site office.

6.2 Operational Period

6.2.1 Defects Register

Whilst the intent is to identify and rectify any defects before the user encounters them, in some instances the user may encounter a defect before a routine inspection does.

Instructions and details for users to report a defect will be displayed on the trail head information board for users to report a trail defect.

When a defect is reported, council will record the details electronic and forward to the maintenance personnel to be incorporated into the routine inspection and maintenance schedule.

6.2.2 Notification of Works and Closures

Maintenance works being undertaken, and closure of trails needs to be communicated to users for the purpose of: -

- Ensuring the safety of users;
- Ensuring the safety of maintenance personnel; and
- Avoiding disruption to user experience.

The communication channels will predominately be directed from council to the users, but a channel also needs to be established to allow for communication from the user.

There are three primary communication platforms for informing the users: -

- Website and social media;
- Information boards at the trail heads; and
- On-trail signage.

Using all three communication platforms ensures the maximum reach, although it is important to understand the intent behind each platform.

Website and Social Media

Website and social media offer a broad reach, has the advantage of sharing by other social media entities, and can effectively inform user before they commit to travelling to the rail network (in turn avoiding disappointment).

Whilst maintenance works are being undertaken on a trail are significant enough to render the trail unusable, notification should be included on the website and social media, especially in the lead up to weekends, holidays or periods of anticipated heavy use.

Notification on the website and social media is not necessary where maintenance works being undertaken on a trail doesn't restrict user access.

Information Boards at Trail Heads

Notices on information boards is an effective way of directly informing the user of works occurring on a trail. Most users will look at the information before entering the network, and there is a dedicated place for trail condition notices to be displayed.

For all maintenance works being undertaken on a trail, notification should be placed on the information board at the trail head in the dedicated section for trail conditions.

On-Trail Signage

On-trail signage is the most effective way of directly informing the user of works occurring on a trail. Clearly visible signage, and in some cases barricading, leaves no room for misinterpretation or unnoticed.

Whilst maintenance works are being undertaken on a trail, but user access isn't restricted, signage should be placed at the beginning of the trail and 20m prior to the works site alerting riders that there are workers ahead.

Where the works are significant enough to render the trail unusable, or the trail has been closed for any other reason, signage should be placed at the beginning of the trail in such a way that the trail entrance is barricaded to prevent user access.

6.2.3 Complaints

All community complaints and enquiries will be managed through the George Town Council generic email and phone number, and forwarded to Council's Project Manager.

7.0 Monitoring and Review

7.1 Inspections

7.1.1 Construction Period

Visual inspection of the works site will be undertaken on a daily basis by the World Trails site supervisor. World Trail will internally undertake and document weekly site inspections for the purpose of: -

- Verifying management measures prescribed in the CEMP are present, functional and adequate;
- Observe the Site for actual or potential environmental harm or environmental nuisance;
- Identify maintenance requirements for implemented management measures; and,
- Verifying preparedness for adverse weather conditions.

World Trail will ensure all corrective actions to rectify issues identified by the weekly site inspections are completed and documented.

Council will review World Trail processes at the start of the project and may conduct random site inspections during the course of the project. Inspections will determine compliance of activities against the requirements of the CEMP, environmental approvals and conditions, environmental legislation, and contract requirements.

World Trail's project manager is to keep any audit and non-conformance reports, and it is World Trail's construction manager's responsibility to address any issues made in the report and instruct follow up actions regarding non-conformance incidents.

7.1.2 Operational Period

Trail inspections need to be undertaken regularly to be effective, with the frequency of inspections determined by resilience of the trail in coping with weather, water, and usage.

Routine trail inspections will be undertaken as part of the Trail Maintenance Plan provided as Annexure 4.

Trail inspections aim to identify any defects or changes to the trails that: -

- Pose a significant safety risk to the intended user;
- Are likely to lead to further significant trail damage if not rectified; and/or
- Renders the trail un-usable.

Findings from trail inspections will form the basis for the trail maintenance.

