YELLAGONGA
MOUNTAIN BIKE TRAIL NETWORK
CONCEPT PLAN

December 2020

COMMON GROUND

YELLAGONGA TRAIL NETWORK CONCEPT PLAN

Prepared by Common Ground Trails Pty Ltd for the Northern Beaches Cycling Club.

ACKNOWLEDGEMENTS

The authors of this Yellagonga Mountain Bike Trail Network Concept Plan respectfully acknowledge that this land on which we live and work is Noongar country, and that the Noongar people are the traditional custodians who have a rich social, spiritual and historical connection to this country, which is as strong today, as it was in the past.

Common Ground Trails wishes to acknowledge the significant contribution of the project steering committee as well as the valuable input from, stakeholders, organisation representatives, users and individuals.

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PROJECT OVERVIEW

The Perth Peel Mountain Bike Master Plan (PPMP) identifies the Joondalup area (including Yellagonga Regional Park) as a high priority site for a locally significant mountain bike (MTB) trail development (up to 20km). In development of the area for mountain biking it is recommended that there be a focus on creating a trail network featuring bushland and lake views that caters for beginner and intermediate classifications of cross country trails.

The proposed project area provides a unique opportunity for MTB trail and future commercial development, with both supported in the Yellagonga Regional Park Management Plan 2003-2013. There are currently no existing MTB trails in the project area, however the Yaberoo Budjara Heritage Trail passes through the site, providing an important regional connection.

SITE DESCRIPTION AND LOCATION

Yellagonga Regional Park is located in the City of Joondalup, approx. 26km north of Perth. The proposed project area is approximately 34ha and located in the north-western end of the Park. Lot 1 (approx. 21ha), a large section of the project area, is a cleared paddock with minimal conservation value, but with significant trail and associated commercial development opportunities. The neighbouring bushland is in good condition but contains a high number of weed species and a lower diversity of native species (Yellagonga Flora and Vegetation Survey 2016). A Phytophthora Dieback Occurrence Survey undertaken in February 2019 indicated presence of the disease in the bushland area to the north of Lot 1.

The Park has a number of existing recreation opportunities including picnic areas (Neil Hawkins Park), board walks and walk trails utilising the sealed, dual use path network. The Park is popular recreation site due to its location, accessibility and lake and bushland views. The Park has a high level of passive recreation usage in key areas such as park and picnic areas and the dual use path network.

The site can be accessed from Lakeside Drive with future parking/trail head to be developed at Lot 1. There are existing facilities (including parking) at nearby Neil Hawkins Park. As an interim option prior to the formal parking lot being developed existing semi-formal parking along Lakeside Drive could be maintained and appropriately managed to allow access. The urban site is located within a high population centre and easily accessed by rail (public transport).

MOUNTAIN BIKE PLANNING CONTEXT

The Yellagonga mountain bike trail network forms a significant component of the development of Joondalup as a locally significant mountain bike trail destination, recommended within the PPMP Mountain Bike Master Plan (WestCycle, 2017).

A number of additional areas surrounding Yellagonga Regional Park are identified in the PPMP as having potential for mountain bike trail development. In total, these have the potential to provide at least 20km of mountain bike trails, which would establish the area as a locally significant mountain biking destination.

In accordance with the Western Australian Mountain Bike Management Guidelines (WAMBMG), a Framework was developed by the Steering Group to define project objectives, target market and user types. Terminology and definitions are provided in the guidelines.

PROJECT OBJECTIVES

The Objectives of this project, as defined in the framework, are to:

- Create a locally significant MTB trail network which forms part of the greater Joondalup location as outlined in the PPMP.
- Develop a high quality, sustainable and accessible cross country (XC) single track trail network suitable for a diverse range of users, and which has the ability to host XC events.
- Design a trail network that enables progression for beginners to intermediate MTB riding.
- Consider and allow for park (PK) facilities and skills development features in Lot 1.
- Provide a trail network that links existing approved recreation sites and infrastructure within the Park.
- Provide a local tourism resource for local residents and to attract new and return visitors to the Park.
- Design trail opportunities that encourage MTB users to stay on designated trails and reduce the impact to and potential conflict on existing walk trails and reduce the risk of spread of disease.
- Develop a trail network that focuses on the bushland and lake setting of the Park.
- Develop a trail network that maintains the sense of place and is appropriate to the landscape.
- Develop high quality, low maintenance technical trail features.
- Consider and allow for future commercial development(s) at Lot 1.
- Ensure trail development implements best practice planning, design and construction standards.
- Provide links to connecting principal shared path (PSP) network now and into the future.

TRAIL SYSTEM

The trail system is to incorporate the following design principles:

- Stacked loop trail network
- 100% single MTB use (no shared/multi use)
- Single direction
- Provide a range of trail classifications for the Yellagonga network:
    - Green (easy) 40%
    - Blue (moderate) 60%
- Consider alternate lines and optional technical features to increase difficulty of trails.
- Multiple trail opportunities allowing for different riding lengths and difficulty.
- Maximise opportunities for event use with continuous, non-compounding trail allowing for events and which considers the circulation of the existing trail network.
- Consider event specific infrastructure requirements and ensure day use infrastructure allows for it. Pop-up/container infrastructure facilities for events are a good option only requiring space onsite.
- Consider proposed location of carpark in Lot 1.

SCOPE AND SCALE

The Yellagonga network will be a locally significant 7km trail network that forms part of a locally significant Joondalup location as outlined in the PPMP, which includes trail networks within Neerabup National Park, Neerabup freehold land.

Key connections to and from the Yellagonga network will be provided, including:

- The Yaberoo Budjara Heritage Trail (which starts at Neil Hawkins Park south of the site)
- The proposed carpark in Lot 1 off Lakeside Drive
- WA bicycle network plan connections (PSP).

REVISIONS TO SCOPE

With the completion of the Phytophthora Dieback Occurrence Survey the size of the project area was reduced to avoid areas of uninterpretable and uninfested bushland. The project area outlined in the original scope of works was reduced from approximately 43Ha to 34Ha.

Following completion of the draft Concept in September 2019 and further consultation with stakeholders the project area was further reduced to keep trail development out of bushland areas. The Draft Concept was revised in late 2020 to keep the trail network within the revised project area. The final project area is 25Ha.

TARGET MARKET AND USER TYPES

The primary target market of the network includes the leisure and enthusiast cohorts (Refer definitions within the WAMTBMG). The sport cohorts are considered a secondary target market.

The network will focus on providing recreational trail riding opportunities, but will also consider event use for a number of racing formats, minimising impact on recreational use while events are in progress. The design will consider alternate lines and optional technical features to increase the difficulty of some trails.

STYLE

The trails will comprise primarily cross country (XC) style trails as well as some park (PK) style trail, including skills features. The trails will cater for a wide range of ability levels, and will include easy and moderate classifications. The network design should identify options for the inclusion of trails to cater for offroad hand cycles and other mobility equipment.

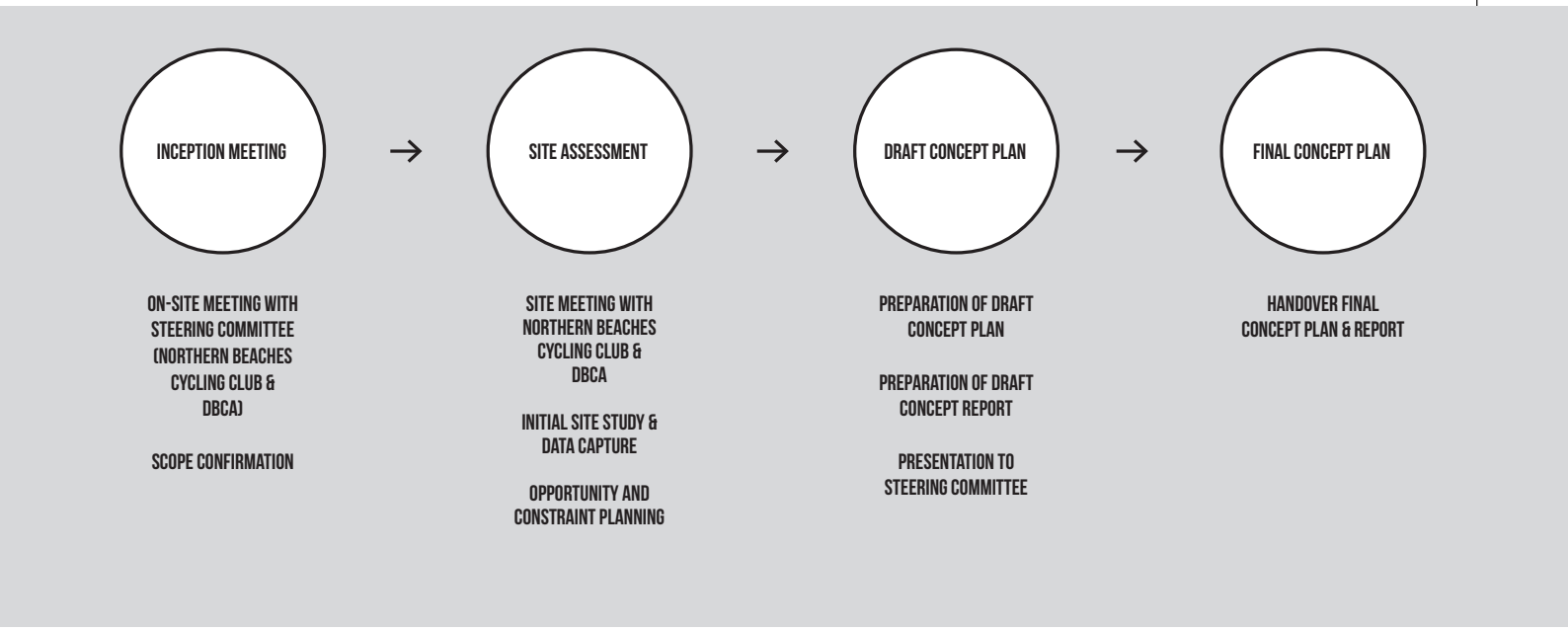

Figure 1: Project methodology

PROJECT METHODOLOGY

To fulfil the project brief and objectives identified by the steering committee, the following stages were undertaken:

Inception

In consultation with the steering committee, the project framework, objectives and staging were reviewed and confirmed. Details including project area, key stakeholders, user groups and community groups were confirmed.

Site Assessment

Site meetings were held with Parks & Wildlife Service representatives. An audit of the existing conditions was undertaken to gain a detailed understanding of the landscape, topography, soil types, vegetation and ground conditions. The site study identified areas where trail development is and is not appropriate.

Draft Concept Plan

A draft concept plan and report were then prepared and presented for feedback. The draft plan illustrated the trail system concept plans and mapping, trail system configuration and description, individual trail summaries and potential event usage. The draft also included recommended construction staging and cost estimates.

Handover of Final Concept Plan

The concept plan will be finalised following wider stakeholder consultation.

ENGAGEMENT AND CONSULTATION

STEERING GROUP

The Project Steering Group comprised representatives from the Department of Biodiversity Conservation & Attractions Parks and Wildlife Service (DBCA) and the Northern Beaches Cycling Club (NBCC).

MOUNTAIN BIKE COMMUNITY

Broader engagement with the mountain bike community was not specified in the scope of works for concept development.

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LOCATION AND ACCESS

Yellagonga Regional Park is located in the City of Joondalup, approx. 26km north of Perth. The proposed project area is approximately 34ha and located in the north-western end of the Park (refer to figure 2). Formal sealed access and parking is provided at Neil Hawkins Park approximately 2km south along Lakeside Drive, with park users then accessing the project area via the shared use sealed Yaberoo Budjara Heritage Trail which traverses alongside the Lake Joondalup. Park users also informally access the project area from Joondalup and Lakeside Drive, with semi-formal parking allowed along the Lakeside Drive edge of the park.

Lot 1 has previously been identified as the preferred location for development of an Environment Centre (Gresley Abas architects & Evolve Solutions, 2007). The 2007 feasibility study outlined approximate location for the centre and a carpark. While planning for the Environment Centre has not since progressed the potential for future commercial development is still being investigated and the MTB trail concept has accounted for this including location of the proposed carpark.

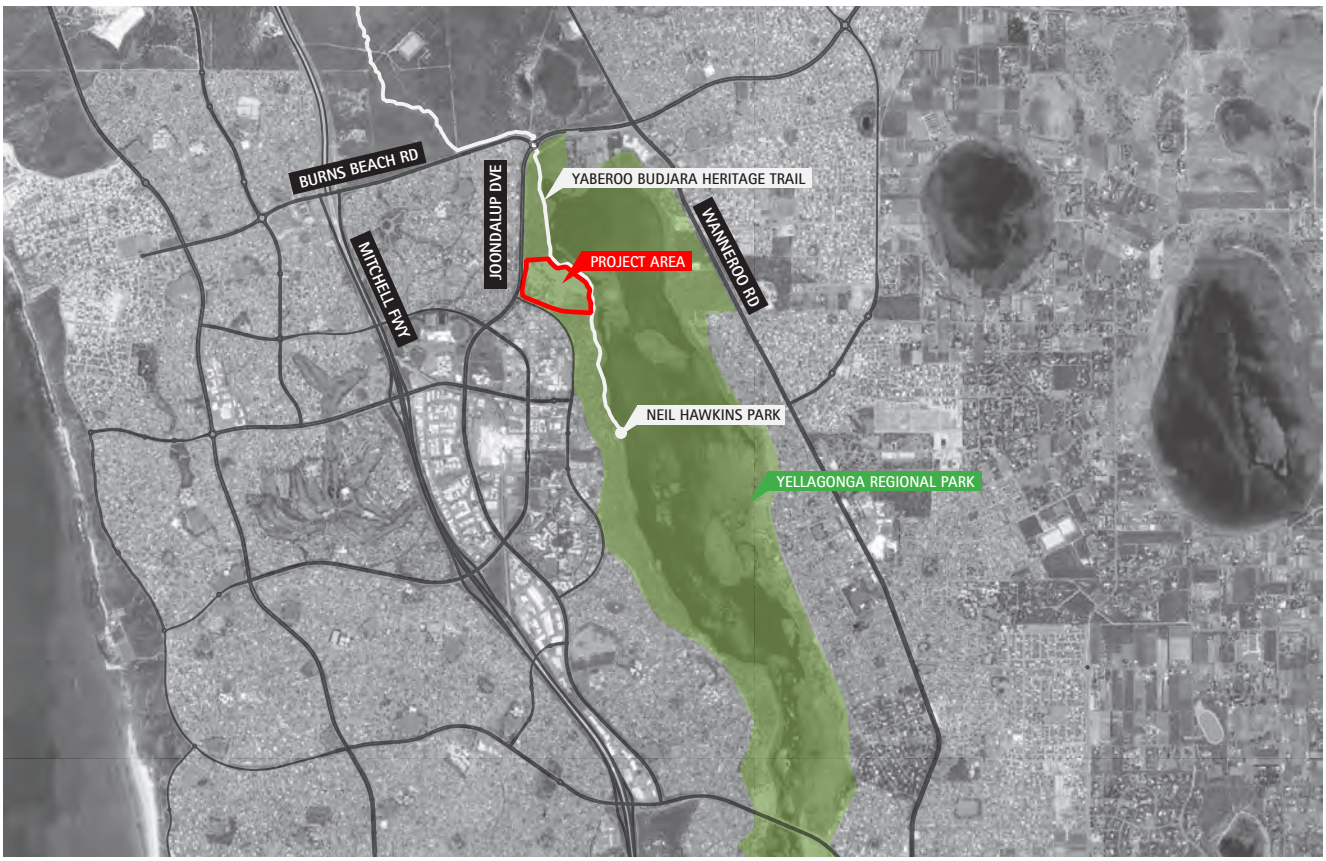

Figure 1: Project Location Plan

Figure 2: Project Area tenure

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SCALE STUDY

To establish the appropriateness of the trail density prescribed in the project brief, '7km of trail with Park and Skills facilities included', a basic scale comparison study was undertaken. The study showed a density of 3.5 hectares per kilometer of trail, which is slightly less than trail density of the popular compartment 10 development in Margaret River which has 4.5ha hectares per kilometer of trail. The prescribed trail density will allow successful separation between trails and will reduce the feeling of repeating trail throughout the network.

