



BINDOON TRAILS NETWORK

CONCEPT PLAN

February 2021

threechilliestrails
unique | crafted | iconic

PREPARED BY

This document has been prepared by Three Chillies Design for the Shire of Chittering, February 2021.

ACKNOWLEDGMENTS

The authors of this Concept Plan acknowledge that we are working on Noongar country and pay respect to all Noongar people and Elders, past and present and emerging.

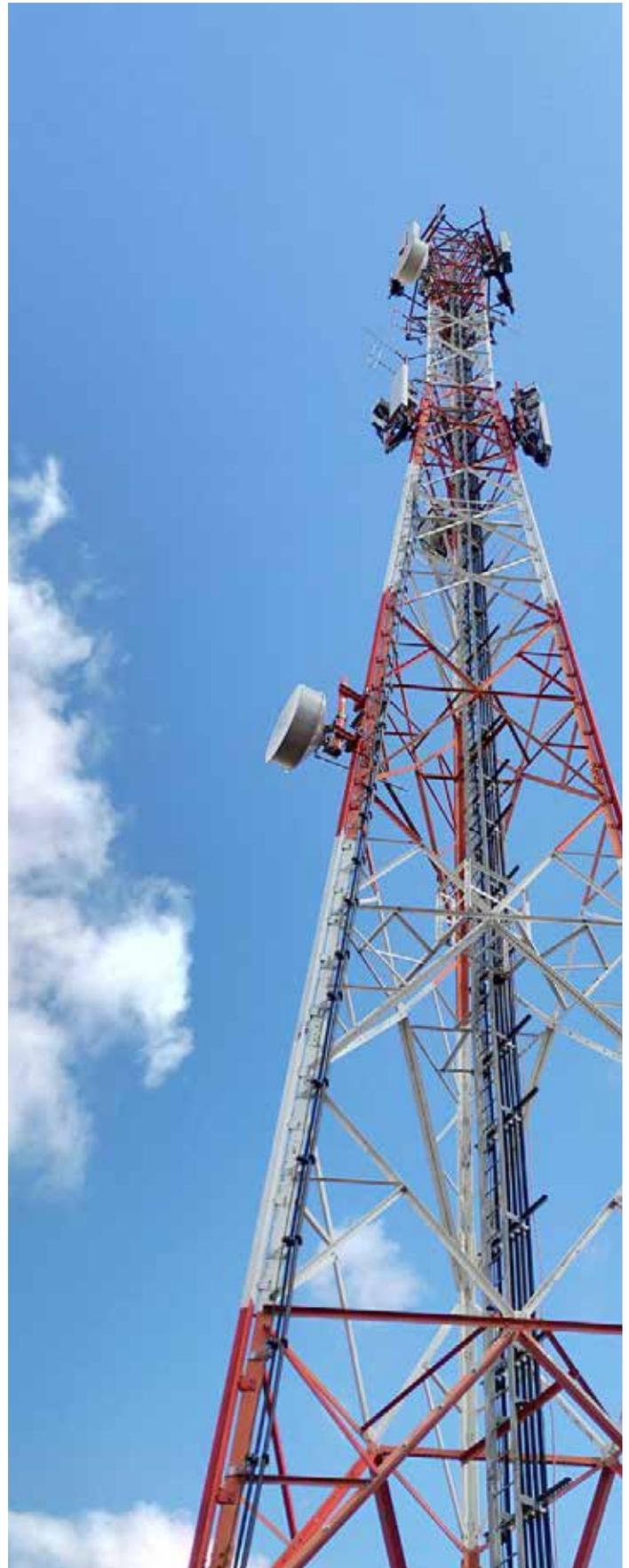
We would like to acknowledge the contribution of the Shire of Chittering and the valuable input from all stakeholders and consultants.

DISCLAIMER

This Concept Plan has been prepared for the Shire of Chittering by Three Chillies Design based on assumptions as identified throughout the text and upon information, consultation, data and conclusions supplied by others. While all due care and consideration has been used in the preparation of this Concept Plan the consultants advise that all recommendations, actions and information provided in this document is based upon research as referenced in this document. Accordingly, detailed information in this regard will require additional professional consultation in order to adequately manage and maintain the facilities and reduce risk. Three Chillies Design, its Directors and associated entities shall not be liable to for any loss, damage, claim, costs, demands and expenses for any damage or injury of any kind arising from the use of this Concept Plan or in connection with any of the activities that are the subject of this Concept Plan or in mountain biking generally.

Document Control

Version	Date	Author	Issued for	Sections
1.0	18/02/21	Three Chillies Design	Information	All



CONTENTS

OVERVIEW

Project Overview	4
Project Area Description	6
Site Analysis	8
Project Aims	10
Target Market and User Type	11

TRAIL SYSTEMS

Trail System Overview	12
Network Composition	12
Trail Classifications, Grades and Types	13
Network Configurations	14
Single and Shared Use Trails	14
Signage	15
Trailhead Signage	15
Directional Signage	16
Shuttle System	17
Trail Summaries Stage 1	18-35
Trail Summaries Stage 2	36-37

Broad Cost Estimate

Broad Cost Estimate Stage 1 & 2	38
---------------------------------	----

Project Overview

The Bindoon Mountain Bike and Adventure Park Design Concept is intended to align with the Australian Mountain Bike Management Guideline principles where possible to ensure that a quality benchmark level development can be delivered to the broader West Australian mountain bike market segment.

The size (89.5ha) and topography of the subject site allows for a broad range of trail networks and trail difficulties to be included, essential to creating a marketable mountain biking and adventure product which can be used as a stimulus to the local tourism landscape by value adding to existing product and event schedules in the Shire of Chittering.

Broadly, the subject site dictates the mountain bike and walking trail development with descending trails forming most of the overall trail network. Using a baseline summit point as the apex from which the trails can be established, the site is then broken down into two developable locations.

- West of the Summit Point: Heavily vegetated and higher gradient which suits a range of blue/black mountain bike trails areas. This area whilst heavily vegetated can provide riders with an intense rider experience and also because of the vegetation, will have very little impact on the visual aspect of the subject site from the Bindoon town centre and Great Northern Highway, which will retain the existing rural amenity of the landscape.
- East of the Summit Point: Lightly vegetated allowing for more flexibility to decrease the intensity of the rider experience by easily following the contour lines to wash speed. Included in the East is also a pocket of mid-range vegetation, which can suit the next level of blue trails.



OVERVIEW

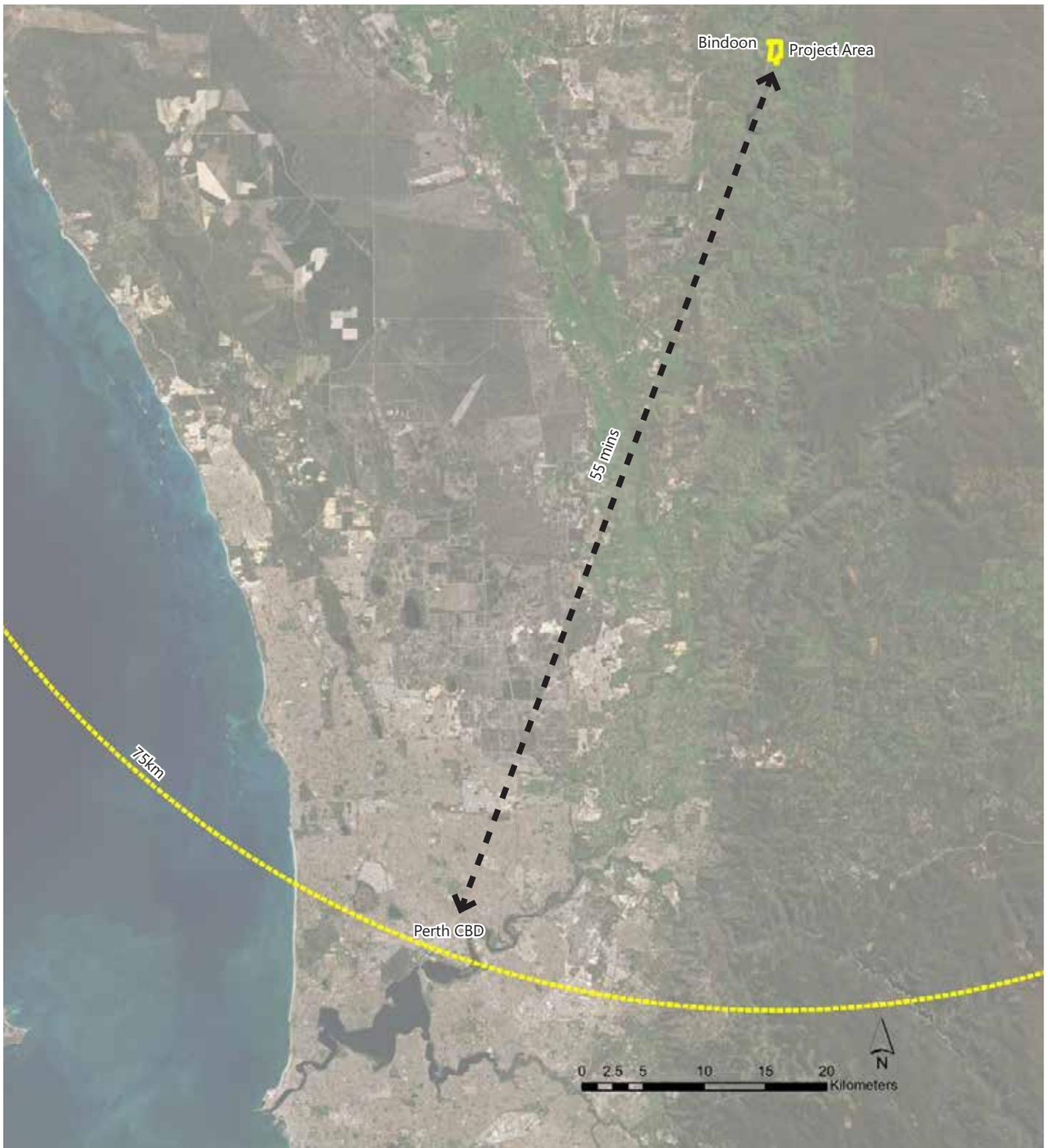


Figure: Project Location Plan

Project Area Description

The Shire of Chittering local economy is based on broad acre farming, orchards, small rural and semi-rural lifestyle residential properties. There is limited industry being extractive industry operations (gravel, clay and sand), the State livestock yards, mineral sands processing, shearing, tourist attractions, viticulture, wineries and other small businesses. The proposed Bindoon Mountain Bike and Adventure Park site at Lot 3874, Bindoon is set on 894,926 m² (89.49 Hectares) of undulating countryside and bushland with 360-degree views of the surrounding rural area.