7.3 Record and Reporting

7.3.1 Construction Period

World Trail have included record keeping processes in their CEMP, detailing: -

- Project induction attendance registers;
- Daily toolbox talks regarding safety and environmental compliance;
- Inspection and Test Plans in accordance with project document;
- Incident reports, non-conformances and complaints register and associated corrective actions taken;
- Meeting minutes with interested parties relating to the management measures;
- Records to demonstrate and document compliance with environmental approvals held by Council and Contractor;

Additionally, World Trail will report to Council immediately upon becoming aware of any of the following: -

- Actual or potential material or serious Environmental Harm as defined in the *Environmental Protection Act 1994*;
- Reportable breach of legislation;
- Breach of an approval conditions(s);
- Injury or death of native fauna other than least concern species, potentially caused by the works;
- Injury or death of native fauna other than least concern species, potentially caused by the work;
- Tampering with a native animal breeding place(s) other than in accordance with an applicable Species Management Program;
- Ground disturbance or vegetation clearing beyond the contractual limits of clearing or areas otherwise deemed suitable by Council;
- Damage to known or potential Cultural Heritage;
- Ground disturbance or vegetation clearing beyond the boundary of the Contract's Cultural Heritage Management Agreement or Plan otherwise deemed suitable by Council;
- Movement or relocation of Cultural Heritage without approval of the Indigenous Party(s);
- Clearing of a protected plant under State or Commonwealth legislation other than authorised under an approval or exemption;
- Identification of a new biosecurity prohibited matter or restricted matter on site or breach of a condition of a biosecurity zone;
- Discovery of a contaminated site (including unexploded ordinance) or land contamination occurred on the site during works.

7.3.2 Operational Period

Inspection and maintenance activities are to be recorded as they are undertaken, to assist the trail maintenance team and landowners to: -

- Develop a long-term record of maintenance activities undertaken that will assist with future budgeting requirements; and
- Provide a record that will assist with risk management, where records will demonstrate trail inspections and maintenance have been undertaken in accordance with recommended practices.

Once complete, the record sheets should be filed logically as hard copies and electronically so they can be accessed and referred to at future dates. This data will assist in developing long-term maintenance schedules that accurately reflect the specific requirements of each trail, the level of usage, and local weather conditions.

8.0 Commitments Table

Commitment 1	The CEMP will include controls to limit the extent of vegetation clearing
Commitment 2	The CEMP will include controls to minimise disturbance of native vegetation as far as practical, and to completely avoid occurrences of threatened flora species as far as practical. Where avoidance of threatened flora species is not practical, a permit under the Tasmanian Threatened Species Protection Act 1995 will be sought to take threatened flora individuals.
Commitment 3	The CEMP will include controls to minimise disturbance of native vegetation as far as practical.
Commitment 4	Any Tasmanian Devil (Sarcophilus harrisii) dens located during works then these will be managed in accordance with the Survey Guidelines and Management Advice for Development Proposals That May Impact on The Tasmanian Devil (Sarcophilus harrisii).
Commitment 5	Construction activities within 500m or 1km line-of-sight from wedge-tailed eagle nest sites will assume nest is active and that therefore breeding season restrictions will apply to any works between July to January, inclusive.
Commitment 6	The Weed and Disease Management Plan will include weed and hygiene management principles as part of the Project CEMP.
Commitment 7	The CEMP will include a Bushfire Hazard Management Plan for trail construction operations.
Commitment 8	A Trail Safety Management Plan will be developed manage, mitigate and monitor potential risk of bushfire (and other events) hazard to maintenance staff and users, and provide assistance and direction for incident response.
Commitment 9	An Erosion and Sediment Control Plan will be included as part of the CEMP.
Commitment 10	The project will avoid all known Aboriginal heritage sites.
Commitment 11	Sites AH13879, AH13905 and AH9741 will be barricaded to avoid disturbance.
Commitment 12	The CEMP will include an Unanticipated Discovery Plan for Aboriginal heritage sites.

9.0 Conclusion

This report primarily outlines environmental and cultural heritage impacts considered, and management strategies discussed and proposed, in order to gain consent from landowners and for a development application to be made to Council.

This report also other considerations given the proposed trail network through the construction period and into the operational period.

This report indicates the proposal is unlikely to constitute an action resulting in: -

- Significant impact to matters of national environmental significance under the Environmental Protection and Biodiversity Conservation Act 1999 and such the proposal has not been referred to the Commonwealth;
- Significant impacts on any known Aboriginal heritage sites;

In conclusion, based on the supporting studies it is deemed the project is unlikely to result in any significant impact to the surrounding natural or cultural environment.

Reference List

ECOtas (2021). Natural Values Assessment of Proposed George Town Mountain Bike Trail Project, Tippogoree Hills East, George Town, Tasmania. Report by Environmental Consulting Options Tasmania (ECOtas) for George Town Council, 25 October 2021. Full report provided as Annexure 6 - Tippogoree Hills Trail Network - Ecological Assessment - ECOTas.