YELLAGONGA - JOONDALUP
SIZE ~ 25,000 m2 / 25HA
7km = 3.5HA per KM Density

COMPARTMENT 10 - MARGARET RIVER
SIZE ~ 410,000 m2 / 41HA
10km = 4.5HA per KM Density

Figure 3: Scale Study

EXISTING PROVISION

To assess the suitability of the trail types prescribed in the project brief, a basic regional provision study was undertaken. The study identified that there was a general lack of all trails in the region, but a significant lack of Gravity and Park style trails. Due to the lack of elevation in Yellagonga, provision of gravity trails is restricted to descending cross country trails. Park style trails do have an excellent opportunity to be developed, but due to their level of impact are restricted to low conservation estate and areas with low potential visual impact. The primary use of the site is recreation. The proposed XC and Park trails as part of Yellagonga will go some way in filling the gap in supply north of Perth.

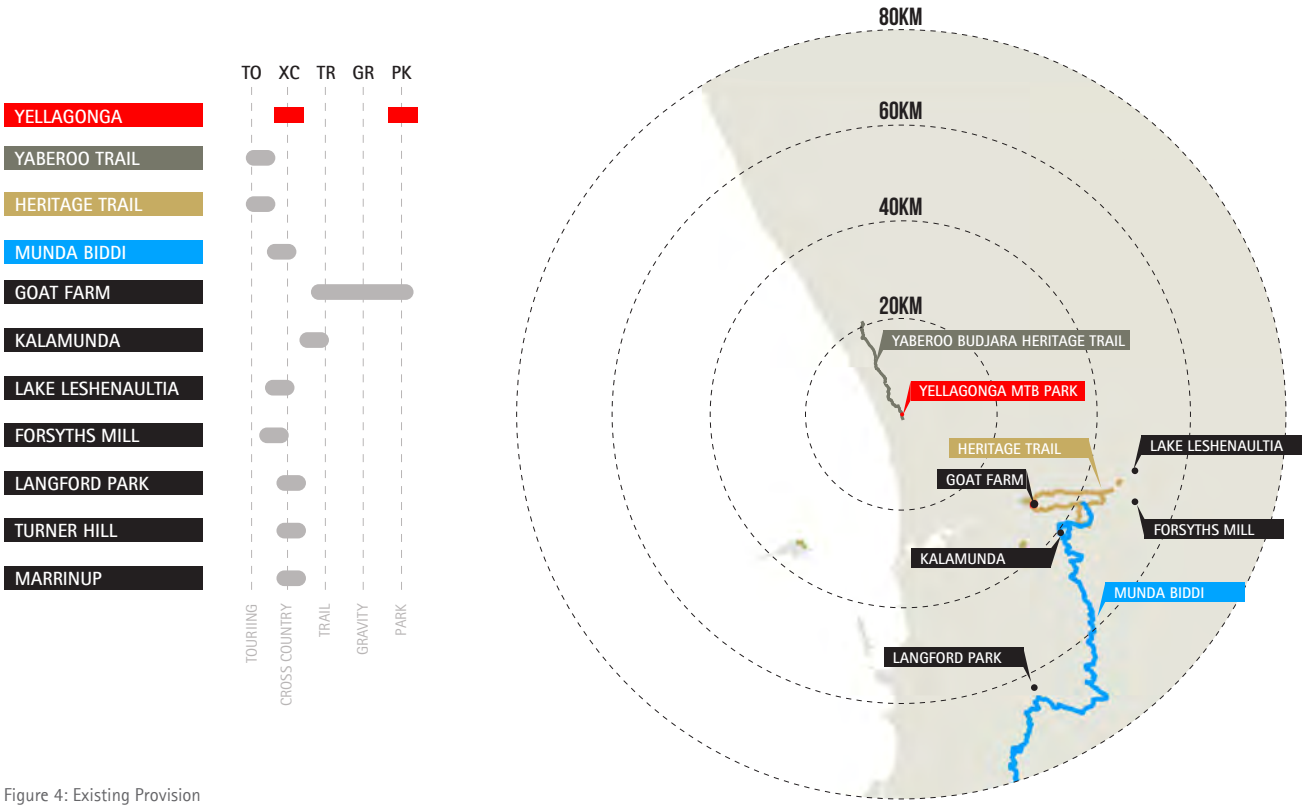

Figure 4: Existing Provision

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SITE ASSESSMENT

The following is an overview of the desktop analyses performed. Further ground truthing on site resulted in a broad concept which then informed the development of the draft concept.

Site assessment considered the inherent quality of the landscape, overall trail network and configuration, and reviewed car parking and access requirements.

TENURE

The site is located within Yellagonga Regional Park, with Freehold land adjacent the western boundary (refer to figure 2).

TOPOGRAPHY, SLOPE AND ASPECT ANALYSIS

The site has a westerly aspect, with the high point occurring in the southwest corner and the land falling approximately 30m to the edge of Lake Joondalup. The slopes across the site are gentle with the average slope of 6% across the site. There are gentle changes in slope along shallow gullies.

PROJECT AREA CONSTRAINTS

Major constraints within the project area include areas of open landscape which contain significant and valued viewsheds across Lake Joondalup (refer to figure 6). The Yaberoo Budjara Heritage Trail traverses alongside Lake Joondalup and is a shared use dual direction sealed trail. Careful consideration will need to be given to connection from the MTB network into this trail and safety of trail users.

The Phytophthora Dieback Occurrence Survey identified an area of infested bush in the north of the project area. While areas east of the infested area were determined uninterpretable or uninfested these areas were deemed unprotectable due to the infested area at the top of the slope (refer to figure 6).

There are several registered Aboriginal sites in the vicinity of the project area. Consultation with Traditional Owners and the Department of Planning, Lands and Heritage may be undertaken in the detailed design phase of trail development.

The area identified for a carpark and future commercial development is approximately 2Ha in size and encompasses the Farm House Ruins. The Farm house ruins which exist on site present an ideal location for commercial development based on there being a level site with good views over Lake Joondalup. The proposed carpark site has good access from Lakeside Drive and some existing trees which could form the beginnings of a more substantial vegetative buffer. Further investigation into the capacity of the carpark and the nature of the commercial development opportunity is beyond the scope of this concept plan.

PROJECT AREA OPPORTUNITIES

The shallow gullies and open woodland areas offer distinct character zones with opportunity to soften the visual impact of the more heavily built trail features associated with flow and park styles. The open areas in between offer opportunity to have open fast trails which provide a connection between the different zones.

Yaberoo Budjara Heritage Trail is a 28km trail extending from Neil Hawkins Park to the south of the project area and north through Neerabup National Park to Yanchep National Park. It is a dual-use trail providing important links from the project area to surrounding destinations and providing opportunity for longer distance rides.

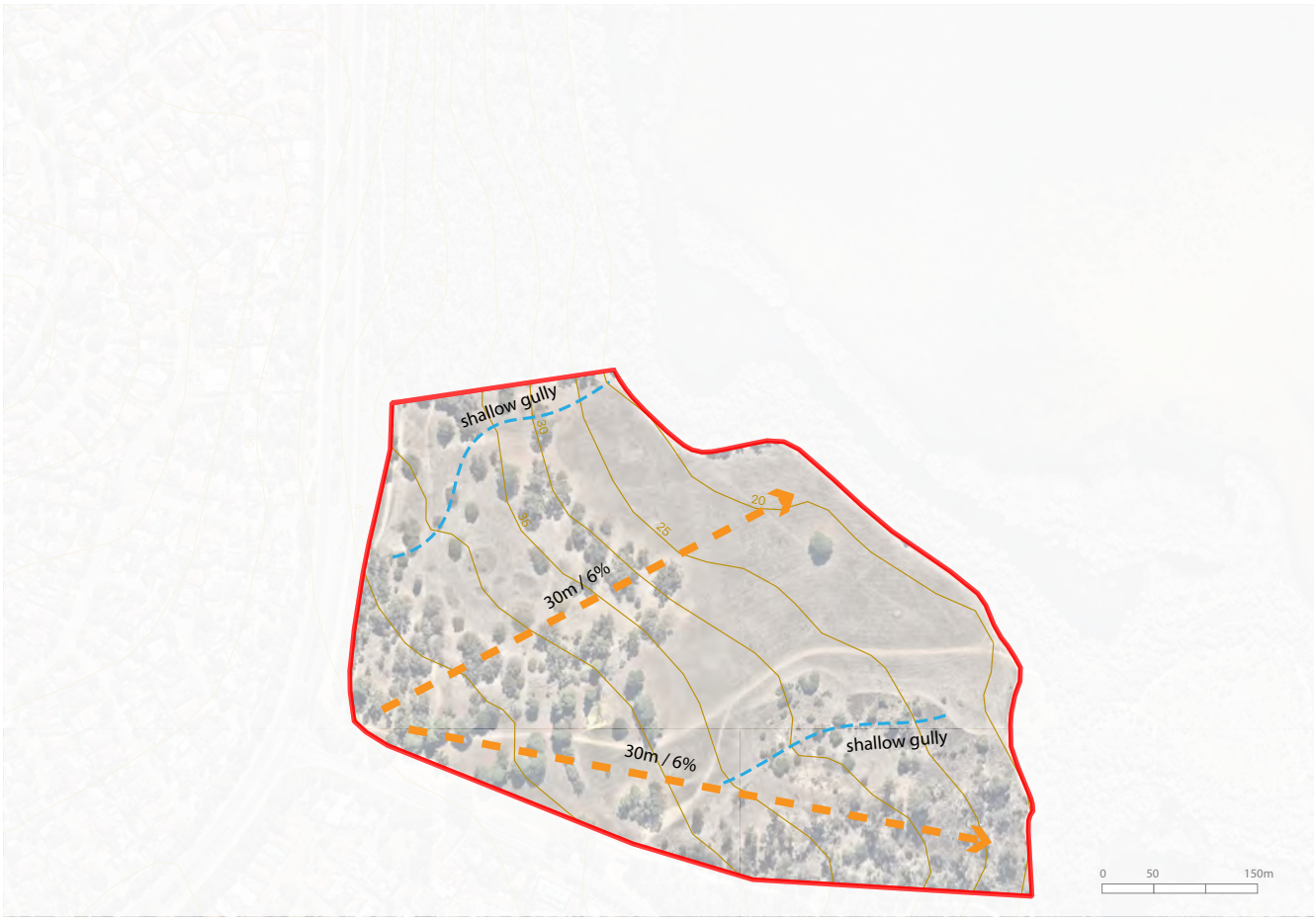

Figure 5: Topography analysis

Figure 6: Project Area Constraints

Figure 7: Project Area Opportunities

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DEVELOPMENT ZONES

The result of the desktop analyses and on site ground truthing was the categorisation of Development Zones, which are colour coded in Figure 8, and provide guidance for concept planning.

The areas highlighted green in Figure 8 indicate highly desirable areas for mountain bike trails, the yellow areas moderately desirable and the red areas constrained areas. Each of the zones are:

Northern Gully

- Good opportunity for park and flow style trails amongst the open woodland.
- The slight depression in the landscape will aid in minimising visual impact.

Southern Gully

- Good opportunity for tighter more technical trail amongst the open woodland.
- The slight depression in the landscape will aid in creating interest.

Open Woodland

- Approximately 20m of fall at 6% offering opportunity for descending beginner trail.
- Open woodland character offers point of difference to the dense bush zone and open zone.

Open Field

- Opportunity to have faster trails connecting the other zones which will help in minimising the amount of trail in this area.

Figure 8: Characteristic zones

BROAD CONCEPT

Taking into account the opportunities and constraints within the project area, figure 9 outlines the broad concept riding zones for Yellagonga.

The project brief, terrain, slope and natural features of the site lend well to creation of five riding zones in the area - an accessible green, tight technical blue, open technical blue, park/flow and fast open connecting zone.

Figure 9: Riding zones

TRAIL SYSTEM

TRAIL SYSTEM

The proposed Yellagonga network features a range of Cross Country (XC) trails and some Park (PK) trails. It is based on a linked loop design, which includes a series of loop trails radiating from the trail head and a series of trail nodes providing users with a range of short, medium and long loop options. The Yellagonga network prescribes to the following best practice principles;

- The network avoids areas of environmental significance, problematic landforms, and is generally sympathetic to the landscape and viewsheds
- Where possible the Yellagonga network connects users with the natural environment and it's features within the project boundary
- Appropriate trail styles have been located in appropriate landscapes with high impact trails in the open woodland areas and low impact trails in the remnant bush
- Trail alignments are purposeful and provide direct movement through the landscape
- A range of trail difficulties have been provided allowing for progression in the network
- The network caters for a wide variety of riding styles and abilities and fills the gap of trail styles which are not available in the region
- The stacked / linked loop trail system places the easiest trails closest to the trail head and more difficult trails are progressively reached
- All trails are designed to be bike optimised and single direction, allowing purposeful descents and climbs
- The overall system is accessible, intuitive and easy to navigate with simple loops and trails following an overall clockwise direction
- The majority of the Yellagonga trail system is able to be ridden in a continuous lap without backtracking, repeating or crossing over other trails, allowing for cross country marathon racing and longer uninterrupted rides
- Provides a range of trail options suitable for hand cycle and other mobility equipment use, including the entire green loop

As required within the brief, a number of connections to the existing Yaberoo Budjara Heritage Trail have been provided including a link into the Flow Zone and the Technical Zone.

The Key features and design principals of the trail network are:

- 7.4km Stacked loop trail network including PK and XC trails
- Range of classifications for the trail network which generally meet the brief; 3.6 km Green Trail - 49% (Brief 40%) 3.8km Blue Trail - 51% (Brief 60%).
- Common Ground Trails also recommend that a pump track and structured jump lines be considered for inclusion in the area south of the primary trailhead.

STYLES

The Yellagonga trail system comprises a range of individual style networks to cater for the diverse range of landscapes and riding opportunities in the project area. These opportunities include;

- Flow Zone - Set within the Open Woodland and Northern Gully area a network of flow trails for riders seeking fast and flowing trails.
- Technical Zone – Set within the Open Woodland and Southern Gully to the south of the project area these trails offer a tighter more technical trail style with a high frequency of technical trail features.
- Park Zone – Emanating from the primary trailhead or pump track and jump line zone, a range of easy, moderate and difficult sessionable jump trails.
- Pump Track and Jump lines – there is scope for the site to host a regional scale pump track facility which would compliment the trail network nicely allowing riders opportunity for warm up and skill development.

OVERVIEW

The Yellagonga trail system connects a primary trail head with trail nodes offering a combination of trail styles, difficulty levels and designs, which are considerate of the local character and values.

The network has been designed to offer a total experience of 7.4km. Broad assessments have been undertaken to inform the concept plan development. The topography, slope, ruggedness and aspect of the area have been analysed to identify landforms conducive to high quality trail experiences. The elevation losses across various cross-sections of the area, as well as opportunities for scenic vistas have been considered to identify appropriate links between points of interest and desirable locations.

The trail system has been designed to encourage participation by less experienced trail users, such as visitors and beginner mountain bikers. As per the project framework, a primary focus has been placed on the leisure and enthusiast cohort, who seek enjoyable, fun and challenging trail experiences. A secondary focus has been on providing for the sport cohort, with a network that can be raced. The proposed trail network includes a range of mountain bike trail styles, all single use. Individual trail summaries are provided in the following sections, to describe how the trail system is intended to be used. The network design has been based on the primary use by those seeking recreation and enjoyment, while still catering for visitors through offering a varied network within the one site. The network is linked appropriately to the Yaberoo Budjara Heritage Trail allowing for longer ride options.

EVENT USE

The majority of trails in the system have been designed for use in cross country racing events. To cater for this style of racing the majority of the network is able to be ridden without crossing points. The network design allows for a variety of different course designs which improves appeal for return events refer to figure 16 for examples of possible routes. It is envisioned that the event village be set up close to or within the proposed carpark and commercial development area, with the start/finish straight set up to the east.

NETWORK COMPOSITION

Table 1 and figure 10 provide a breakdown of the network to illustrate quantities of different classifications and styles of trail.