The property known as 'Red Hill' (known to locals as 'Bindoon Hill') boasts an expansive 70-metre-high hill overlooking the Bindoon town centre, orchards, lakes, valleys, farmland and the Julimar State Forest.

The property forms an irregular shape, having a relatively steep topography throughout with a ridgeline extending through the centre of the site on a north to south alignment. The soils have a high gravel content, and the western side of the ridgeline is vegetated, whilst the eastern side has been partially cleared for grazing purposes.

The key arterial road to the property and Bindoon township from Perth is the Great Northern Highway (Highway 95). The recently completed NorthLink WA Tonkin Highway extension allows greater access from the Perth metropolitan area within 55 minutes and has significantly reduce the time to Bindoon from major Perth hubs.

Electricity, town water and telephone services are available at the south eastern corner of the property at Myrtle Way.

There are no established built formations on the property with the exception of a telecommunications tower (Optus Mobile Pty Ltd, Vodafone Network Pty Ltd) located on the northern end of the hill's crest.



OVERVIEW

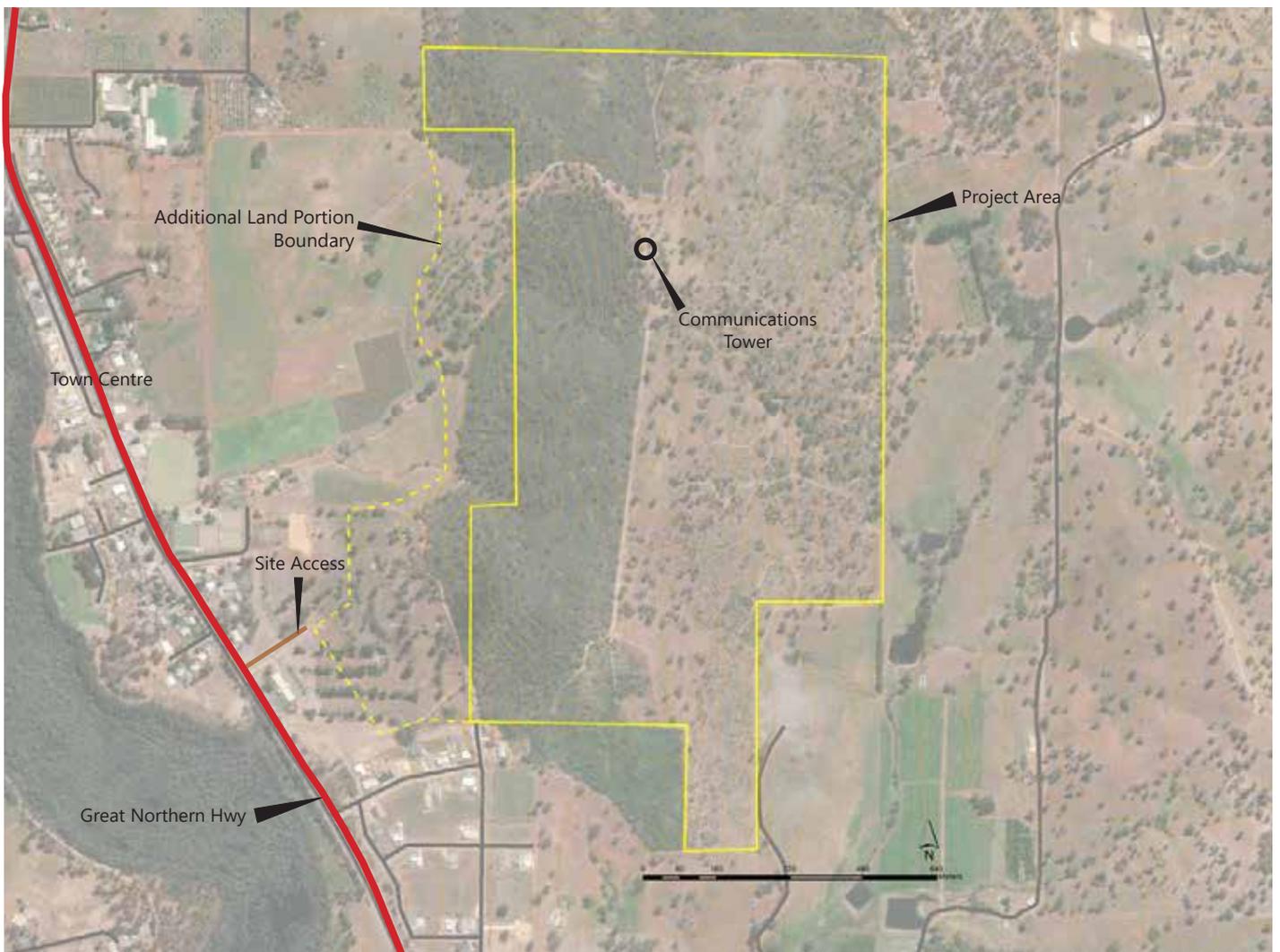


Figure: Project Area

Figure: Project Area Map

Site Analysis

Topography

It is worth noting a mountain bike trail development on the subject site would offer a more aesthetically appealing outcome for the town, local community and visitors to Bindoon due to the relatively low impact on vegetation removal and general clearing required by mountain bike trails.

Retaining most of the existing topography would assist to maintain the natural look of the overall escarpment from the main visual corridor which is situated along the Great Northern Highway and Bindoon main street.

Site Constraints

The topography and gradient of the site and the elevation dictate that most development options for the site would be deemed too difficult and too expensive. Both valuations undertaken on the site support this notion and go as far as suggesting that broad agricultural development would also be difficult because of the topography.

The unique nature of mountain bike trail design relies on such topography and elevation, which is why this appropriately situated site has been proposed.

Access to the site is an issue. Part of the initial design concept offers a counter measure for this access by incorporating a portion of the land parcel, identified for future caravan park development. Further discussion surrounding this will need to take place, however there are a range of operational, development and construction synergies which would support this initiative.

Environmental Aspects

There have been no environmental sensitivities identified at Lot 3874, Bindoon throughout the course of this research study phase that may impact on a mountain bike development in Bindoon.

The mountain bike trails network and park design concept has been designed on an acute

understanding of environmental principles and working within the natural formations of the subject site to mitigate such issues as:

- Destabilisation of soils and slope
- Minimise vegetation clearing
- Minimise any potential spread of pathogens, diseases and weed

Although a preliminary high-level desk top assessment has not uncovered any major environmental risks or issues, a more detailed Flora and Fauna Assessment of the subject site will need to be commissioned as part of the overall detailed design process, should the proposed project be considered worthy of proceeding.

OVERVIEW

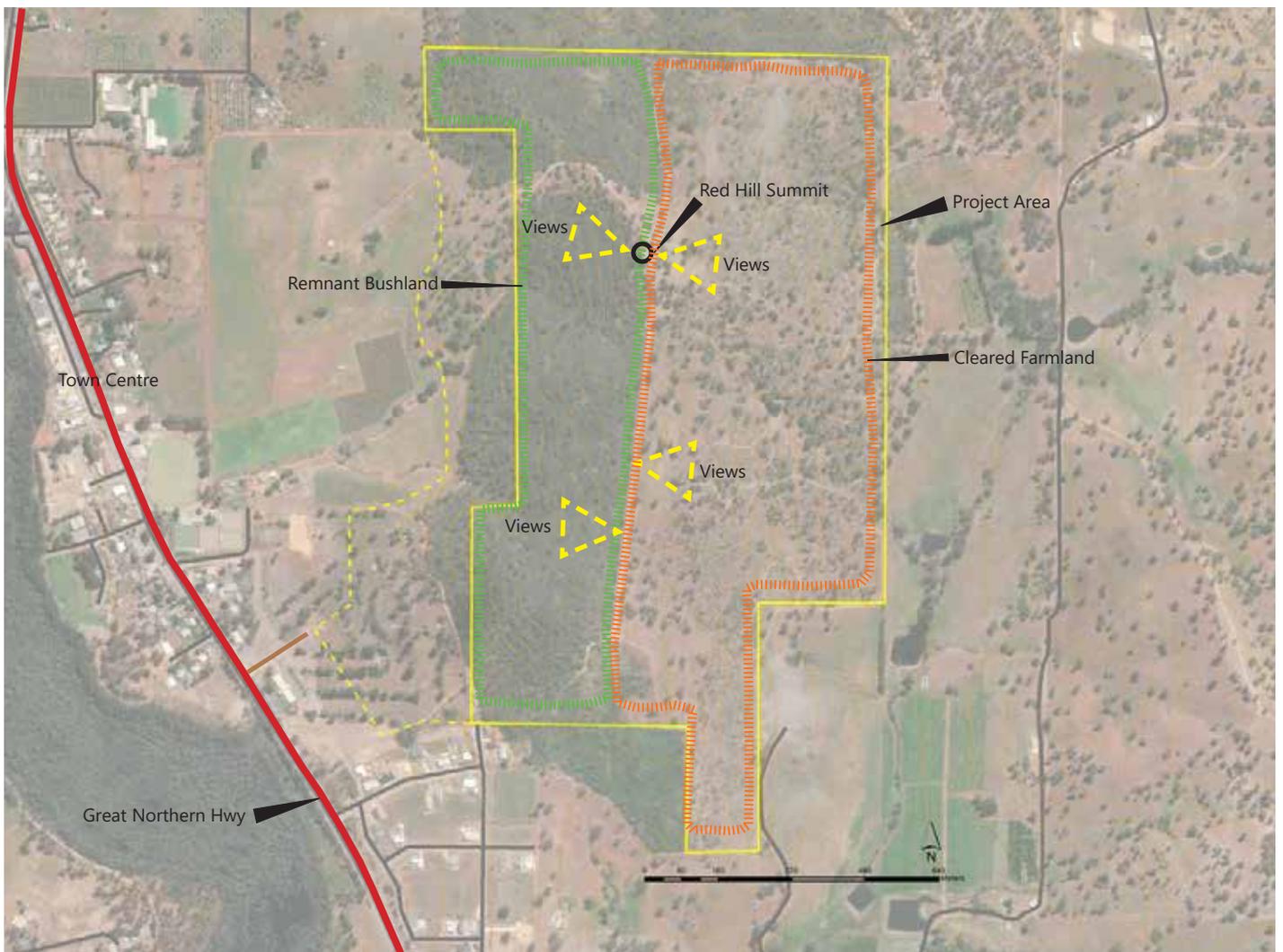


Figure: Project Area Site Analysis

Project Aims

Simply, the design objectives are:

- Utilise the natural contours of the site to minimise construction activity
- Minimise clearing and vegetation removal
- Implement a forward-thinking design to ensure ongoing maintenance and sustainability can be better managed
- Create rider experiences for all skill levels
- Consider the consultation and survey feedback to ensure the design concept is market relevant
- Create easy trail linkages for safe and measured rider skill progression
- Install comfortable and inviting infrastructure/ activities to encourage non-mountain bike riders to visit
- Develop a product which can stimulate increased tourism in the area
- Use the natural assets of the area as a marketable product to enhance the economic flow from increased visitation
- Future proof the design to keep up with market trends
- Stage the design to align with funding allocations and to offer marketable rider and customer experiences
- Take advantage of the proximity to existing infrastructure and the proximity to the Bindoon town centre
- Create sustainable revenue and add-on revenue streams
- Of the above, an important design objective is to implement design methods and relevant infrastructure to support the need of sustainable revenue generation.
- Access to the Bindoon Trail Network is planned to be free with a donation point at the trail head for trails maintenance.
- The design concept includes well designed multi use building from which the following can be operated:
 - Reception/check in
 - Bike repair/maintenance
 - Bike hygiene/wash down
 - Secure lockers for user valuables
 - Administration
- It is important to note the above services and offerings are mostly directly related to mountain biking. To ensure the development supports existing local businesses, any other typical offerings, which may normally be part of the same footprint such as food, refreshments etc, can be easily access from the town centre.
- This is a sensible way of maximising the benefits of how the close proximity of the trail head area can support the Bindoon town site.
- Additionally, the sports complex can also provide space for other required uses such as events gatherings, event ceremonies etc.

Target Market and User Type

The primary focus of the Bindoon Trail Network is the provision of trails for recreational walking and mountain biking that will be available for the local community and visitors alike. The leisure and active market cohorts are the intended trail users.

	LEISURE MARKET	ACTIVE MARKET
General Description	Typically holiday makers who seek out accessible trails for use with family and friends. Time spent on trails is often short to half-day in duration.	Outdoor enthusiasts who will plan their visit to include use of trails. Time spent on trails is often half- to full day or overnight stay.
Visitor Type	Tourist, family, friends	Competent outdoor enthusiasts seeking challenge, skill development
Expected Activity Options & Facilities	Well-marked trails to suit range of abilities. Easy access trails linked to town site and/ or accommodation camping, and day use sites in natural areas.	Well designed and marked trails with associated facilities such as equipment hire/ repair, safe parking, nearby access to accommodation, food and beverage facilities.
Skill Required	Limited experience seeking accessible, achievable trails.	MEDIUM-HIGH experienced seeking opportunity for skill development and socialisation.
Visitor Numbers	HIGH	HIGH-MEDIUM



Trail System Overview

- Maintain existing character of Red Hill
- Provide a network that caters for riders and walkers through walking trails, shared trails and mountain bike specific trails
- Design a trail network that offers a variety of trails for a range of skill levels
- Utilise existing infrastructure to provide a shuttle system network
- Designing a quantity of trails that are appropriate for the project area
- Utilising existing infrastructure to minimise environmental impacts
- Providing a range of mountain bike trails suitable for hand cycles and cross country users

Network Composition

- The composition consists of three main portions:
 1. Open base area near the main trailhead (TH1)
 2. Remnant bush of western side of Red Hill ridge.
 3. Open farmland eastern side of Red Hill ridge
- Shared use perimeter loop trail to provide a complete XC/ walking experience of the trail network as well as a providing connections between trails within the network
- Gravity and technical focused trails on the steeper western side of the project area
- Open and flow trails on the eastern side of the project area
- Stacked XC trails that can connect to descending trails and the perimeter loop trail to extend the rider options
- Provide convenient connections at end of trails to transfer to a shuttle service back to trailheads.

Trail Classifications and Grades

	Technical Description for Land Manager use	Walk Description for Public Information	Generic Description for Public Information
Grade of walk	Grade 2	Grade 2	Grade 2
Symbol			
Distance	Total distance of track must not exceed 10km.	Total distance of track to nearest 100 metre (eg 4.2km).	No bushwalking experience required. The track is a hardened or compacted surface and may have a gentle hill section or sections and occasional steps. Walks no greater than 10km.
Gradient	The gradient is generally no steeper than 1:10 (or 10% or 5.7 degrees). (AS 2165.1).	Gentle hills.	
Quality of path	Generally a modified or hardened surface. Width: 900mm or more. Well maintained with minimal intrusions. (AS 2165.1).	Formed track.	
Quality of markings	Track head signage & route markers at intersections.	Clearly sign posted.	
Experience required	Users need no previous experience and are expected to exercise normal care regarding their personal safety. (AS 2165.1). Suitable for most ages and fitness levels.	No experience required.	
Time	30 minute increments (eg 1.5-2hrs) or if the predicted time is less than an hour in 15 minute increments (eg 30-45 minutes).	Time needed to complete track to nearest half hour or nearest 15 minute increment (eg 1-1.5hrs or 30-45 minutes).	
Steps	Minimal use of steps. (AS 2165.1).	Occasional steps.	

Walk Trail Grade 2 Description

The Bindoon Trail Network will be made up of Grade 2 trails as per the Australian Walking Track Grading System corresponds to AS 2165.1.

(Users guide to the Australian Walking Track Grading System)



SYMBOL	SHORT DESCRIPTOR
 easiest	This symbol indicates typically wide trail with smooth terrain and low gradients. Surface may be uneven, loose or muddy at times but free from unavoidable obstacles. Recommended for novice riders.
 easy	This symbol indicates typically flowing open trails on firm terrain with gentle gradients. Surface may be uneven, loose or muddy at times. Riders may encounter small rollable obstacles and technical trail features. Recommended for beginner mountain bikers.
 moderate	This symbol indicates typically narrow trail with loose, soft, rocky or slippery sections and hills with short steep sections. Riders will encounter obstacles and technical trail features. Recommended for intermediate riders with some technical mountain biking experience.
 difficult	This symbol indicates trail with variable surfaces and/or steep gradients. Riders will encounter large obstacles and technical trail features. Recommended for experienced riders with good technical skill levels.
 extreme	This symbol indicates the trail may contain highly variable surfaces, very challenging terrain and/or very steep sections. Riders will encounter committing and unavoidable obstacles and technical trail features that may not be rollable. Recommended for very experienced riders with high level technical skill.

Mountain Bike Trail Classifications

The Bindoon Trail Network will be mainly made up of Easy-Green Circle, Moderate-Blue Square and Difficult-Black Diamond Trails.

(The Western Australian Mountain Bike Management Guidelines)

Network Configurations

The Bindoon Trail Network consist of a combination stacked loop and trail finger network configurations.

(The Western Australian Mountain Bike Management Guidelines)



Stacked loop

Stacked loop designs are a series of loop trails that radiate concentrically from a trailhead and core trail, usually in a single direction. This means that there are loops inside other loops. Linear trails can link loops together, meaning the trails can be used in any combination.



Trail finger

Trail fingers fan out from the core trail or trailhead at various points giving riders a simple choice of options, trails could be loops or linear.

Single and Shared Use Trails

The proposed trails within the Bindoon Trail Network consist of a combination of single and shared use trails. Several of the major trails have been proposed as shared trails, this is a result of utilising existing tracks and fire roads, making connections for walkers & cyclists and to assist in managing the interface between the different user groups.

Single use trails or facilities are designed, constructed, sanctioned, managed and used solely by a single user group, for example mountain bikers.

Shared use trails or facilities are designed, constructed, sanctioned, managed and used/shared by more than one user group - such as mountain bikers, bushwalkers, trail runners, horse riders, and off-road vehicles.

When designing shared use trails, ensure *(IMBA, 2007)*:

- Optimum trail speed is achieved through the flow of the trail;
- Trail anchors and demarcation are included to control speed and keep users on the trail;
- Inclusion of singletrack as it slows users without affecting experience;
- The use of slow points and chicanes to control speed;
- Turns and corners are placed appropriately to ensure sight-lines are maintained and speed is controlled;
- Passing opportunities are included in the design;
- Clear sight-lines are included in the design;
- Safe intersections are designed by slowing users at these points. This can be done through the use of slow points, chicanes, signage, and planning intersections at high points where some speed has washed off.