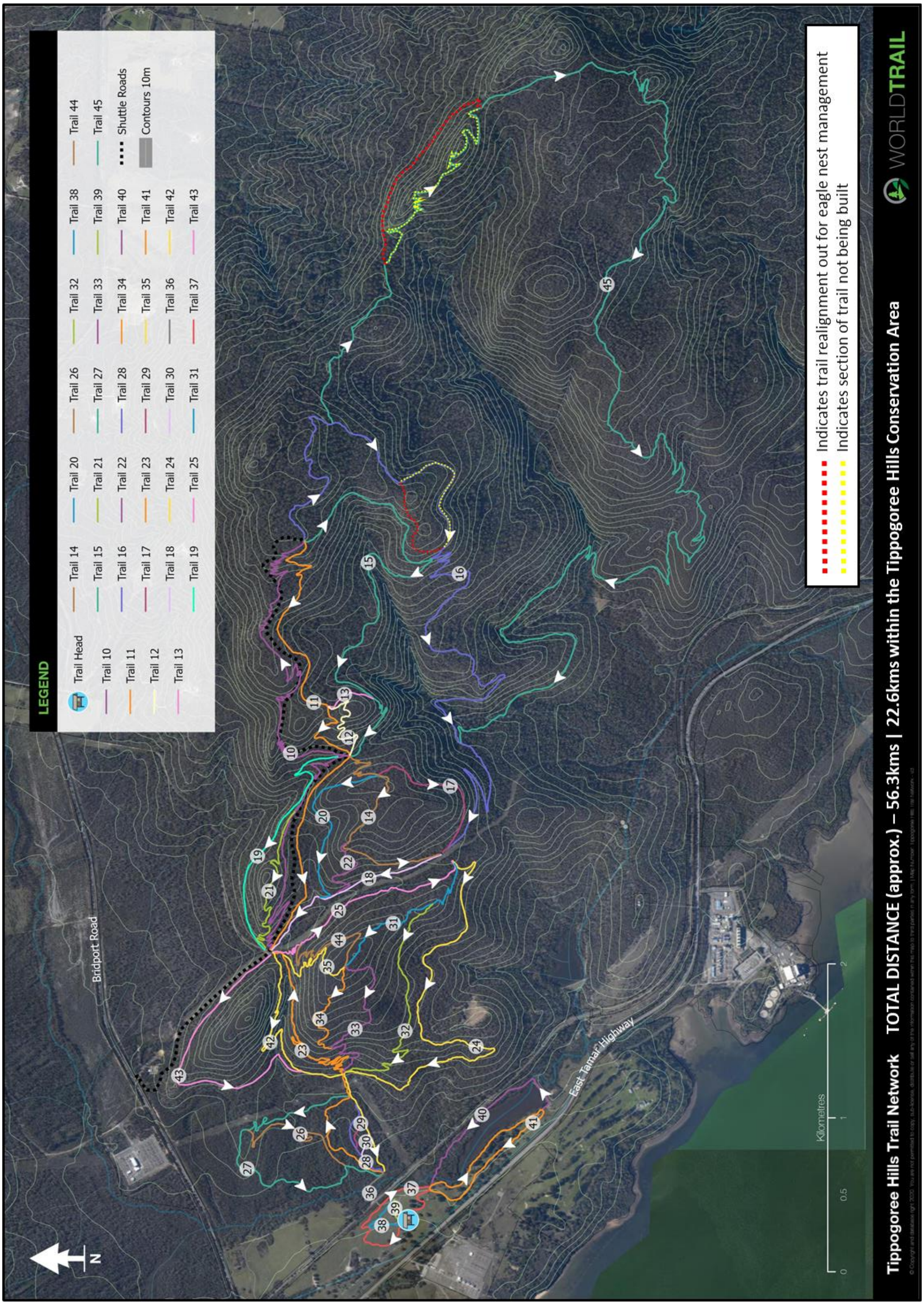
CHMA (2021). George Town Mountain Bike Trails Project – Tippogoree Hills Trails Aboriginal Heritage Assessment Report. Report by Cultural Heritage Management Australia (CHMA) for George Town Council, 21 June 2021. Full report provided as Annexure 7 - Tippogoree Hills Trail Network - AH Assessement - CHMA (with Trail 16 addendum).

Hubble Traffic (2021). Traffic Impact Assessment - Tippogoree Hills Bike Trail Network - Shuttle Bus Access off Bridport Main Road, George Town. Report by hubble Traffic. Full report provided as Annexure 10 - Traffic Impact Assessment - Bridport Road & Service Road Access.