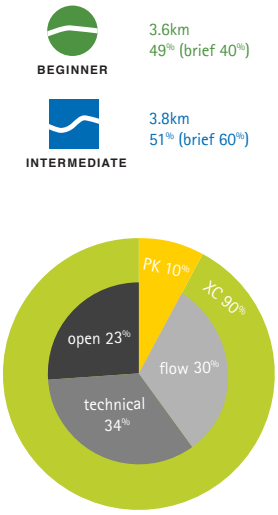


Figure 10: Classification and style breakdown

Table 1: Network Composition

ID	PROVISIONAL NAME	TYPE	STYLE	VERTICAL CHANGE (M)	GRADIENT %	STAGE	STRATEGIC VALUE	CLASSIFICATION	LENGTH (M)
XC TRAILS									
GREEN TRAILS									
1	Green Climb	XC	Open XC			2		Green Circle	1166
2	Green Descent	XC	Flow			2		Green Circle	778
6	Green technical loop	XC	Technical XC			1		Green Circle	1244
9	Green Link	XC	Connector			1		Green Circle	173
C1	Link 1	XC	Connector			2		Green Circle	28
C2	Link 2	XC	Connector			1		Green Circle	27
								TOTAL Green Trail	3,416
BLUE TRAILS									
3	Blue Flow Descent 1	XC	Flow			2		Blue Square	790
4	Blue Flow Descent 2	XC	Flow			2		Blue Square	688
5	Blue Climb	XC	Open XC			1		Blue Square	560
7	Blue technical loop	XC	Technical XC			1		Blue Square	822
8	Blue technical descent	XC	Technical XC			1		Blue Square	463
								TOTAL Blue Trail	3,323
								TOTAL XC TRAIL	6,739
PARK TRAILS									
J1	Green Jump	PK	Jump			3		Green Circle	262
J2	Blue Jump	PK	Jump			1		Blue Square	234
J3	Blue Jump 2	PK	Jump			1		Blue Square	221
								TOTAL PARK TRAIL	717
								GRAND TOTAL TRAILS	7,456

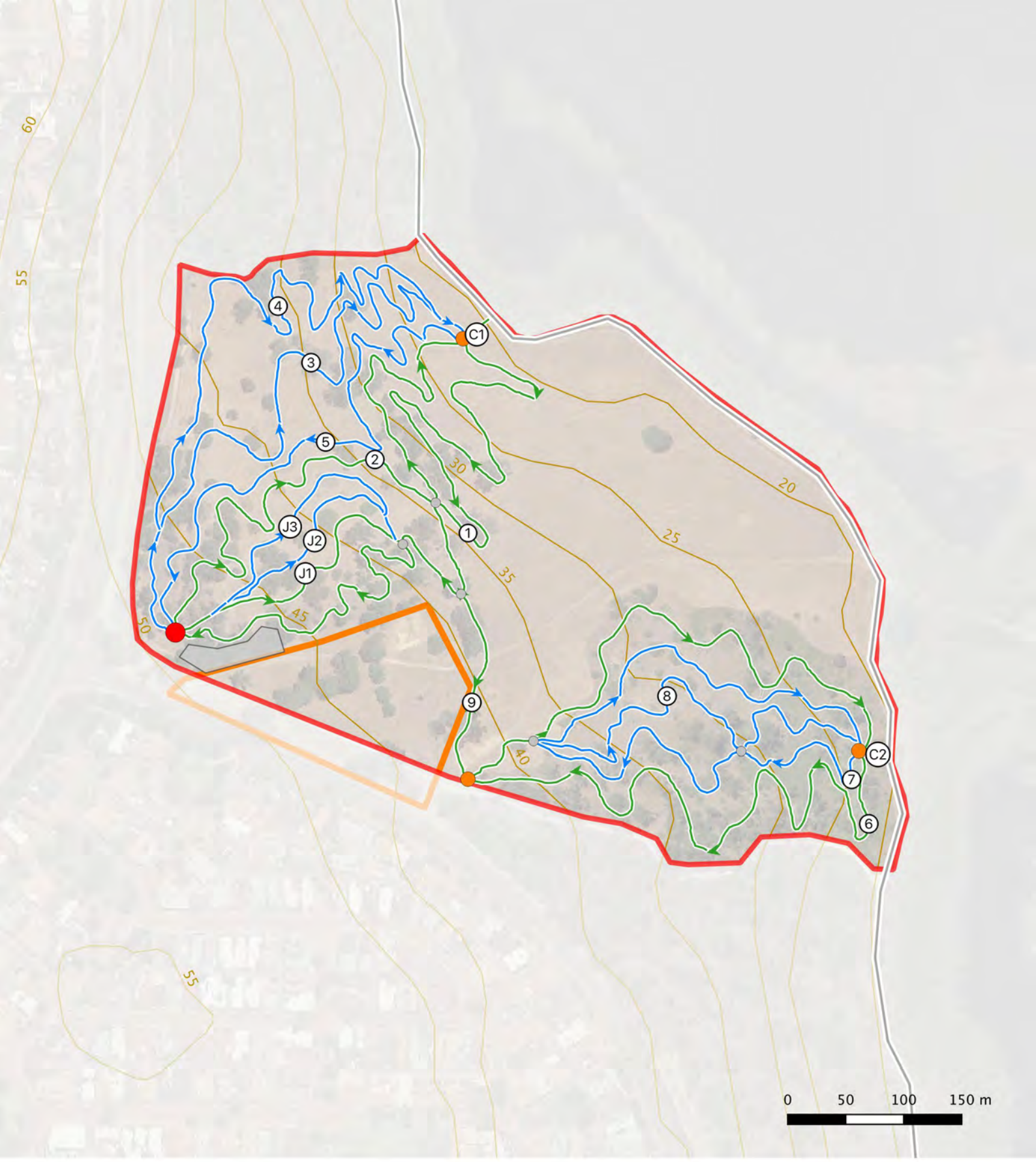


Figure 11: Overall Trail Network

NETWORK DETAIL

TRAIL STYLE OVERVIEW

The Yellagonga concept has been designed with three distinct styles of trails to create a network which caters for a diverse range of users. The following pages detail the intent of the Flow Zone, Technical Zone and Park Zone and the varied loops they create.

FLOW ZONE

The Flow Zone is accessed directly from the primary trail head or via the Yaberoo Budjara Heritage Trail.

Starting at the primary trail head the trails loop in a clockwise direction taking in the open woodland. In the open woodland areas the trail will have a more open style with small magnitude features and long feature frequency enabling a bit of speed to be generated if desired.

The Flow Zone will be enjoyable for riders of all levels to ride. The trail ranges in vertical variation of up to 50m, containing a descent and climb back up to the primary trail head. These trails also have potential to be constructed to be suitable for adaptive bicycle use.

Trail nodes strategically placed along these trails enable a multitude of different route choices for the recreational rider and increases the options for event circuits. In a race scenario there is the potential to reverse the direction of one of these trails allowing for a longer race course.

The flow trails are best created using small machinery up to 1.5m wide to a create an open and highly predicable trail with good sight lines.

TECHNICAL ZONE

The Technical Zone provides a different style of trail with tighter technical XC style and a high frequency of features. Accessed via a link trail from Trail 1 the Technical Zone contains a green loop and blue loop and an additional blue descent,

Trail nodes strategically placed along these trails enable a multitude of different route choices for the recreational rider and increases the options for event circuits.

The Technical Zone trails will be best created using a combination of hand build and small machinery up to 0.9m wide to a create an intimate and traditional style flowing single track trail which focuses on predictability and fun.

PARK ZONE

The higher impact Park style trails, have been strategically located close to the trail head in the open woodland area. The jump trails will feature jumps and berms ranging from easy rollers and berms to table tops, gap jumps and steep sharp turns including shark fin style turns. They will be fast, wide and open style trails with a highly manufactured feel. In order to generate the speed levels required for these trails a roll in feature to build immediate speed should be considered at the intersection trail head, this could be integrated with the pump track. These trails have been designed to allow sessionable loops using the beginner XC loop as a return trail. Visual impact can be mitigated with a revegetation strategy.

SKILLS FEATURES

It is proposed that the top section of the climb on the beginner XC loop be used as a skills loop combined with the green jump trail and with features and optional lines added. Being close to the primary trail head and proposed pump track this section of trail is the ideal location for a skills loop.

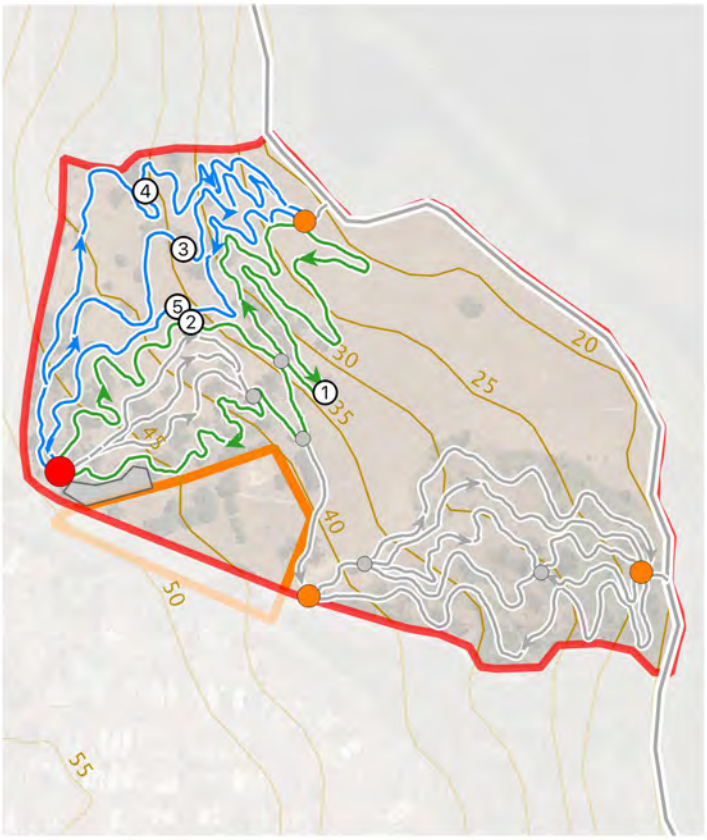


Figure 12: Flow Zone

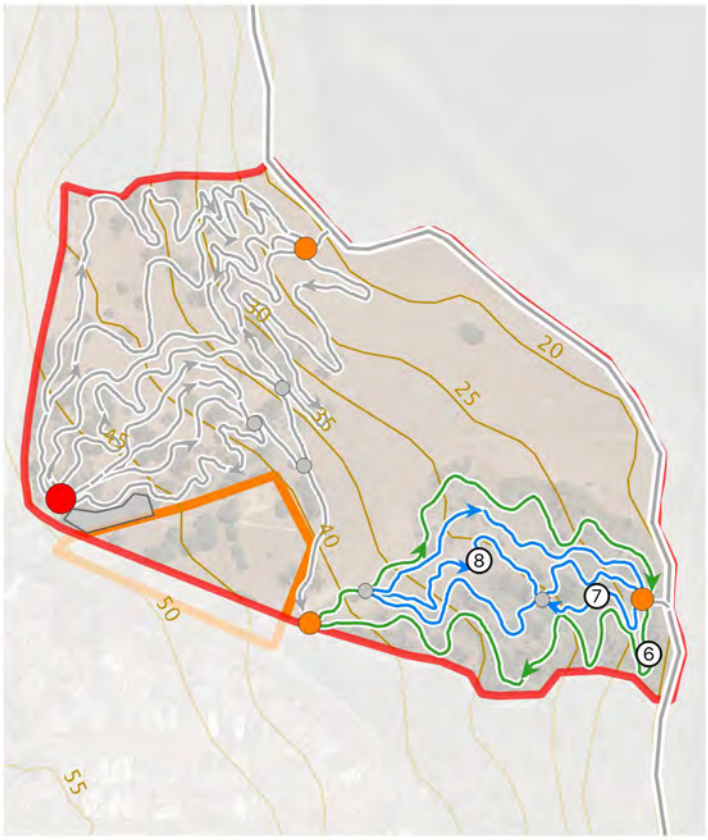


Figure 13: Technical Zone

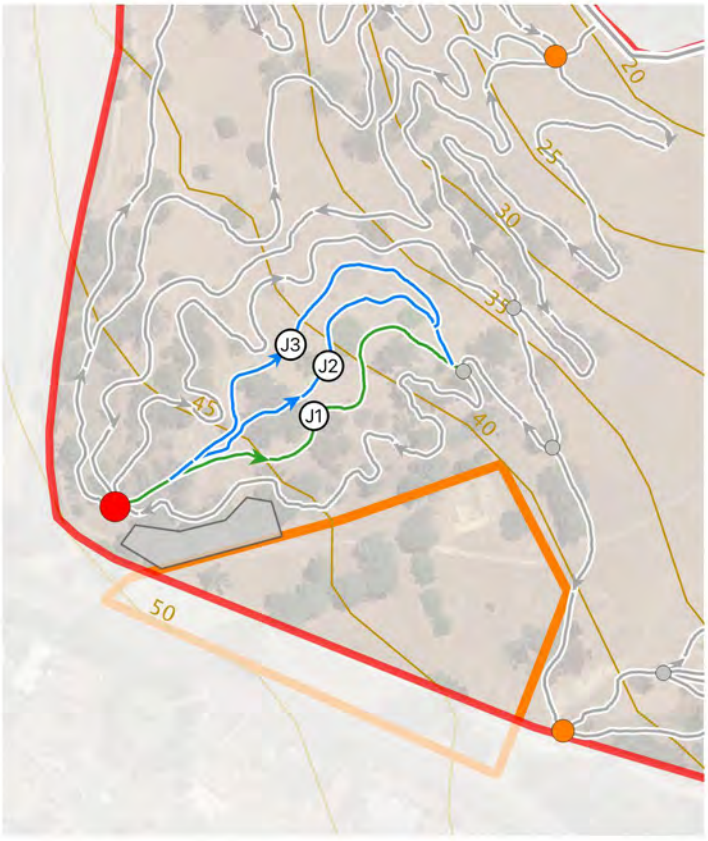


Figure 14: Park Zone

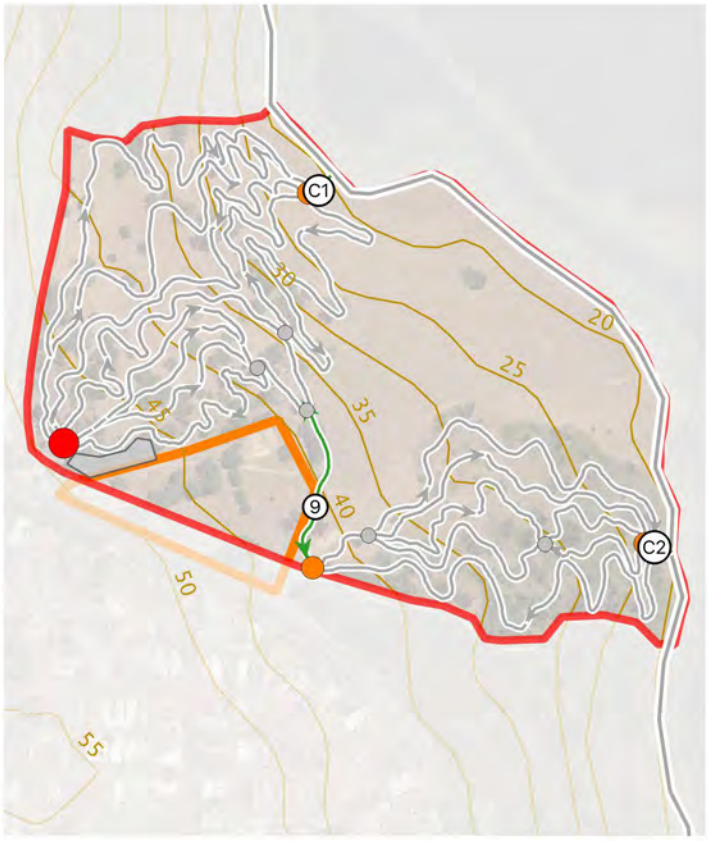


Figure 15: Link Trails

Start/finish straight

Figure 16: Examples of possible race routes.

INFRASTRUCTURE

A range of infrastructure is required to ensure the proposed trails are accessible, safe and enjoyable.

TRAIL HEAD

Most important is the trail head which fulfils a number of important functions:

- Is visible and a safe place to leave a vehicle.
- Provides needs of trail users – water, toilets, bins, information and car parking
- Bike Maintenance facilities
- Encourages social interaction as the primary meeting place and finishing point for users.
- Promotes positive use of the site through additional infrastructure such as seating, shelters, landscaping
- Is easily accessible and promoted to suit visitors of all mobility
- Provides all of the necessary trail information to plan a ride through good signage and also considers inclusion of interpretation signage.

Trail heads require a range of infrastructure to meet these functions. Inclusions range from essential through to desirable and are dependent on budget and location.