(The Western Australian Mountain Bike Management Guidelines)



Signage

Branding and themed signage serves several purposes, including:

- Creating a sense of place. The Bindoon Trail Network should have a strong, contemporary visual theme which can tie together the various elements to identify the area as a cohesive precinct rather than just a collection of trails.
- Providing trail directions. The trails are clearly defined and do not require extensive directional signage. Overuse of signage can detract from the wilderness experience and increases maintenance costs. Signage should be used to ensure that riders have confidence when they encounter a 'Y' junction – particularly in cases of an option where the difficulty level changes.
- Providing emergency information and contacts. Emergency egress, location identifiers and contact numbers. Local emergency services, eg ambulance, should have a copy of sign plan for identifying caller locations.
- Guiding visitor behaviour. Interpretive / informational messages can provide the necessary visitor behaviour guidelines such as the need to stay on trail, courtesy to other trails users and the requirement to not litter.
- Empowering a sense of pride and care. Associating the precinct with local clubs and community groups will encourage members to treat the trail network with respect. It will signify to all users that the network is cared for by volunteers and that the trails are a sustainable and permitted activity within the area.

(The Western Australian Mountain Bike Management Guidelines)

Trailhead Signage

The Mountain Bike Management Guidelines specify that trailhead signage should display the entire trail system and provide key navigation and trail user information. The trail user should be able to identify the location of trailhead signage from the access point e.g. the car park.

Trailhead signage should include:

- Map of the trail system. The map should clearly show how trails link up. Maps should always be orientated so north is up, and include a legend and scale
- The classification/ grade system with a short description
- Short description of the trails – using standard trail classification/ grade colours and symbols
- Code of conduct/rules of the trail
- Land manager and local group logos and contacts
- Sponsor logos where appropriate

(The Western Australian Mountain Bike Management Guidelines)



Figure: Trailhead Sign Example - Murray Valley Trails

Directional Trail Signs

Directional signs or route markers are positioned along the trail to serve four purposes:

1. Provide confidence to riders that they are still on the trail and optionally how far they have ridden / have to ride
2. Have ridden / have to ride
3. To remind all trail users about permitted uses of the trail
4. To alert riders to trail branching, eg where an optional more difficult section begins
5. To guide riders where the direction of the trail is not completely clear.

The Mountain Bike Management Guidelines specify that directional signs should be attached to posts located at the start of trails and at intersections to direct trail users and keep them on the correct trails, specifically;

Beginning of the trail

The user must clearly be able to see where to go from the trailhead sign to the trail access point. If the entrance to the trail cannot be seen from the trailhead, directional signage may be used to point the way.

At the beginning of the trail attach a trail difficulty symbol marker to the post along with a directional arrow of the same colour. The trail name may also be attached to this post.

Intersections

Trail markers should be installed a couple of metres prior to an intersection.

A trail marker should be installed 10 – 20 metres after the intersection to confirm the trail user has taken the correct path. (Trail users should be able to see this confirmation marker from the intersection).

Location and destinations

Where a trail meets another trail or multiple trails it may be useful to install directional signs that point to a destination e.g. to the trail head, or to a car park. It may be useful to use orientation signs with a map and 'you are here' points at these locations. The map should always be orientated so north is up.

(The Western Australian Mountain Bike Management Guidelines)



