

# BINDOON MOUNTAIN BIKE PARK STAGE 2 CONCEPT PLAN



**threechilliestrails**  
unique | crafted | iconic

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### Revision Information

Revision	Date
A	07-01-23
B	24-02-23
C	9-03-23
D	20-03-23

# PROJECT OVERVIEW



## PROJECT OVERVIEW

Stage 2 of the Bindoon Mountain bike park concept will comprise of an additional 11.5km of mapped trail. This is in addition to the 12.8km of trails already under construction from stage 1 of the project, providing a total of 24.3km of mapped trails within the project area. The primary focus of the trail network is recreational trail riding with capability to host MTB events. Access to the trail network will be focussed around the newly constructed shuttle access road.

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 development with descending trails forming most of the overall trail network. Using a summit point as the node from which the trails can be established, the site is then broken down into two developable locations.



# TARGET MARKET

The primary target market for the Bindoon Mountain bike park is sport and gravity enthusiast trail users. These markets are comprised of regular trail users who require accessible trails, good support infrastructure and trails with progressive technical challenges. They are riders seeking well designed and constructed trails to challenge their skills and are willing to travel long distances with the intention to ride for the entire day.

## TARGET USER TYPES

- PRIMARY FOCUS- Enthusiast, gravity riders
- SECONDARY FOCUS- Leisure cohorts, XC enthusiasts

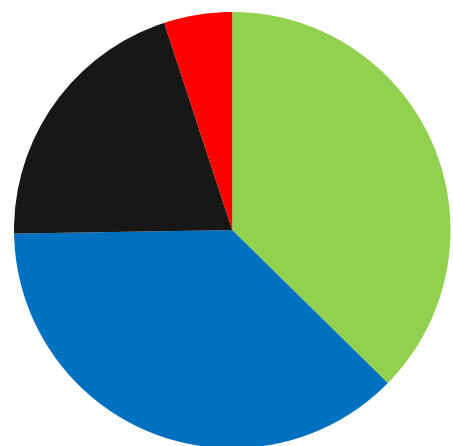
## TRAIL TYPES

- Technical all-mountain trail
- Flow all-mountain trails
- Freeride trails
- Dual Slalom trails
- Jump lines
- XC trails

## TRAIL CLASSIFICATION DISTRIBUTION

With stage two of the trails completed, a rough distribution of trail gradings will be-

- Green- 35%
- Blue- 35%
- Black- 20%
- Double Black- 10%



■ Green ■ Blue ■ Black ■ Double Black

# SITE ANALYSIS

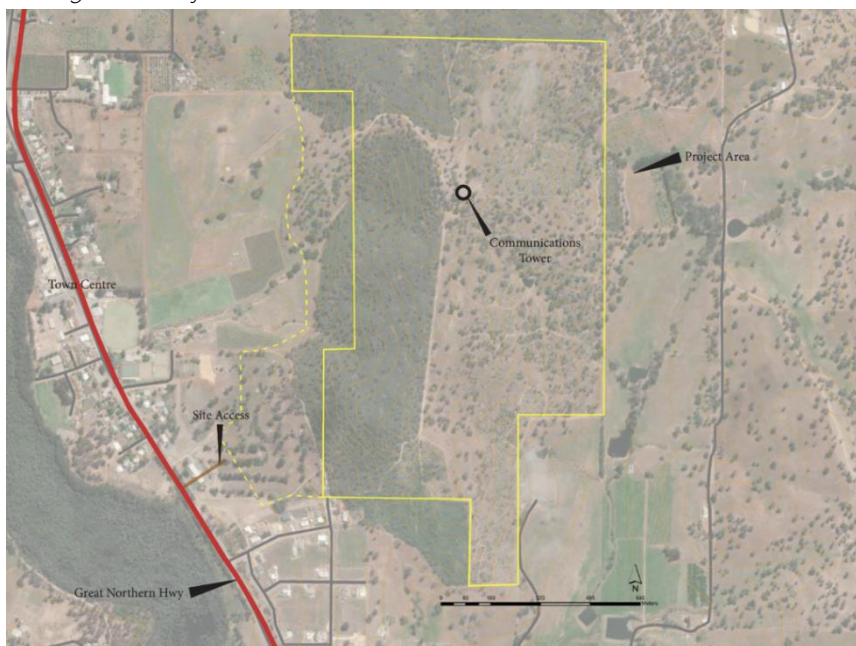
## PROJECT AREA DESCRIPTION

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 m<sup>2</sup> (89.49 Hectares) of undulating country- side and bushland with 360-degree views of the surrounding rural area.

The property itself is known as 'Red Hill' (known to locals as 'Bindoon Hill') and 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 reduced 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 except for a telecommunications tower located on the northern end of the hill's crest.

Figure 1- Project location and boundaries in relation to Bindoon town centre



## TOPOGRAPHY AND SITE CONSTRAINTS

The topography and gradient of the site and the elevation dictate that most development options for the site would be deemed financially unviable. The unique nature of mountain bike trail design relies on such topography and elevation to create a successful asset.

Access to the site was identified as an issue in the initial concept planning, and a shuttle access road has been constructed to allow vehicular access to the top of the hill and general trail hub area.

Retaining most of the existing topography will 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.

There are several constraints in the surrounding area that have been considered during both stage 1 and stage 2 of the concept planning phases, impacting the overall trail layout and designs-

- Future caravan park area adjacent to the southwestern corner of the park boundary
- The location of the main shuttle access track
- The gradients of each of the four main sides of the hill
- The vegetation coverage on each of the four sides of the hill

## ENVIRONMENTAL CONSIDERATIONS

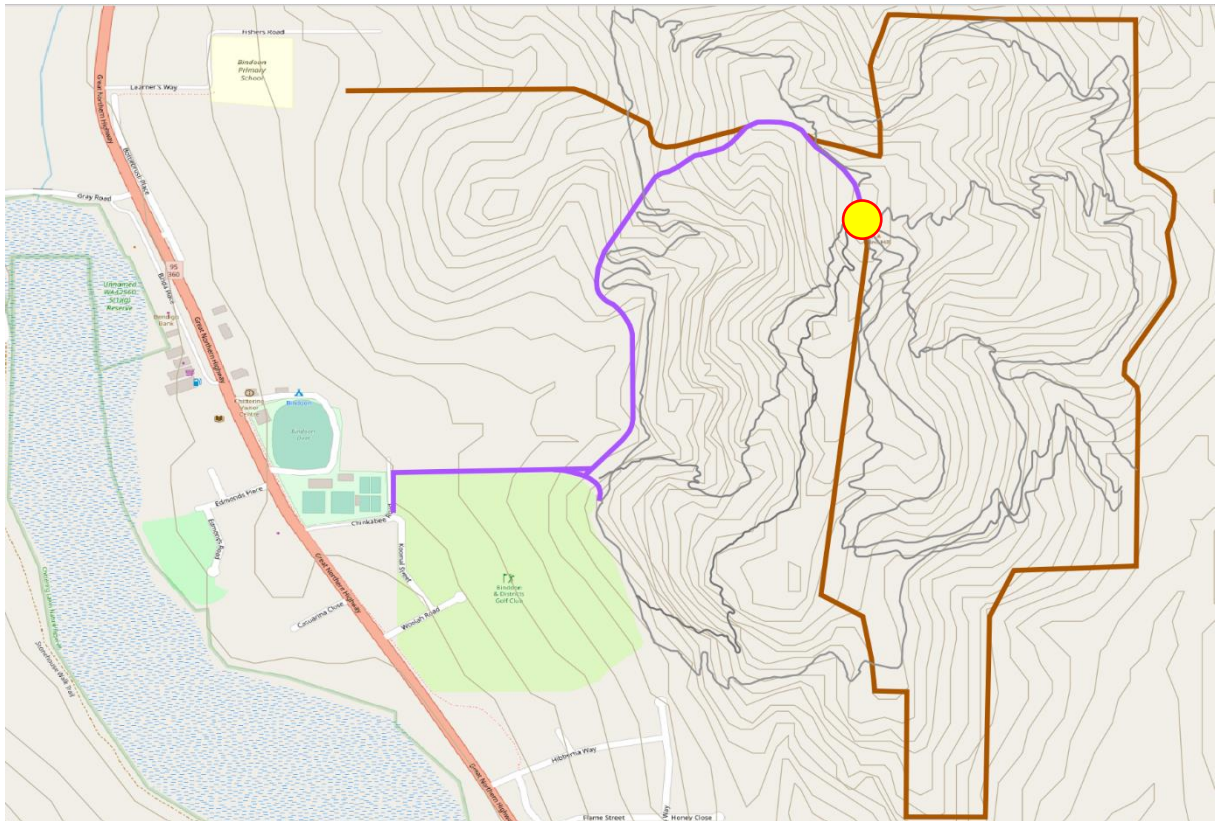
There have been no environmental sensitivities identified at Lot 3874, Bindoon throughout the course of the research study phase that may impact on a mountain bike development in Bindoon. The mountain bike trails network and park design concept has been designed on an acute understanding of environmental 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 weeds.



# SITE ACCESS

The site has access via Great Northern Highway and the smaller Chinkabee Road. As part of stage 1, a shuttle/access road was constructed to provide vehicular access to the trail node area.



LEGEND	
	Vehicular shuttle road
	Existing firebreak
	Great Northern Highway
	Trail hub

There are a series of firebreaks around the perimeter of the building envelope, shown above. There are also several smaller fire roads over the hill that have not been shown.



# PROJECT OBJECTIVES



The goal of the Bindoon Mountain bike park is to provide a trail hub of state level significance and provide long-lasting, well-designed trails to the more advanced rider cohorts, all within an hour's drive of Perth city. Currently the only trail hub that would fill this demand is the Goat Farm Mountain bike park; following the recent new trail works at this location, the popularity of the Goat Farm clearly demonstrates the need to create new facilities for this ever-expanding rider cohort. The unique topography of the hill will provide opportunity for a series of trails with a unique and localised feel, that will be unlike any other trail network in the state.

As the building envelope is relatively small, the need for a considered and well-designed network is imperative to the success of the hub to create enough trails to provide ample variety and challenges, thus encouraging repeat user engagement.

The concept framework defined the objectives of this project as:

- Develop a high quality, sustainable and accessible single-track trail network suitable for a diverse range of users.
- Maintain and protect the existing flora and species of significance.
- Develop a trail network appropriate to the landscape and the construction of low maintenance technical trail features (utilising onsite/local soil and rock materials).
- Identify and protect conservation, environmental and cultural heritage values.



## DESIGN CONSIDERATIONS

Trail alignment has been implemented with special consideration to the following-

- Trail alignment has avoided a path beneath leaning trees of environmental significance to avoid damage to root structures.
- Trail alignment has avoided the necessity of destruction of any significant vegetation including large trees or mature grasstrees.
- Use of appropriate corners/turns to moderate descent speed, and consideration of line of sight relative to expected speed.
- The lay of the land has been extensively considered for the trail alignments- land undulations, valleys, peaks, rocky outcrops, and rock gardens have influenced the design and placement of alignments.
- The incorporation of iconic features that tie in with the history of the site and of Bindoon itself. These may include jumps using livestock ramps, drops off the back of trucks/utes and start huts designed to look like shearing sheds for the slalom and slopestyle lines.
- There has been space allowed for the development of boutique accommodation at the top of the hill as proposed in the mountain bike master plan.

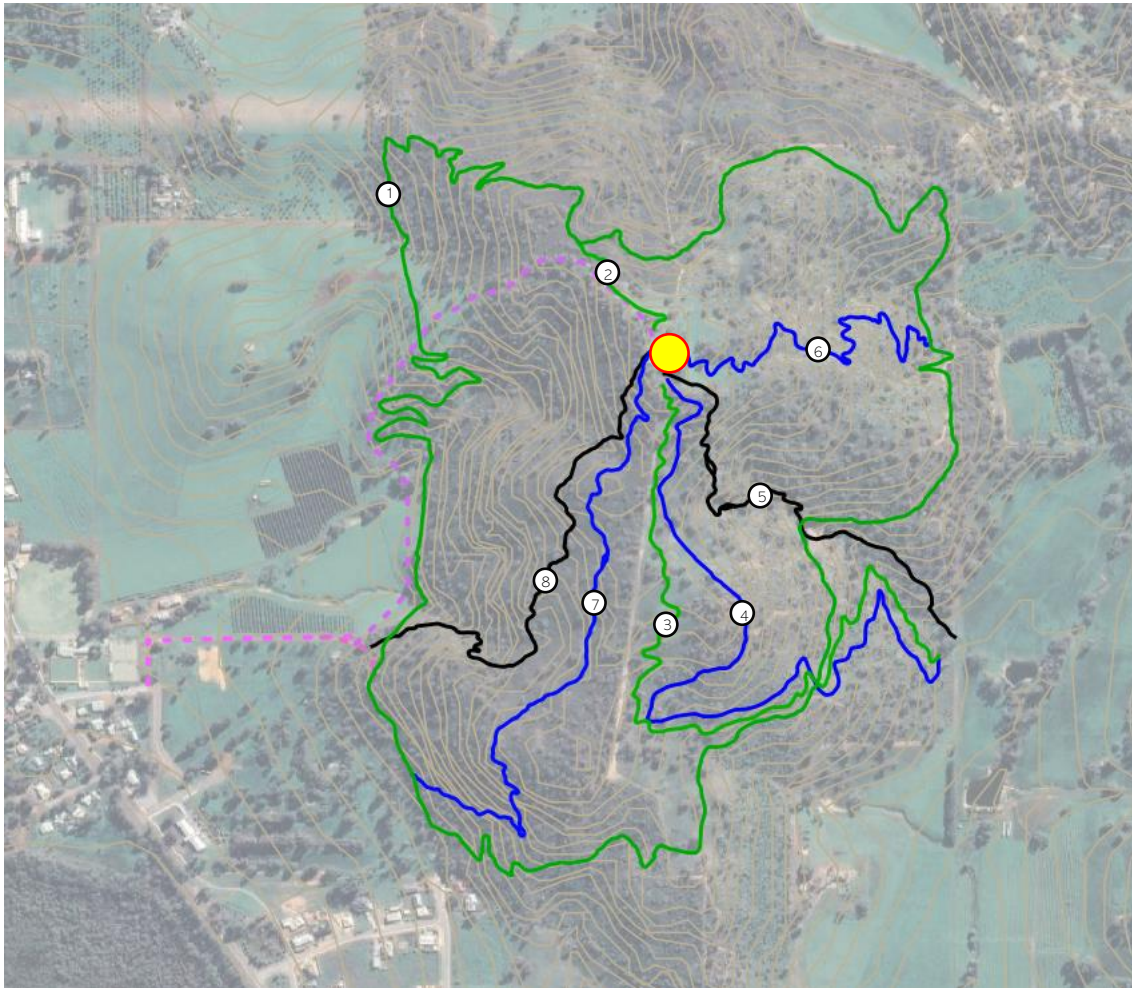
A vertical photograph of a dirt trail winding through a hilly, vegetated landscape. The trail is a mix of brown dirt and small rocks, curving from the bottom left towards the middle right. The surrounding area is covered in green bushes and trees, with a large, leafy tree in the upper center. The sky is blue with scattered white and grey clouds. A semi-transparent grey banner with the text "TRAIL NETWORK" is overlaid across the middle of the image.

# TRAIL NETWORK






# TRAIL CONCEPT- STAGE 2

## EXISTING TRAILS

Bindoon mountain bike park currently consists of 12.8km of professionally designed and constructed trails. These trails form the basis of the stage 1 development and were constructed over 2022 and early 2023.

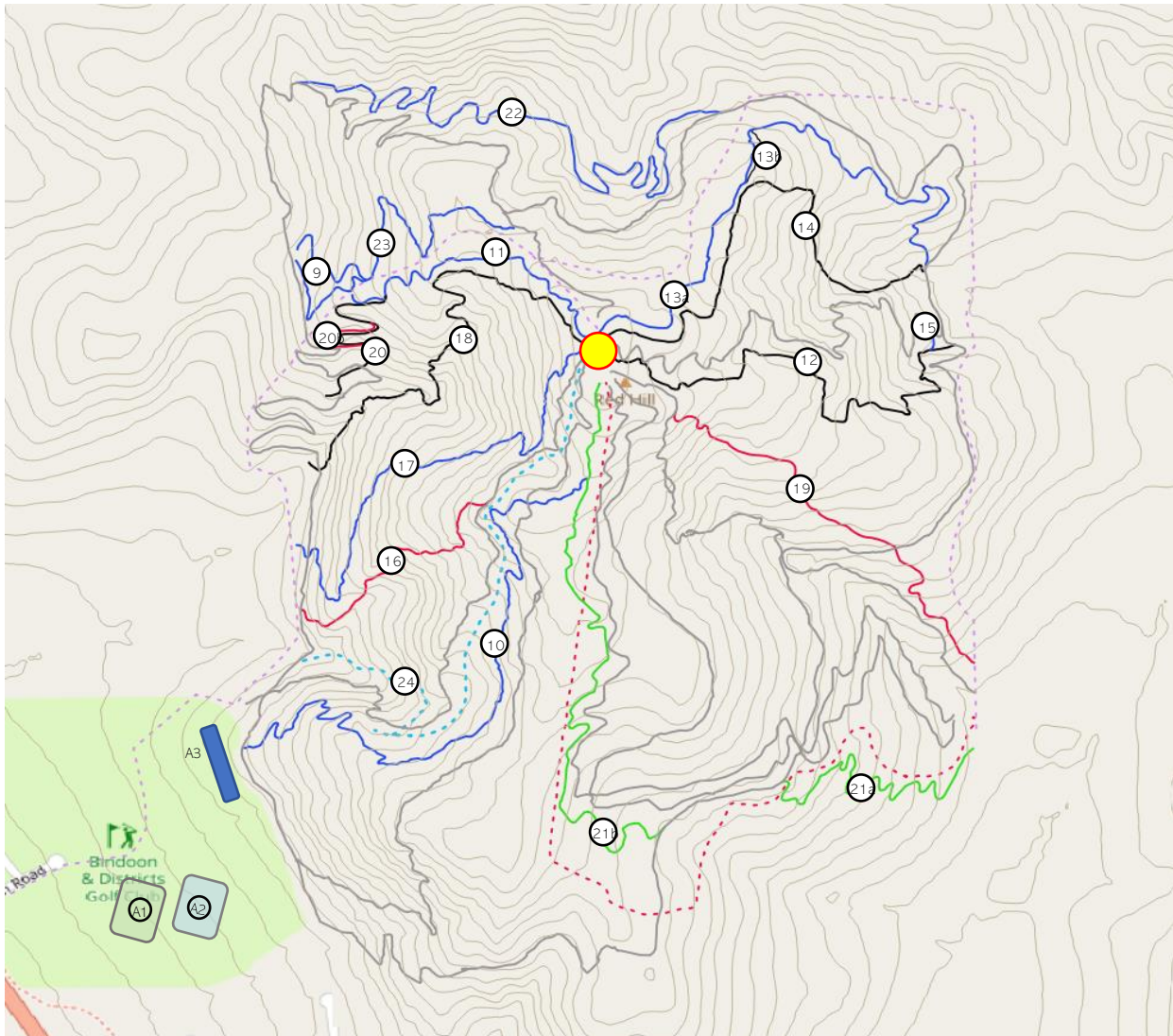


TRAIL	RATING	DISTANCE (m)
T1	Green	5350
T2	Green	239
T3	Green	1540
T4	Blue	1570
T5	Black	924
T6	Blue	888
T7	Blue	1274.5
T8	Black	1000

LEGEND	
	Green trail
	Blue trail
	Black trail
	Vehicular track
	Trail hub

# STAGE 2 TRAILS

Further to the existing trails from stage 1 of construction, 11.5 km of additional trails have been designed to complement the overall park design. The stage two trails concentrate on providing more variety of trail styles to the overall design- the more challenging double black trail alignments down the steeper sections of the hill, a dual slalom track, as well as black and blue trails and a walk trail to the summit. There have also been several link trails and off-shoot trails allowed for with the intention of increasing trail riding options. There is an area for a pump track, jump line and skills area within the boundaries of the proposed caravan park.