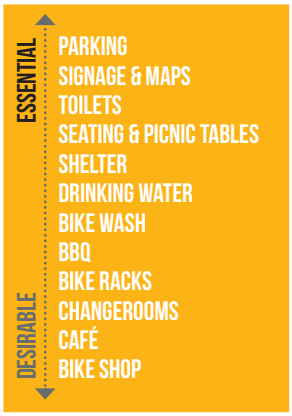


Figure 17: Trailhead requirements

The location of the proposed future carpark and commercial development has been determined in discussion with DBCA. Design of layout and capacity is beyond the scope of this concept plan to determine. There are currently no amenities on site, with informal parking occurring on Joondalup Drive and Lakeside Drive. Inclusion of facilities such as toilets and other day use facilities will be determined in detailed design of the precinct. It is recommended that detailed design and construction of the carpark be completed at the same time as the MTB trail network.

In addition to the primary trail heads, proposed secondary trail heads, incorporating signage only, are located at the connecting trails off of the Yaberoo Budjara Heritage Trail and at the start of the technical trails.

The Table below provides a summary of the proposed Trail Heads, as well as the existing and proposed amenities and facilities. Multiple mountain bike trail loops of varying length and classifications can be accessed from each trail heads creating large diversity in the overall network.

TRAIL HEAD DESCRIPTIONS

CAR PARK TRAIL HEAD (PRIMARY)

A primary trail head is proposed at the proposed new car park site, located close to parking and the proposed commercial development. This is the starting point for the beginner XC loop and the longer intermediate XC loop. Detailed information regarding the jump trails should also be provided at this location. A pump track and structured jump lines in this location will further activate the zone providing a hub of activity for riders and their friends/family.

The primary trail head location satisfies the following best practice principles for trail head location and design;

- Located at the start of the trail network
- Easy to find location
- Visible to passing traffic deterring antisocial behaviour and promoting positive mountain biking image.
- Sufficient space to cater for recreational use.

TECHNICAL TRAILS TRAIL HEAD (SECONDARY)

The Technical Trails Trailhead is located south of the proposed carpark and will capture users accessing the site on foot or bike from informal park entry points. Information on the network and available trails should be provided here.

YABEROO TRAIL TRAIL HEADS (SECONDARY)

These trailheads are located at the bottom of the hill where the network connects to the Yaberoo Budjara Heritage Trail and will capture users accessing the site on foot or bike from the Yaberoo Budjara Heritage Trail. Information on the network and available trails should be provided at these locations.

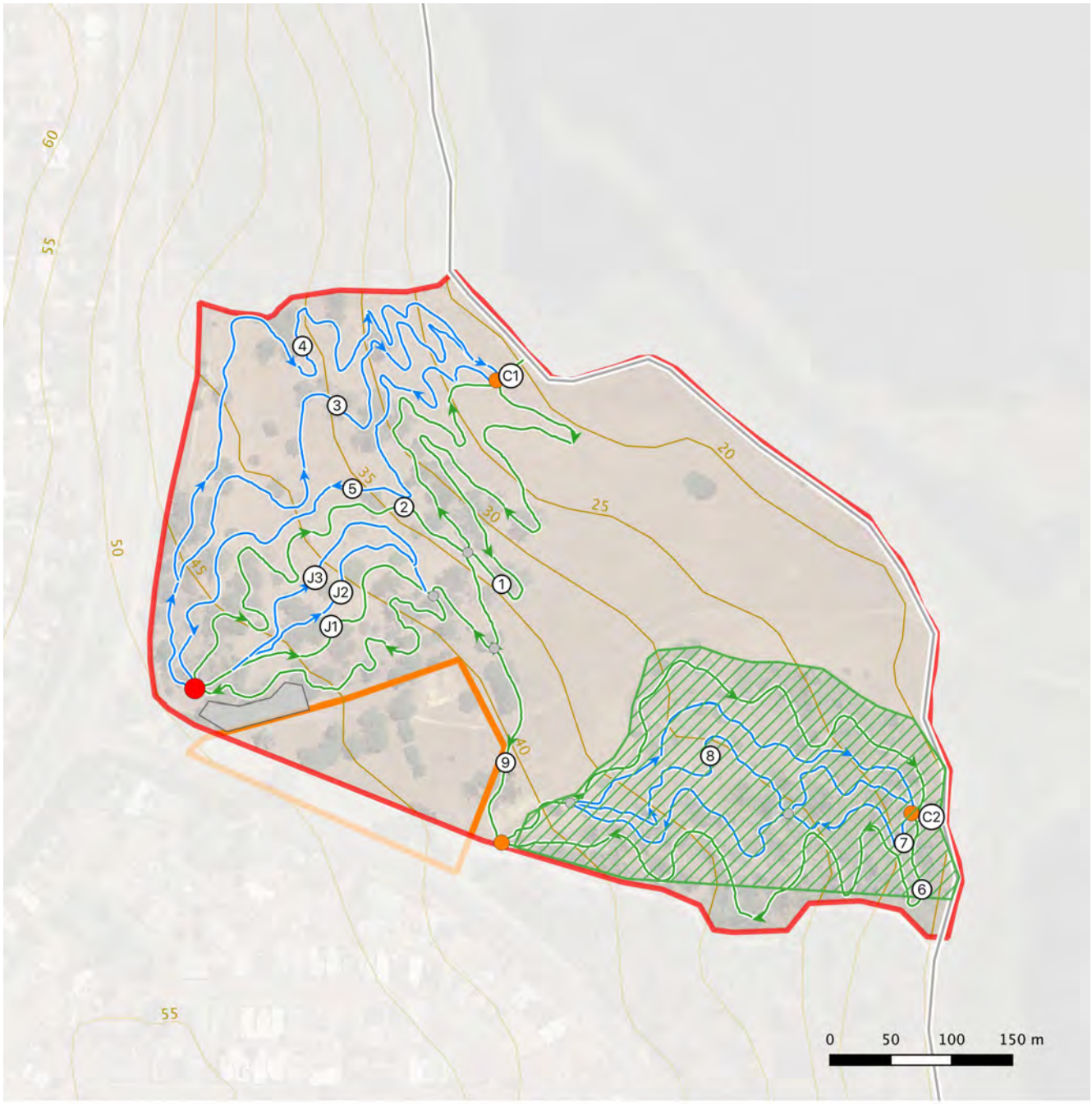
Table 2: Trail Heads, Amenities & Facilities

TRAIL HEAD	EXISTING AMENITIES AND FACILITIES	PROPOSED AMENITIES AND FACILITIES
Car Park Trail Head (Primary)	None	Signage, seating, picnic tables, shelter, toilet, water, BBQ, bike racks, equipment wash station
Technical Trails Trail Head (Secondary)	None	Signage
Yaberoo Trail Trail Heads (Secondary)	None	Signage

REVEGETATION OPPORTUNITIES

Alongside development of the mountain bike trail network there is also opportunity to implement a program of revegetation works, with a collaborative approach between Parks and Wildlife, Friends of Yellagonga Regional Park and the Northern Beaches Cycle Club. Using a selection of indigenous species such a program has significant potential to enhance the park environment and improve visitor experience.

It is recommended that the gully and open woodland in the south of the project area are most suited to this sort of program. The area surrounding the primary trail head and carpark/commercial development should have a less intense revegetation strategy, with the intent of retaining the parkland character of this zone, in line with the style of trail proposed here.



PUMP TRACK AND JUMP LINES

It is recommended that a pump track and structured jump lines be investigated in the area close to the primary trail head. Recent assessments undertaken by the City of Joondalup indicated a need for a regional scale pump and jump track facility in the area, the Yellagonga site is ideally suited to host such a facility which would compliment the proposed mountain bike trail network nicely. Design for such a facility would ideally be undertaken concurrently with detailed design of the trail network to ensure seamless integration. Construction can easily be staged with the trail network progressing independant of the pump track proposal if need be. Location of the pump track is to be determined this concept plan indicatively places the facility close to the primary trailhead and carpark.

Figure 18: Kingsley Pump and Jump Track, Shepherds Bush

INDIVIDUAL TRAIL SUMMARIES

GREEN CLIMB

Trail ID 01

CLASSIFICATION
EASY
GREEN CIRCLE

TRAIL TYPE
XC CROSS COUNTRY
OPEN

TRAIL LENGTH
1166M CLIMBING
SINGLE DIRECTION

AVERAGE GRADIENT
2% 27M VERTICAL
27M VARIATION

TRAIL WIDTH
0.9M SMOOTH
CONSTRUCTED

TRAIL 1 OVERVIEW

Trail 01, green climb, is an easy - green circle graded cross country trail with open style. It is a single direction, single use - bike optimised trail.

The trail is situated within the open woodland and provides an easy climb from the secondary trailhead to the primary trailhead. The terrain is generally uniform featuring strong side slopes and sandy soils.

The trail user objective for this trail is play. This results in a trail that has winding sinuosity with minimal features.

As part of the beginner loop and linking into the return trail for the jump trails it is of high importance to the overall functionality of the network design.

The intended trail width is 0.9m wide with a smooth surface. It will be optimised for hand cyclists. Construction should be by machine of up to 2t or 900mm wide machine.

TRAIL 1 DETAILS

Trail ID	01
Provisional Name	Green Climb
Classification	Easy - Green Circle
Strategic Value	High
Trail Type	XC - Cross Country
Trail Style	Open
Tread Width	0.9m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Varies
Options	Skills features on climb
Corridor Width	30m
Trail Length	1166m
Vertical Range	27m
Elevation Variation	27m
Prevailing Cross Slopes	Moderate >Strong
Average Trail Gradient	2%
Maximum Trail Gradient	15% up to 20m
Minimum Line of Sight	Minimum 10m
Qualifier / Filter	None

ANTICIPATED TECHNICAL TRAIL FEATURES

TURNS

Descending Turn
Climbing Turn
Climbing Switchback
Insloped Climbing Turn
Insloped Turn

VERTICAL CHANGE

Roller
Grade Reversal

OBSTACLES

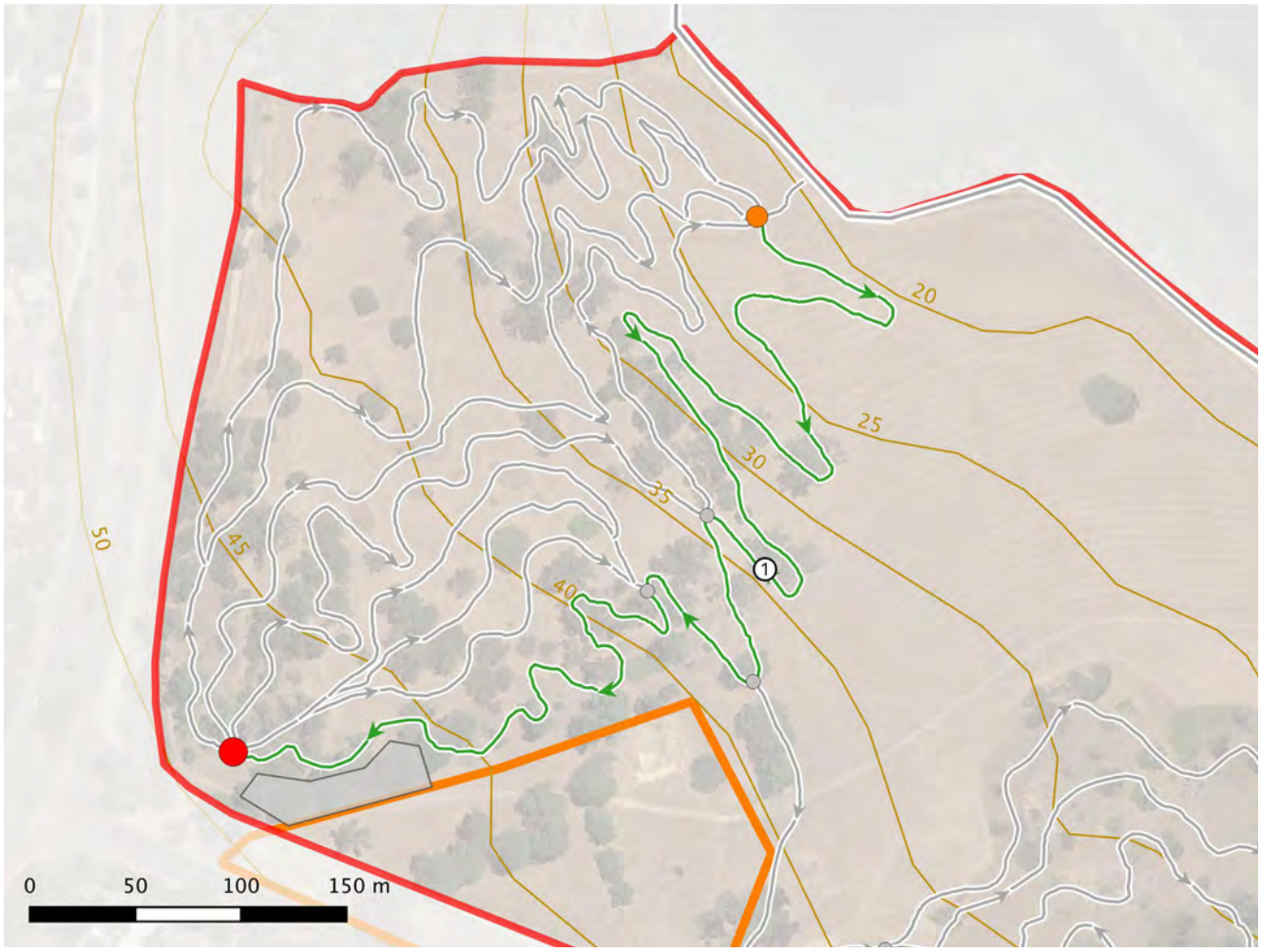
Chicane
Choke

TRAIL 01 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD	GOOD			**DEGRADED**
TRAIL TYPE	TOURING	**CROSS COUNTRY**	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	PARK
TRAIL STYLE	TECHNICAL	NATURAL	**OPEN**	FLOWING	FLOW TRAIL	FREERIDE
ORIENTATION	ASCENT ONLY	**UNDULATING ASCENT**	CONTOURING	UNDULATING DESCENT		DESCENT ONLY
FLOW / SINUOSITY	IRREGULAR	STRAIGHT	**WINDING**			FLOWING
SCALE	VERY NARROW	NARROW	**OPEN**	WIDE		VERY WIDE
ROUGHNESS	VERY ROUGH	ROUGH	**SMOOTH**			GROOMED
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED	**CONSTRUCTED**			IMPORTED MMTTF
FEATURE FREQUENCY	NONE	**VERY LONG**	LONG	MODERATE		SHORT
FEATURE MAGNITUDE	NONE	**SMALL**	MEDIUM	LARGE		VERY LARGE
EXPOSURE	VERY HIGH	HIGH	MEDIUM	LOW		**VERY LOW**

TRAIL 01 BENCHMARK & PRECEDENT IMAGERY

TRAIL 01 ALIGNMENT



GREEN DESCENT

Trail ID 02

CLASSIFICATION	TRAIL TYPE	TRAIL LENGTH	AVERAGE GRADIENT	TRAIL WIDTH
EASY GREEN CIRCLE	XC CROSS COUNTRY FLOW TRAIL	778M DESCENDING SINGLE DIRECTION	3% 25M VERTICAL 25M VARIATION	1.2M GROOMED CONSTRUCTED

TRAIL 02 OVERVIEW

Trail 02, Green descent, is a beginner easy graded cross country descending trail with flow trail style. It is a single direction, single use - bike optimised trail.

It is located within the open woodland and forms part of the flow riding zone. It is a 778m long descending trail which has a vertical change of 25m with an average gradient of 3%.

The trail is situated within a woodland setting with a degraded understory. The terrain is generally uniform featuring moderate side slopes and sandy soils.

The trail user objective for this trail is play. This results in a trail that has flowing sinuosity with wide finish. It features constructed technical trail features with moderate feature frequency of medium magnitude.

Trail 02 originates at the primary trail head and terminates at its junction with trail 01 and the Yaberoo Trail Trail head. As part of the flow zone it is of moderate importance to the overall functionality of the network design.

The intended trail with is 1.2M wide with a groomed surface. Construction should be by machine of up to 2.5T or 1500mm wide machine.