Hubble Traffic (2021). Traffic Impact Assessment - Lauriston Park Mountain Trail Access off Bridport Main Road, George Town. Report by hubble Traffic. Full report provided as Annexure 11 - Traffic Impact Assessment - Bridport Road at Lauriston Park.

Appendices

Appendix A: Proposed Tippogoree Hills Trail Network: Map

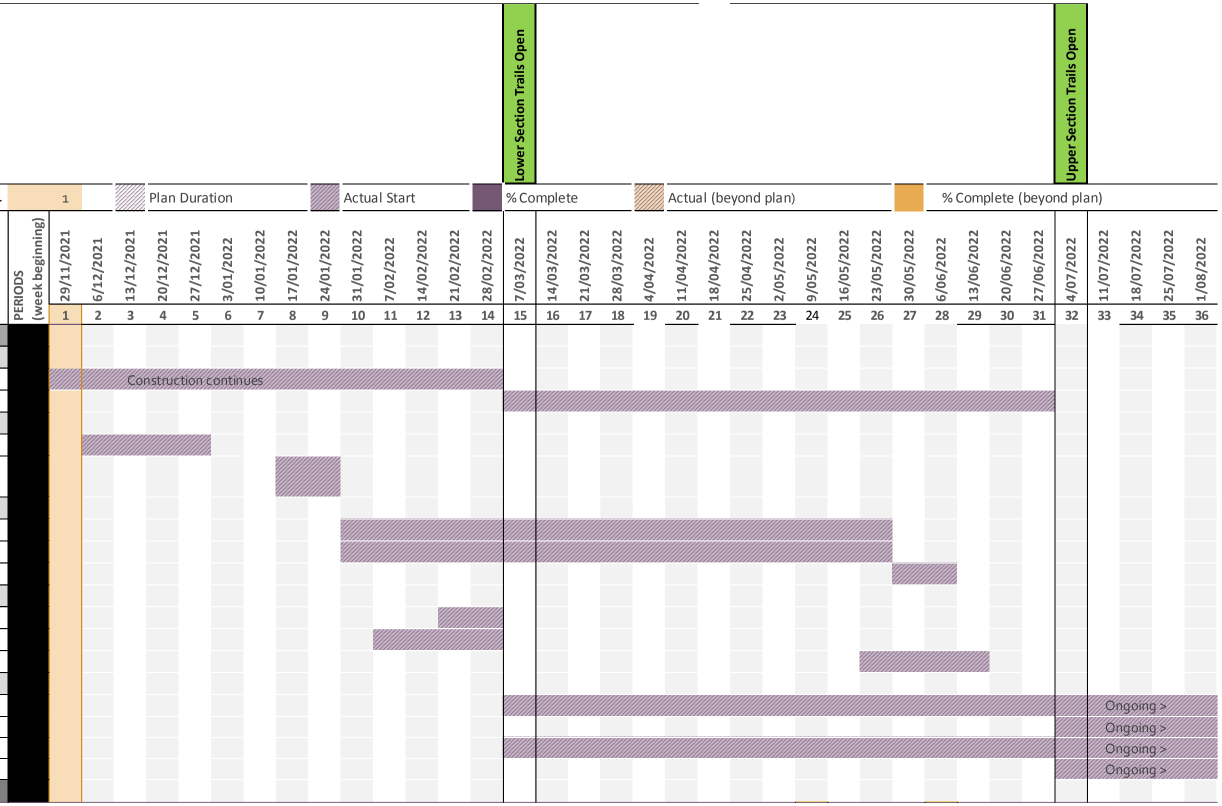


Appendix B: Construction Gannt Chart - Tippogoree Hills Trail Network

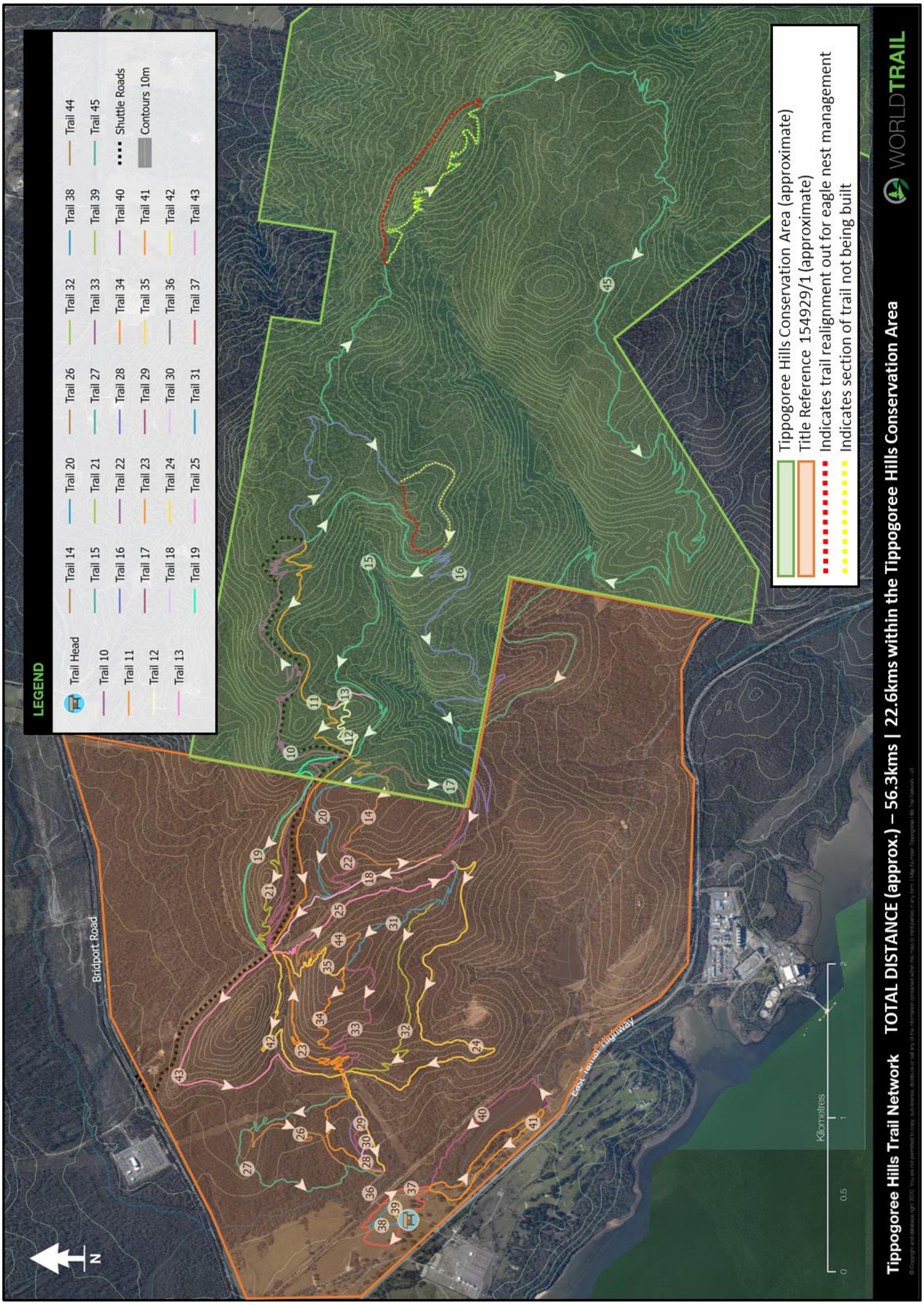
Project Gannt Chart (basic)
Tippogoree Hills Trail Network
George Town Mountain Bike Trail Development

Select a period to highlight at right. A legend describing the charting follows.

ACTIVITY	PLAN START	PLAN DURATION
Tippogoree Hills Trail Network		
Trail Construction		
Construction of Lower Trails (approx 23.5kms)	1	14
Construction of Upper Trails (22.7kms)	15	17
Trail Head Infrastructure Construction		
Construction of Gravel Road and Carparking Area	2	4
Installation De-lineation Furniture (bollards, concrete bumper stops, large rocks)	8	2
Construction of Service Road		
Road Construction (Lower Section)	10	17
Road Construction (Upper Section)	10	17
Installation of Boom Gates	27	2
Installation of Signage		
Primary Information Board	13	2
Internal Wayfinding Signage (Lower Section)	11	4
Internal Wayfinding Signage (Upper Section)	26	4
Operational Period		
Trails Open to Public (Lower Section)	15	56
Trails Open to Public (Upper Section)	32	41
Trail Maintenance Program Commences (Lower Section)	15	56
Trail Maintenance Program Commences (Upper Section)	32	41



Appendix C: Proposed Land Parcel Layout - Tippogoree Hills Trail Network



Appendix D: Planning Area Map - Tippogoree Hills Trail Network