TRAIL	RATING	DISTANCE (m)
T9	Blue	215
T10	Blue climb	1040
T11	Blue	452
T12	Black	759
T13a	Blue	930
T13b	Black	92
T14	Black	257
T15	Blue link	29
T16	Double Black	399

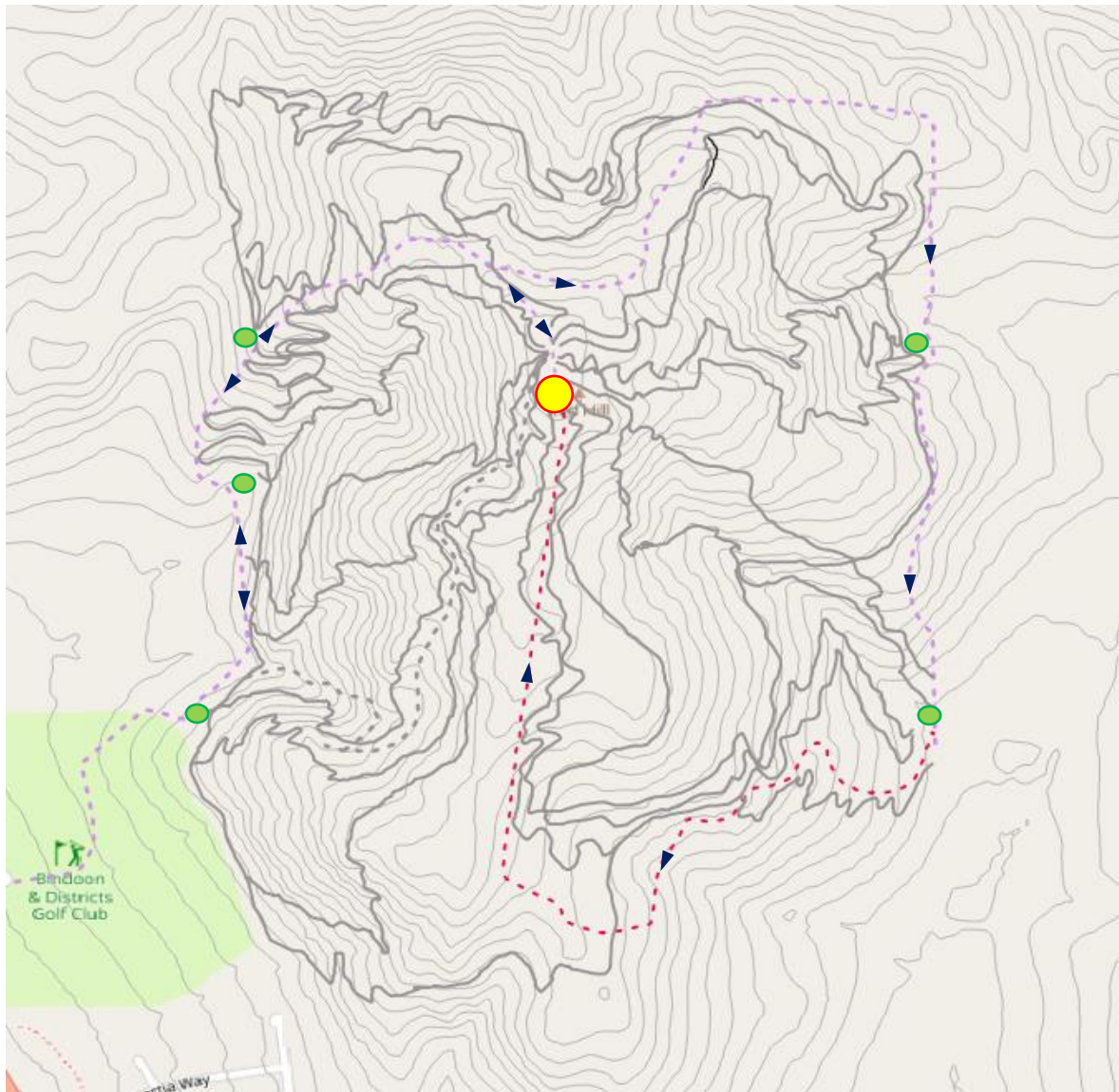
TRAIL	RATING	DISTANCE (m)
T17	Blue	759
T18	Black	761
T19	Double Black	630
T20	Black	364
T20b	Double black	139
T21a	Green climb	541
T21b	Green climb	962
T22	Blue	1138
T23	Blue climb	635
T24	Grade 3 Walk	960

LEGEND	
	Shuttle Road Stage 2
	Green trail
	Blue trail
	Black trail
	Double black trail
	Trail hub
A1	Pump Track
A2	Skills area
A3	Jump Line

# SHUTTLE ROAD

In addition to the Stage 1 shuttle road, which is intended to be dual direction (4-5 m width), an alignment has been created to allow vehicular access to the south east corner of the park. This will allow the eastern trails to be shuttled and provide further access for emergency personnel and vehicles. This road will be single direction 4wd (2.4–3 m width) but could be upgraded to allow 2wd access. There will be shuttle pick points at the main trail convergences. Shuttle pickups on the western side of the hill (dual direction) will allow for vehicles to turn around.

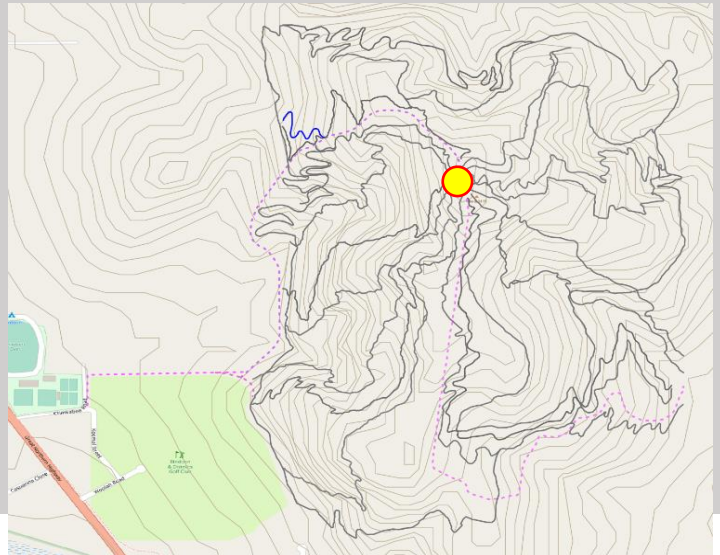
The road follows existing firebreaks and tracks for most of the alignment while the south-eastern section is a new build. There will be a turnaround location for vehicles at the trail hub located on top of the hill.



LEGEND	
	Existing vehicle access road
	New aligned vehicle access track
	Trail hub
	Shuttle Pick up point

# TRAIL 9

>MODERATE  
>DUAL SLALOM



## TRAIL DESCRIPTION

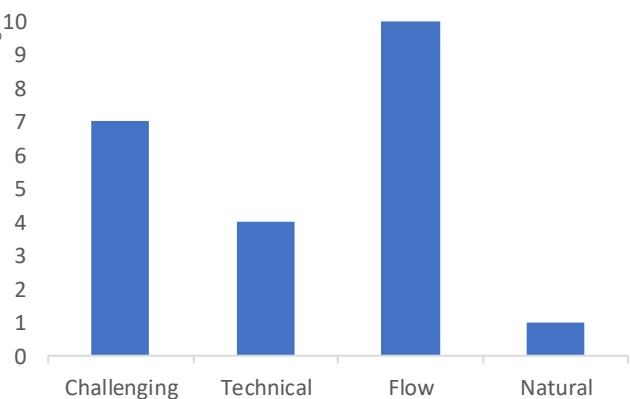
Trail 9 alignment is the centreline for the proposed dual slalom racetrack. The alignment has been created such that high speed berms can be fashioned leading into long straights that will allow for a variety of features to be designed such as double-able rollers, tabletops, rhythms, step on-offs. A start hut could be incorporated in a farm/shearing shed style to fit with the theme of the park.

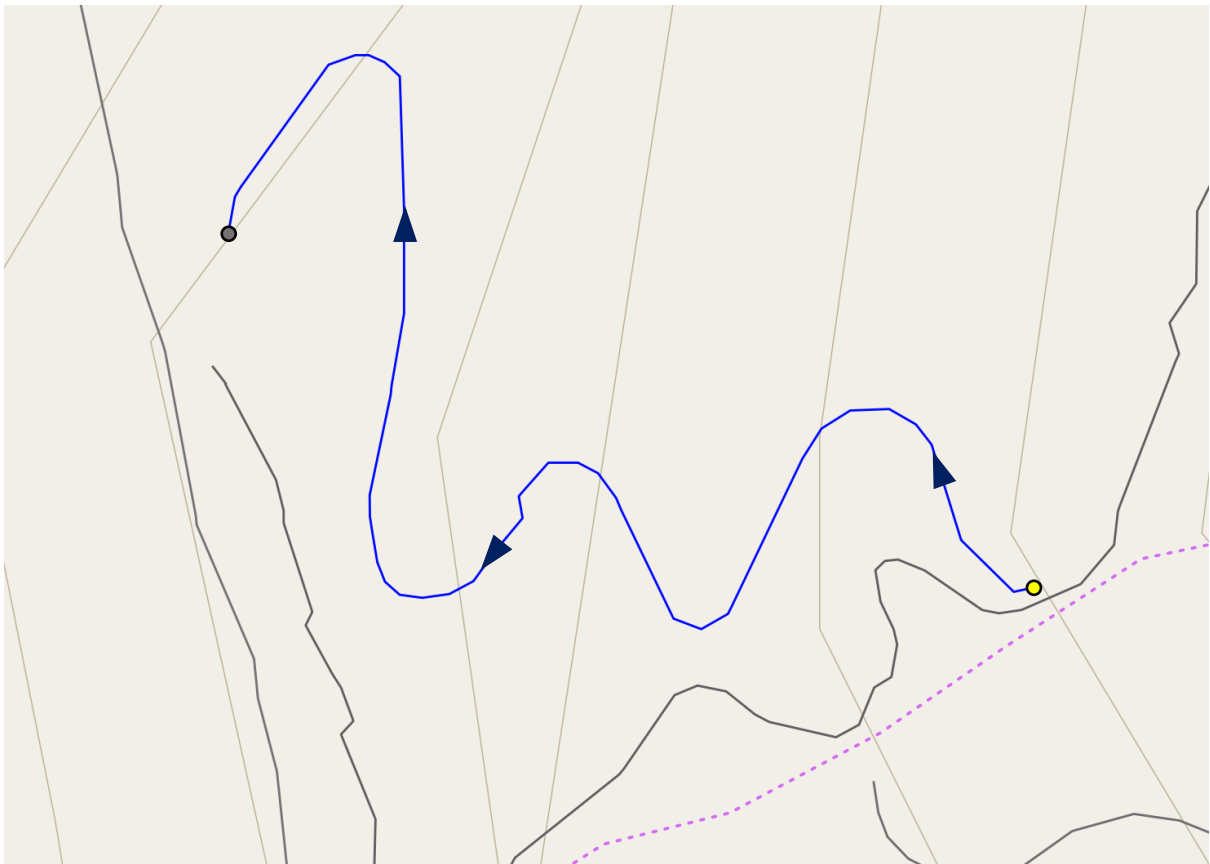
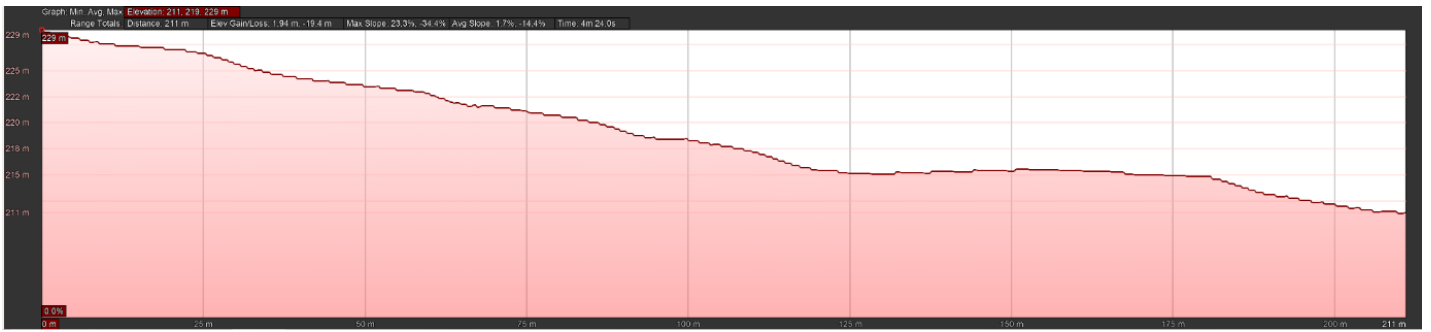
The trail alignment begins off the main shuttle road for ease of access and finishes near the green rated XC loop trail T01.

TRAIL IDENTIFICATION	Trail 09
CLASSIFICATION	Blue
TRAIL LENGTH	215m
TRAIL STYLE	Dual Slalom race
BUILD STYLE	Machine built flow
FINISHED TRAIL WIDTH	4m min.
TRAIL FINISH	Smooth hardpack (native soil)
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-14%

## ANTICIPATED TECHNICAL TRAIL FEATURES<sup>10</sup>

- Tabletop jumps
- Step down jumps
- Hipped jumps
- Berms
- Rollers



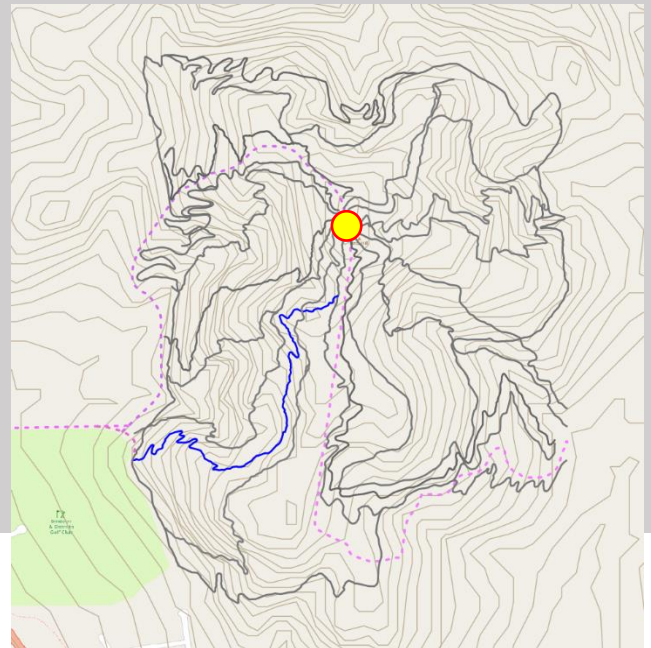


LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road



# TRAIL 10

>MODERATE  
>CLIMBING TRAIL



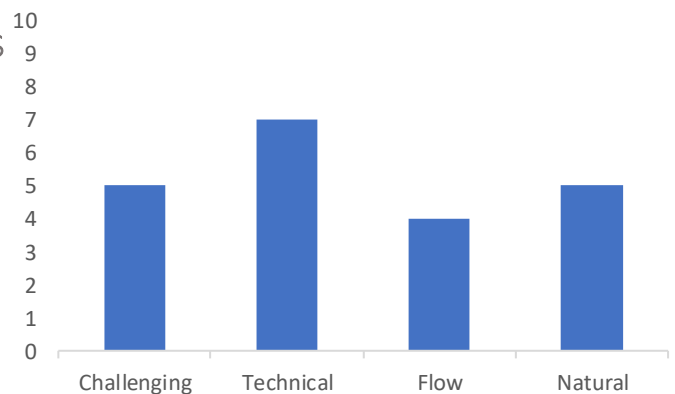
## TRAIL DESCRIPTION

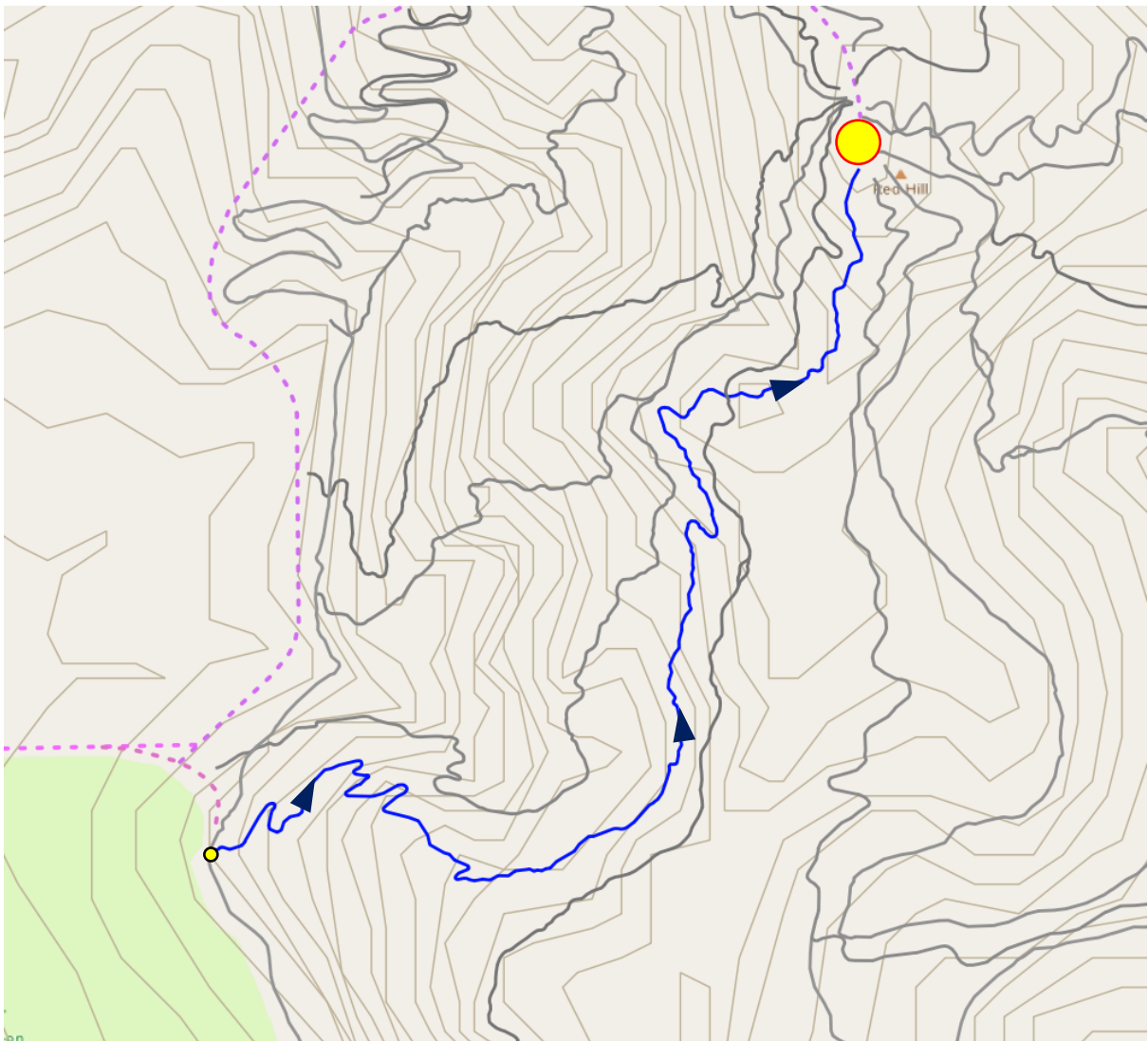
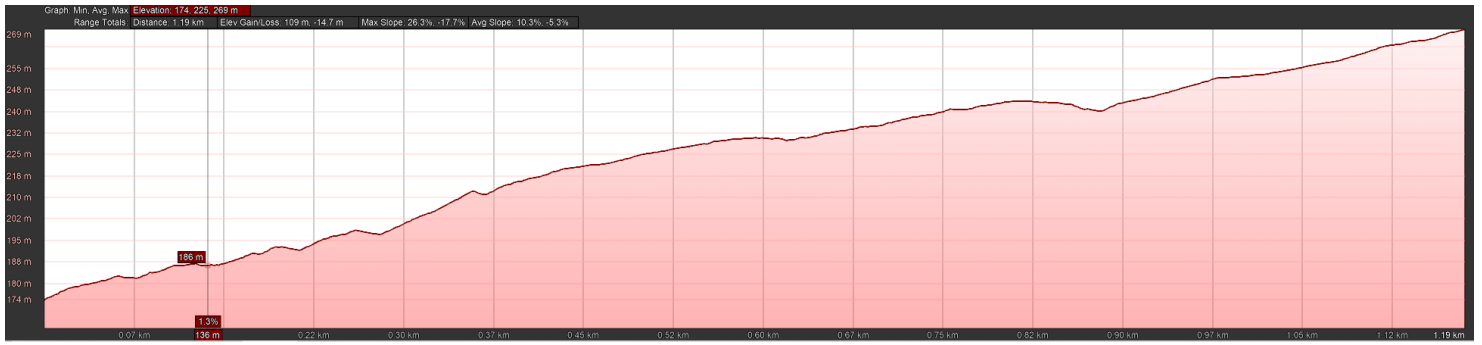
Trail 10 is a climb to access the trail node from the base of the vehicular access track. It is envisaged to be a raw, technical XC style climb with tight switchbacks and a hand-built feel. The alignment will allow for a lot of natural features to be designed into the track such as rocky outcrops, rock gardens and rollovers.

TRAIL IDENTIFICATION	Trail 10
CLASSIFICATION	Blue
TRAIL LENGTH	1.19km
TRAIL STYLE	XC
BUILD STYLE	Hand built style
FINISHED TRAIL WIDTH	600mm min.
TRAIL FINISH	Rough, natural
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	10.3%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Rock Gardens
- Rock features

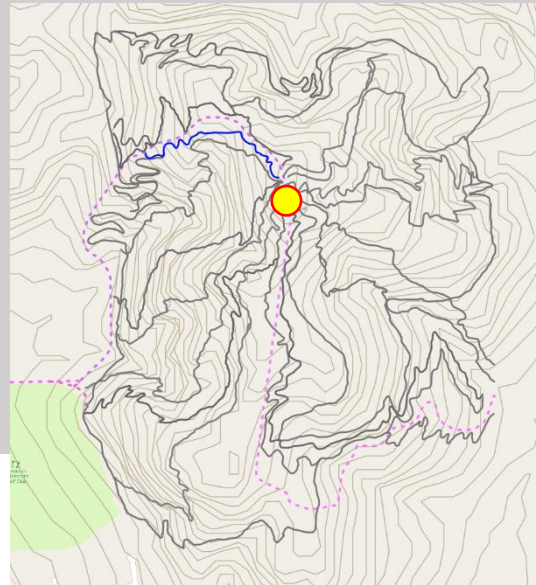
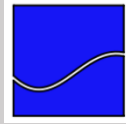




LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road

# TRAIL 11

>MODERATE  
>JUMP TRAIL



## TRAIL DESCRIPTION

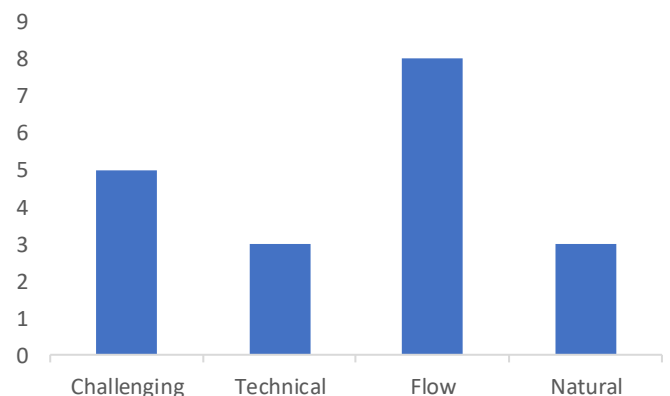
Trail 11 is a flow descending jump trail from the hub to the northwest corner of the park area. It will allow access to trails 20A and 20B (both higher rated difficulty level jump lines), can be linked into the dual slalom, or allow quick access to the dual slalom shuttle road/green rated Trail 1.