TRAIL 2 DETAILS

Trail ID	02
Provisional Name	Green Descent
Classification	Easy - Green Circle
Strategic Value	Moderate
Trail Type	XC - Cross Country
Trail Style	Flow Trail
Tread Width	1.2m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Descending
Options	NIL
Corridor Width	30m
Trail Length	778m
Vertical Range	25m
Elevation Variation	25m
Prevailing Cross Slopes	Moderate
Average Trail Gradient	3%
Maximum Trail Gradient	15% up to 20m
Minimum Line of Sight	Minimum 10m
Qualifier / Filter	None

ANTICIPATED TECHNICAL TRAIL FEATURES

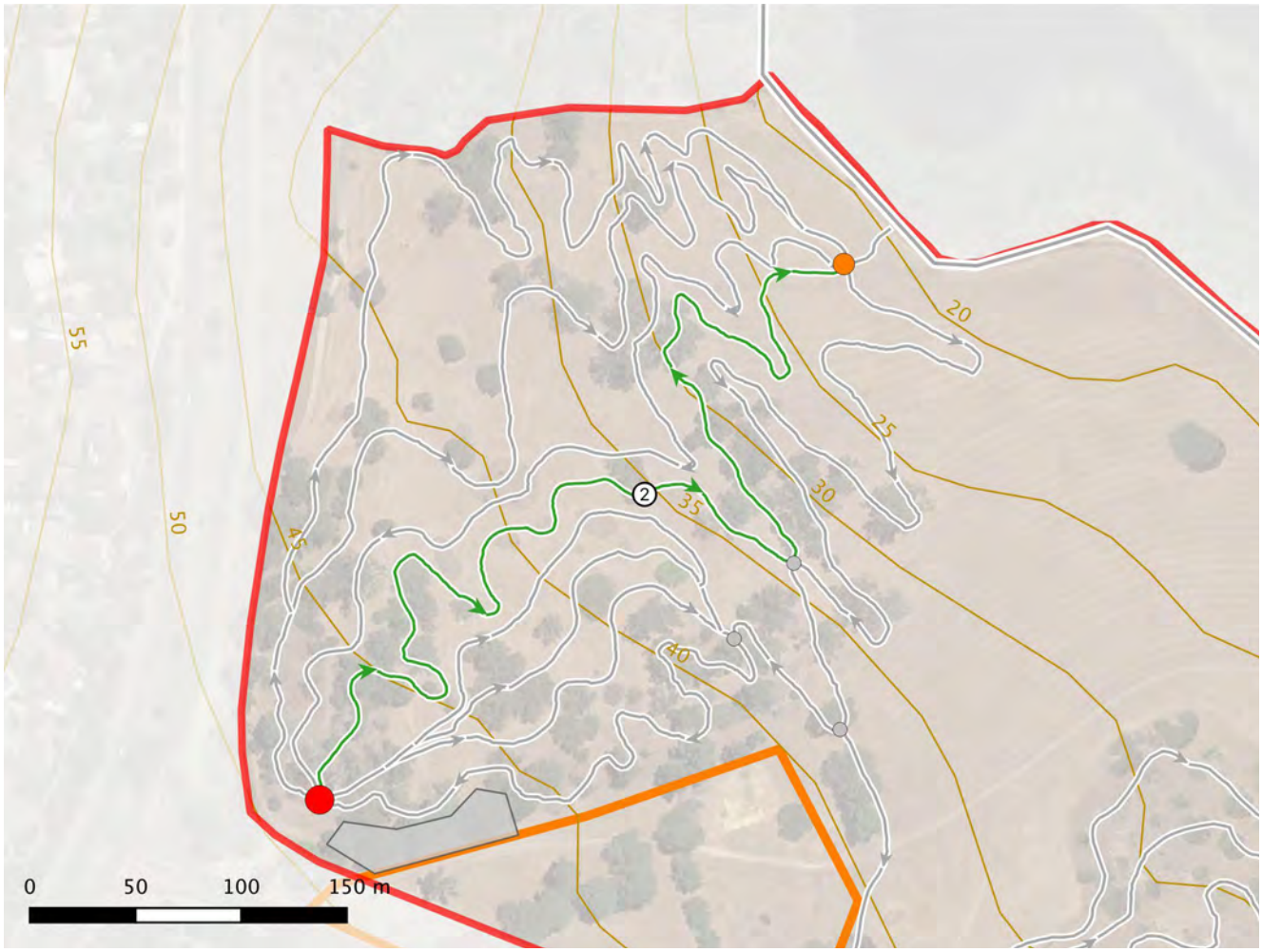
TURNS	VERTICAL CHANGE	OBSTACLES
Berm	Double Roller	Chicane
Descending Switchback	Rollers	Choke
Insloped Descending Turn	Grade Reversal	
Insloped Turn		
Outsloped Turn		
Rising Catch Turn		

TRAIL 02 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD	GOOD			**DEGRADED**
TRAIL TYPE	TOURING	**CROSS COUNTRY**	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	PARK
TRAIL STYLE	TECHNICAL	NATURAL	OPEN	FLOWING	**FLOW TRAIL**	FREERIDE
ORIENTATION	ASCENT ONLY	UNDULATING ASCENT	CONTOURING	UNDULATING DESCENT		**DESCENT ONLY**
FLOW / SINUOSITY	IRREGULAR	STRAIGHT	WINDING			**FLOWING**
SCALE	VERY NARROW	NARROW	OPEN	**WIDE**		VERY WIDE
ROUGHNESS	VERY ROUGH	ROUGH	SMOOTH			**GROOMED**
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED	**CONSTRUCTED**			IMPORTED MMTTF
FEATURE FREQUENCY	NONE	VERY LONG	LONG	**MODERATE**		SHORT
FEATURE MAGNITUDE	NONE	SMALL	**MEDIUM**	LARGE		VERY LARGE
EXPOSURE	VERY HIGH	HIGH	MEDIUM	LOW		**VERY LOW**

TRAIL 02 BENCHMARK & PRECEDENT IMAGERY

TRAIL 02 ALIGNMENT



BLUE FLOW DESCENT 1

Trail ID 03

CLASSIFICATION	TRAIL TYPE	TRAIL LENGTH	AVERAGE GRADIENT	TRAIL WIDTH
INTERMEDIATE BLUE SQUARE	XC CROSS COUNTRY FLOW	790M DESCENDING SINGLE DIRECTION	3% 27M VERTICAL 27M VARIATION	1.2M SMOOTH NIL

TRAIL 3 OVERVIEW

Trail 03, blue flow descent 1, is an intermediate blue square graded cross country descending trail with flow style. It is a single direction, single use - bike optimised trail.

It is located within the open woodland and forms part of the flow riding zone. It is a 790m long descending trail which has a vertical change of 27m with an average gradient of 3%.

The trail is situated within a woodland setting with a degraded understory. The terrain is generally uniform featuring moderate side slopes and sandy soils.

The trail user objective for this trail is play and challenge. This results in a trail that has winding sinuosity with narrow finish. It features enhanced technical trail features with moderate feature frequency of medium magnitude.

Trail 03 originates at the primary trail head and terminates at its junction with trail 01 and the Yaberoo Trail Trail head. As part of the flow zone it is of moderate importance to the overall functionality of the network design.

The intended trail with is 1.2M wide with a groomed surface. Construction should be by machine of up to 2.5T or 1500mm wide machine.

TRAIL 3 DETAILS

Trail ID	03
Provisional Name	Blue Flow Descent 1
Classification	Intermediate Blue Square
Strategic Value	Moderate
Trail Type	XC - Cross Country
Trail Style	Flow
Tread Width	1.2m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Climbing
Options	NIL
Corridor Width	30m
Trail Length	790m
Vertical Range	27m
Elevation Variation	27m
Prevailing Cross Slopes	Moderate
Average Trail Gradient	3%
Maximum Trail Gradient	20% up to 50m
Minimum Line of Sight	Minimum 10m
Qualifier / Filter	None

ANTICIPATED TECHNICAL TRAIL FEATURES

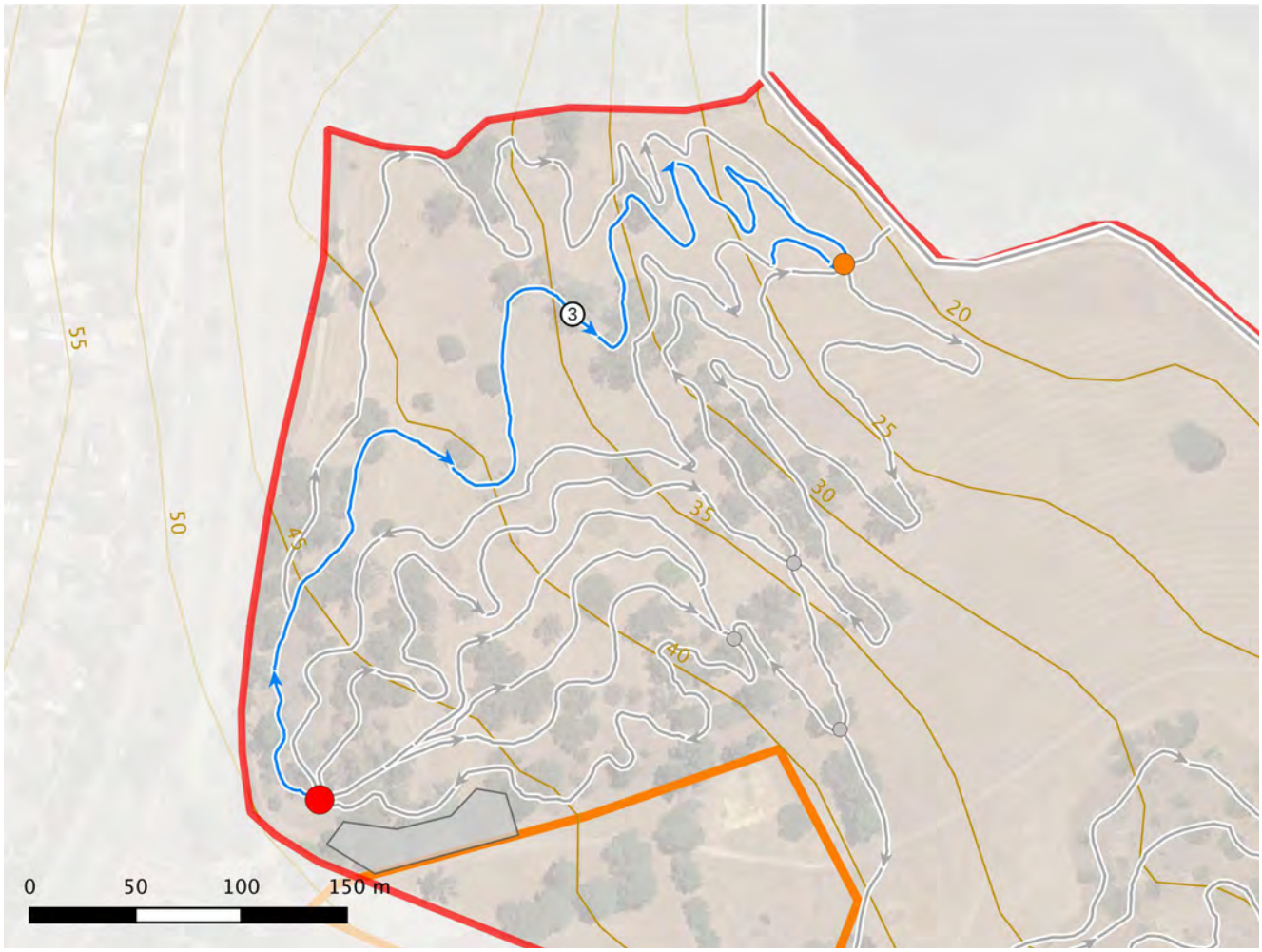
TURNS	VERTICAL CHANGE	OBSTACLES
Berm	Roller	Chicane
Descending Switchback	Grade Reversal	Choke
Insloped Descending Turn		
Insloped Turn		
Outsloped Turn		
Rising Catch Turn		

TRAIL 03 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD		GOOD		**DEGRADED**
TRAIL TYPE	TOURING	**CROSS COUNTRY**	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	PARK
TRAIL STYLE	TECHNICAL	NATURAL	OPEN	FLOWING	**FLOW TRAIL**	FREERIDE
ORIENTATION	ASCENT ONLY	UNDULATING ASCENT	CONTOURING	UNDULATING DESCENT		**DESCENT ONLY**
FLOW / SINUOSITY	IRREGULAR	STRAIGHT		**WINDING**		FLOWING
SCALE	VERY NARROW	NARROW	**OPEN**	WIDE		VERY WIDE
ROUGHNESS	VERY ROUGH	ROUGH		**SMOOTH**		GROOMED
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED		**CONSTRUCTED**		IMPORTED MMTTF
FEATURE FREQUENCY	NONE	VERY LONG	**LONG**	MODERATE		SHORT
FEATURE MAGNITUDE	NONE	SMALL	**MEDIUM**	LARGE		VERY LARGE
EXPOSURE	VERY HIGH	HIGH	MEDIUM	LOW		**VERY LOW**

TRAIL 03 BENCHMARK & PRECEDENT IMAGERY

TRAIL 03 ALIGNMENT



BLUE FLOW DESCENT 2

Trail ID 04

CLASSIFICATION	TRAIL TYPE	TRAIL LENGTH	AVERAGE GRADIENT	TRAIL WIDTH
INTERMEDIATE BLUE SQUARE	XC CROSS COUNTRY FLOW	688M DESCENDING SINGLE DIRECTION	4% 27M VERTICAL 27M VARIATION	1.2M SMOOTH NIL

TRAIL 4 OVERVIEW

Trail 04, blue flow descent 2, is a moderate - blue square graded cross country descending trail with flow trail style. It is a single direction, single use - bike optimised trail.

It is located within the woodland area and forms part of the flow trails. It is a 688m long descending trail which has a vertical change of 27m with an average gradient of 4%.

The trail is situated within a woodland setting with a degraded understory. The terrain is generally uniform featuring moderate side slopes and sandy soils.

The trail user objective for this trail is play and challenge. This results in a trail that has winding sinuosity with narrow finish. It features enhanced technical trail features with moderate feature frequency of medium magnitude.

Trail 04 leaves trail 3 just east of the primary trailhead and rejoins trail 3 at the bottom of the hill. As part of the flow network it is of moderate importance to the overall functionality of the network design.

The intended trail with is 1.2M wide with a groomed surface. Construction should be by machine of up to 2T or 900mm wide machine.