Figure: Branded Trail Symbols - Murray Valley Trails



Figure: Typical Directional Sign

Shuttle System

SH Shuttle Head - Shuttle Pick Up Location **TH** Trailhead

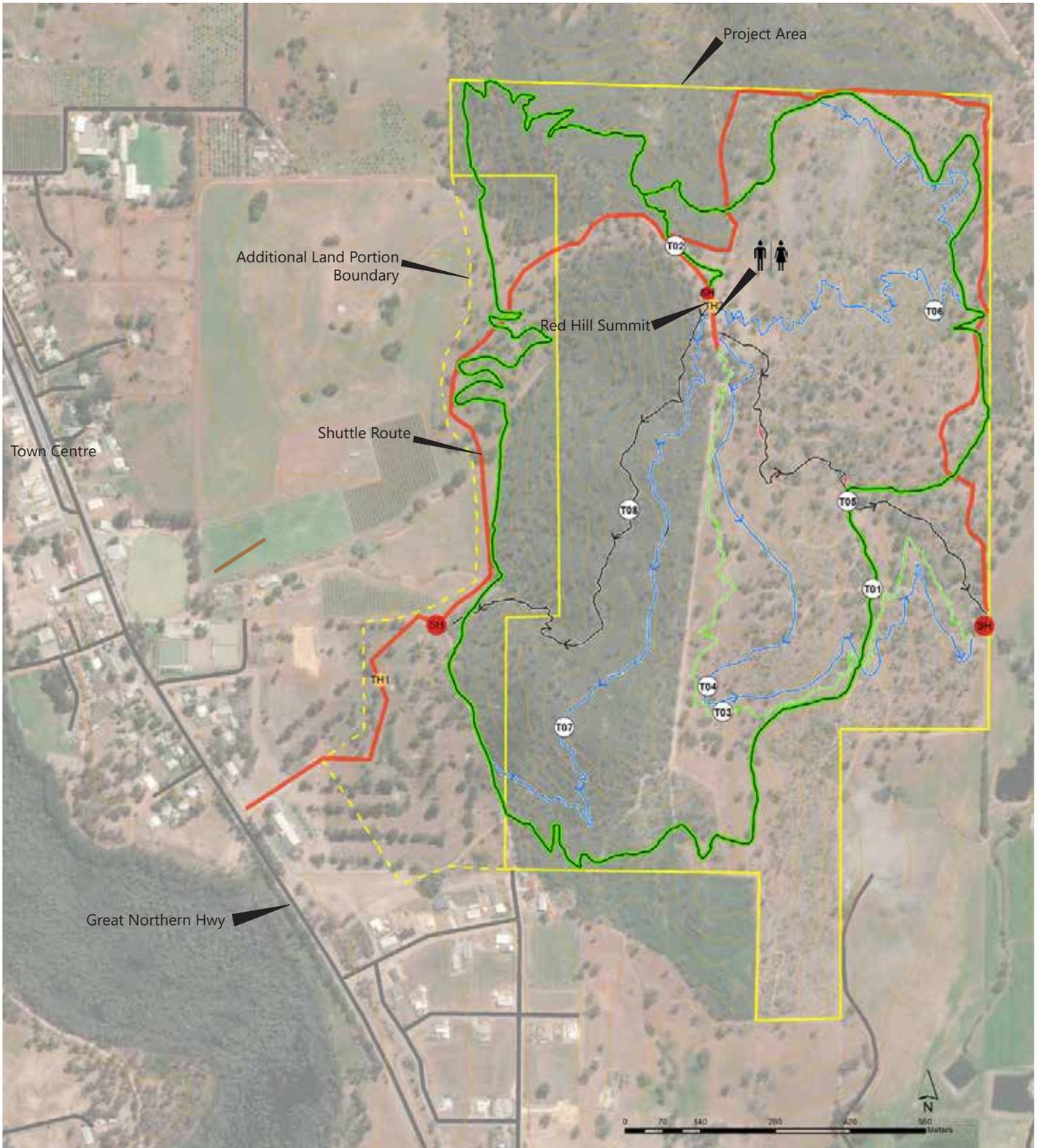


Figure: Proposed Shuttle Route

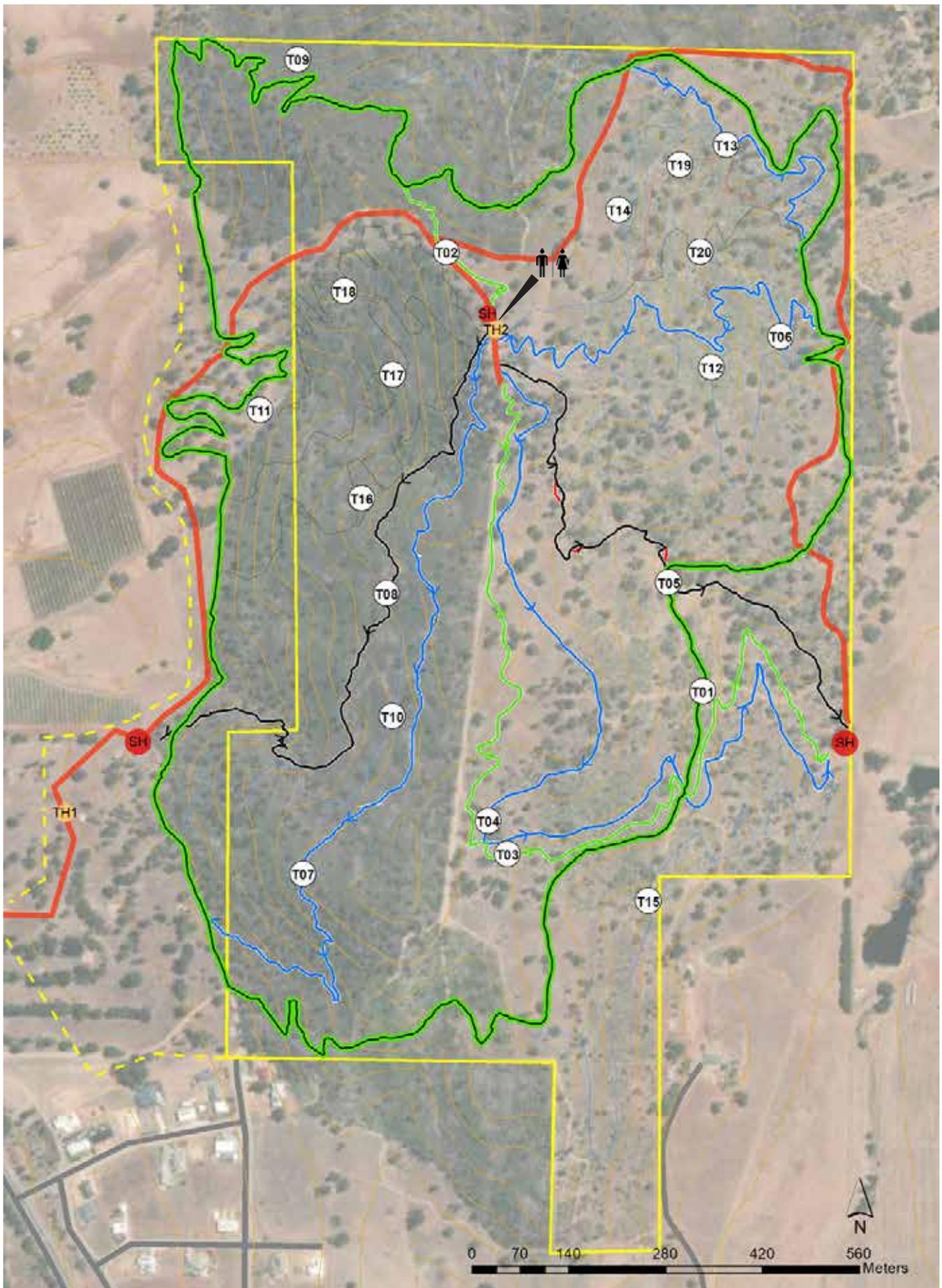
Proposed Bindoon Trail System - Stage 1

ID	NAME	CLASSIFICATION/ GRADE	TRAIL TYPE/ USE	TRAIL STYLE	LENGTH (m)
MTB Trails					
T01	Green Loop	Easy-Green Circle	XC/ Walking	Open	5,223
T02	Green Link	Easy-Green Circle	XC/ Walking	Open	231
T03	Green Downhill	Easy-Green Circle	XC	Flow	1,470
T04	Blue Downhill	Moderate-Blue Square	XC/ AM	Flow	1,502
T05	Black Downhill	Difficult-Black Diamond	XC/ AM	Flow	941
T06	Blue XC	Moderate-Blue Square	XC	Open	1,443
T07	Blue Downhill	Moderate-Blue Square	AM	Flow	1,229
T08	Black Downhill	Difficult-Black Diamond	AM	Technical	959
				Total Trails	12,998

TRAIL SYSTEMS - STAGE 1

SH Shuttle Head - Shuttle Pick Up Location

TH Trailhead





Map ID T01 - Loop Trail

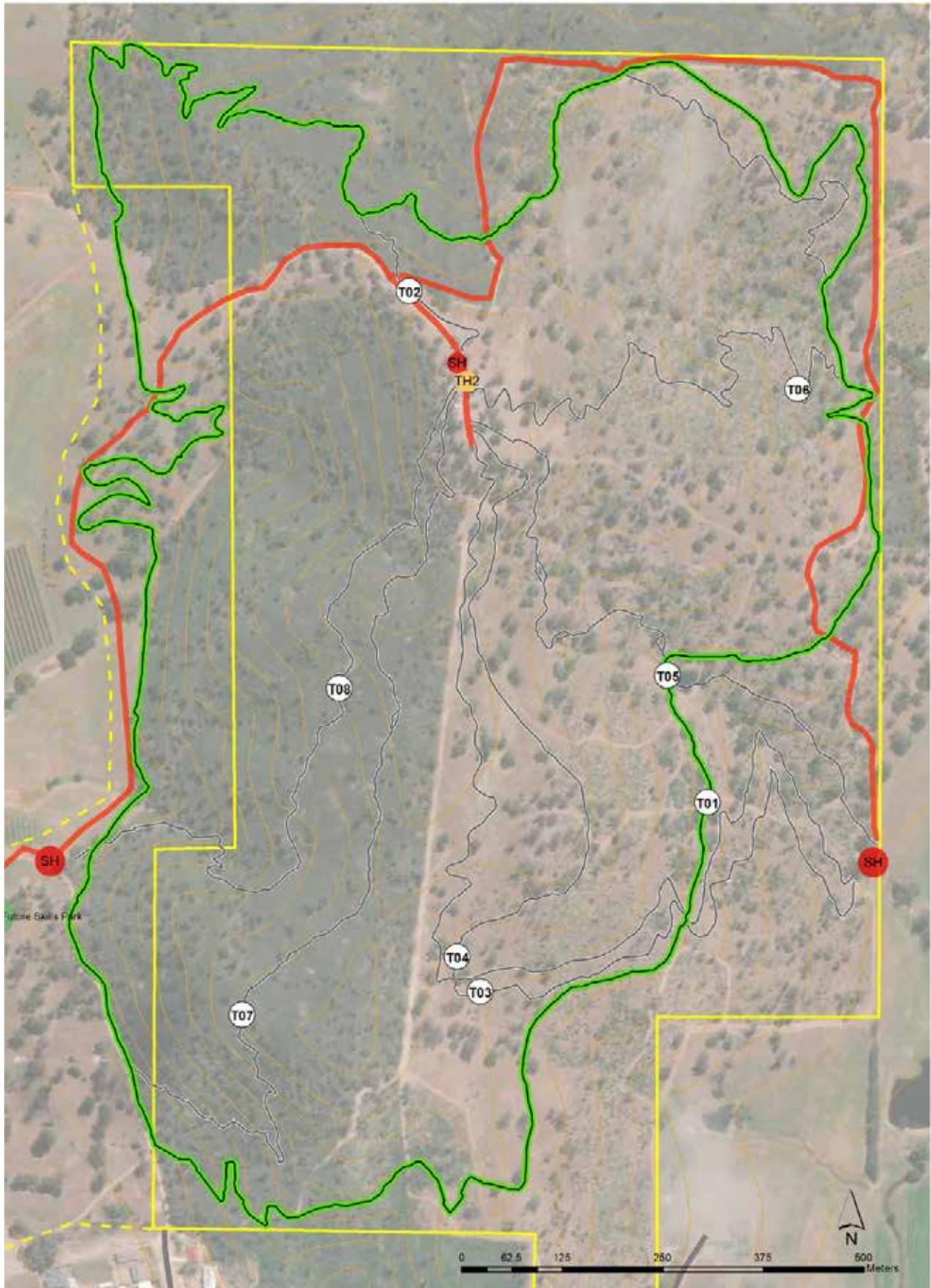
Trail 01 is a 5,223m long shared use loop trail. Riders will ride this trail in a clockwise direction to the start or trails and return them to shuttle heads. Walkers can use T01 as a dual direction trail.



TRAIL ID	01
Grade of Walk	Grade 2/ Dual Direction
Quality of Path	Formed track
Quality of Markings	Clearly sign posted
Experience Required	No Experience required
Time	NA
Steps	NA
Classification	Easy - Green Circle
Strategic Value	High
Trail Type	XC/ Walking
Trail Style	Open
Finished Tread Width	2500mm
Trail Width and Finish	Gravel
Use	Walking, bicycle and hand cycle
Direction	Generally single direction. Short sections of dual direction
Ascending / Descending	Both
Corridor Width	25m
Trail Length	5,223m
Average Gradient	
Trail Features	NA

Notes

SH Shuttle Head - Shuttle Pick Up Location TH Trailhead





Map ID T02 - Summit Link

Trail 02 is a 231m long shared use link trail. This trail has been proposed to deliver riders and walkers to the summit where there are further trail options.

TRAIL ID	02
Grade of Walk	Grade 2
Quality of Path	Formed track
Quality of Markings	Clearly sign posted
Experience Required	No Experience required
Time	NA
Steps	NA
Classification	Easy - Green Circle
Strategic Value	High
Trail Type	XC/ Walking
Trail Style	Open
Finished Tread Width	2500mm
Trail Width and Finish	Gravel
Use	Walking, bicycle and hand cycle
Direction	Dual Direction
Ascending / Descending	Both
Corridor Width	25m
Trail Length	231m
Average Gradient	
Trail Features	NA