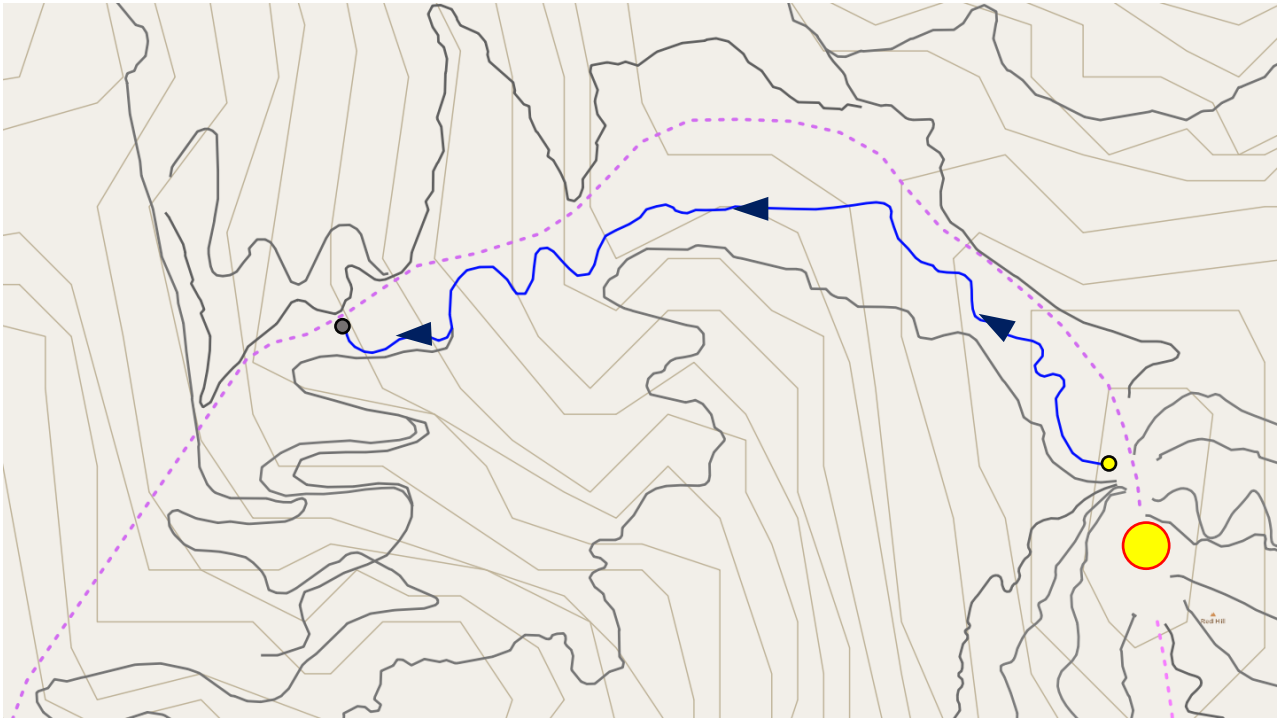
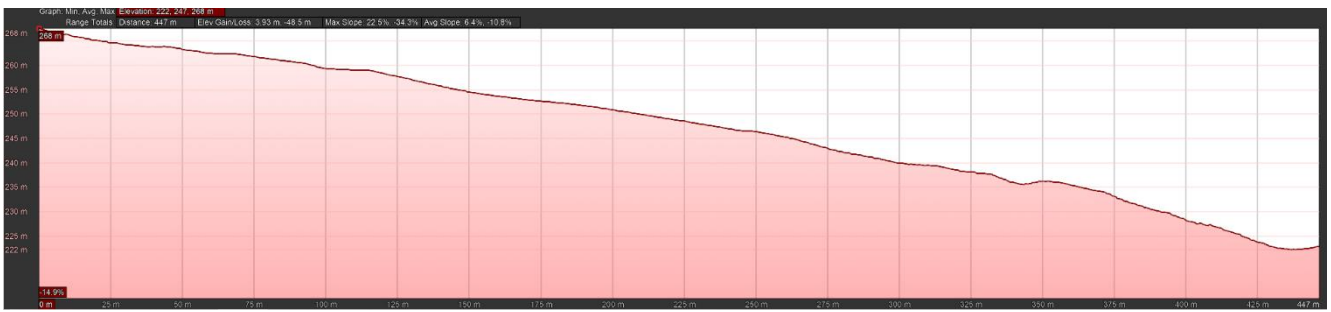
The trail is intended primarily as an AM flow/jump trail with the concept of allowing trail users to increase their jumping skills with the option of then progressing down the hill to the more difficult trails 20A and 20B. Full speed, tall berms, rollers, wide trail sections, long tabletop jumps, hips and step downs for a genuine flow trail experience with a seamless set of complimentary trail choices at the end of the section.

TRAIL IDENTIFICATION	Trail 11
CLASSIFICATION	Blue
TRAIL LENGTH	447m
TRAIL STYLE	Descending jump line, flow trail
BUILD STYLE	Machine built
FINISHED TRAIL WIDTH	600mm min.
TRAIL FINISH	Smooth hardpack (native soil)
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-10.8%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Rock Gardens
- Tabletop jumps
- Step down jumps
- Hipped jumps
- Berms

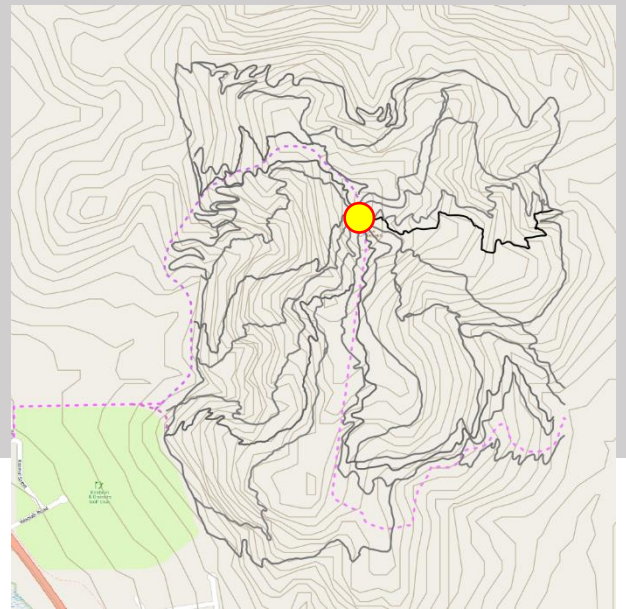
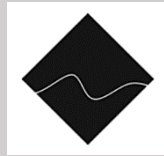




LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road

# TRAIL 12

>DIFFICULT  
>DESCENDING AM



## TRAIL DESCRIPTION

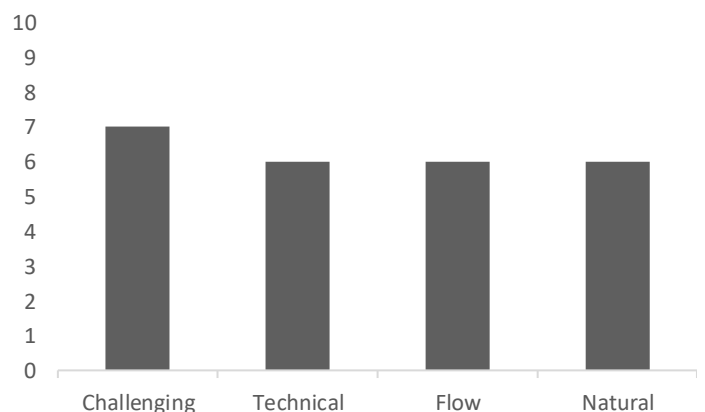
Trail 12 is a black rated descent that terminates on the green loop Trail 1. The terrain dictates that the top section of the trail would be more machine built flow style DH as the hill is quite open and featureless. This section could have large tabletop, step downs, high speed machine-built features and long off-camber sections as allowed by the black difficulty rating. The alignment is such that long straights and wide sweeping corners will allow for holding speed easily.

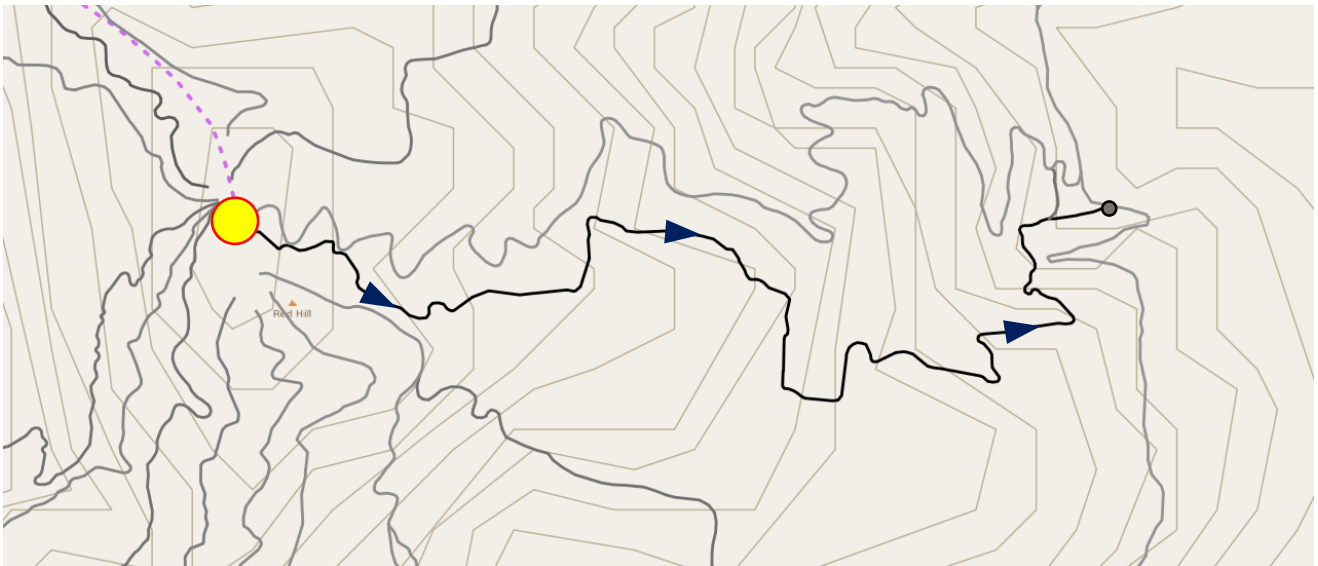
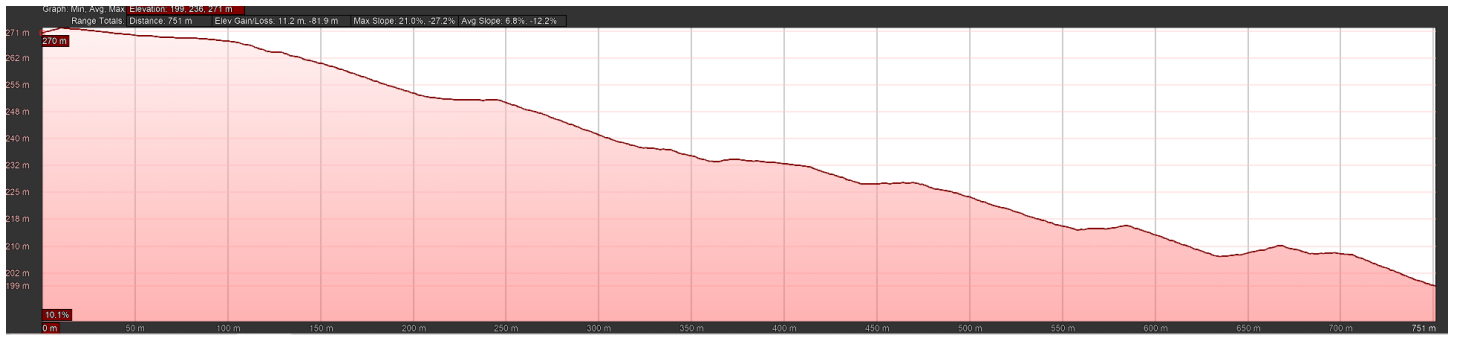
The alignment then descends into much more varied natural features- rocky sections and outcrops, undulations, and wooded areas, allowing for a more technical and natural style second half to the trail.

TRAIL IDENTIFICATION	Trail 12
CLASSIFICATION	Black
TRAIL LENGTH	751 m
TRAIL STYLE	Descending AM trail
BUILD STYLE	Machine built
FINISHED TRAIL WIDTH	300mm min.
TRAIL FINISH	Natural, rough
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-12%

## ANTICIPATED Technical Trail Features

- Tabletop jumps
- Step down jumps
- Shark fin jumps
- Kicker jumps
- Rollers
- Berms
- Rock gardens
- Rock drops

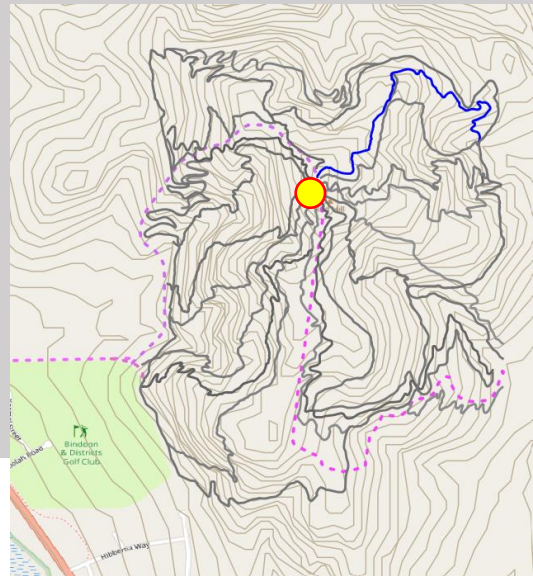




LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road

# TRAIL 13a

>MODERATE  
>DESCENDING FLOW



## TRAIL DESCRIPTION

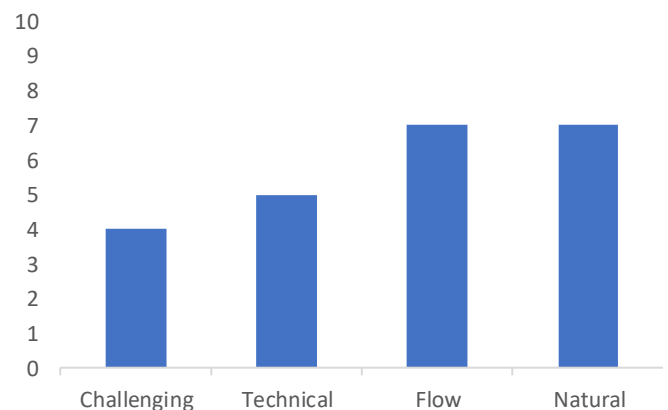
Trail 13 is a blue rated descent that terminates on the existing trail 6a. leading to green loop Trail 1.

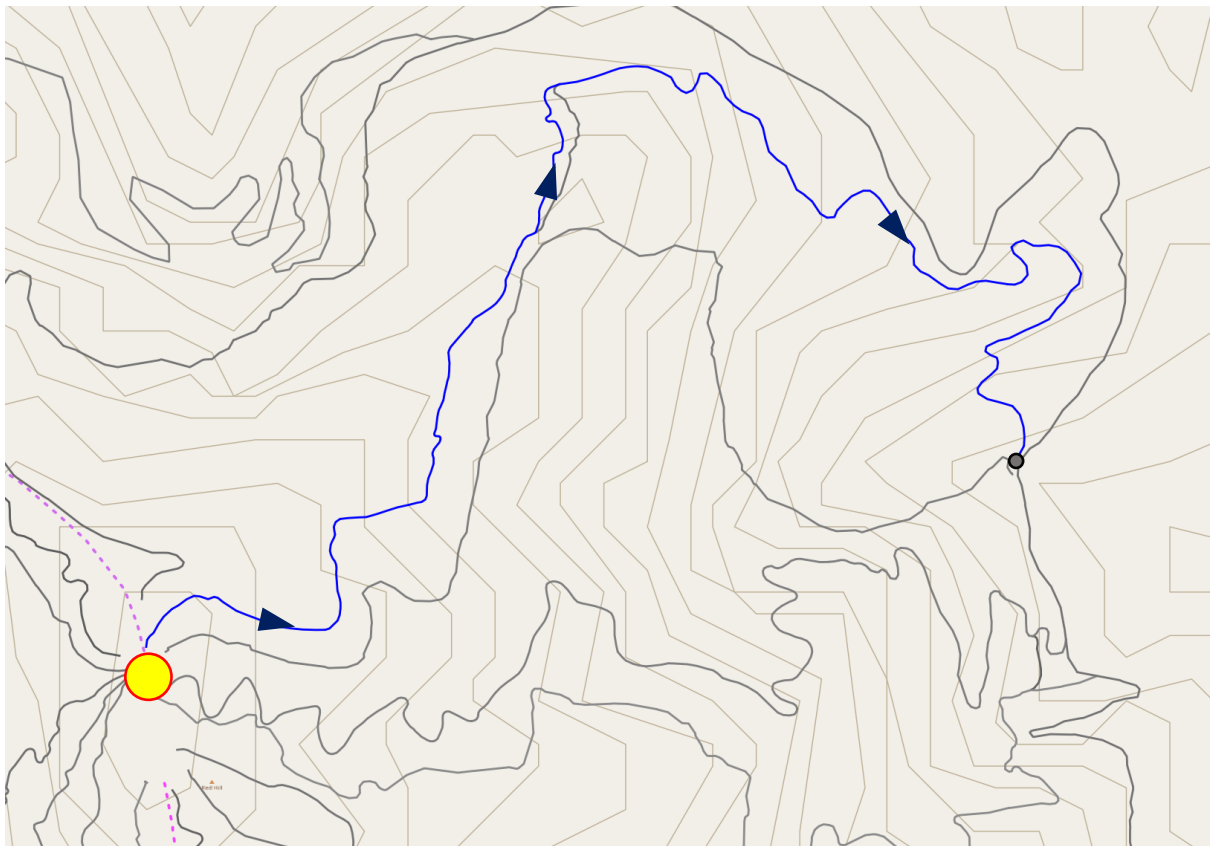
The topography dictates a similar style descent trail to T12- the top being quite open and featureless lends itself to machine built, higher speed flow style trail which then transitions to a more technical style, natural feeling trail as the terrain becomes more varied.