TRAIL 3 DETAILS

Trail ID	04
Provisional Name	Blue Flow Descent 2
Classification	Intermediate Blue Square
Strategic Value	Moderate
Trail Type	XC - Cross Country
Trail Style	Flow
Tread Width	1.2m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Climbing
Options	NIL
Corridor Width	30m
Trail Length	688m
Vertical Range	27m
Elevation Variation	27m
Prevailing Cross Slopes	Moderate
Average Trail Gradient	4%
Maximum Trail Gradient	20% up to 50m
Minimum Line of Sight	Minimum 10m
Qualifier / Filter	None

ANTICIPATED TECHNICAL TRAIL FEATURES

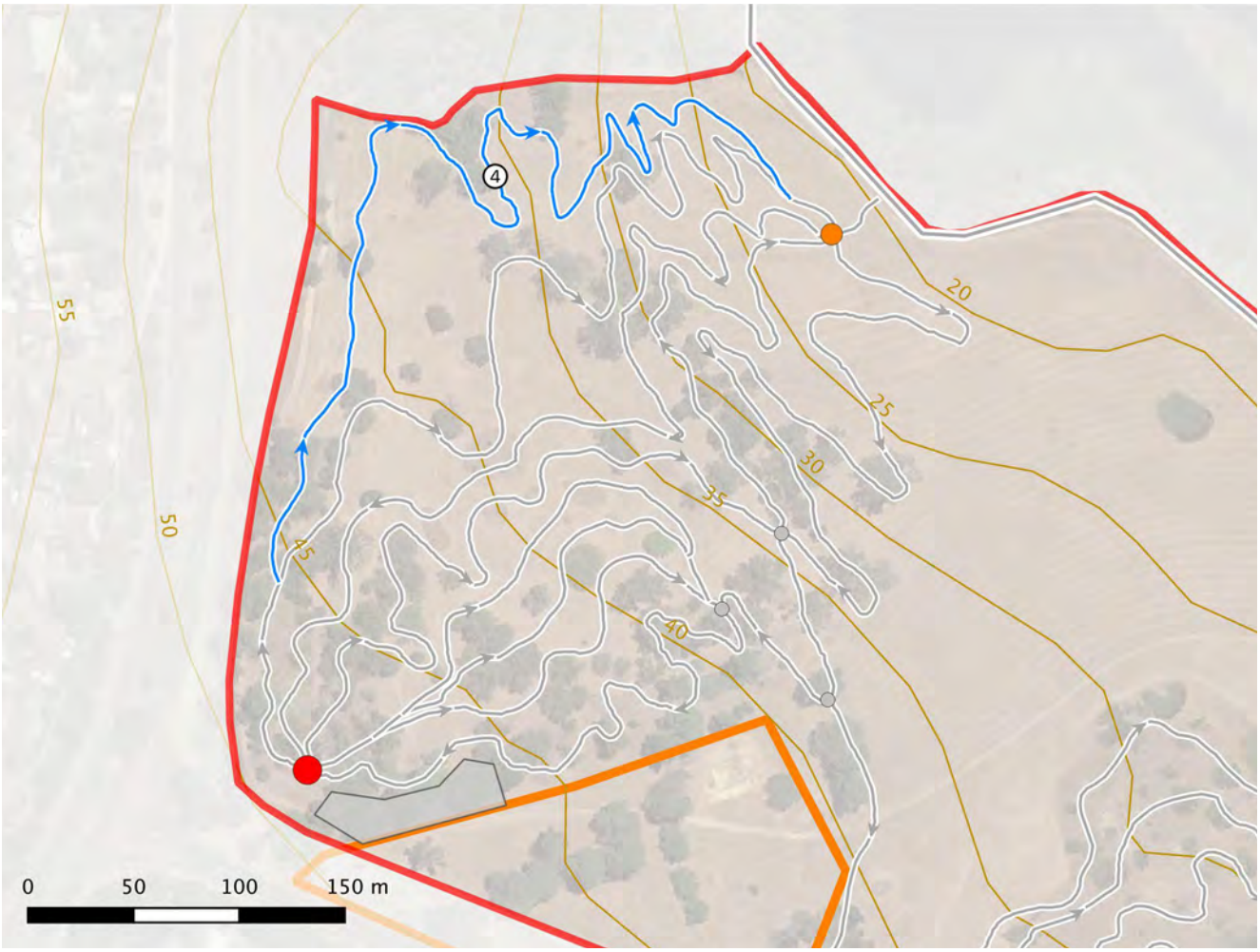
TURNS	VERTICAL CHANGE	OBSTACLES
Berm	Roller	Chicane
Descending Switchback	Grade Reversal	Choke
Insloped Descending Turn		
Insloped Turn		
Outsloped Turn		
Rising Catch Turn		

TRAIL 03 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD	GOOD			**DEGRADED**
TRAIL TYPE	TOURING	**CROSS COUNTRY**	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	PARK
TRAIL STYLE	TECHNICAL	NATURAL	OPEN	FLOWING	**FLOW TRAIL**	FREERIDE
ORIENTATION	ASCENT ONLY	UNDULATING ASCENT	CONTOURING	UNDULATING DESCENT	**DESCENT ONLY**	
FLOW / SINUOSITY	IRREGULAR	STRAIGHT	**WINDING**			FLOWING
SCALE	VERY NARROW	NARROW	**OPEN**	WIDE		VERY WIDE
ROUGHNESS	VERY ROUGH	ROUGH	**SMOOTH**			GROOMED
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED	**CONSTRUCTED**			IMPORTED MMTTF
FEATURE FREQUENCY	NONE	VERY LONG	**LONG**	MODERATE		SHORT
FEATURE MAGNITUDE	NONE	SMALL	**MEDIUM**	LARGE		VERY LARGE
EXPOSURE	VERY HIGH	HIGH	MEDIUM	LOW		**VERY LOW**

TRAIL 04 BENCHMARK & PRECEDENT IMAGERY

TRAIL 04 ALIGNMENT



BLUE CLIMB

Trail ID 05

CLASSIFICATION
MODERATE
BLUE SQUARE

TRAIL TYPE
XC CROSS COUNTRY
OPEN

TRAIL LENGTH
560M CLIMBING
SINGLE DIRECTION

AVERAGE GRADIENT
5% 27M VERTICAL
27M VARIATION

TRAIL WIDTH
0.6M GROOMED
ENHANCED

TRAIL 05 OVERVIEW

Trail 05, blue climb, is a moderate - blue square graded cross country climbing trail with open style. It is a single direction, single use - bike optimised trail.

It is located within the open woodland and forms part of the flow riding zone. It is a 560m long climbing trail which has a vertical change of 27m with an average gradient of 5%.

The trail is situated within a woodland setting with a degraded understory. The terrain is generally uniform featuring moderate side slopes and sandy soils.

The trail user objective for this trail is play and challenge. This results in a trail that has winding sinuosity with narrow finish. It features enhanced technical trail features with moderate feature frequency of medium magnitude.

Trail 05 originates at the trail node along trail 01 at the bottom of the slope and terminates at the primary trailhead at the top of the slope. As part of the XC network it is of moderate importance to the overall functionality of the network design.

The intended trail width is 0.6M wide with a groomed surface. Construction should be by machine of up to 2T or 900mm wide machine.

TRAIL 05 DETAILS

Trail ID	05
Provisional Name	Blue Climb
Classification	Moderate - Blue Square
Strategic Value	Moderate
Trail Type	XC - Cross Country
Trail Style	Technical
Tread Width	0.6m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Climbing
Options	Black features on optional lines
Corridor Width	30m
Trail Length	560m
Vertical Range	27m
Elevation Variation	27m
Prevailing Cross Slopes	Moderate
Average Trail Gradient	5%
Maximum Trail Gradient	20% up to 50m
Minimum Line of Sight	Minimum 7.5m
Qualifier / Filter	Technical Trail Filter

ANTICIPATED TECHNICAL TRAIL FEATURES

TURNS
Climbing Turn
Insloped Climbing Turn
Insloped Turn
Outsloped Turn
Technical Climbing Turn
Technical Inside Line

VERTICAL CHANGE
Grade Reversal
Rollers

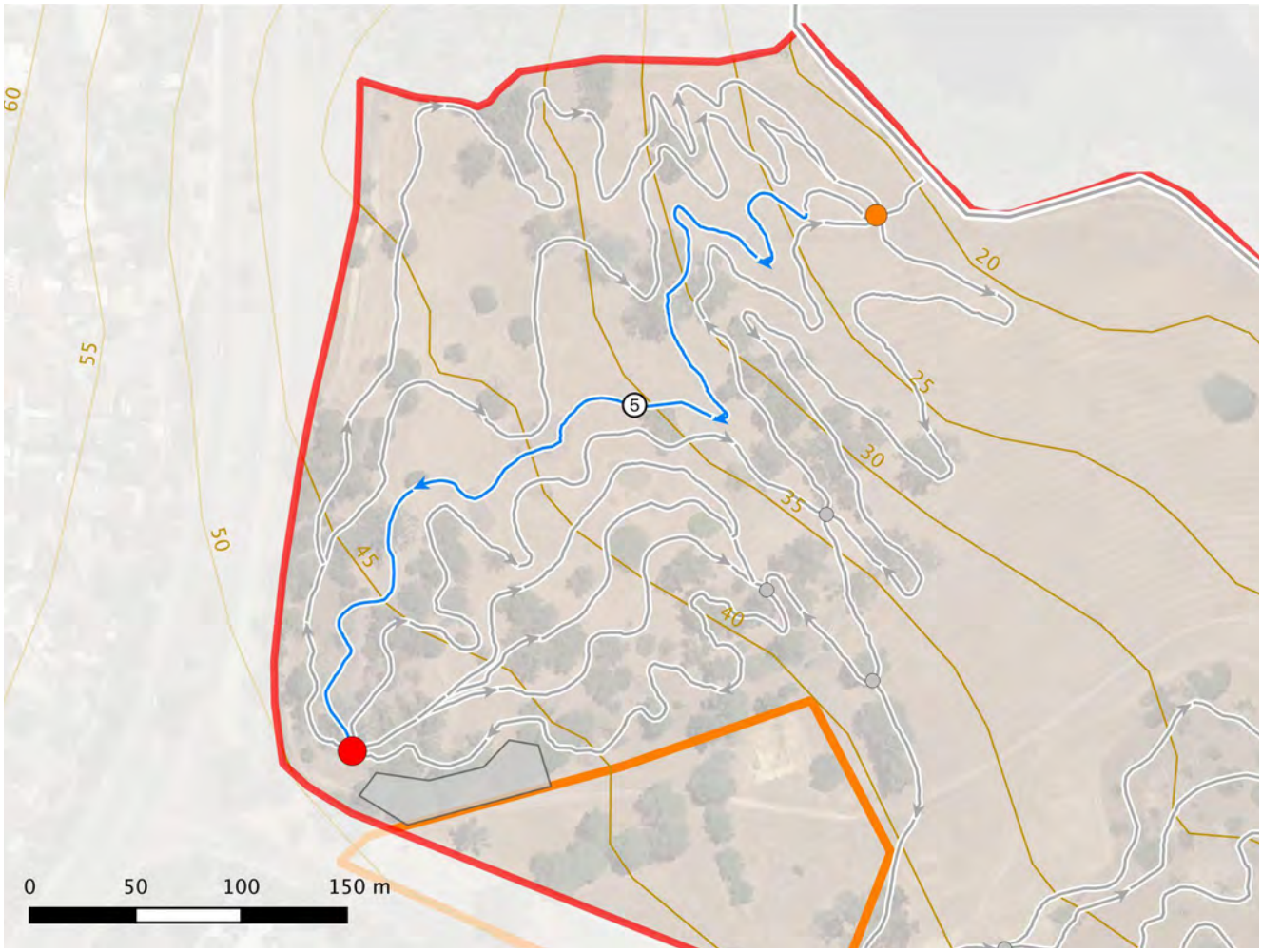
OBSTACLES
Chicane
Choke
Stabilised Roots

TRAIL 05 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD	GOOD			**DEGRADED**
TRAIL TYPE	TOURING	**CROSS COUNTRY**	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	PARK
TRAIL STYLE	TECHNICAL	NATURAL	**OPEN**	FLOWING	FLOW TRAIL	FREERIDE
ORIENTATION	**ASCENT ONLY**	UNDULATING ASCENT	CONTOURING	UNDULATING DESCENT	DESCENT ONLY	
FLOW / SINUOSITY	IRREGULAR	STRAIGHT	**WINDING**			FLOWING
SCALE	VERY NARROW	**NARROW**	OPEN	WIDE	VERY WIDE	
ROUGHNESS	VERY ROUGH	**ROUGH**	SMOOTH			GROOMED
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED	**CONSTRUCTED**			IMPORTED MMTTF
FEATURE FREQUENCY	NONE	VERY LONG	**LONG**	MODERATE	SHORT	
FEATURE MAGNITUDE	NONE	**SMALL**	MEDIUM	LARGE	VERY LARGE	
EXPOSURE	VERY HIGH	HIGH	MEDIUM	**LOW**	VERY LOW	

TRAIL 05 BENCHMARK & PRECEDENT IMAGERY

TRAIL 05 ALIGNMENT



GREEN TECHNICAL LOOP

Trail ID 06

CLASSIFICATION
EASY
GREEN CIRCLE

TRAIL TYPE
XC CROSS COUNTRY
TECHNICAL

TRAIL LENGTH
1244M CLIMBING/ DESCENDING
SINGLE DIRECTION

AVERAGE GRADIENT
3% 20M VERTICAL
40M VARIATION

TRAIL WIDTH
0.9M ROUGH
ENHANCED

TRAIL 06 OVERVIEW

Trail 6,green technical loop, is a easy - green circle graded cross country trail with natural style. It is a single direction, single use - bike optimised trail.

It is located within the open woodland and forms part of the XC network. It is a 1244m long trail which has a vertical change of 40m with an average gradient of 3%.

The trail is situated within open woodland with a degraded understory. The terrain is generally uniform featuring moderate side slopes and sandy soils.

The trail user objective for this trail is escape and play. This results in a trail that has straight sinuosity with narrow finish. It features enhanced technical trail features with very long feature frequency of small magnitude.

Trail 06 originates and terminates at the Techincal Trails secondary trailhead. As part of the XC network it is of high importance to the overall functionality of the network design.

The intended trail width is 0.9M wide with a rough surface. Construction should be a combination of hand build and by machine of up to 2t or 900mm wide machine.

TRAIL 06 DETAILS

Trail ID	06
Provisional Name	Green Techincal Loop
Classification	Easy - Green Circle
Strategic Value	High
Trail Type	XC - Cross Country
Trail Style	Technical
Tread Width	0.9m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Varies
Options	NIL
Corridor Width	30m
Trail Length	1244m
Vertical Range	40m
Elevation Variation	40m
Prevailing Cross Slopes	Moderate
Average Trail Gradient	3%
Maximum Trail Gradient	15% up to 20m
Minimum Line of Sight	Minimum 10m
Qualifier / Filter	Technical Trail Filter

ANTICIPATED TECHNICAL TRAIL FEATURES

TURNS
Climbing Turn
Insloped Climbing Turn
Insloped Descending Turn
Insloped Turn
Outsloped Turn

VERTICAL CHANGE
Grade Reversal
Roller

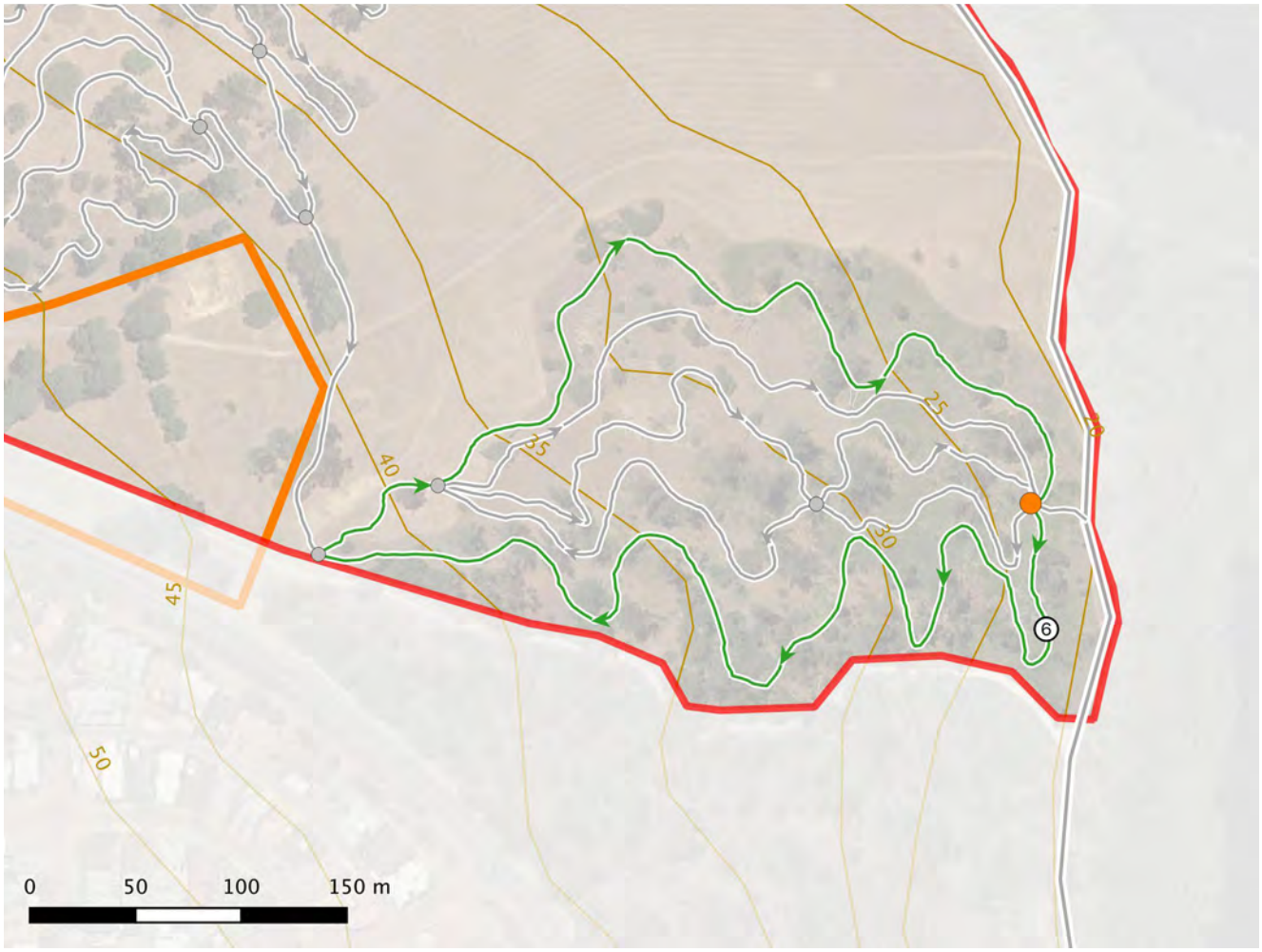
OBSTACLES
Chicane
Choke
Rock Armouring
Stabilised Root