Notes

SH Shuttle Head - Shuttle Pick Up Location TH Trailhead



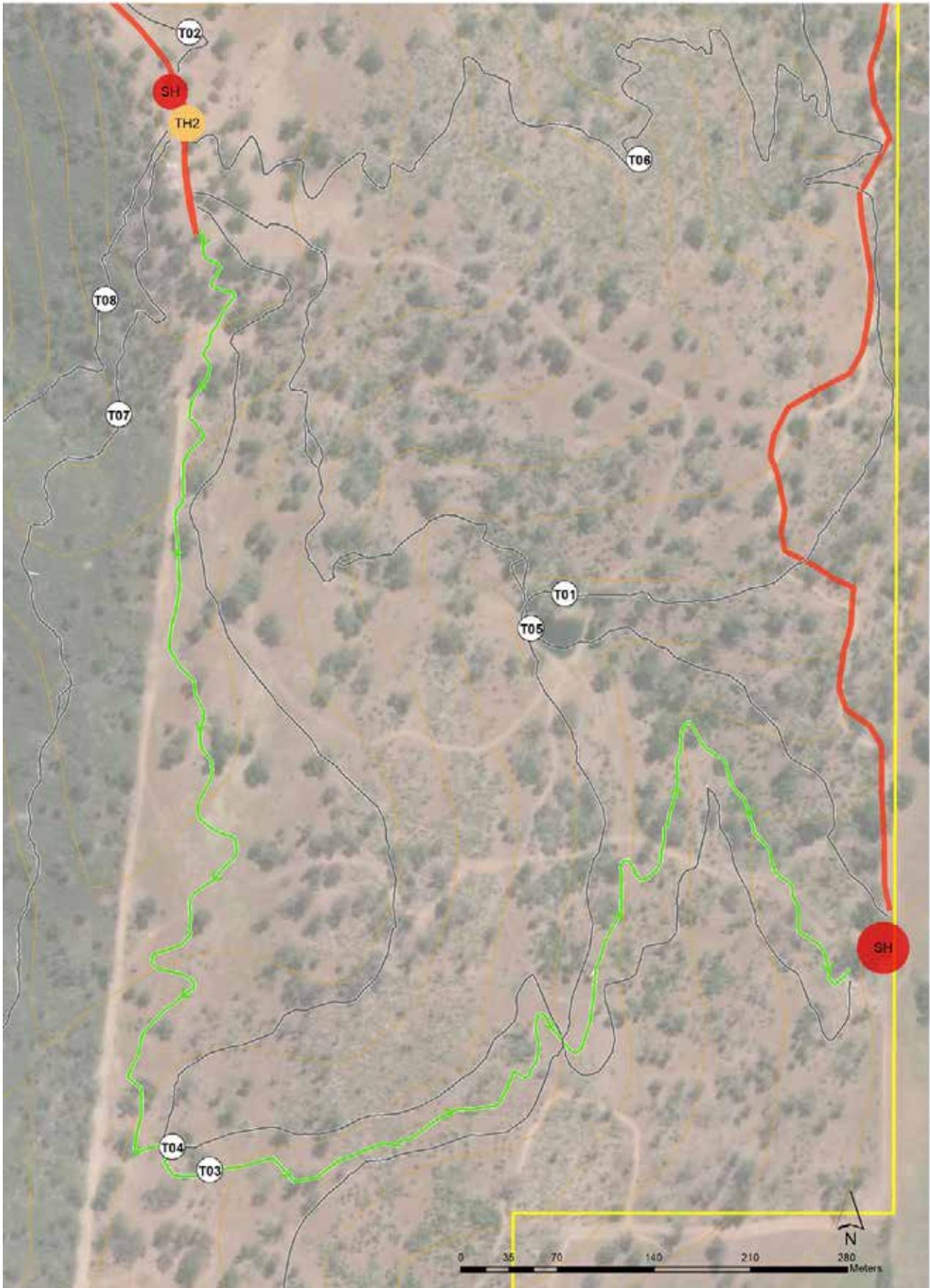


Map ID T03

Trail 03 is a 1,470m long easy - green descending mountain bike trail.

TRAIL ID	03
Classification	Easy - Green Circle
Strategic Value	High
Trail Type	XC
Trail Style	Flow
Finished Tread Width	1200mm
Trail Width and Finish	Loam and gravel
Use	Bicycle
Direction	Single Direction
Ascending / Descending	Descending
Corridor Width	25m
Trail Length	1470m
Average Gradient	
Trail Features	Rock rollovers, climbing turns, step ups
Notes	

SH Shuttle Head - Shuttle Pick Up Location TH Trailhead





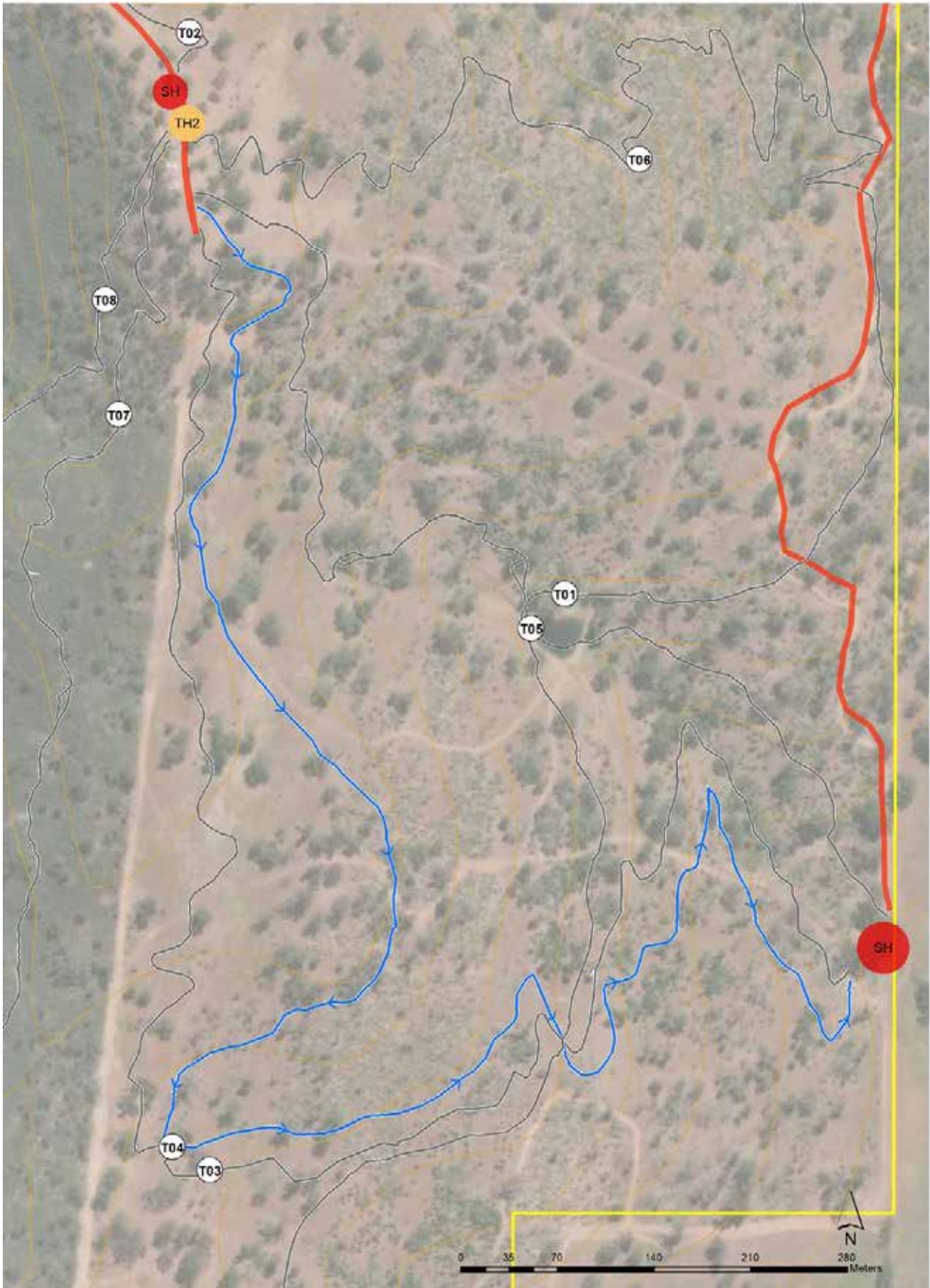
Map ID T04

Trail 04 is a 1,502m long moderate - blue descending mountain bike trail.

TRAIL ID	04
Classification	Moderate – Blue Square
Strategic Value	High
Trail Type	XC/ AM
Trail Style	Flow
Finished Tread Width	1000mm
Trail Width and Finish	Loam and gravel
Use	Bicycle
Direction	Single Direction
Ascending / Descending	Descending
Corridor Width	25m
Trail Length	1502m
Average Gradient	
Trail Features	Rock rollovers, step ups

Notes

SH Shuttle Head - Shuttle Pick Up Location TH Trailhead



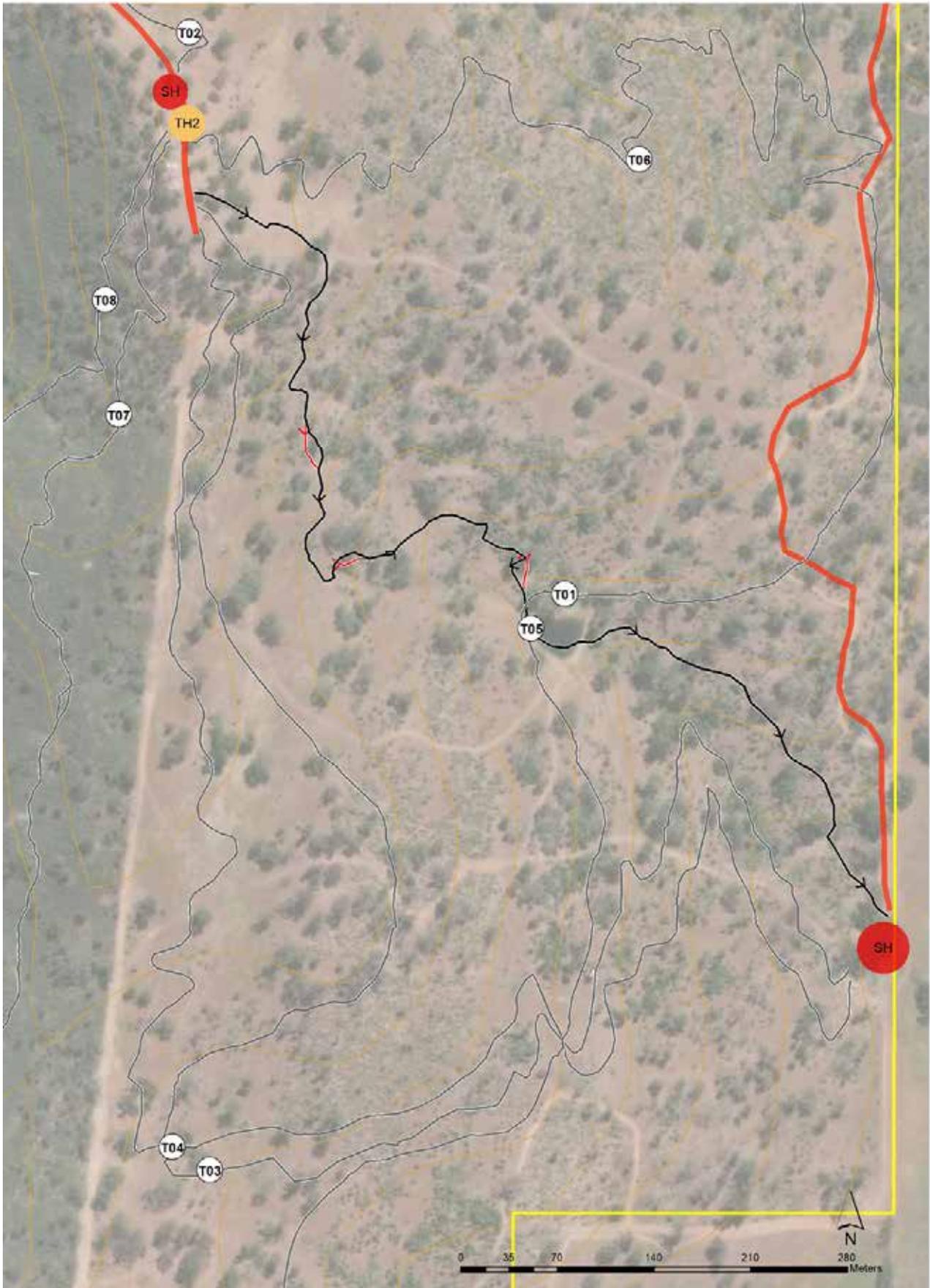


Map ID T05

Trail 05 is a 941m long difficult - black descending mountain bike trail.