TRAIL IDENTIFICATION	Trail 13
CLASSIFICATION	Blue
TRAIL LENGTH	930m
TRAIL STYLE	Descending AM flow trail
BUILD STYLE	Machine built
FINISHED TRAIL WIDTH	600mm min.
TRAIL FINISH	Smooth hardpack (native soil)
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-9.6%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Tabletop jumps
- Step down jumps
- Shark fin jumps
- Kicker jumps
- Rollers
- Berms
- Rock gardens



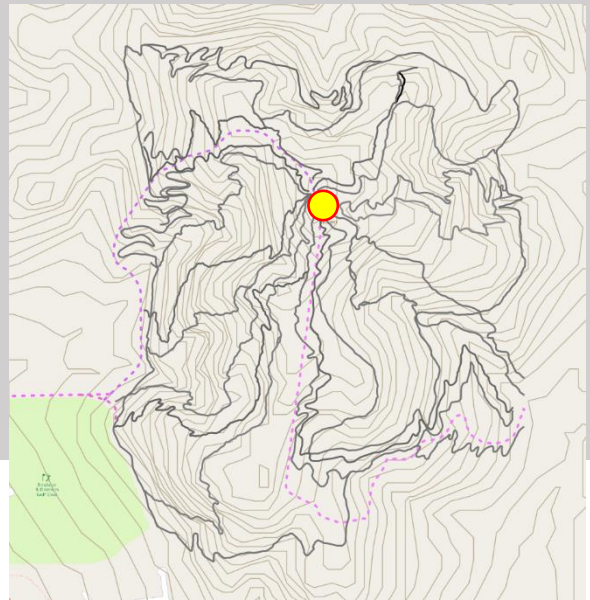
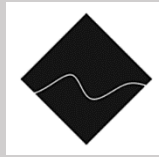


LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road



# TRAIL 13b

>DIFFICULT  
>DESCENDING TECHNICAL



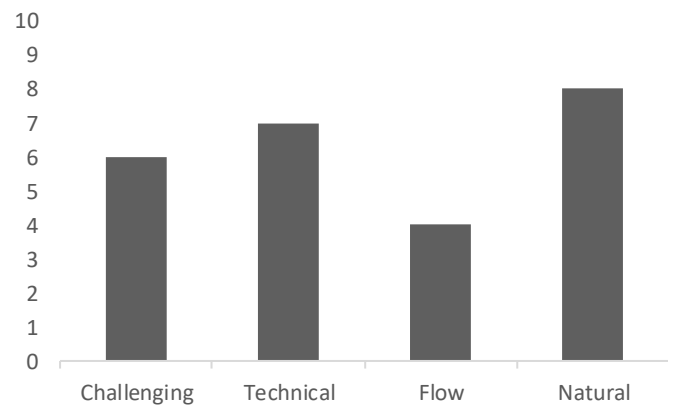
## TRAIL DESCRIPTION

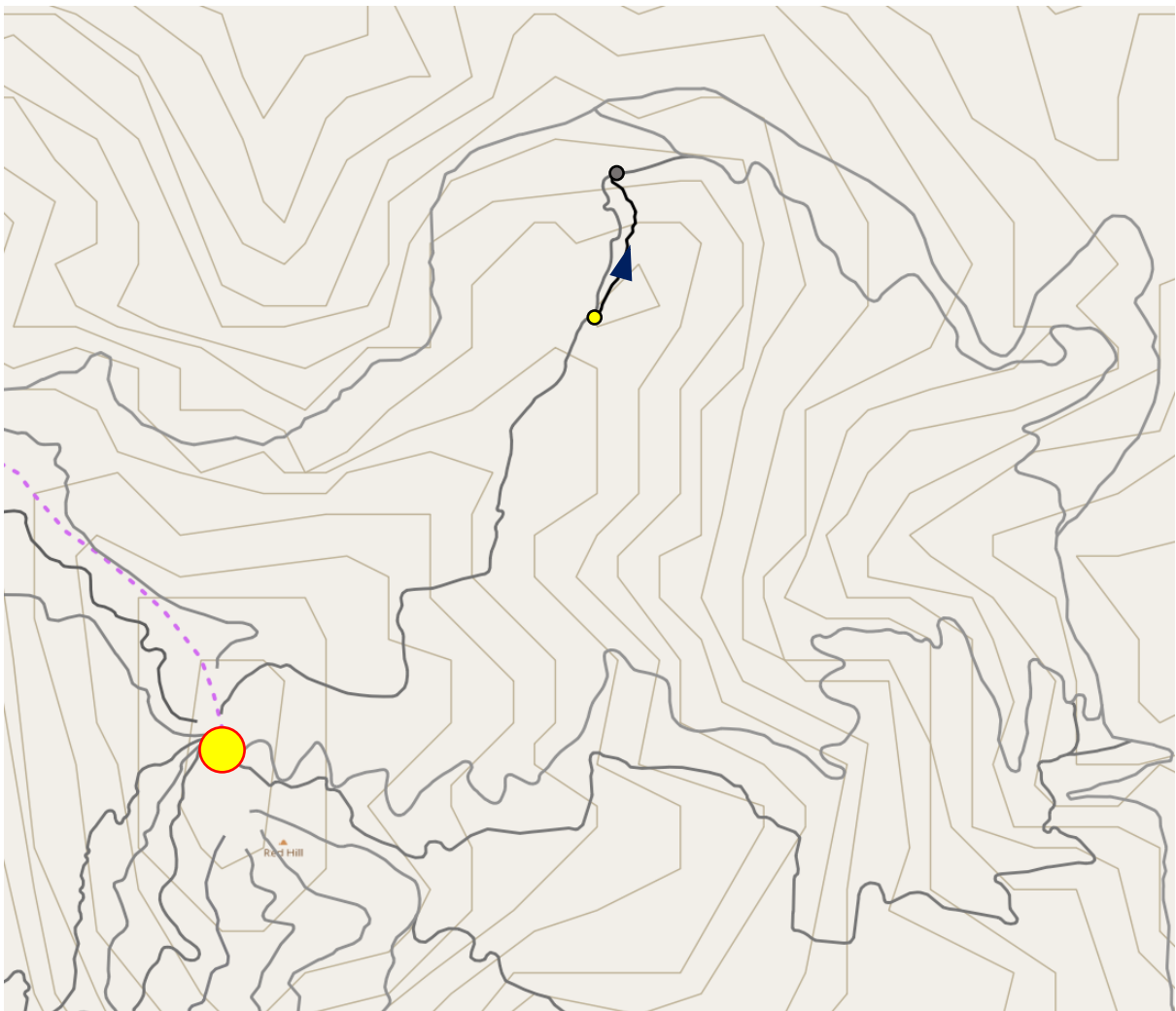
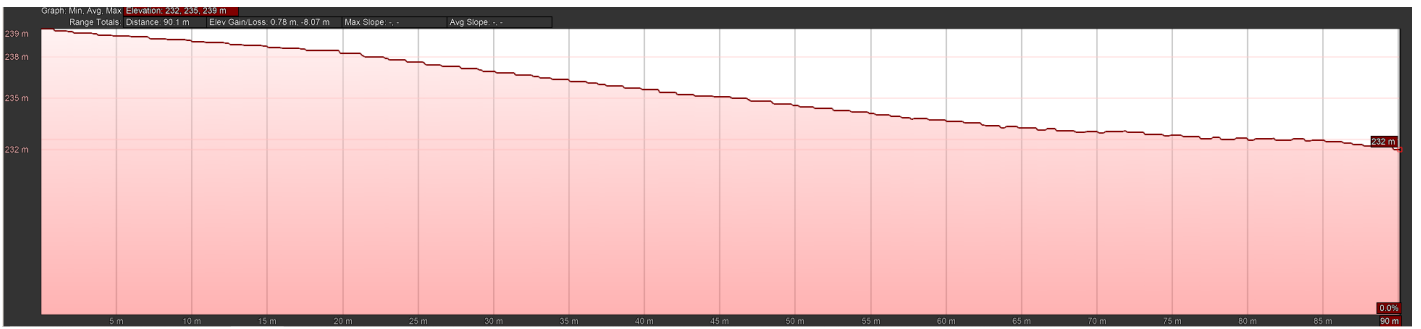
Trail 13 is a Black rated A-line option for trail 13 that traverses a long naturally occurring rock garden. There is room for a tabletop jump after the rock garden, before re-joining trail 13a.

TRAIL IDENTIFICATION	Trail 13
CLASSIFICATION	Black
TRAIL LENGTH	90m
TRAIL STYLE	Descending AM tech trail
BUILD STYLE	Machine built
FINISHED TRAIL WIDTH	300mm min.
TRAIL FINISH	Natural rough into smooth hardpack
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-8%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Tabletop jumps
- Rollers
- Rock gardens



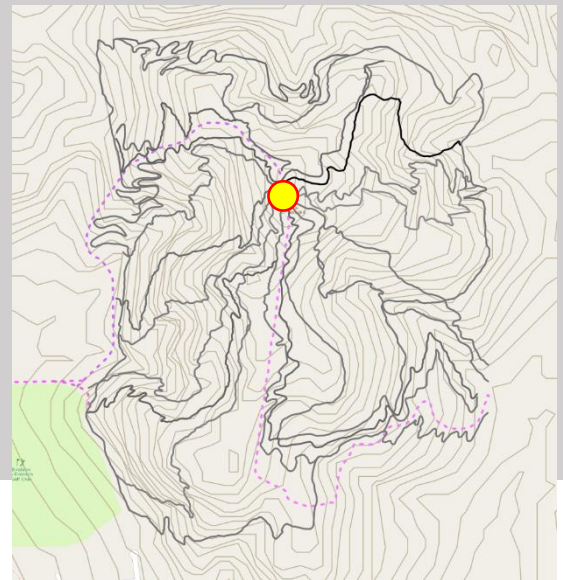
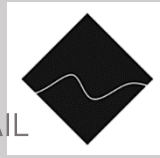


LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road

# TRAIL 14

>DIFFICULT

>DESCENDING ENDURO TRAIL



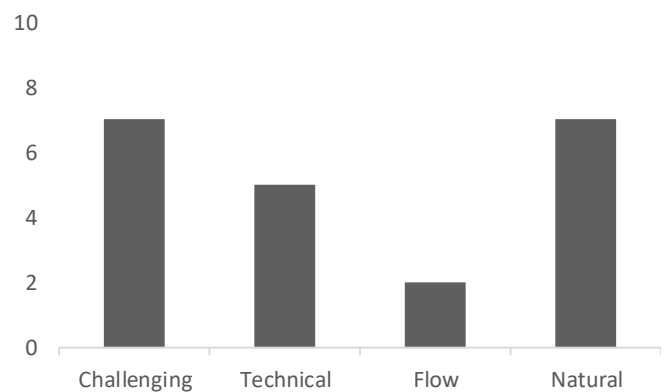
## TRAIL DESCRIPTION

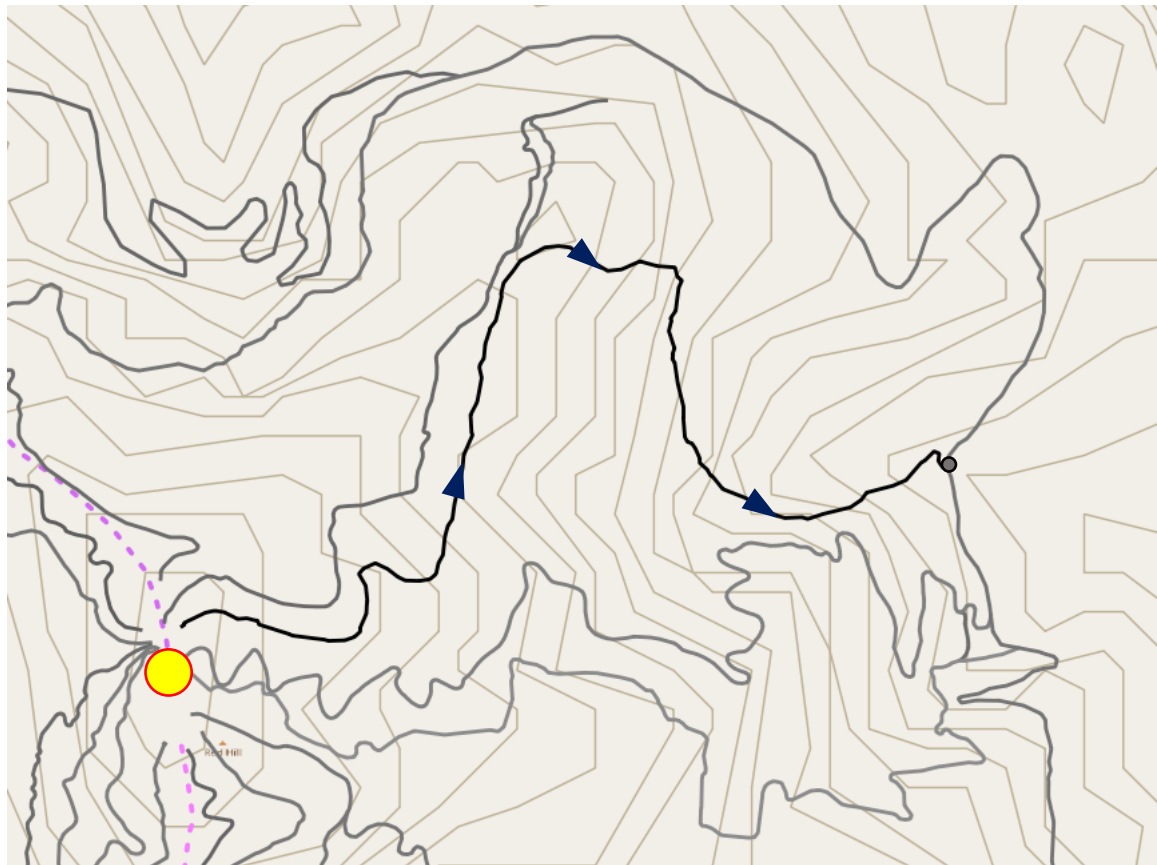
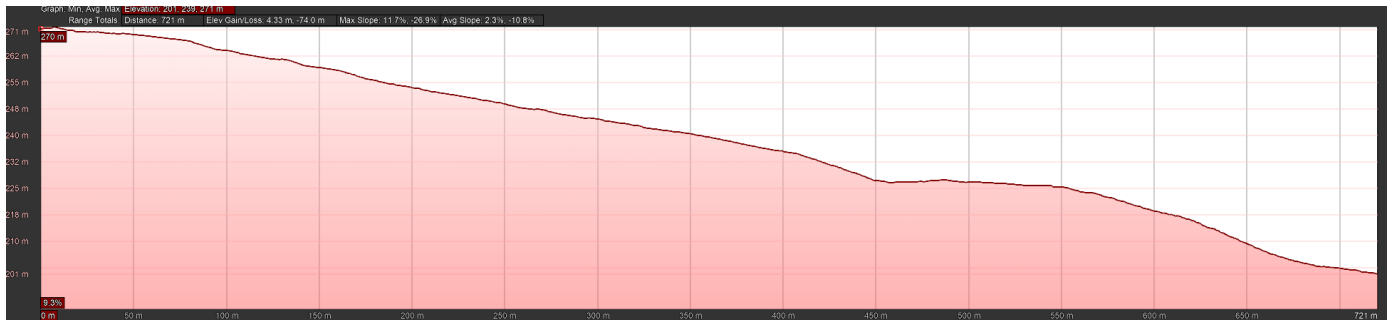
An enduro style trail alignment that will allow for fast step downs and steep rock chutes punctuated by short pinch climbs. This trail is anticipated as a more natural style trail without as many berms and machine built jumps.

TRAIL IDENTIFICATION	Trail 14
CLASSIFICATION	Black
TRAIL LENGTH	721m
TRAIL STYLE	Enduro
BUILD STYLE	Natural
FINISHED TRAIL WIDTH	300mm min.
TRAIL FINISH	Smooth hardpack (native soil)/rough
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-10.8%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Step down jumps
- Rock gardens
- Rock chutes

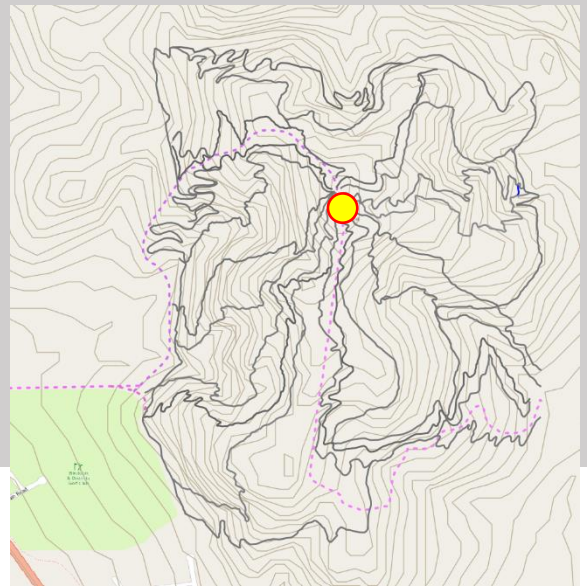
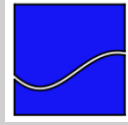




LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road

# TRAIL 15

>MODERATE  
>LINK TRAIL



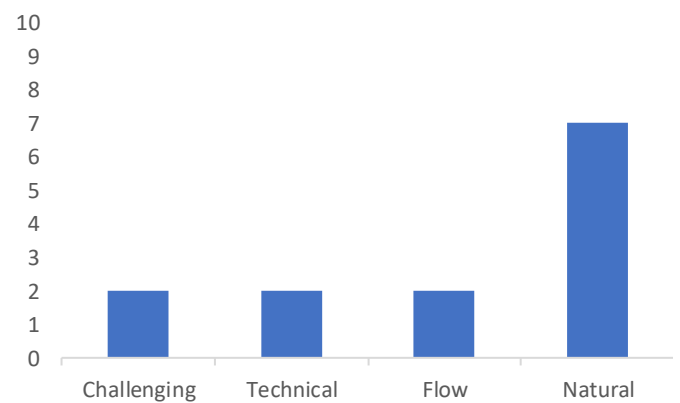
## TRAIL DESCRIPTION

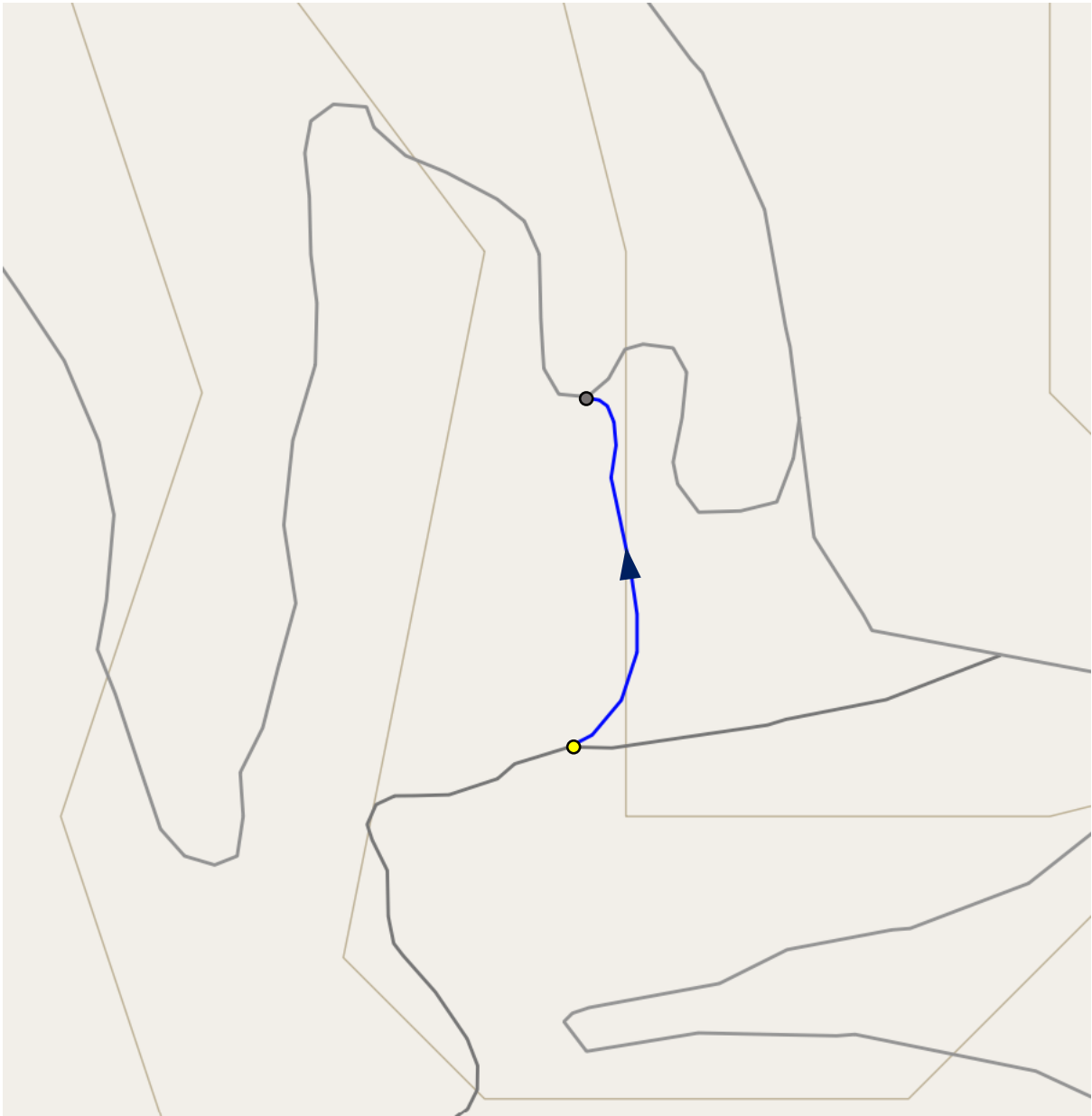
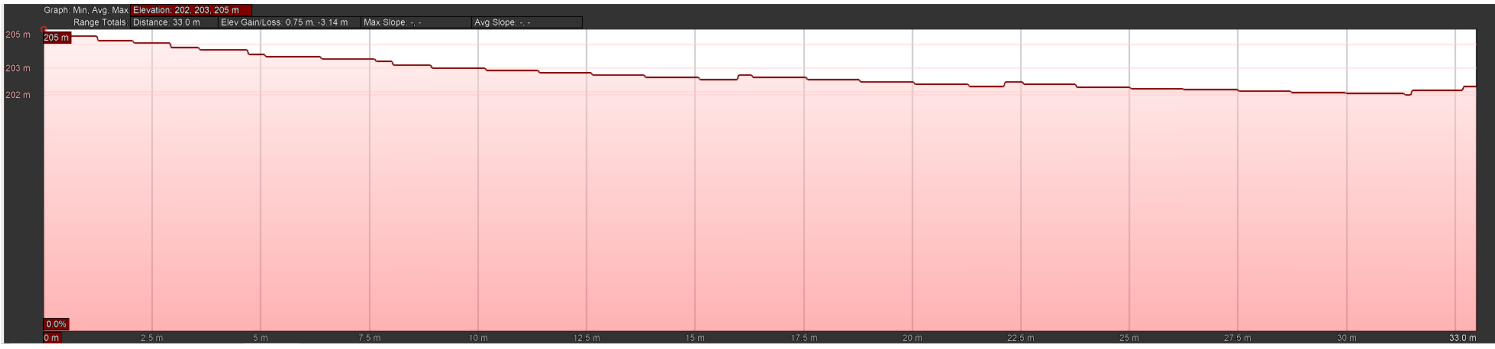
Trail 15 is a short section of link trail, linking the black rated Trail 12 descent to the existing Trail 6b climb back to the trail hub.