TRAIL 6 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD	GOOD			**DEGRADED**
TRAIL TYPE	TOURING	**CROSS COUNTRY**	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	PARK
TRAIL STYLE	**TECHNICAL**	NATURAL	OPEN	FLOWING	FLOW TRAIL	FREERIDE
ORIENTATION	ASCENT ONLY	**UNDULATING ASCENT**	CONTOURING	**UNDULATING DESCENT**		DESCENT ONLY
FLOW / SINUOSITY	IRREGULAR	STRAIGHT	**WINDING**			FLOWING
SCALE	VERY NARROW	**NARROW**	OPEN	WIDE		VERY WIDE
ROUGHNESS	VERY ROUGH	**ROUGH**	SMOOTH			GROOMED
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED	**CONSTRUCTED**			IMPORTED MMTTF
FEATURE FREQUENCY	NONE	VERY LONG	LONG	**MODERATE**		SHORT
FEATURE MAGNITUDE	NONE	**SMALL**	MEDIUM	LARGE		VERY LARGE
EXPOSURE	VERY HIGH	HIGH	MEDIUM	LOW		**VERY LOW**

TRAIL 06 BENCHMARK & PRECEDENT IMAGERY

TRAIL 06 ALIGNMENT



BLUE TECHNICAL LOOP

Trail ID 07

CLASSIFICATION
MODERATE
BLUE SQUARE

TRAIL TYPE
XC CROSS COUNTRY
TECHNICAL

TRAIL LENGTH
822M CLIMBING
SINGLE DIRECTION

AVERAGE GRADIENT
4% 15M VERTICAL
30M VARIATION

TRAIL WIDTH
0.8M ROUGH
ENHANCED

TRAIL 07 OVERVIEW

Trail 07, blue open technical loop is a moderate - blue square graded cross country trail with technical style. It is a single direction, single use - bike optimised trail.

It is located within the open woodland and forms part of the XC network. It is a 822m long descending and climbing trail which has a vertical change of 15m with an average gradient of 4%.

The trail is situated within open woodland with a degraded understory. The terrain is generally uniform featuring moderate side slopes and sandy soils.

The trail user objective for this trail is escape and play. This results in a trail that has winding sinuosity with narrow finish. It features enhanced technical trail features with very long feature frequency of small magnitude.

Trail 07 originates and terminates from Trail 6 south of the Technical Secondary Trailhead. As part of the XC network it is of low importance to the overall functionality of the network design.

The intended trail with is 0.8M wide with a rough surface. Construction should be a combination of hand and machine of up to 2t or 900mm wide machine.

TRAIL 07 DETAILS

Trail ID	07
Provisional Name	Blue Technical Loop
Classification	Moderate - Blue Square
Strategic Value	Low
Trail Type	XC - Cross Country
Trail Style	Open
Tread Width	0.8m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Climbing
Options	Black features on optional lines
Corridor Width	30m
Trail Length	822m
Vertical Range	15m
Elevation Variation	30m
Prevailing Cross Slopes	Moderate
Average Trail Gradient	4%
Maximum Trail Gradient	20% up to 50m
Minimum Line of Sight	Minimum 7.5m
Qualifier / Filter	Technical Trail Filter

ANTICIPATED TECHNICAL TRAIL FEATURES

TURNS
Climbing Turn
Insloped Climbing Turn
Insloped Descending Turn
Insloped Turn
Outsloped Turn

VERTICAL CHANGE
Grade Reversal
Roller

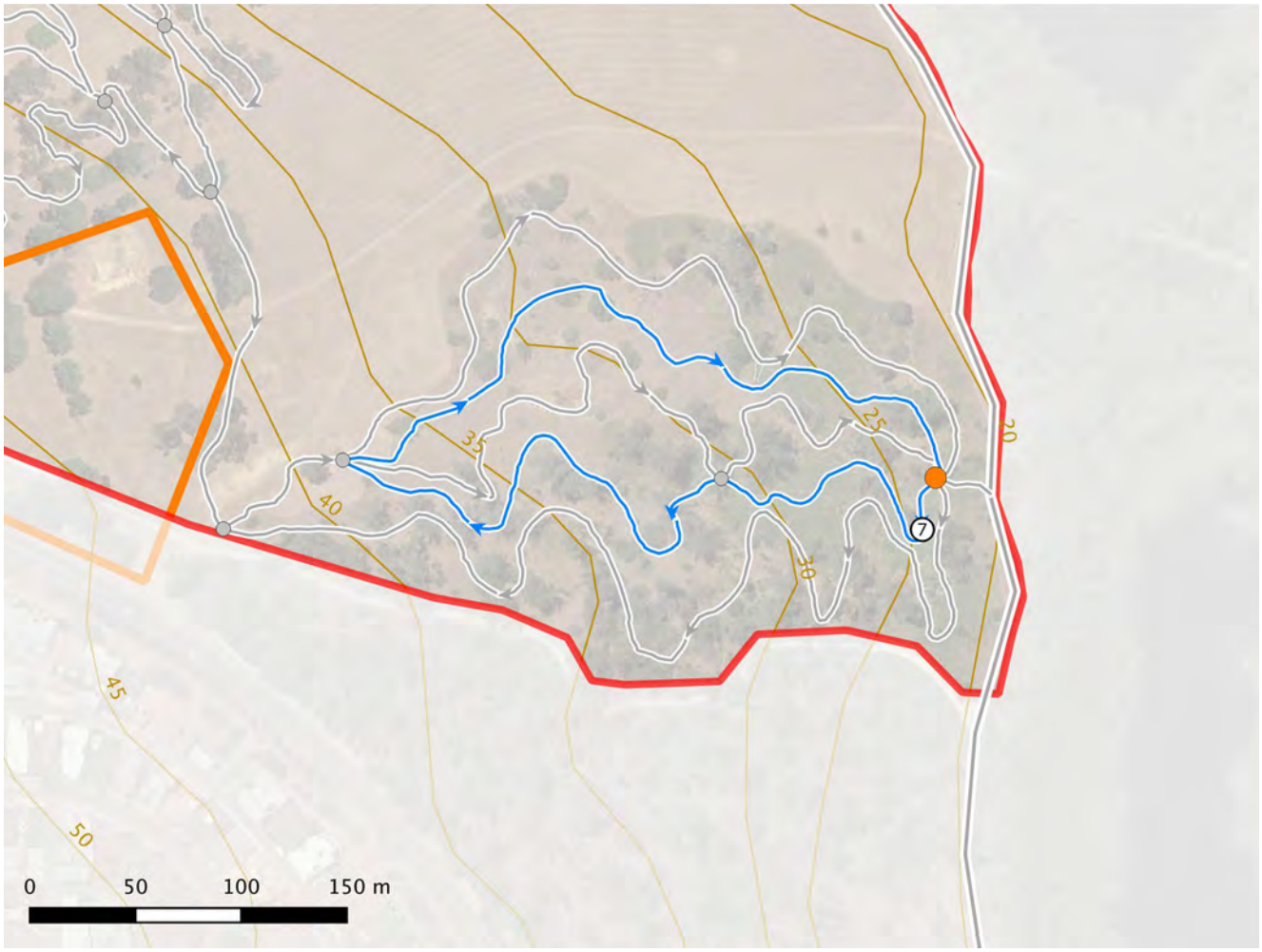
OBSTACLES
Chicane
Choke
Rock Armouring
Stabilised Root
Step up

TRAIL 7 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD	GOOD			**DEGRADED**
TRAIL TYPE	TOURING	**CROSS COUNTRY**	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	PARK
TRAIL STYLE	**TECHNICAL**	NATURAL	OPEN	FLOWING	FLOW TRAIL	FREERIDE
ORIENTATION	ASCENT ONLY	**UNDULATING ASCENT**	CONTOURING	**UNDULATING DESCENT**		DESCENT ONLY
FLOW / SINUOSITY	IRREGULAR	STRAIGHT	**WINDING**			FLOWING
SCALE	VERY NARROW	**NARROW**	OPEN	WIDE		VERY WIDE
ROUGHNESS	VERY ROUGH	**ROUGH**	SMOOTH			GROOMED
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED	**CONSTRUCTED**			IMPORTED MMTTF
FEATURE FREQUENCY	NONE	**VERY LONG**	LONG	MODERATE		SHORT
FEATURE MAGNITUDE	NONE	**SMALL**	MEDIUM	LARGE		VERY LARGE
EXPOSURE	VERY HIGH	HIGH	MEDIUM	**LOW**		VERY LOW

TRAIL 07 BENCHMARK & PRECEDENT IMAGERY

TRAIL 07 ALIGNMENT



BLUE TECHNICAL DESCENT

Trail ID 08

CLASSIFICATION
MODERATE
BLUE SQUARE

TRAIL TYPE
XC CROSS COUNTRY
TECHNICAL

TRAIL LENGTH
463M DESCENDING
SINGLE DIRECTION

AVERAGE GRADIENT
3% 15M VERTICAL
15M VARIATION

TRAIL WIDTH
0.8M ROUGH
ENHANCED

TRAIL 8 OVERVIEW

Trail 08, blue technical descent, is a moderate - blue square graded cross country descending trail with technical style. It is a single direction, single use - bike optimised trail.

It is located within the open woodland and forms part of the XC network. It is a 463m long climbing trail which has a vertical change of 15m with an average gradient of 3%.

The trail is situated within open woodland with a degraded understory. The terrain is generally uniform featuring moderate side slopes and sandy soils.

The trail user objective for this trail is play and challenge. This results in a trail that has winding sinuosity with narrow finish. It features enhanced technical trail features with moderate feature frequency of medium magnitude.

Trail 08 originates at the trail node along trail 06 and terminates at the Yaberoo Trail Trailhead. As part of the XC network it is of low importance to the overall functionality of the network design.

The intended trail with is 0.8M wide with a rough surface. Construction should be a combination of hand and machine of up to 2t or 900mm wide machine.

TRAIL 8 DETAILS

Trail ID	08
Provisional Name	Blue Technical Descent
Classification	Moderate - Blue Square
Strategic Value	Low
Trail Type	XC - Cross Country
Trail Style	Technical
Tread Width	0.8m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Descending
Options	Black features on optional lines
Corridor Width	30m
Trail Length	463m
Vertical Range	15m
Elevation Variation	15m
Prevailing Cross Slopes	Moderate
Average Trail Gradient	5%
Maximum Trail Gradient	20% up to 50m
Minimum Line of Sight	Minimum 7.5m
Qualifier / Filter	Technical Trail Filter

ANTICIPATED TECHNICAL TRAIL FEATURES

TURNS

Descending Switchback
Insloped Descending Turn
Insloped Turn
Outsloped Descending Turn
Outsloped Turn
Technical Inside Line

VERTICAL CHANGE

Grade Reversal
Kicker Jump
Obstacle Drop Off
Roll In

OBSTACLES

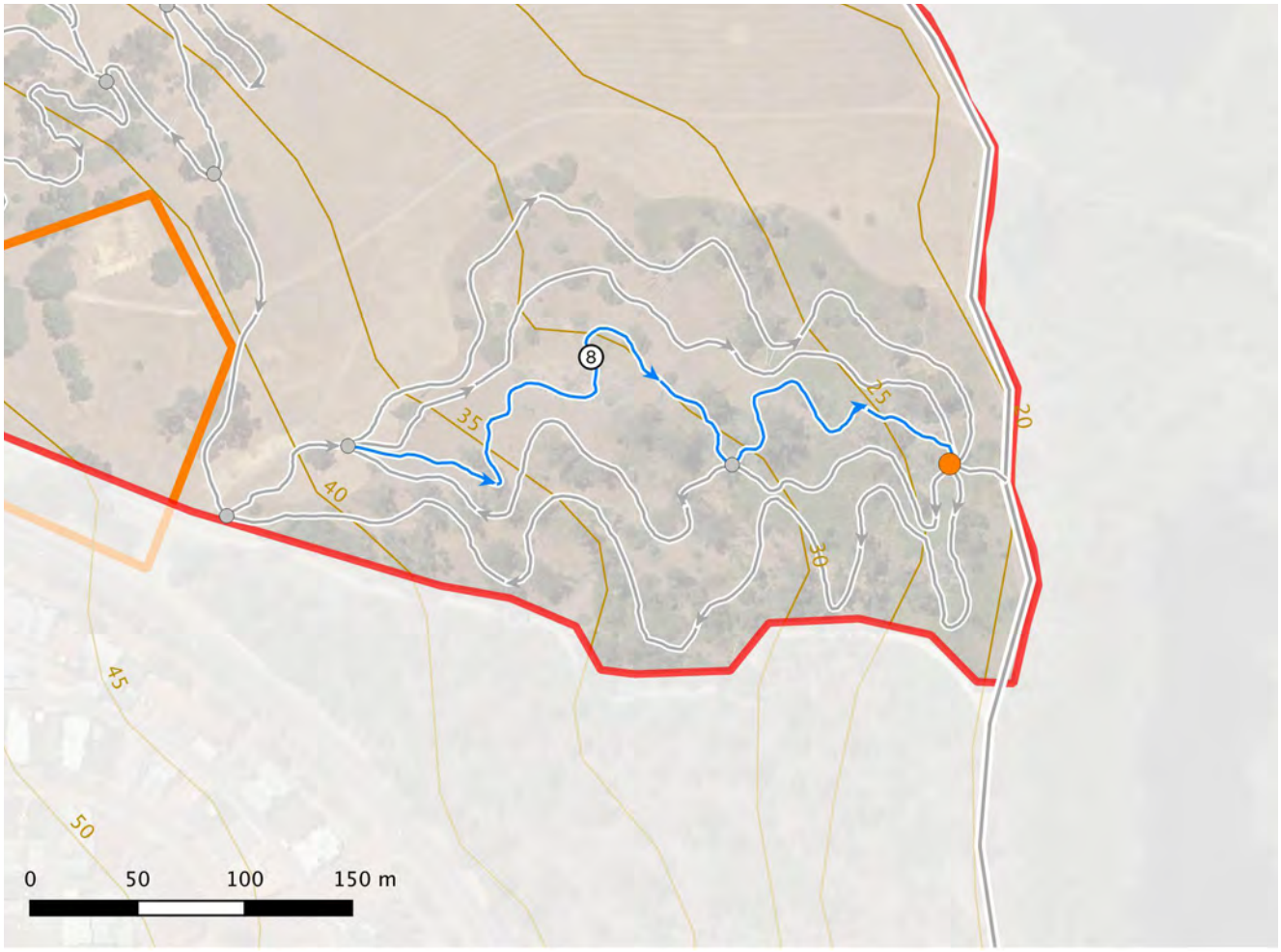
Armored Crossing
Chicane
Choke
Rock Garden
Stabilised Root
Step down

TRAIL 8 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD	GOOD			**DEGRADED**
TRAIL TYPE	TOURING	**CROSS COUNTRY**	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	PARK
TRAIL STYLE	**TECHNICAL**	NATURAL	OPEN	FLOWING	FLOW TRAIL	FREERIDE
ORIENTATION	ASCENT ONLY	UNDULATING ASCENT	CONTOURING	UNDULATING DESCENT		**DESCENT ONLY**
FLOW / SINUOSITY	IRREGULAR	STRAIGHT	**WINDING**			FLOWING
SCALE	VERY NARROW	**NARROW**	OPEN	WIDE		VERY WIDE
ROUGHNESS	VERY ROUGH	**ROUGH**	SMOOTH			GROOMED
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED	**CONSTRUCTED**			IMPORTED MMTTF
FEATURE FREQUENCY	NONE	VERY LONG	LONG	**MODERATE**		SHORT
FEATURE MAGNITUDE	NONE	SMALL	**MEDIUM**	LARGE		VERY LARGE
EXPOSURE	VERY HIGH	HIGH	MEDIUM	**LOW**		VERY LOW

TRAIL 08 BENCHMARK & PRECEDENT IMAGERY

TRAIL 08 ALIGNMENT



GREEN LINK

Trail ID 09

CLASSIFICATION EASY GREEN CIRCLE

TRAIL TYPE XC CROSS COUNTRY OPEN

TRAIL LENGTH 173M CLIMBING/ DESCENDING SINGLE DIRECTION

AVERAGE GRADIENT 2% 4M VERTICAL 4M VARIATION

TRAIL WIDTH 0.9M SMOOTH CONSTRUCTED

TRAIL 1 OVERVIEW

Trail 09, green link, is an easy - green circle graded cross country trail with open style. It is a dual direction, single use - bike optimised trail.