TRAIL ID	05
Classification	Difficult – Black Diamond
Strategic Value	High
Trail Type	XC/ AM
Trail Style	Flow
Finished Tread Width	600mm
Trail Width and Finish	Loam and gravel
Use	Bicycle
Direction	Single Direction
Ascending / Descending	Descending
Corridor Width	25m
Trail Length	941m
Average Gradient	
Trail Features	Rock rollovers, step down jumps and rock gardens
Notes	Option to ride Extreme - Double Black Diamond optional lines

SH Shuttle Head - Shuttle Pick Up Location TH Trailhead





Map ID T06

Trail 06 is a 1,443m long moderate - blue cross country mountain bike trail.

TRAIL ID	06
Classification	Moderate – Blue Square
Strategic Value	High
Trail Type	XC
Trail Style	Open
Finished Tread Width	600mm
Trail Width and Finish	Loam and gravel
Use	Bicycle
Direction	Single Direction
Ascending / Descending	Ascending/ Descending
Corridor Width	25m
Trail Length	1443m
Average Gradient	
Trail Features	
Notes	

SH Shuttle Head - Shuttle Pick Up Location TH Trailhead



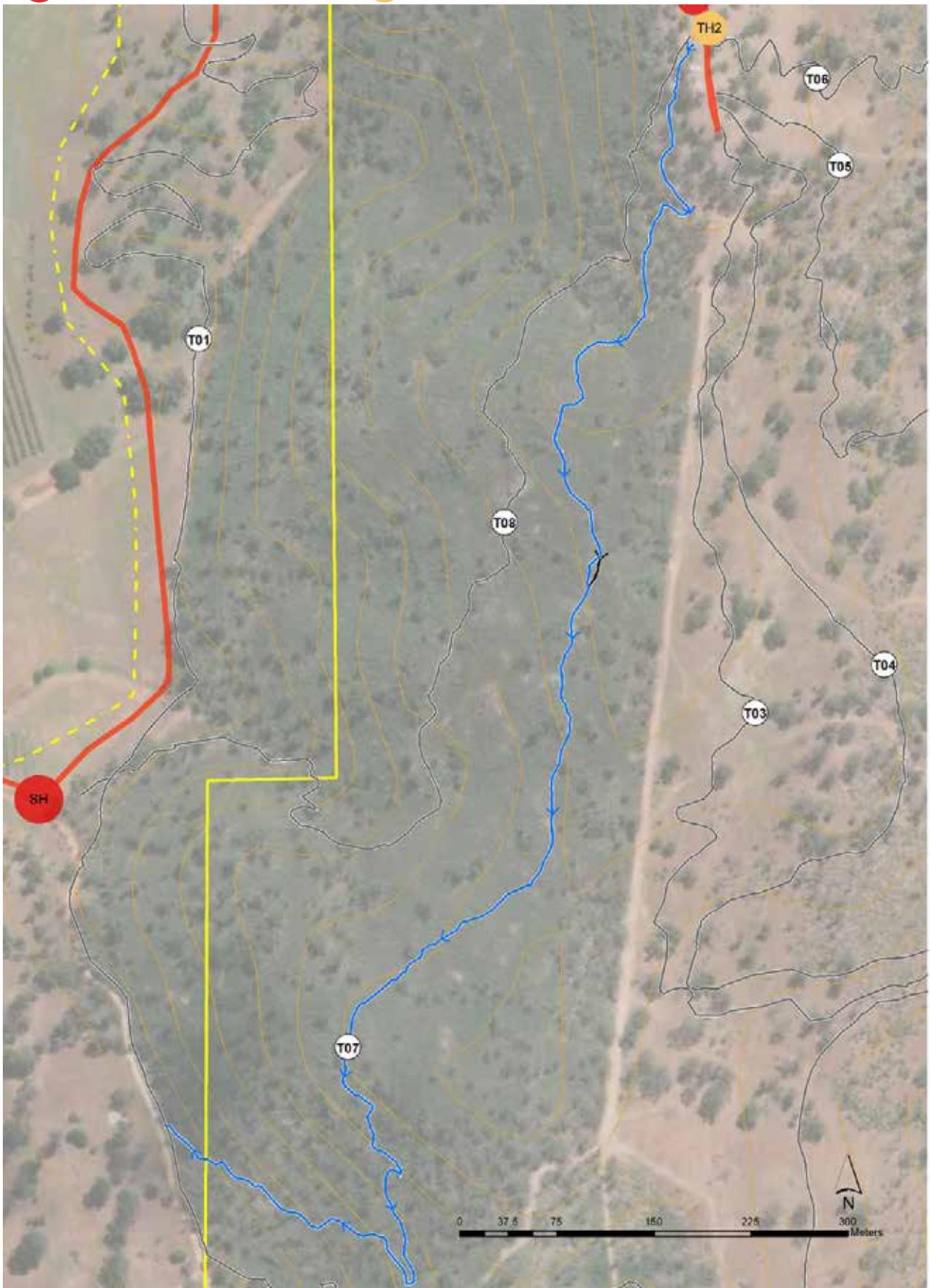


Map ID T07

Trail 07 is a 1,229m long moderate - blue mountain bike trail descending mountain bike trail.

TRAIL ID	07
Classification	Moderate – Blue Square
Strategic Value	High
Trail Type	AM
Trail Style	Flow
Finished Tread Width	600mm
Trail Width and Finish	Loam and gravel
Use	Bicycle
Direction	Single Direction
Ascending / Descending	Descending
Corridor Width	25m
Trail Length	1,229m
Average Gradient	
Trail Features	Rock gardens, berms, rollable rock overs, off camber tread, drop off obstacles, natural terrain rollers and jumps
Notes	Option to ride Difficult - Black Diamond optional lines

SH Shuttle Head - Shuttle Pick Up Location TH Trailhead



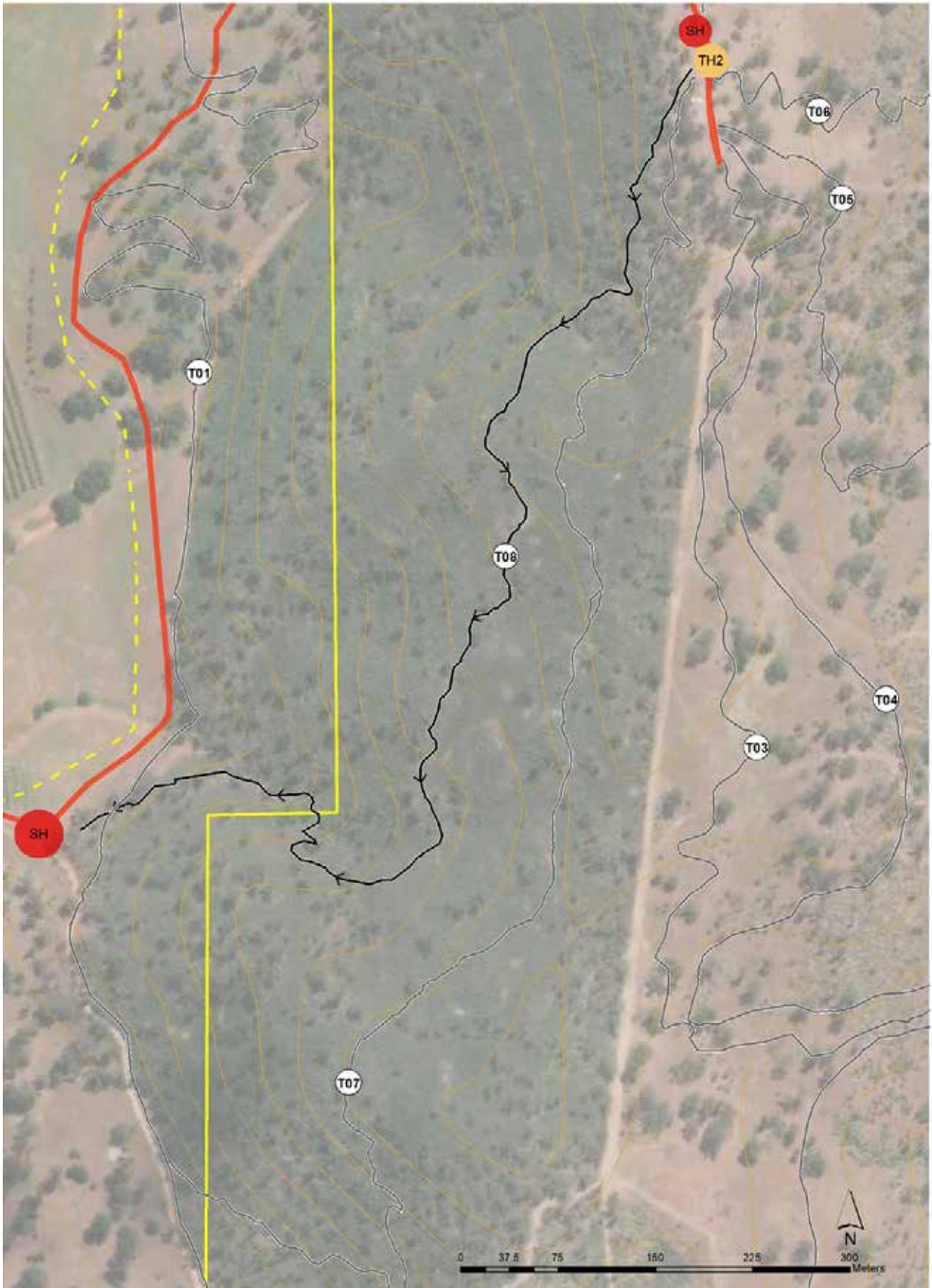


Map ID T08

Trail 08 is a 959m long difficult - black descending mountain bike trail.