TRAIL IDENTIFICATION	Trail 15
CLASSIFICATION	Blue
TRAIL LENGTH	33m
TRAIL STYLE	XC style Link trail
BUILD STYLE	Natural finish hardpack, flow
FINISHED TRAIL WIDTH	600mm min.
TRAIL FINISH	Smooth hardpack (native soil)
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	0%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Rollers



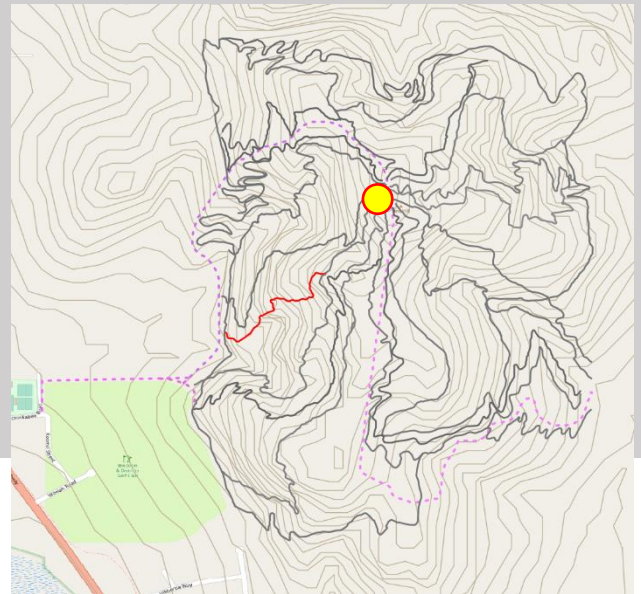
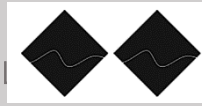


LEGEND			
	Green trail		Trail hub
	Blue trail		Trail finish
	Black trail		Trail start
	Double black trail		Shuttle road

# TRAIL 16

>EXTREME

>DESCENDING DH TRAIL



## TRAIL DESCRIPTION

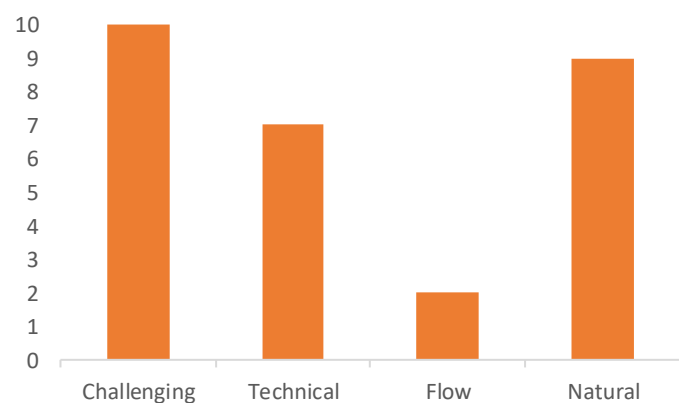
Trail 16 is a steep, technical off-shoot trail from the existing black rated Trail 8 (Stage 1). This trail passes thru extremely steep, rocky terrain and will only allow for a natural style, hand built trail for the majority of its length.

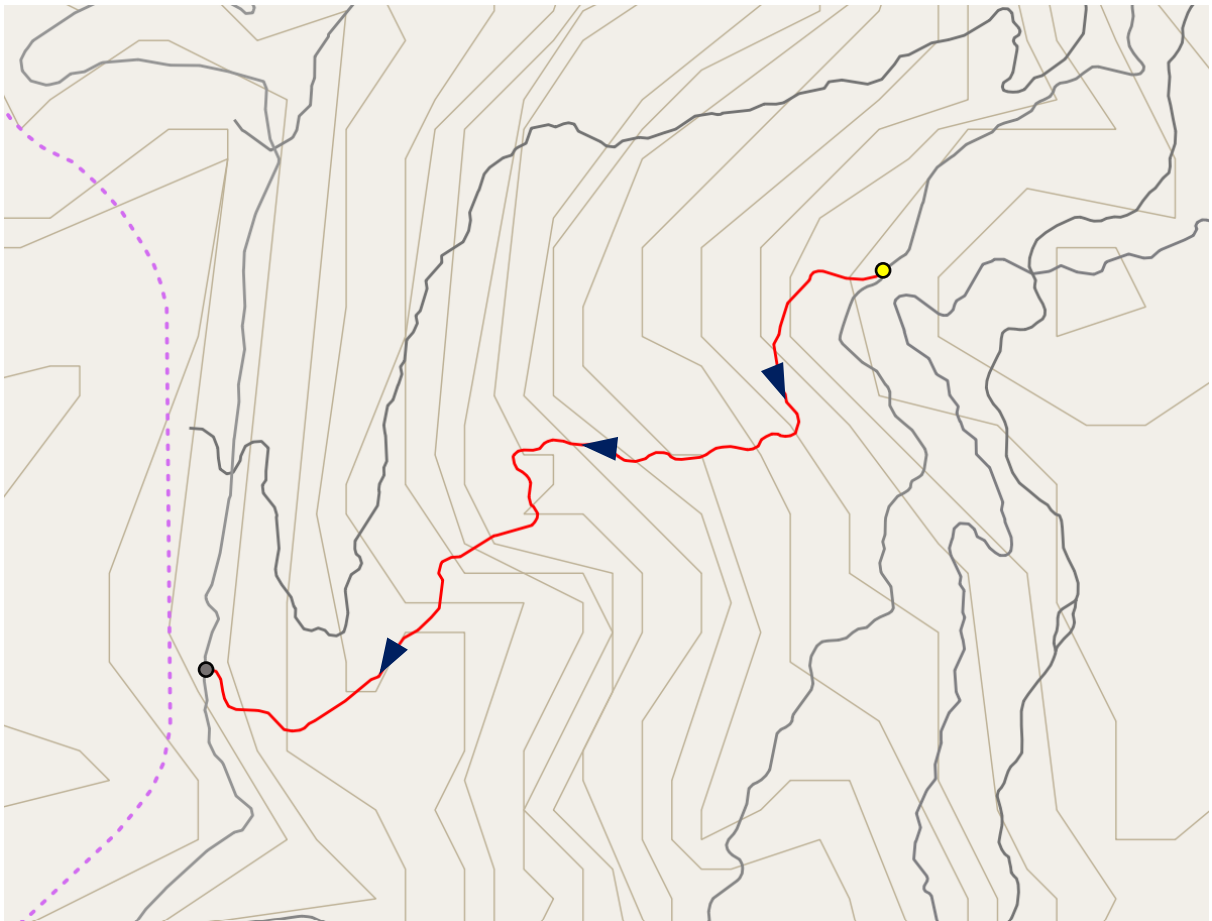
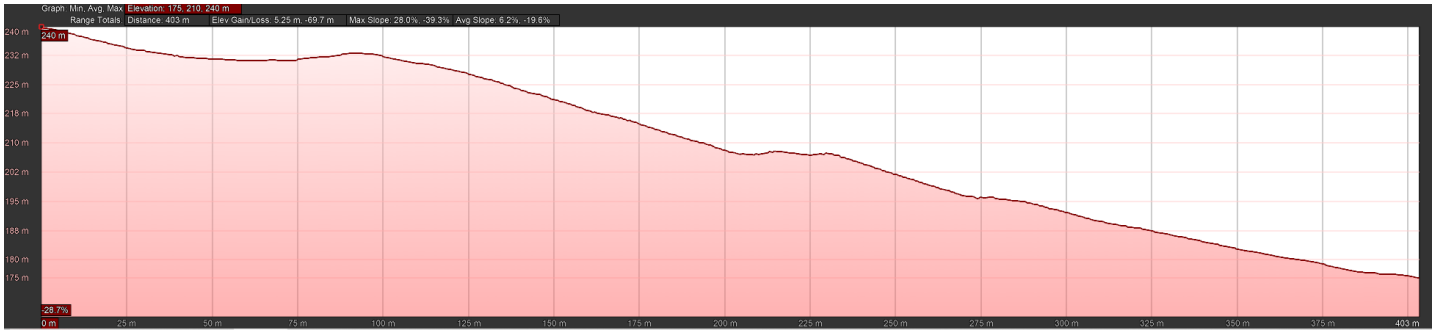
This trail can offer a significantly more challenging section to Trail 8, while ending in a similar location.

TRAIL IDENTIFICATION	Trail 16
CLASSIFICATION	Double black
TRAIL LENGTH	403m
TRAIL STYLE	Descending DH
BUILD STYLE	Natural
FINISHED TRAIL WIDTH	300mm min.
TRAIL FINISH	Natural, rough
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-19.6%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Rollers
- Rock gardens
- Rock drops



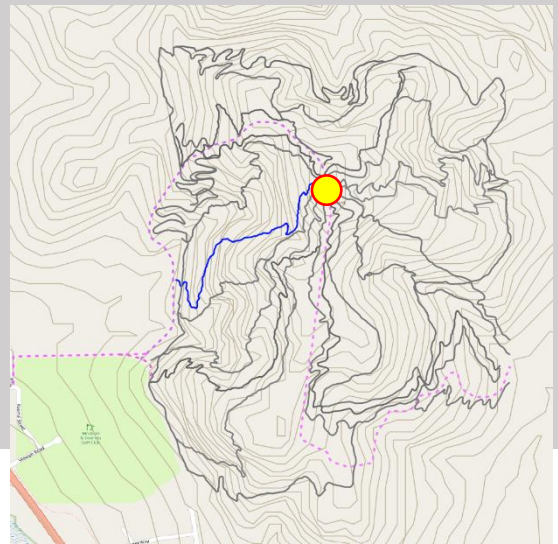
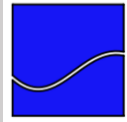


LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Shuttle road
	Double black trail		



# TRAIL 17

>MODERATE  
>AM DESCENT TRAIL



## TRAIL DESCRIPTION

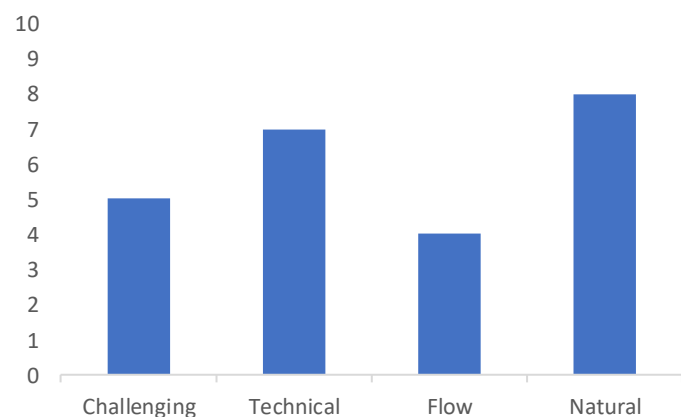
Trail 17 is an all-mountain/enduro style descent from the trail hub to the western edge of the park, with a short pinch climb mid-way down to vary the feel. It is envisaged to be a more natural and technical trail than a flow style trail. It is relatively steep alignment that will provide a challenging base for blue level riders to expand their skills.

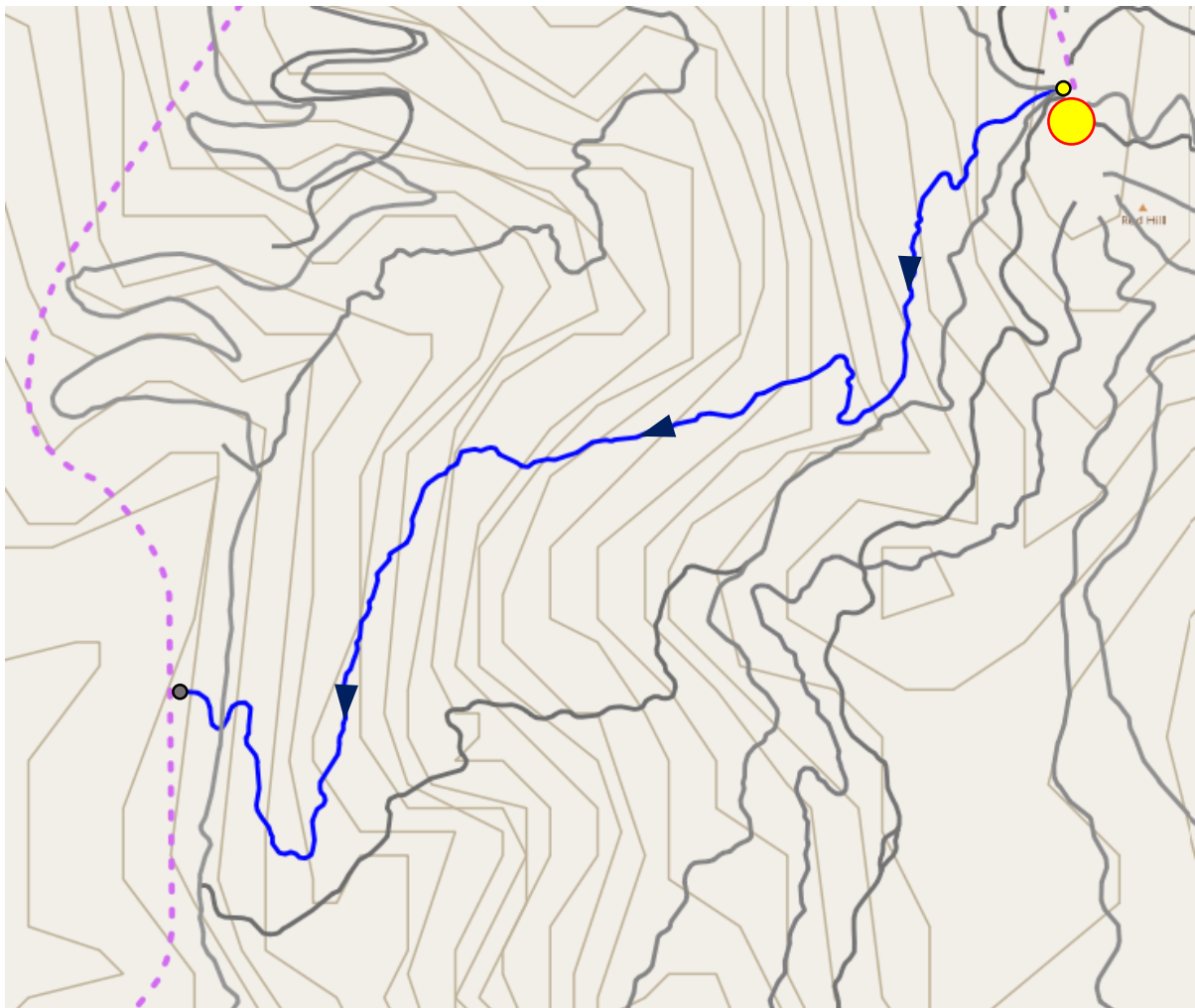
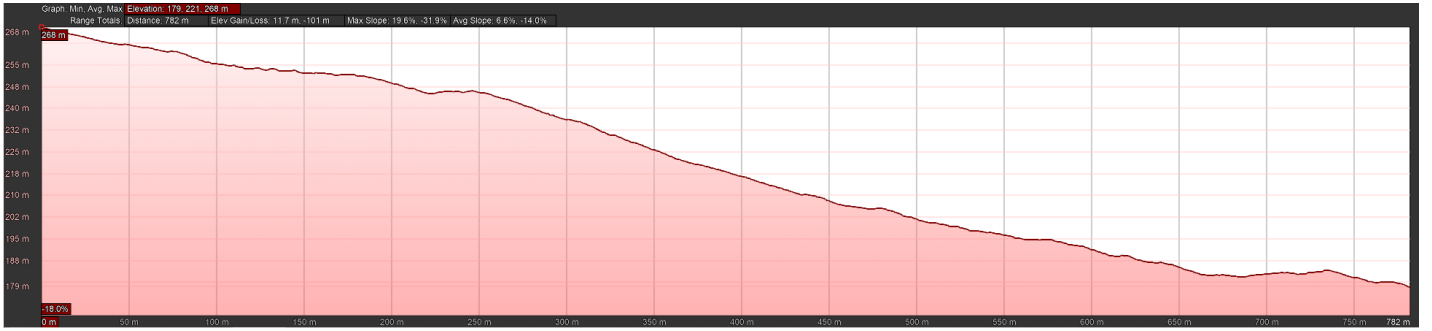
*Note. This trail appears to cross T1 at its base. This reflects the 'as constructed' alignment of T1 (not yet captured). The finished trail would not cross and would instead finish where it meets T1.*

TRAIL IDENTIFICATION	Trail 17
CLASSIFICATION	Blue
TRAIL LENGTH	782m
TRAIL STYLE	All mountain
BUILD STYLE	Natural/Technical
FINISHED TRAIL WIDTH	600mm min.
TRAIL FINISH	Natural, rough
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-14%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Rollers
- Tabletop jumps
- Step down jumps
- Rock gardens
- Berms

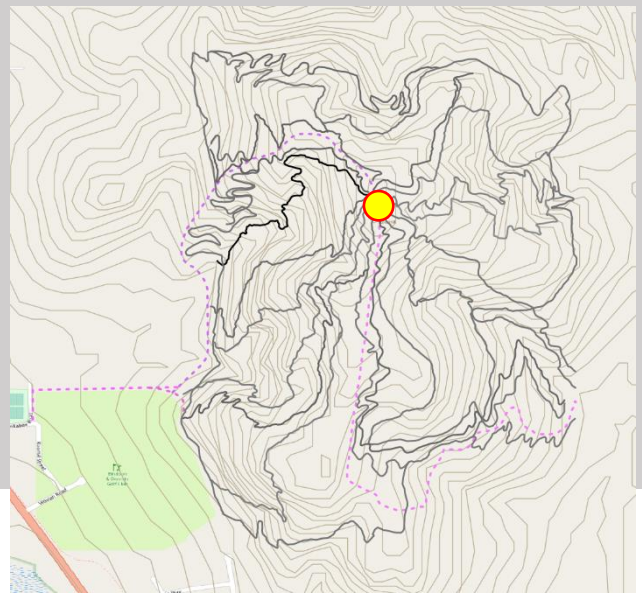
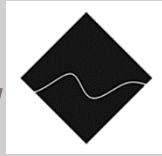




LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road

# TRAIL 18

>DIFFICULT  
>DESCENDING FLOW



## TRAIL DESCRIPTION

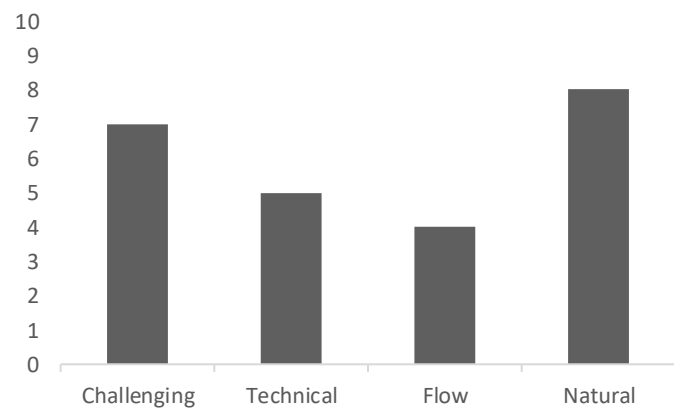
Trail 18 is a Black rated technical all-mountain style descent that traverses the hill close to the descending jump tracks. It intentionally crosses a large rock slab, rock rolls/drops and rock gardens to maximise the use of natural features before opening into flowing downhill switchback berms through a gully to finish.

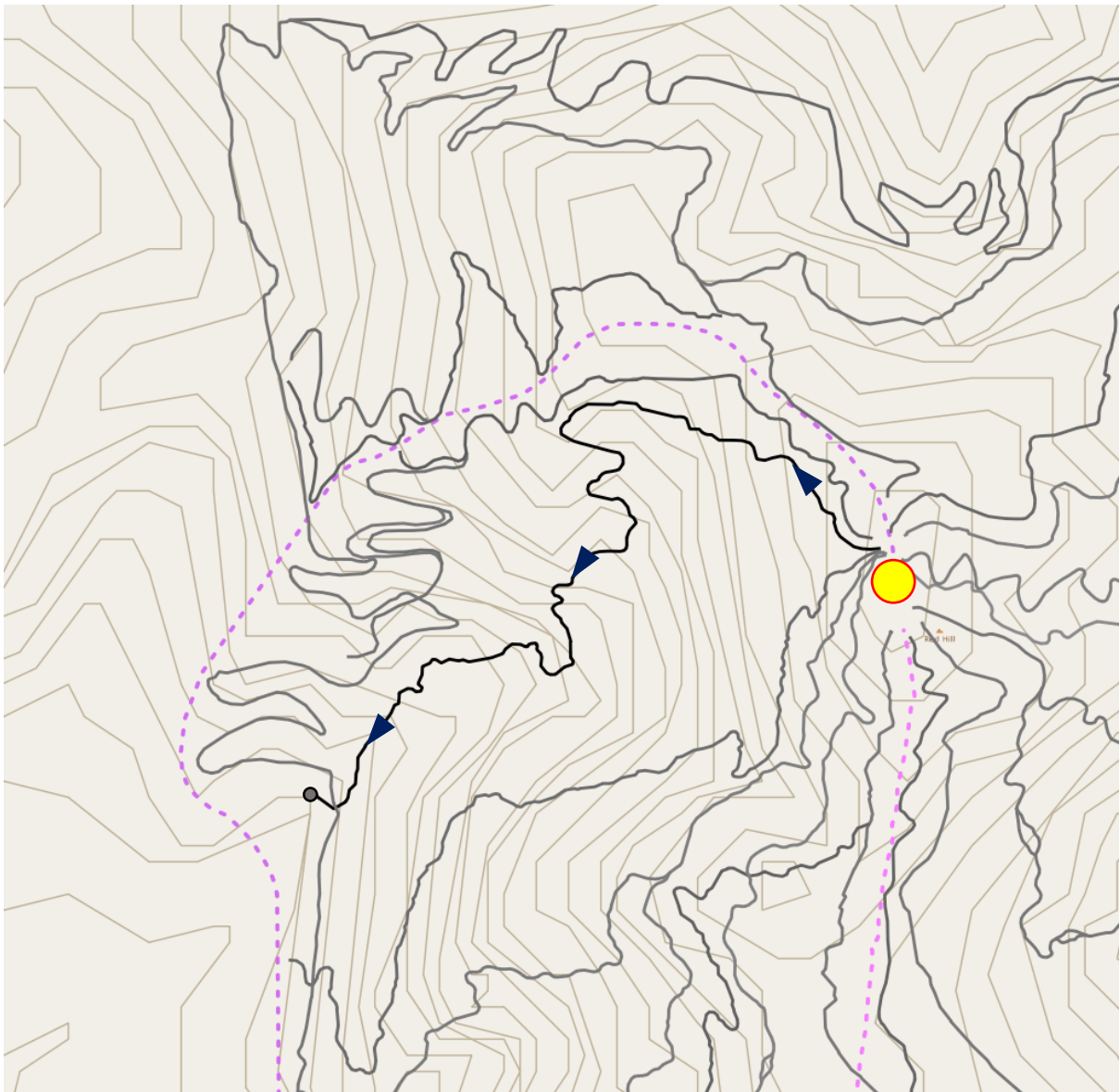
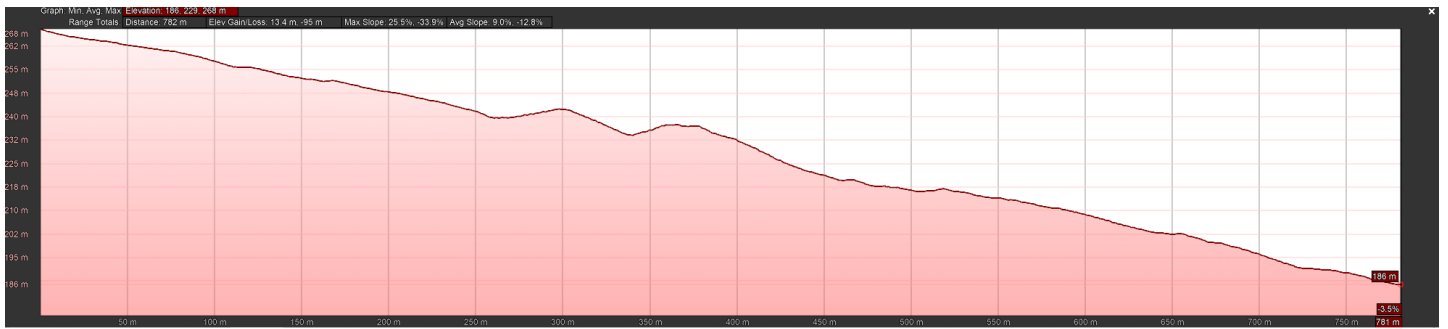
*Note. This trail appears to cross T1 at its base. This reflects the 'as constructed' alignment of T1 (not yet captured). The finished trail would not cross and would instead finish where it meets T1.*

TRAIL IDENTIFICATION	Trail 18
CLASSIFICATION	Black
TRAIL LENGTH	782m
TRAIL STYLE	Descending AM Flow trail
BUILD STYLE	Natural finish hardpack, flow
FINISHED TRAIL WIDTH	300mm min.
TRAIL FINISH	Rocky, natural, rough
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-12.8%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Tabletop jumps
- Step up jumps
- Step down jumps
- Rollers
- Rock gardens
- Rock slab



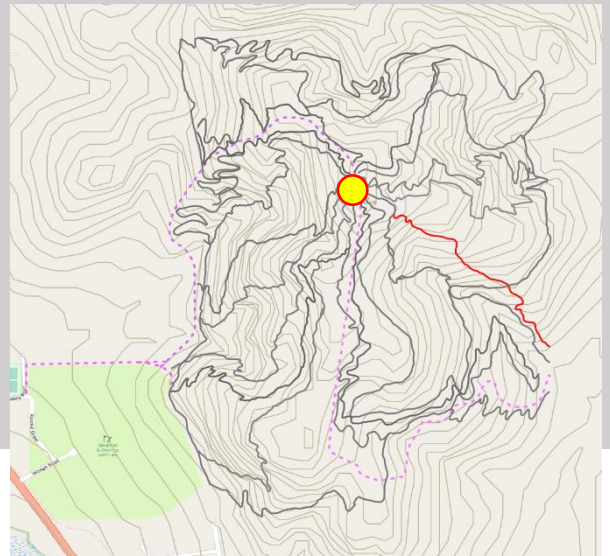


LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road

# TRAIL 19

>EXTREME

>DESCENDING DH TRAIL



## TRAIL DESCRIPTION

Trail 19 is a double black rated DH style descent from the hub to the eastern side of the park. The alignment contains the chance to utilise large, challenging rock drops, long doubles, and a very fast route down the hill.

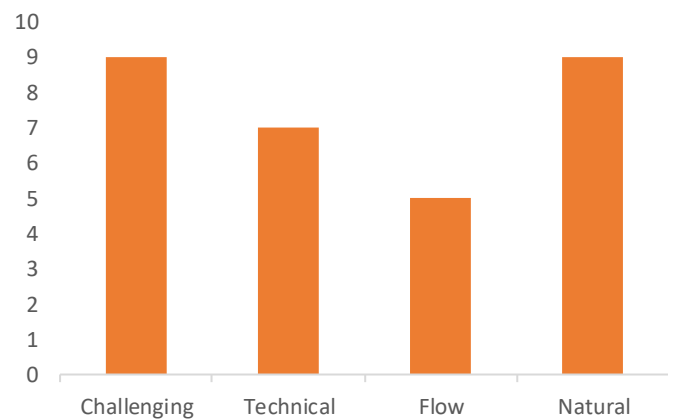
The alignment has the potential for a wooden “livestock ramp” drop feature over a rocky outcrop close to the end of the trail.

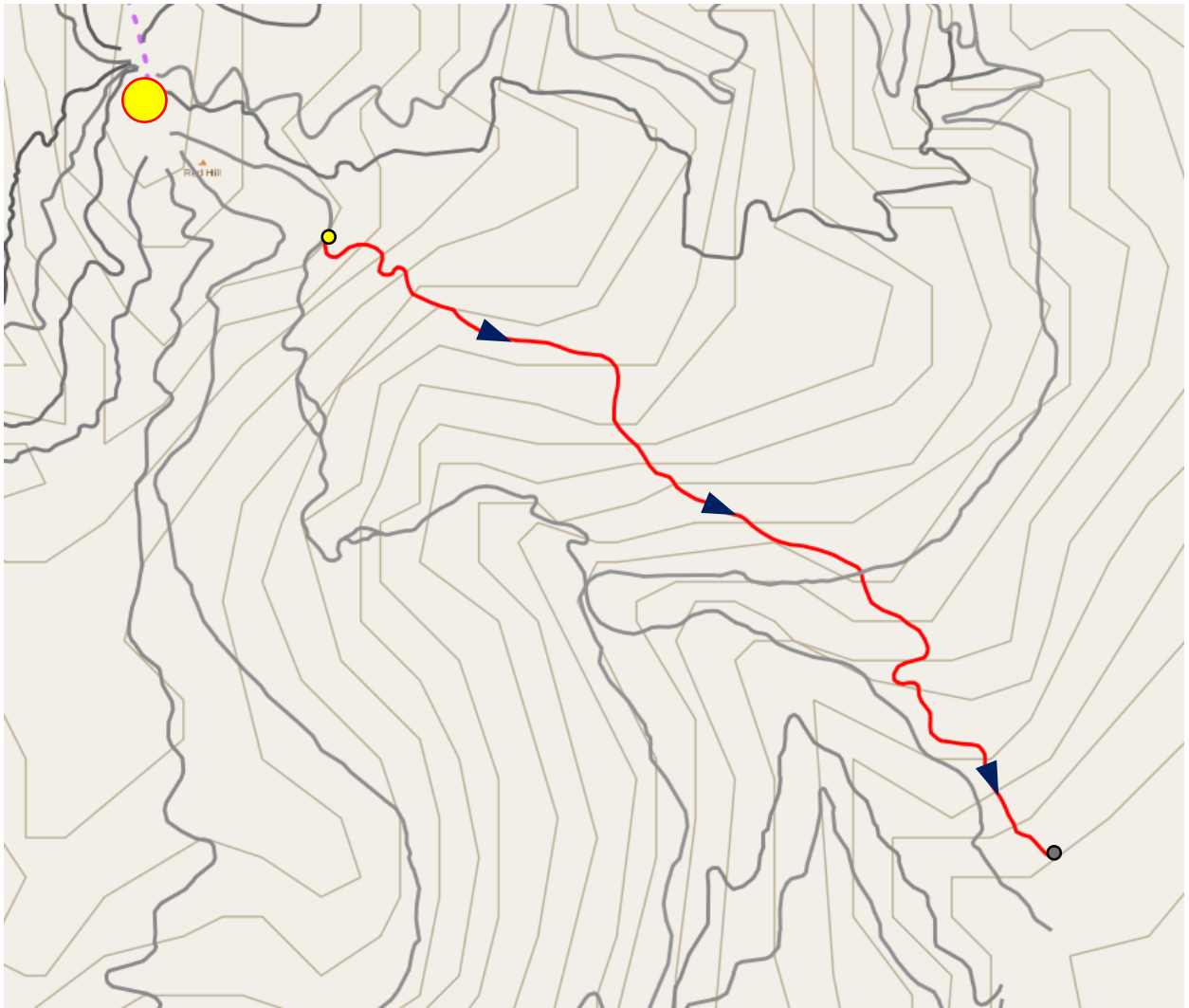
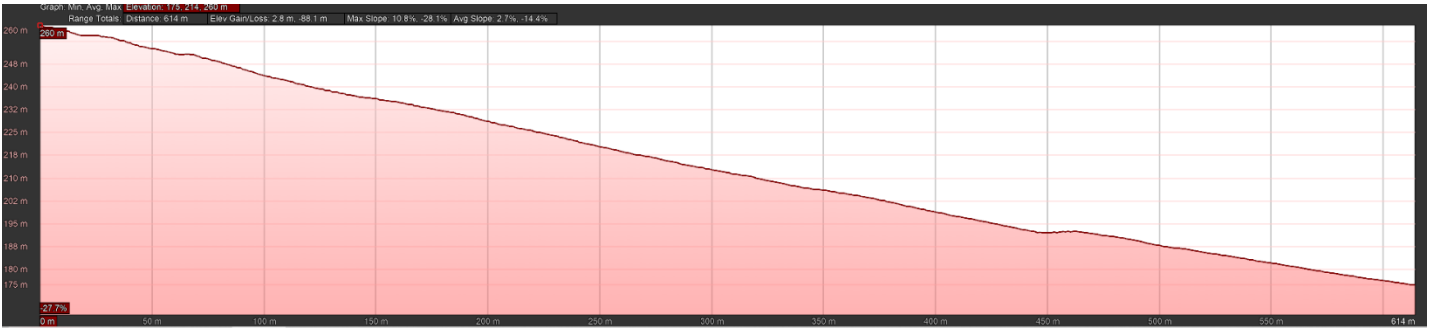
Trail 19 has a short, shared start with the existing black rated Trail 5 thru the largely open, featureless paddock near the trail hub on the eastern side of the hill.

TRAIL IDENTIFICATION	Trail 19
CLASSIFICATION	Double black
TRAIL LENGTH	403m
TRAIL STYLE	Descending DH
BUILD STYLE	Natural
FINISHED TRAIL WIDTH	300mm min.
TRAIL FINISH	Rocky, natural, rough
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-14.4%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Rollers
- Rock gardens
- Rock drops, step downs
- Kicker jumps
- Berms

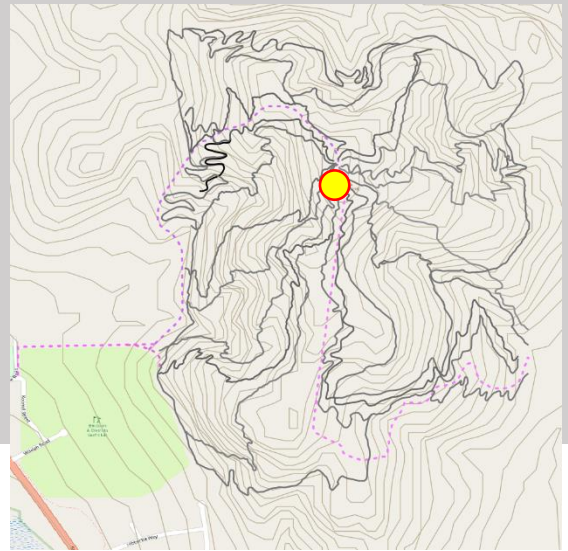
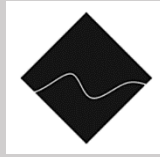




LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road

# TRAIL 20

>DIFFICULT  
>SLOPESTYLE/FREERIDE



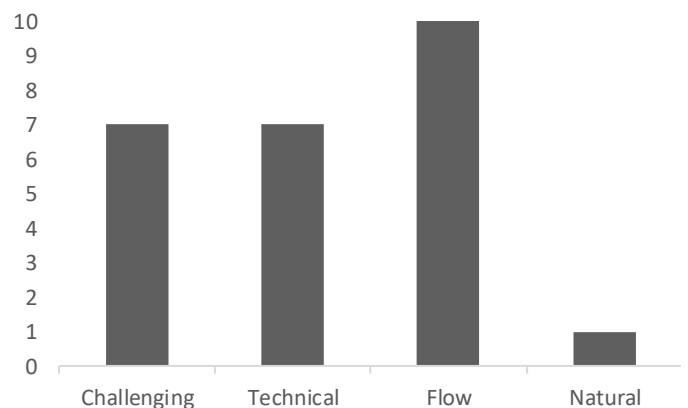
## TRAIL DESCRIPTION

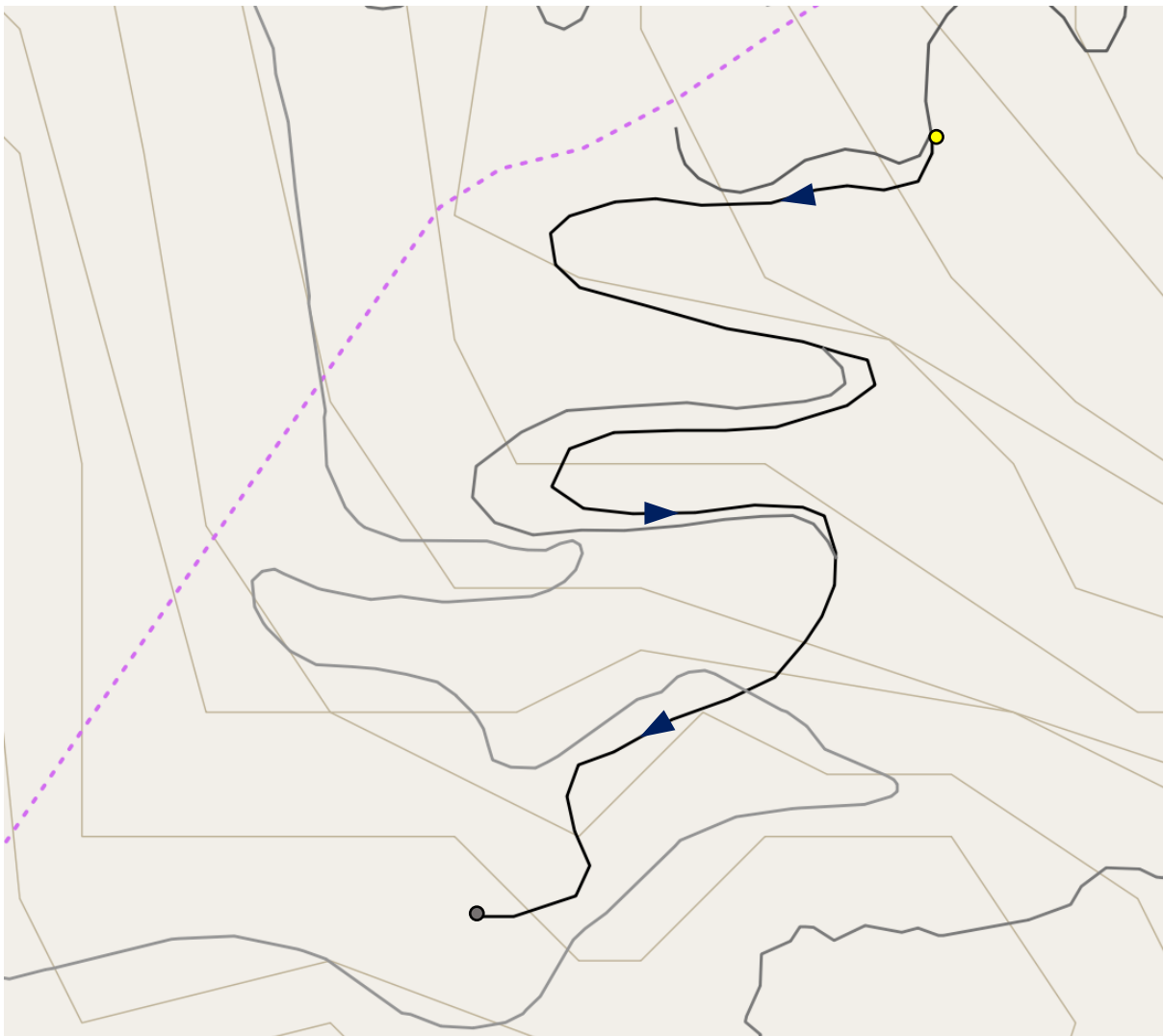
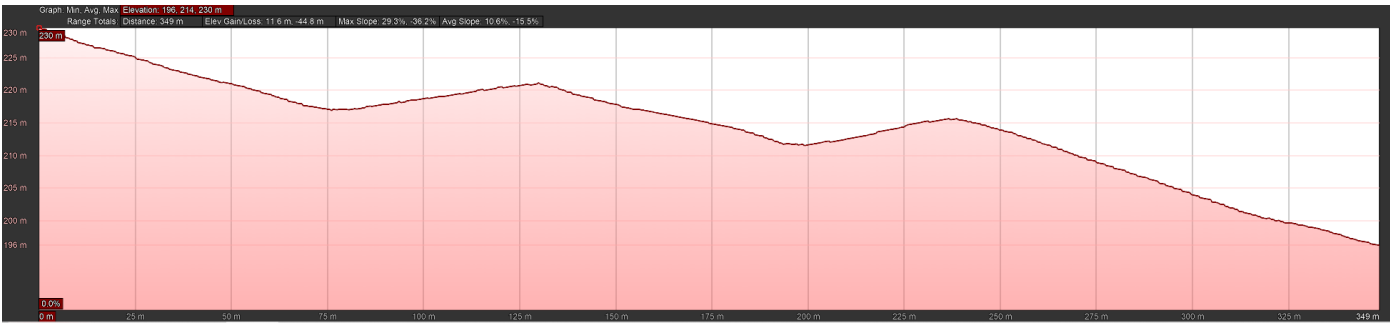
Trail 19 is a Black rated slopestyle/freeride line that is a continuation of the blue rated jump Trail 11. It is intended to offer larger jumps and a more technical variety of jump styles as a progression of skills for riders. An on-off style feature designed to look like, or utilising a cattle truck, could act as a filter between the blue and black lines where riders jump onto the trailer and drop off the other end. This type of iconic obstacle, placed here, would be visible from the town and could act as the defining feature for the park. A start hut in the style of a farm/shearing shed could also be incorporated into this design.

TRAIL IDENTIFICATION	Trail 20
CLASSIFICATION	Black
TRAIL LENGTH	349m
TRAIL STYLE	Slopestyle/Freeride
BUILD STYLE	Smooth machine built
FINISHED TRAIL WIDTH	300mm min.
TRAIL FINISH	Smooth hardpack (native soil)
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-15.5%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Tabletop jumps
- Step up jumps
- Step down jumps
- Shark fin jumps
- Whale tails
- Hipped jumps
- Rollers