TRAIL ID	08
Classification	Difficult – Black Diamond
Strategic Value	High
Trail Type	AM
Trail Style	Technical
Finished Tread Width	600mm
Trail Width and Finish	Loam and gravel
Use	Bicycle
Direction	Single Direction
Ascending / Descending	Descending
Corridor Width	25m
Trail Length	959m
Average Gradient	
Trail Features	Rock gardens, berms, rollable rock overs, off camber tread, drop off obstacles, natural terrain rollers and jumps
Notes	

SH Shuttle Head - Shuttle Pick Up Location TH Trailhead



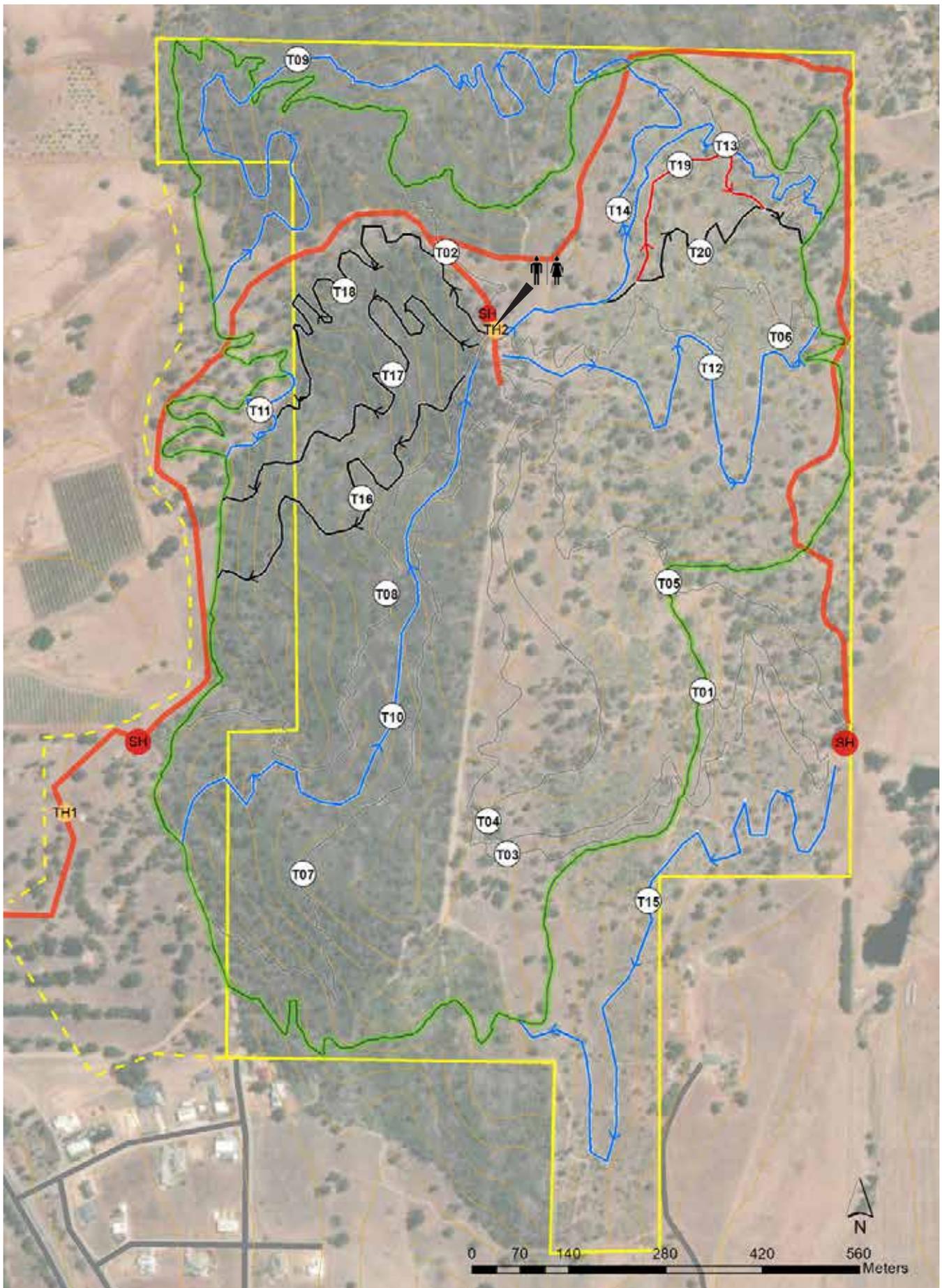
Proposed Bindoon Trail System - Stage 2

ID	NAME	CLASSIFICATION/ GRADE	TRAIL TYPE/ USE	TRAIL STYLE	LENGTH (m)
MTB Trails					
T09	Blue XC Link	Easy-Green Circle	XC	Open	1,702
T10	Blue Ascending	Moderate-Blue Square	XC/ Walking	Technical	1,052
T11	Blue Ascending	Moderate-Blue Square	XC/ AM	Technical	269
T12	Blue Descending	Moderate-Blue Square	XC/ AM	Technical	1,004
T13	Blue Descending	Moderate-Blue Square	XC/ AM	Technical	545
T14	Blue Descending	Moderate-Blue Square	XC/ AM	Technical	562
T15	Blue Ascending	Moderate-Blue Square	XC/ AM	Technical	1,282
T16	Black Descending	Difficult-Black Diamond	XC/ AM	Technical	757
T17	Black Descending	Difficult-Black Diamond	XC/ AM	Technical	882
T18	Black Ascending	Difficult-Black Diamond	XC/ AM	Technical	937
T19	2xBlack Ascending	Extreme-2xBlack Diamond	AM	Technical	388
T20	Black Descending	Difficult-Black Diamond	XC/ AM	Technical	506
Total Trails					9,886

TRAIL SYSTEMS - STAGE 2

SH Shuttle Head - Shuttle Pick Up Location

TH Trailhead



BROAD COST ESTIMATE STAGE 1 & 2

Proposed Bindoon Trail System - Stage 1

ID	PROVISIONAL NAME	CLASSIFICATION/ GRADE	STAGE	TRAIL STYLE	TRAIL TYPE	LENGTH (m)	RATE (\$/lm)	DESIGN (\$)	RATE (\$/lm)	BUILD (\$)	RATE (\$/lm)	SIGNS (\$)	TOTAL
T01	Green Loop Trail	Easy – Green Circle/ Grade 2	1	XC/ Walking	Open/ Formed	5,223	n/a	n/a	35	182,805.00	1.5	7,834.50	190,639.50
T02	Green Link Trail	Easy – Green Circle/ Grade 2	1	XC/ Walking	Open/ Formed	231	n/a	n/a	35	8,085.00	1.5	346.50	8,431.50
T03	Green Descending 1	Easy – Green Circle	1	XC	Flow	1,470	n/a	n/a	40	58,800.00	1.5	2,205.00	61,005.00
T04	Blue Descending 1	Moderate – Blue Square	1	XC/ AM	Flow	1,502	n/a	n/a	45	67,590.00	1.5	2,253.00	69,843.00
T05	Black Descending 1	Difficult – Black Diamond	1	XC/ AM	Flow	941	n/a	n/a	55	51,755.00	1.5	1,411.50	53,166.50
T06	Blue XC 1	Moderate – Blue Square	1	XC	Open	1,443	n/a	n/a	40	57,720.00	1.5	2,164.50	59,884.50
T07	Blue Descending 2	Moderate – Blue Square	1	AM	Flow	1,229	n/a	n/a	48	58,992.00	1.5	1,843.50	60,835.50
T08	Black Descending 2	Difficult – Black Diamond	1	AM	Technical	959	n/a	n/a	68	65,212.00	1.5	1,438.50	66,650.50
Shuttle	Shuttle Road & Turnarounds	Trail Access Road Upgrade	1	n/a	n/a	2000	n/a	n/a	150	300,000.00	1.5	3,000.00	303,000.00
TOTAL						14998				850,959.00		22,497.00	873,456.00

Proposed Bindoon Trail System - Stage 2

ID	PROVISIONAL NAME	CLASSIFICATION/ GRADE	STAGE	TRAIL STYLE	TRAIL TYPE	LENGTH (m)	TOTAL
T09	Blue XC Link	Easy-Green Circle	2	XC	Open	1,702	
T10	Blue Ascending	Moderate-Blue Square	2	XC/ Walking	Technical	1,052	
T11	Blue Ascending	Moderate-Blue Square	2	XC/ AM	Technical	269	
T12	Blue Descending	Moderate-Blue Square	2	XC/ AM	Technical	1,004	
T13	Blue Descending	Moderate-Blue Square	2	XC/ AM	Technical	545	
T14	Blue Descending	Moderate-Blue Square	2	XC/ AM	Technical	562	
T15	Blue Ascending	Moderate-Blue Square	2	XC/ AM	Technical	1,282	510,380.00
T16	Black Descending	Difficult-Black Diamond	2	XC/ AM	Technical	757	
T17	Black Descending	Difficult-Black Diamond	2	XC/ AM	Technical	882	
T18	Black Ascending	Difficult-Black Diamond	2	XC/ AM	Technical	937	
T19	2xBlack Ascending	Extreme-2xBlack Diamond	2	AM	Technical	388	
T20	Black Descending	Difficult-Black Diamond	2	XC/ AM	Technical	506	
01	Top Trailhead Infrastructure						80,000.00
TOTAL							590,380.00