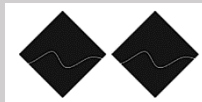




LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road

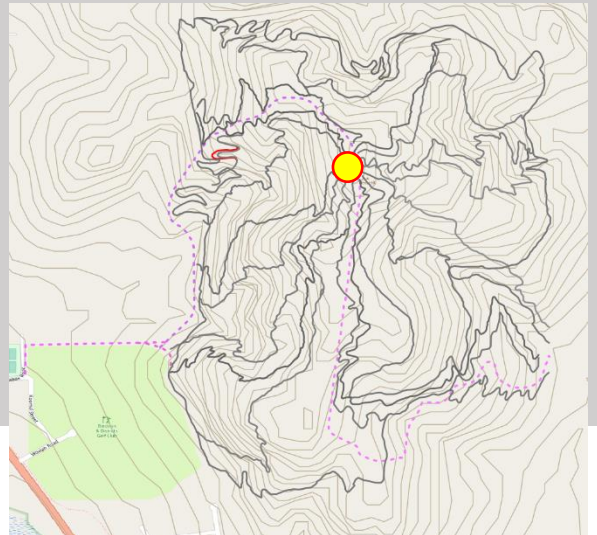


# TRAIL 20b



>EXTREME

>SLOPESTYLE/FREERIDE



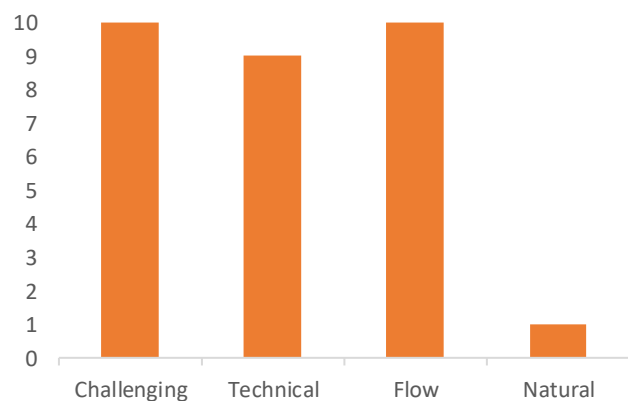
## TRAIL DESCRIPTION

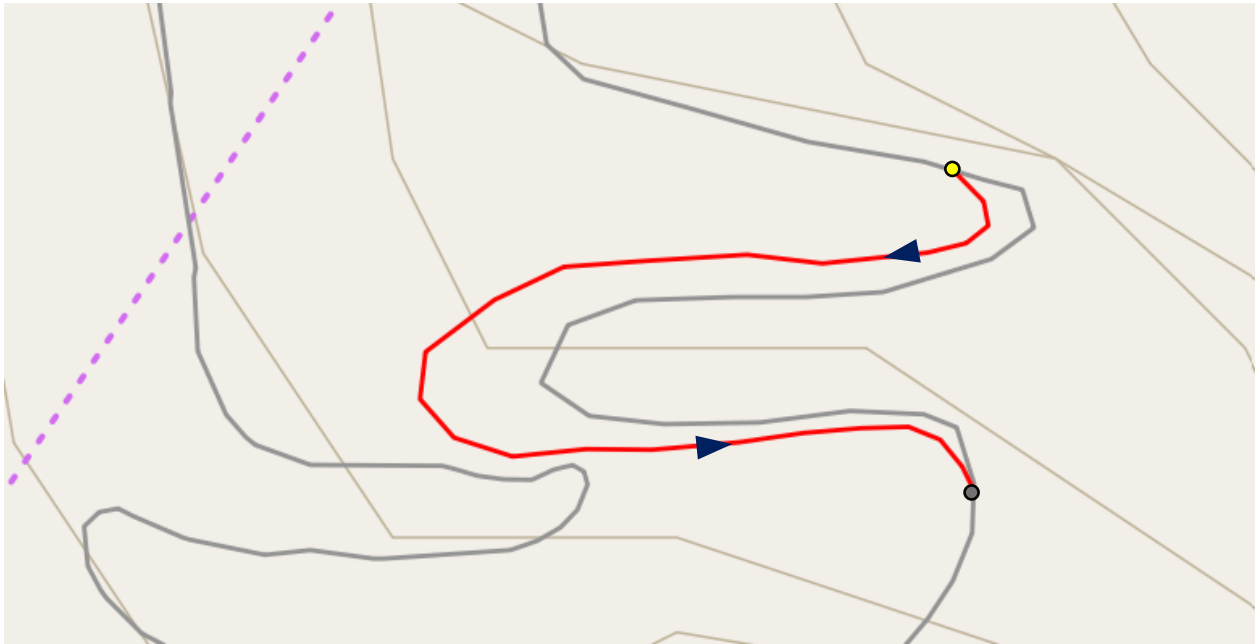
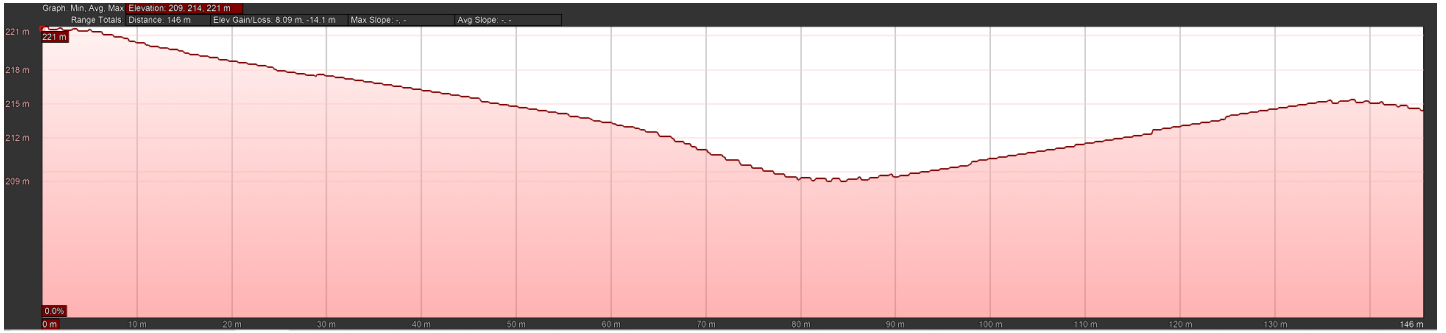
Trail 20b is an off-shoot line from the black slopestyle/freeride Trail 20 and is intended to accommodate the largest, most challenging jumps in the park.

TRAIL IDENTIFICATION	Trail 20b
CLASSIFICATION	Double black
TRAIL LENGTH	146m
TRAIL STYLE	Descending jump line
BUILD STYLE	Smooth machine built
FINISHED TRAIL WIDTH	300mm min.
TRAIL FINISH	Smooth hardpack (native soil)
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	-15%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Step up jumps
- Shark fin jumps
- Hipped jumps
- Whale tails
- Kicker jumps

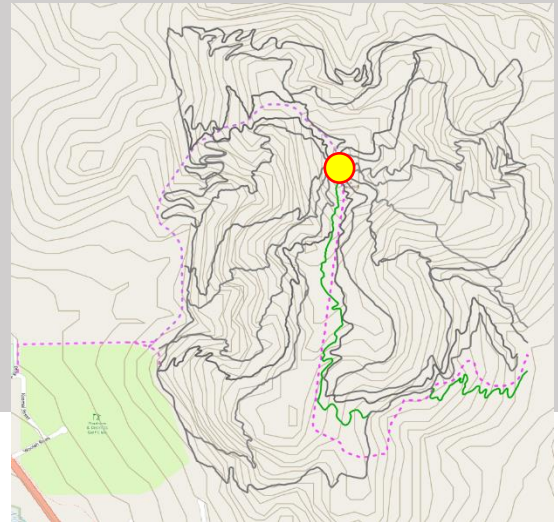




LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road

# TRAIL 21

>EASY  
>CLIMBING TRAIL



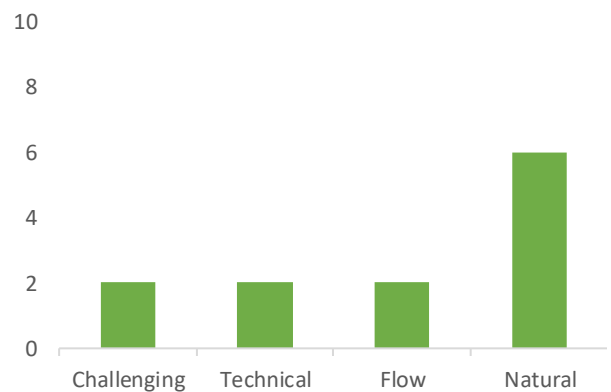
## TRAIL DESCRIPTION

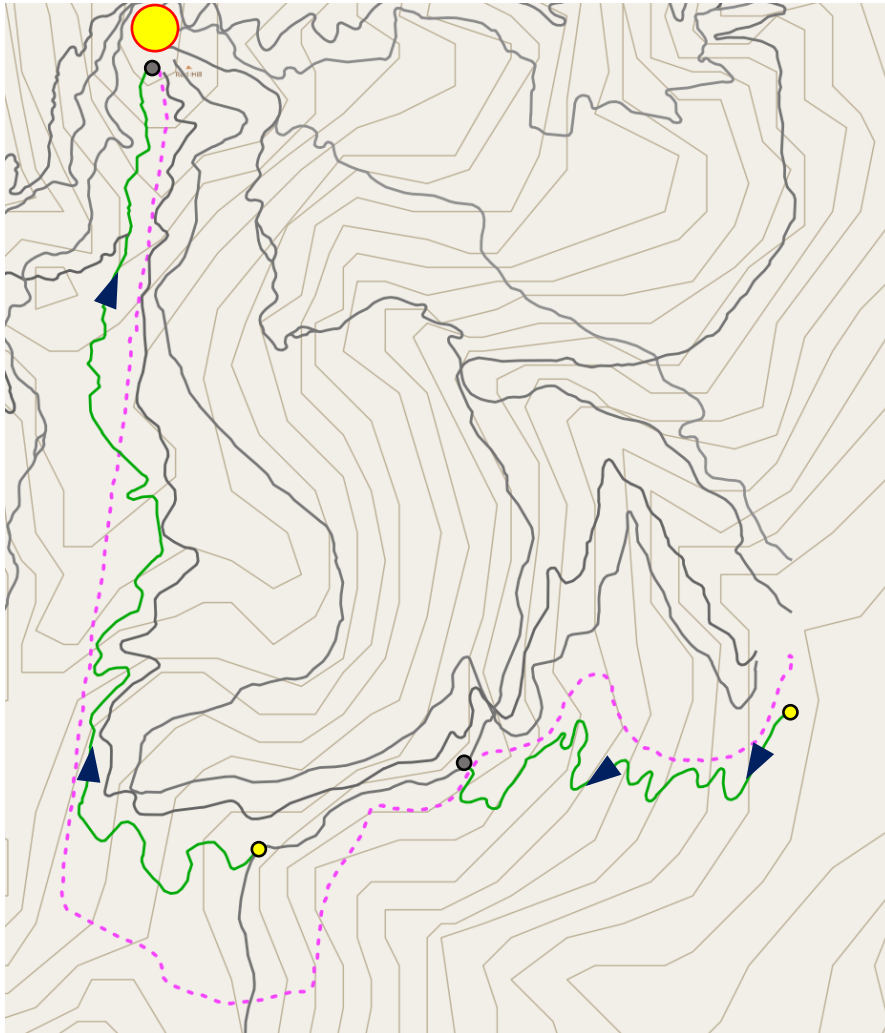
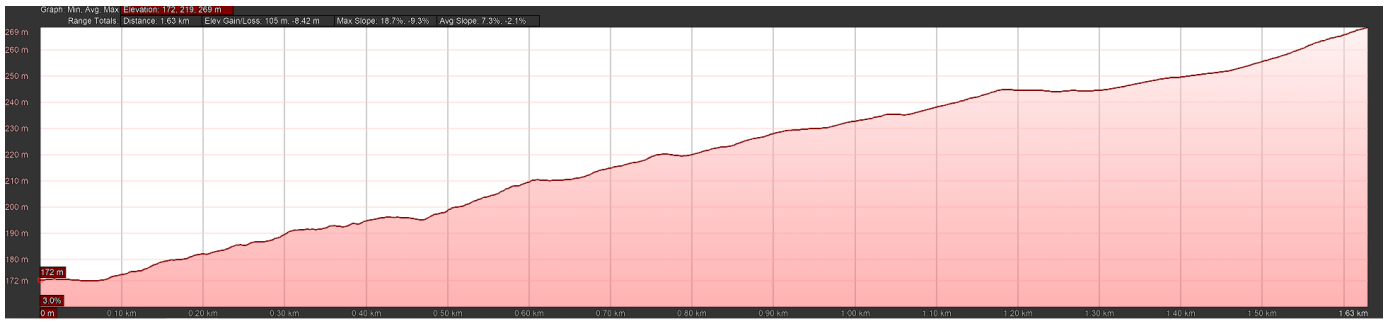
Trail 21 is a long, gentle climb back to the main trail hub from the bottom of the descent trails in the south eastern corner of the hill. It merges with Trail 1 for a short distance before splitting again and ascending alongside the vehicle access trail. Some of the Stage 1 trails are currently undergoing assessment for their potential as adaptable trails. This trail is another candidate that could be built to meet these guidelines.

TRAIL IDENTIFICATION	Trail 21
CLASSIFICATION	Green
TRAIL LENGTH	1503m (541m + 962m)
TRAIL STYLE	Climbing trail
BUILD STYLE	Smooth machine built
FINISHED TRAIL WIDTH	900mm min.
TRAIL FINISH	Smooth hardpack (native soil)
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	7%

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Rollers

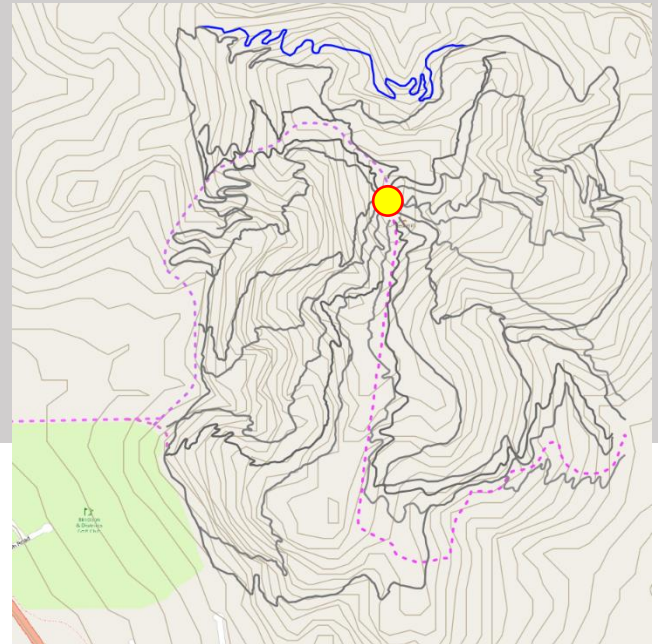
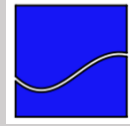




LEGEND			
	Green trail		Trail hub
	Blue trail		Trail finish
	Black trail		Trail start
	Double black trail		Shuttle road

# TRAIL 22

>MODERATE  
>XC TRAIL



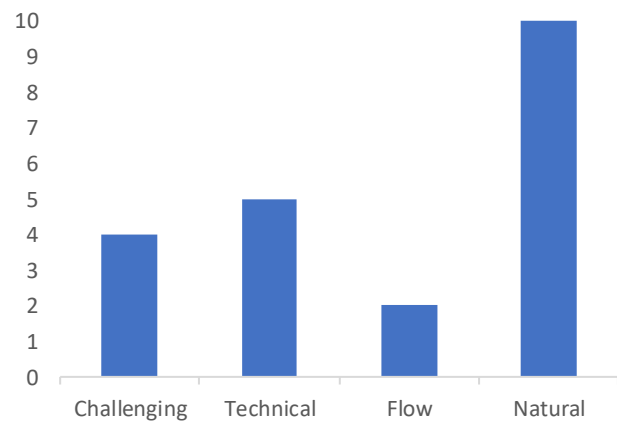
## TRAIL DESCRIPTION

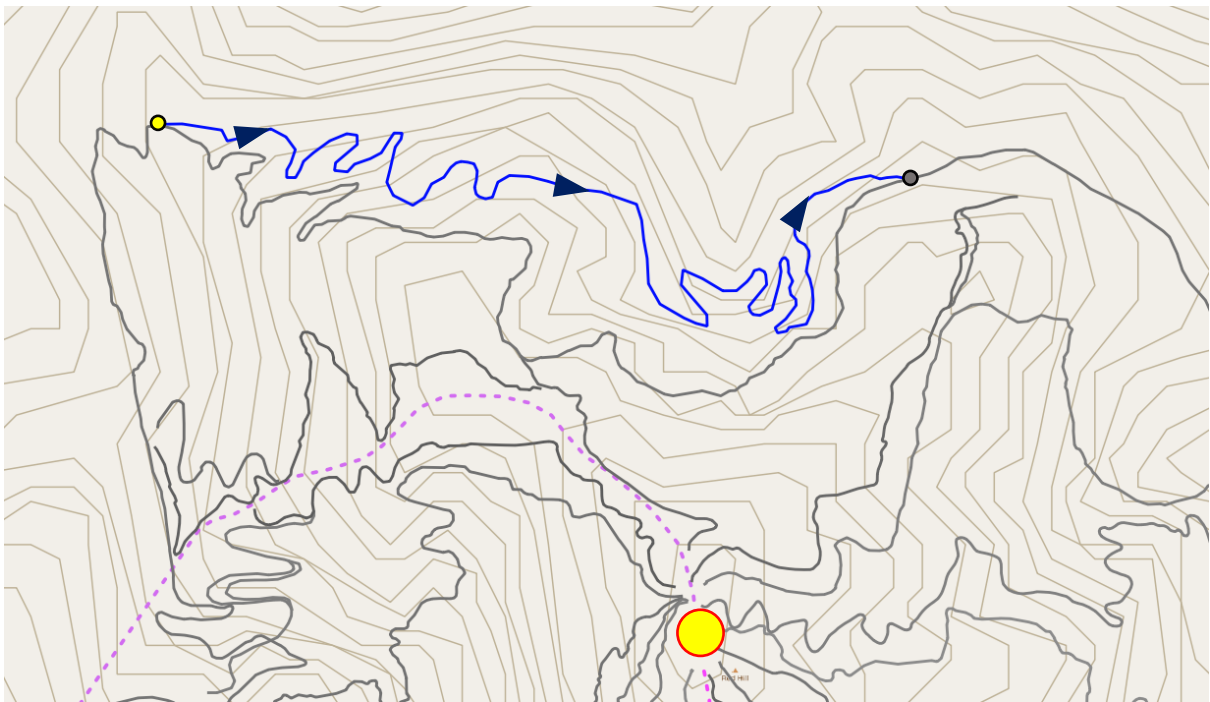
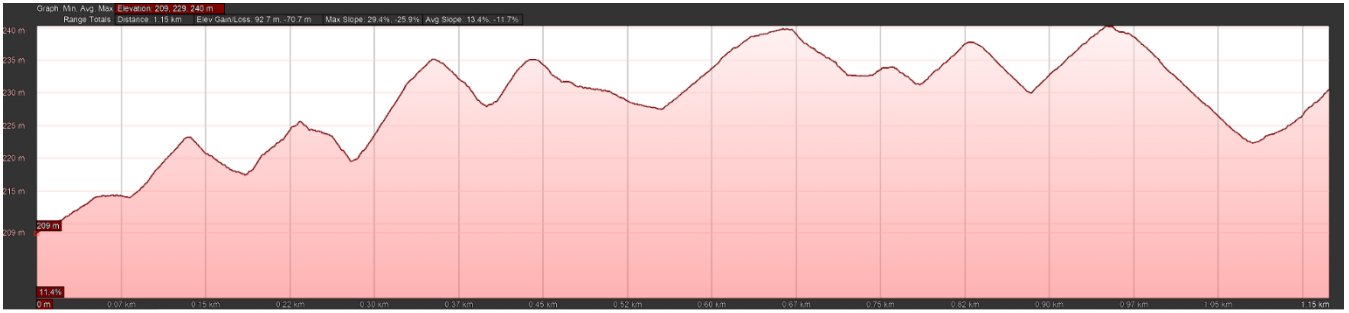
Trail 22 is blue rated off-shoot from the green Trail 1. It hugs the property boundary following wilder terrain and incorporating a steep descent with many natural rock features, before leading into a short punchy climb back up to the green loop.

TRAIL IDENTIFICATION	Trail 22
CLASSIFICATION	Blue
TRAIL LENGTH	1138m
TRAIL STYLE	XC
BUILD STYLE	Natural, rough
FINISHED TRAIL WIDTH	600mm min.
TRAIL FINISH	Natural, rough
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	n/a

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Rollers
- Rock gardens
- Rock rollovers

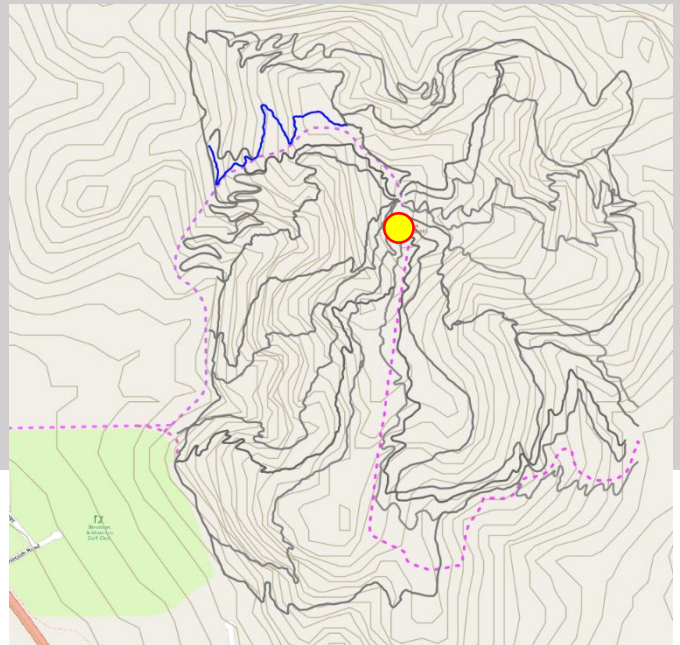
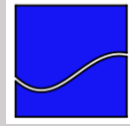




LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road

# TRAIL 23

>MODERATE  
>XC CLIMB



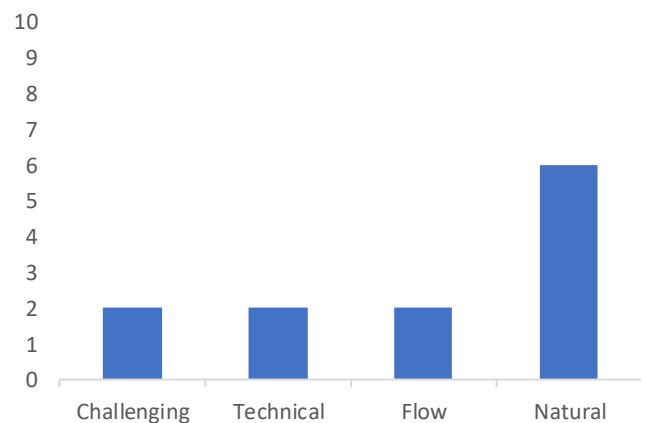
## TRAIL DESCRIPTION

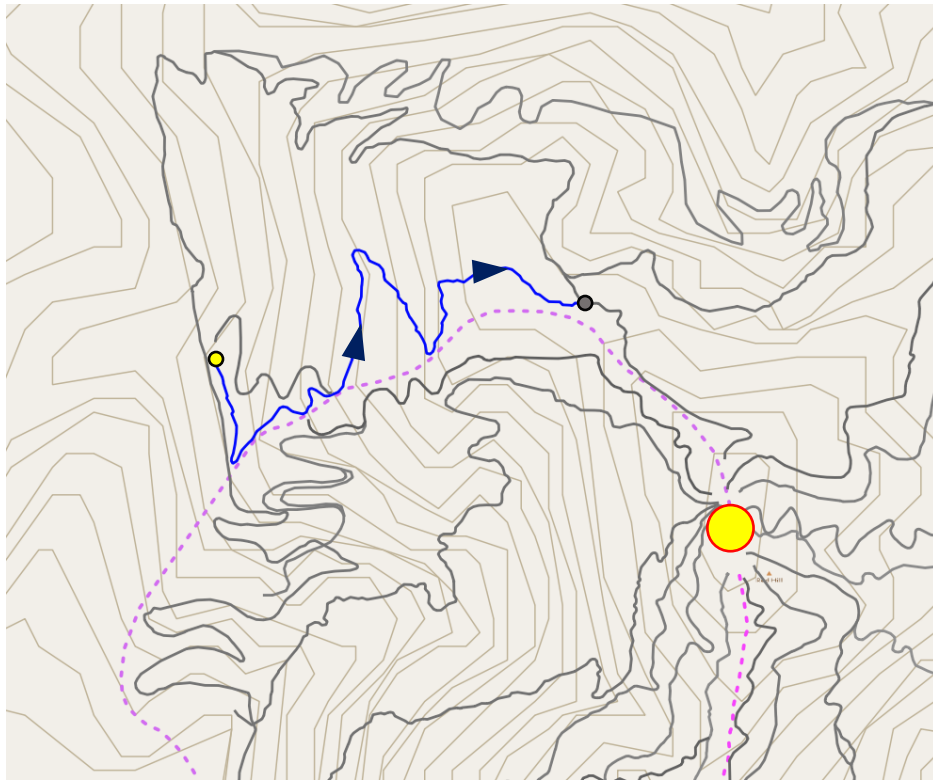
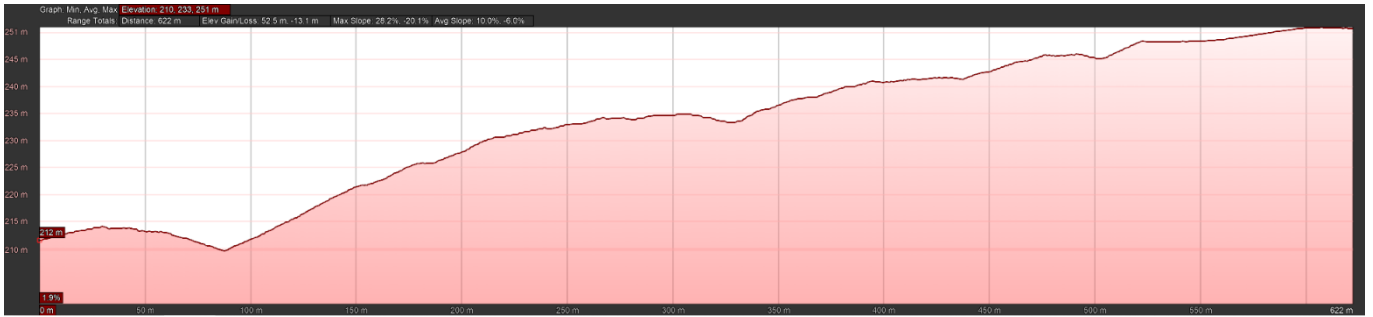
Trail 23 is blue rated XC style alignment that will allow riders to climb back to the top of the jump lines and the dual slalom trails.

TRAIL IDENTIFICATION	Trail 23
CLASSIFICATION	Blue
TRAIL LENGTH	635m
TRAIL STYLE	XC
BUILD STYLE	Natural, rough
FINISHED TRAIL WIDTH	600mm min.
TRAIL FINISH	Natural, rough
USE	Mountain bike
DIRECTION	Single
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	n/a

## ANTICIPATED TECHNICAL TRAIL FEATURES

- Rollers

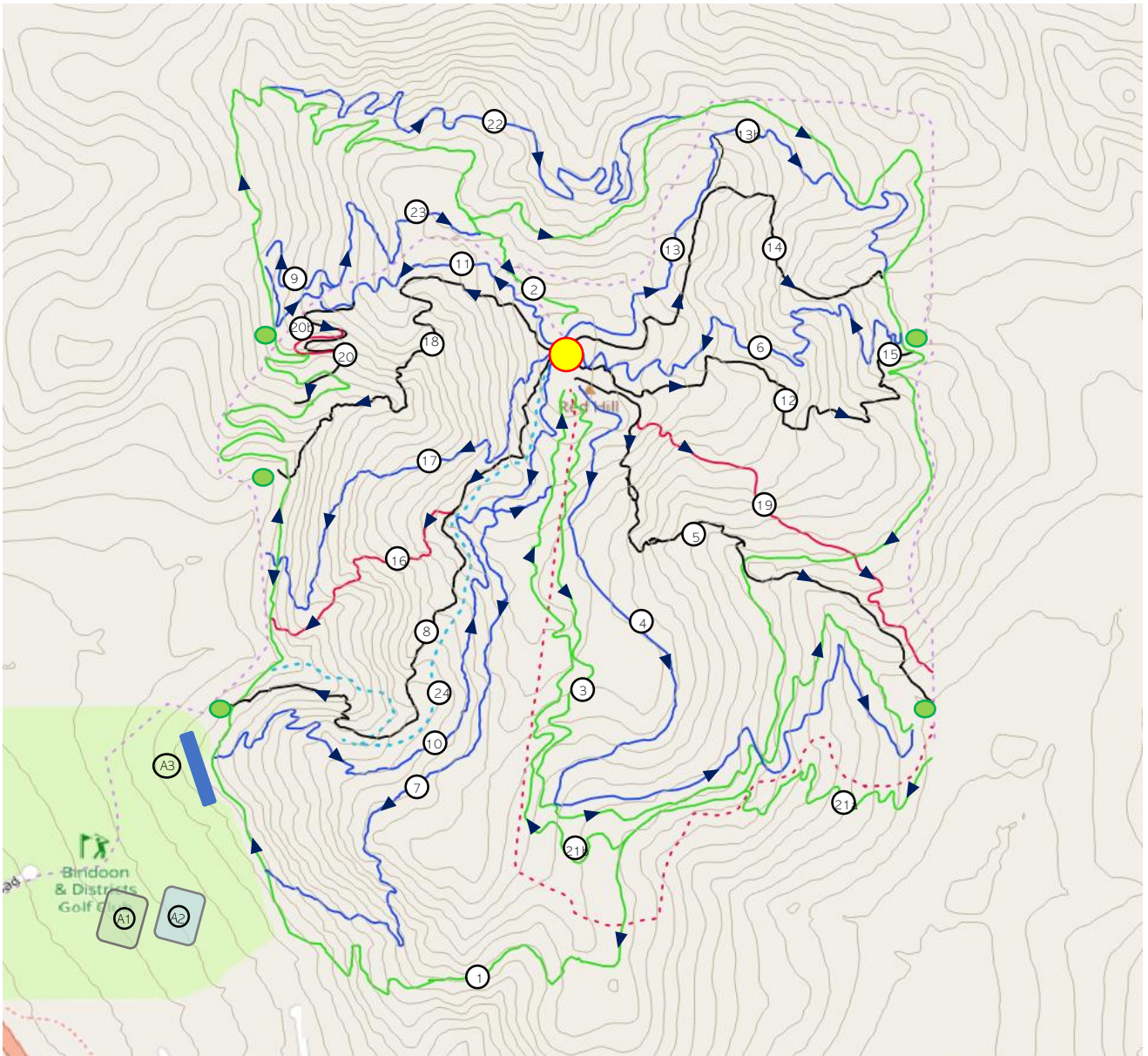




LEGEND			
	Green trail		Trail hub
	Blue trail		Trail start
	Black trail		Trail finish
	Double black trail		Shuttle road



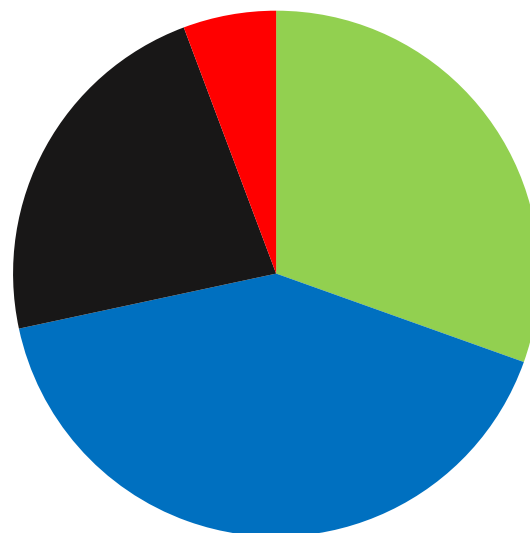
# FINAL TRAIL BREAKDOWN



The section of Trail 1 between the start of Trail 10 and the end of Trail 18 will be dual direction. This is so that riders can access Trail 10 from the base of Trails 8, 16, 17 and 18 to climb back to the summit. Signage should reflect this and caution walkers to give way for riders.

LEGEND	
	Green trail
	Blue trail
	Black trail
	Double black trail
	Trail hub
	Shuttle pick up
A1	Pump Track
A2	Skills area
A3	Jump Line

TRAIL	RATING	DISTANCE (m)	PERCENTAGE
T1	Green	5350	22.0
T2	Green climb	239	1.0
T3	Green	1540	6.3
T4	Blue	1570	6.5
T5	Black	924	3.8
T6	Blue	888	3.7
T7	Blue	1274.5	5.2
T8	Black	1000	4.1
T9	Blue	215	0.9
T10	Blue climb	1040	4.3
T11	Blue	452	1.9
T12	Black	759	3.1
T13	Blue	930	3.8
T13 b	Black	92	0.4
T14	Black	721	3.0
T15	Blue link	29	0.1
T16	Double Black	399	1.6
T17	Blue	759	3.1
T18	Black	761	3.1
T19	Double Black	630	2.6
T20	Black	364	1.5
T20 b	Double Black	139	0.6
T21a	Green climb	541	2.2
T21b	Green climb	962	4.0
T22	Blue	1138	4.7
T23	Blue climb	635	2.6
T24	Grade 3 walk	960	3.9
		24311	100.0



■ Green ■ Blue ■ Black ■ Double Black

# PUMP TRACK, SKILLS AREA

We have assessed an area located centrally within the proposed caravan park and landscape design as being potentially suitable for a pump track/jump line and skills area. The area above the trail head will feature several jump lines. These areas could be utilised by mountain bikers and visitors to the caravan park alike, with a focus on features accessible and enjoyable for all ages and skill levels.

A pump track will be designed to tie in with the central landscaped area of the caravan park. Multiple ride lines featuring berms, rollers and jumps can be designed to allow riders to develop their skills. In our experience the combination of pump track and jump line greatly increases user engagement as it provides options for a wider cross section of the riding community. A skills park will also be designed to fit the area. Potential features to be included in the design are log rides, timber skinny's, seesaws, and rock roll overs. Features could be designed in such a way that they resemble or incorporate common farm infrastructure, such as, livestock pens, sheering sheds, utes or trailers.

A beginner to intermediate "dirt jump" area will be designed to fit above the caravan park by the trail head. This will feature multiple "blue" level jump lines with the option for transfers between lines. As with the pump track/skills area this is envisaged to be accessible to younger and less experienced riders.



# PUMP TRACK, SKILLS AREA



# EXAMPLES OF ICONIC FEATURES

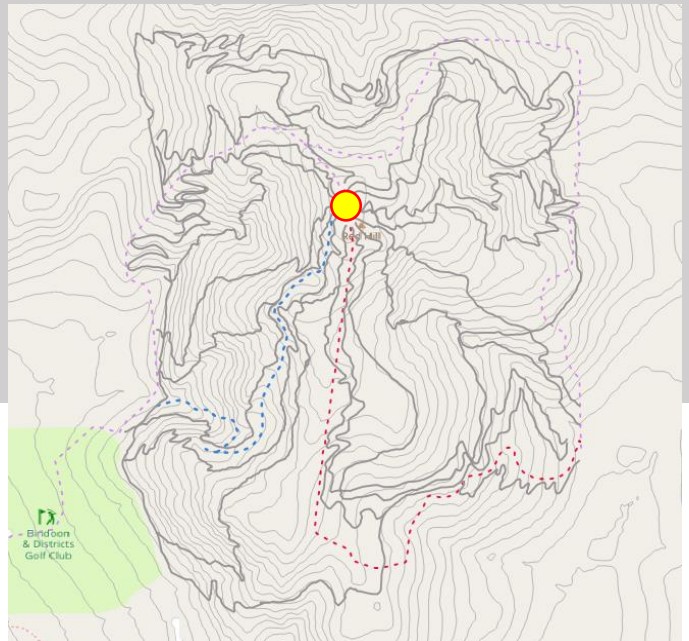


APPENDIX A

# TRAIL 24

>GRADE 3

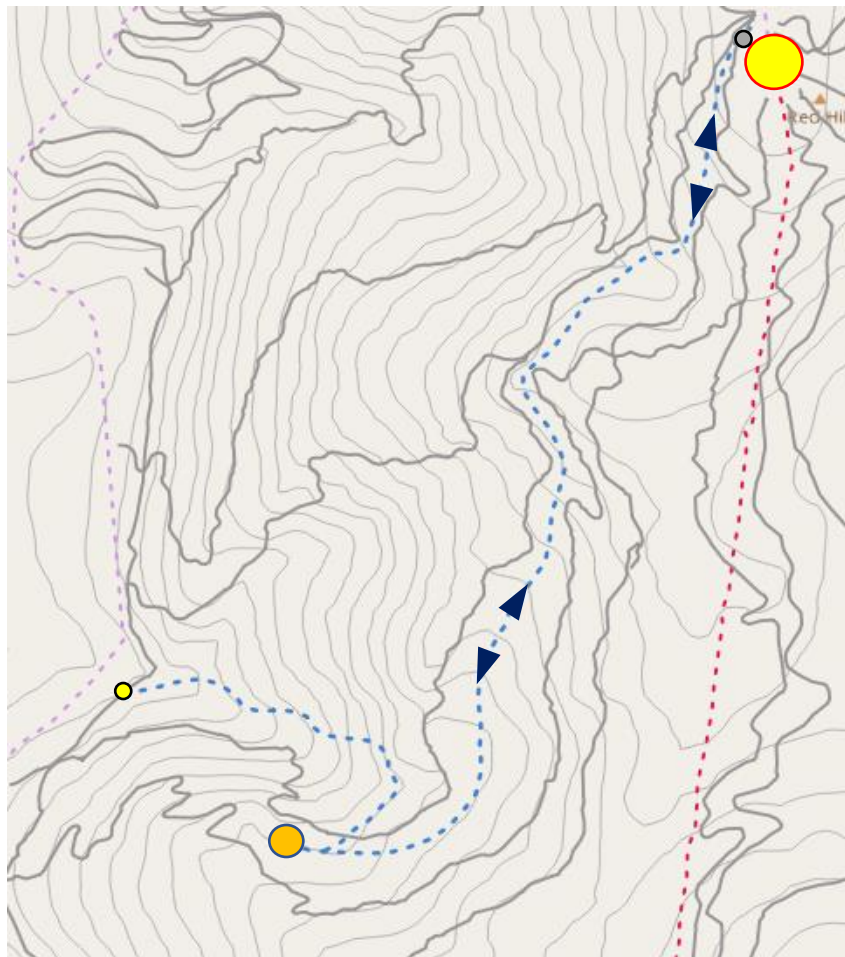
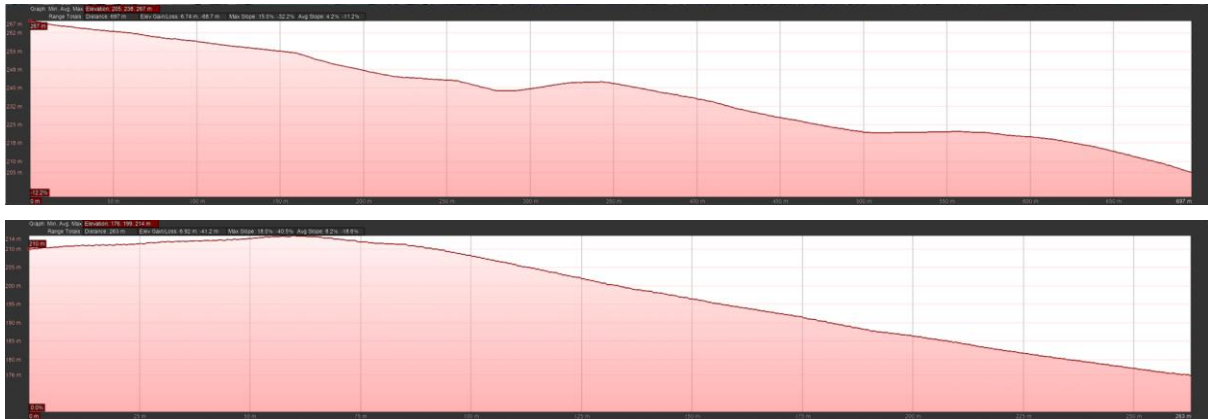
>WALK TRAIL



## TRAIL DESCRIPTION

The Summit track is a dual direction walk trail linking the caravan park and lower trail head to the top of the hill, taking in views over the town and allowing spectator access to the trails on the western side of the hill. The lower section will feature steps with the idea to create a “Jacobs Ladder” style climb, dubbed the Bindoon Ladder. A lookout (shown in the close up) would provide an ideal turn around point for users as well as an ideal location to take in views of the park and surrounding area.

TRAIL IDENTIFICATION	Trail 24
CLASSIFICATION	Grade 3
TRAIL LENGTH	960m
TRAIL STYLE	Walk
BUILD STYLE	Natural
TRAIL FINISH	Natural
USE	Walking
DIRECTION	Dual
CORRIDOR WIDTH	2.5m
TRAIL GRADIENT	n/a



LEGEND	
	Trail Hub
	Look Out
	Trail Start
	Trail End

# APPENDIX B BROAD COST ESTIMATE

## Trails

ID	CLASSIFICATION		TRAIL TYPE	LENGTH (m)	RATE				TOTAL (\$)
	/GRADE	TRAIL STYLE			RATE (\$/lm)	DESIGN (\$)	(\$/lm)	BUILD (\$)	
T9	Blue	Dual Slalom	Dual Slalom race	215	\$ 2.50	\$ 538	\$ 110	\$ 23,650	\$ 24,188
T10	Blue	XC	Climbing Technical/Natural	1040	\$ 2.50	\$ 2,600	\$ 35	\$ 36,400	\$ 39,000
T11	Blue	AM	Flow	452	\$ 2.50	\$ 1,130	\$ 40	\$ 18,080	\$ 19,210
T12	Black	AM	Flow/Technical	759	\$ 2.50	\$ 1,898	\$ 45	\$ 34,155	\$ 36,053
T13a	Blue	AM	Flow/Technical	930	\$ 2.50	\$ 2,325	\$ 40	\$ 37,200	\$ 39,525
T13b	Black	AM	Technical	92	\$ 2.50	\$ 230	\$ 45	\$ 4,140	\$ 4,370
T14	Black	AM/DH	Technical/Natural	721	\$ 2.50	\$ 1,803	\$ 45	\$ 32,445	\$ 34,248
T15	Blue	XC	Flow	29	\$ 2.50	\$ 73	\$ 35	\$ 1,015	\$ 1,088
T16	Double Black	DH	Technical/Natural	399	\$ 2.50	\$ 998	\$ 55	\$ 21,945	\$ 22,943
T17	Blue	AM	Technical/Natural	759	\$ 2.50	\$ 1,898	\$ 40	\$ 30,360	\$ 32,258
T18	Black	AM	Flow/Technical	761	\$ 2.50	\$ 1,903	\$ 45	\$ 34,245	\$ 36,148
T19	Double Black	DH	Technical/Natural	630	\$ 2.50	\$ 1,575	\$ 55	\$ 34,650	\$ 36,225
T20	Black	Slopestyle/Freeride	Flow	364	\$ 2.50	\$ 910	\$ 80	\$ 29,120	\$ 30,030
T20b	Double Black	Slopestyle/Freeride	Flow	139	\$ 2.50	\$ 348	\$ 85	\$ 11,815	\$ 12,163
T21a	Green	XC	Climbing/Flow	541	\$ 2.50	\$ 1,353	\$ 35	\$ 18,935	\$ 20,288
T21b	Green	XC	Climbing/Flow	962	\$ 2.50	\$ 2,405	\$ 35	\$ 33,670	\$ 36,075
T22	Blue	XC	Climbing Technical/Natural	1138	\$ 2.50	\$ 2,845	\$ 35	\$ 39,830	\$ 42,675
T23	Blue	XC	Climbing Technical/Natural	635	\$ 2.50	\$ 1,588	\$ 35	\$ 22,225	\$ 23,813
Summit Walk Trail	Grade 2-3	Walk	Dual direction walk	960	\$ 2.50	\$ 2,400	\$ 50	\$ 48,000	\$ 50,400
Shuttle Road	Road	4wd Shuttle (eastern loop)	Single Direction vehicle	3020			\$ 150	\$ 453,000	\$ 453,000
<b>TOTAL</b>				<b>14546</b>		<b>\$ 28,815</b>		<b>\$ 964,880</b>	<b>\$ 993,695</b>

## Pump Track

For a pump track of approximately 100-120 linear metres allow \$150,000 for design and construct.

## Jump Line

For two intermediate jump lines each with 4 concrete lips and a loop/link trail allow \$300,000 for design and construct.

## Skills Park

For a skills track of approximately 200 linear metres allow \$120-150,000. This will be variant based on the types of features constructed, to be detailed in the design phase. This area would be ideal for the construction of fun, farm style features, giving Bindoon Mountain Bike Park an identity and a point of difference to other mountain bike facilities in the state.

These costs are for hard surfacing to below ground level, providing a maintenance free solution using PolyPave. Our beautiful, non-toxic and revolutionary PolyPave hard surfaced finish is a highly sustainable and cost-effective alternative to traditional asphalt finishes. We have worked with industry leaders over the years to develop PolyPave, a durable and highly aesthetic hard surface solution, primarily intended to ensure longevity and integrity of our dirt jumps and pump tracks. We have also integrated "Uluru" oxide treated concrete lips into all jump line products, ensuring that the ride line surface that receives the biggest hammering is the most durable. The ochre colour and lip structure integrate beautifully with PolyPave and leave you with a stunning and durable community asset for years to come.

*Note. These costs are estimates only and not intended as a formal quote.*



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