It is located within the open woodland and links the technical trail zone with the Flow trail Zone. It is a 173m long trail which has a vertical change of 4m with an average gradient of 2%.

The trail is situated within the open woodland. The terrain is generally uniform featuring strong side slopes and sandy soils.

The trail user objective for this trail is connection resulting in a simple rail that allows riders to access different zones within the network.

Trail 09 links Trail 1 and the Technical Trails Secondary Trailhead. As the link between riding zones it is of high importance to the overall functionality of the network design.

The intended trail width is 0.9m wide with a smooth surface. It will be optimised for hand cyclists. Construction should be by machine of up to 2t or 900mm wide machine.

TRAIL 1 DETAILS

Trail ID	09
Provisional Name	Green Link
Classification	Easy - Green Circle
Strategic Value	High
Trail Type	XC - Cross Country
Trail Style	Open
Tread Width	0.9m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Varies
Options	Skills features on climb
Corridor Width	30m
Trail Length	173m
Vertical Range	4m
Elevation Variation	4m
Prevailing Cross Slopes	Shallow
Average Trail Gradient	2%
Maximum Trail Gradient	15% up to 20m
Minimum Line of Sight	Minimum 10m
Qualifier / Filter	None

ANTICIPATED TECHNICAL TRAIL FEATURES

TURNS

Descending Turn
Climbing Turn
Insloped Climbing Turn
Insloped Turn

VERTICAL CHANGE

Roller
Grade Reversal

OBSTACLES

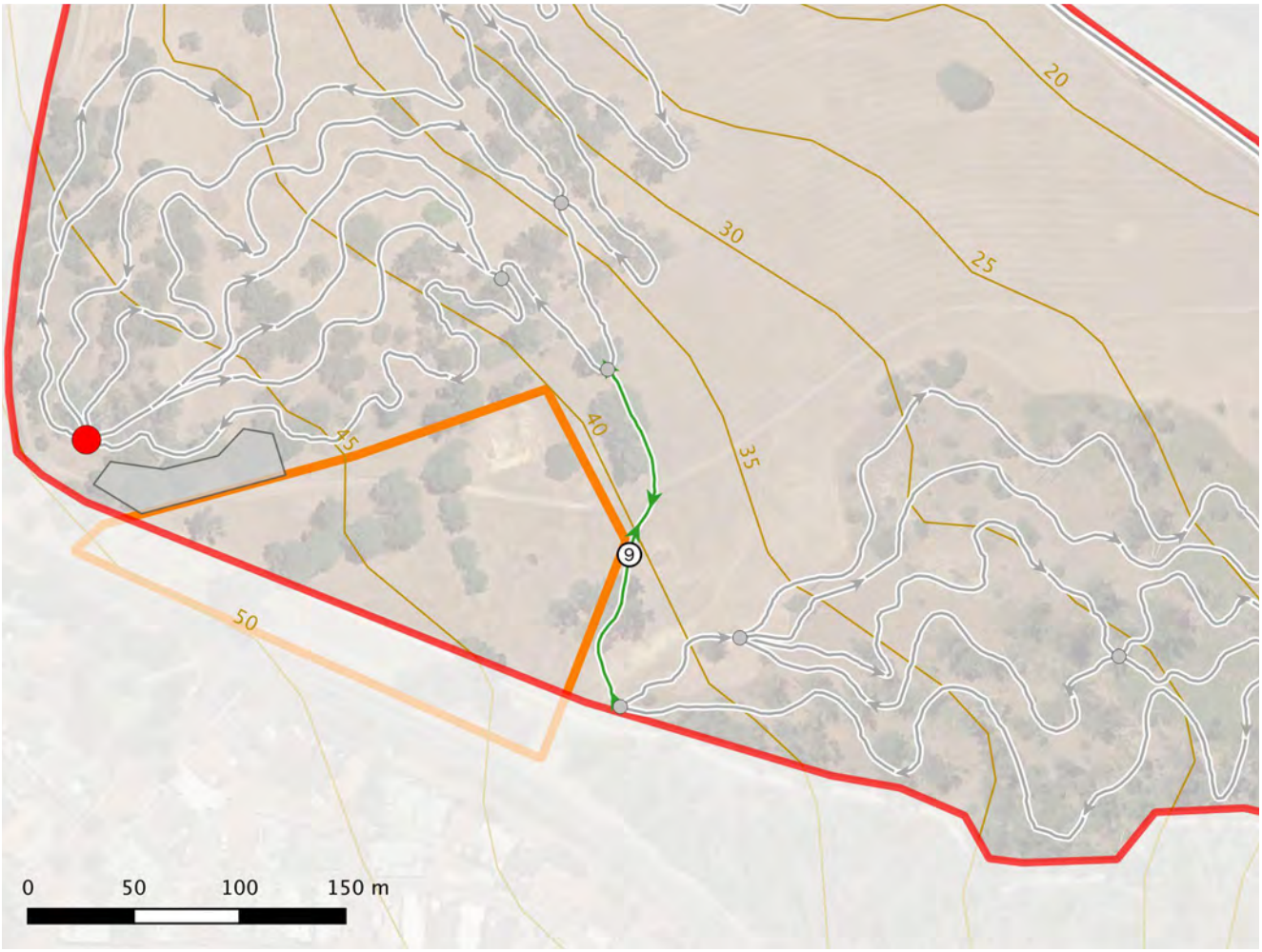
Chicane
Choke

TRAIL 01 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD		GOOD		**DEGRADED**
TRAIL TYPE	TOURING	**CROSS COUNTRY**	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	PARK
TRAIL STYLE	TECHNICAL	NATURAL	**OPEN**	FLOWING	FLOW TRAIL	FREERIDE
ORIENTATION	ASCENT ONLY	UNDULATING ASCENT	**CONTOURING**	UNDULATING DESCENT		DESCENT ONLY
FLOW / SINUOSITY	IRREGULAR	STRAIGHT		**WINDING**		FLOWING
SCALE	VERY NARROW	NARROW	**OPEN**	WIDE		VERY WIDE
ROUGHNESS	VERY ROUGH	ROUGH		**SMOOTH**		GROOMED
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED		**CONSTRUCTED**		IMPORTED MMTTF
FEATURE FREQUENCY	NONE	**VERY LONG**	LONG	MODERATE		SHORT
FEATURE MAGNITUDE	NONE	**SMALL**	MEDIUM	LARGE		VERY LARGE
EXPOSURE	VERY HIGH	HIGH	MEDIUM	LOW		**VERY LOW**

TRAIL 09 BENCHMARK & PRECEDENT IMAGERY

TRAIL 09 ALIGNMENT



GREEN JUMP TRAIL

Trail ID **J1**

CLASSIFICATION	TRAIL TYPE	TRAIL LENGTH	AVERAGE GRADIENT	TRAIL WIDTH
EASY GREEN CIRCLE	PK PARK JUMP TRAIL	262M DESCENDING SINGLE DIRECTION	3% 9M VERTICAL 9M VARIATION	1.5M GROOMED CONSTRUCTED

TRAIL J1 OVERVIEW

Trail J1, green jump, is a easy - green circle graded jump trail with flow trail style. It is a single direction, single use - bike optimised trail.

It is located within the open woodland and forms part of the Park zone. It is a 262m long descending jump trail which has a vertical change of 9m with an average gradient of 3%.

The trail is situated within open woodland with a degraded understory. The terrain is generally uniform featuring moderate side slopes and sandy soils.

The trail user objective for this trail is play, challenge and risk. This results in a trail that has flowing sinuosity with wide finish. It features constructed technical trail features with short feature frequency of moderate magnitude.

Trail J1 originates at the primary trail head. As part of the park zone it is of low importance to the overall functionality of the network design.

The intended trail with is 1.5M wide with a groomed surface. It will be not be optimised for hand cyclists. Construction should be by machine of up to 3t or 1500mm wide machine.

TRAIL J1 DETAILS

Trail ID	J1
Provisional Name	Green Jump Trail
Classification	Easy - Green Circle
Strategic Value	Low
Trail Type	Cross Country
Trail Style	Flow Trail
Tread Width	1.5m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Descending
Options	Skills features
Corridor Width	30m
Trail Length	262m
Vertical Range	9m
Elevation Variation	9m
Prevailing Cross Slopes	Moderate
Average Trail Gradient	3%
Maximum Trail Gradient	15% up to 20m
Minimum Line of Sight	Minimum 7.5m
Qualifier / Filter	Technical Trail Filter

ANTICIPATED TECHNICAL TRAIL FEATURES

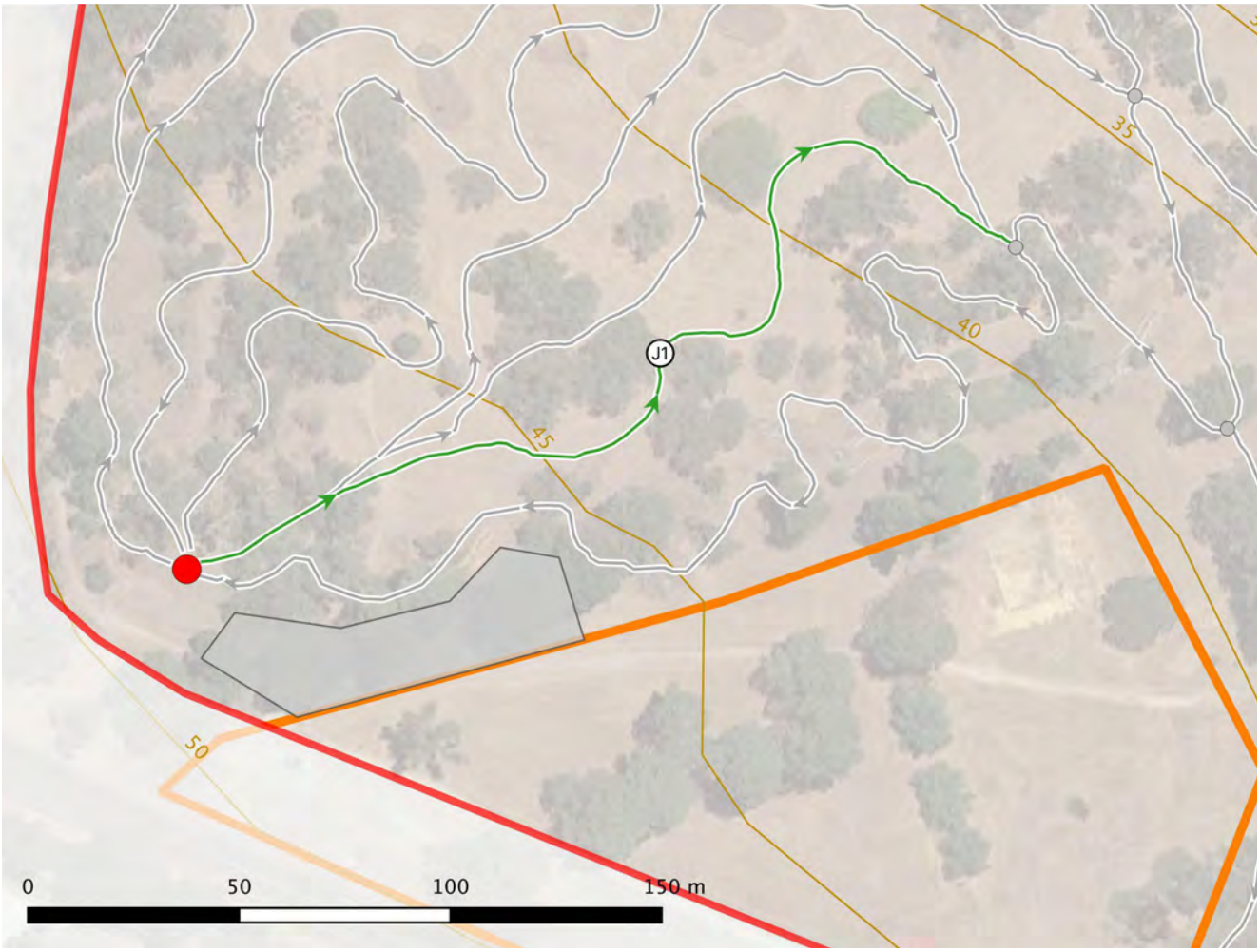
TURNS	VERTICAL CHANGE	OBSTACLES
Berm	Double Jump	
Insloped Descending Turn	Drop Off	
Rising Catch Turn	Feature Jump	
	Kicker Jump	
	Roll In	
	Rollable Double	
	Rollable Step Down	
	Rollers	
	Step Down Jump	
	Step Up Jump	
	Tabletop Jump	

TRAIL J1 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD		GOOD		**DEGRADED**
TRAIL TYPE	TOURING	CROSS COUNTRY	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	**PARK**
TRAIL STYLE	TECHNICAL	NATURAL	OPEN	FLOWING	FLOW TRAIL	**FREERIDE**
ORIENTATION	ASCENT ONLY	UNDULATING ASCENT	CONTOURING	UNDULATING DESCENT		**DESCENT ONLY**
FLOW / SINUOSITY	IRREGULAR	STRAIGHT		WINDING		**FLOWING**
SCALE	VERY NARROW	NARROW	OPEN	**WIDE**		VERY WIDE
ROUGHNESS	VERY ROUGH	ROUGH		SMOOTH		**GROOMED**
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED		**CONSTRUCTED**		IMPORTED MMTTF
FEATURE FREQUENCY	NONE	VERY LONG	LONG	MODERATE		**SHORT**
FEATURE MAGNITUDE	NONE	SMALL	**MEDIUM**	LARGE		VERY LARGE
EXPOSURE	VERY HIGH	HIGH	**MEDIUM**	LOW		VERY LOW

TRAIL J1 BENCHMARK & PRECEDENT IMAGERY

TRAIL J1 ALIGNMENT



BLUE JUMP TRAIL

Trail ID **J2**

CLASSIFICATION	TRAIL TYPE	TRAIL LENGTH	AVERAGE GRADIENT	TRAIL WIDTH
INTERMEDIATE BLUE SQUARE	PK PARK JUMP TRAIL	234M DESCENDING SINGLE DIRECTION	4% 10M VERTICAL 10M VARIATION	1.5M GROOMED CONSTRUCTED

TRAIL J2 OVERVIEW

Trail J2, blue jump trail, is a intermediate - blue square graded jump trail with flow trail style with jumps. It is a single direction, single use - bike optimised trail.

It is located within the open woodland and forms part of the Park zone. It is a 234m long descending jump trail which has a vertical change of 10m with an average gradient of 4%.

The trail is situated within open woodland with a degraded understory. The terrain is generally uniform featuring moderate side slopes and sandy soils.

The trail user objective for this trail is play and challenge. This results in a trail that has flowing sinuosity with wide finish. It features constructed technical trail features with short feature frequency of large magnitude.

Trail J2 originates at the primary trail head. As part of the park zone it is of low importance to the overall functionality of the network design.

The intended trail with is 1.5M wide with a groomed surface. It will be non optimised for hand cyclists. Construction should be by machine of up to 3T or 1500mm wide machine.

TRAIL J2 DETAILS

Trail ID	J2
Provisional Name	Blue Jump Trail
Classification	Intermediate - Blue Square
Strategic Value	Low
Trail Type	PK - Jump
Trail Style	Jump Trail
Tread Width	1.5m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Descending
Options	NIL
Corridor Width	30m
Trail Length	234m
Vertical Range	10m
Elevation Variation	10m
Prevailing Cross Slopes	Moderate
Average Trail Gradient	4%
Maximum Trail Gradient	50% up to 10m
Minimum Line of Sight	Average 15m
Qualifier / Filter	Technical Trail Filter

ANTICIPATED TECHNICAL TRAIL FEATURES

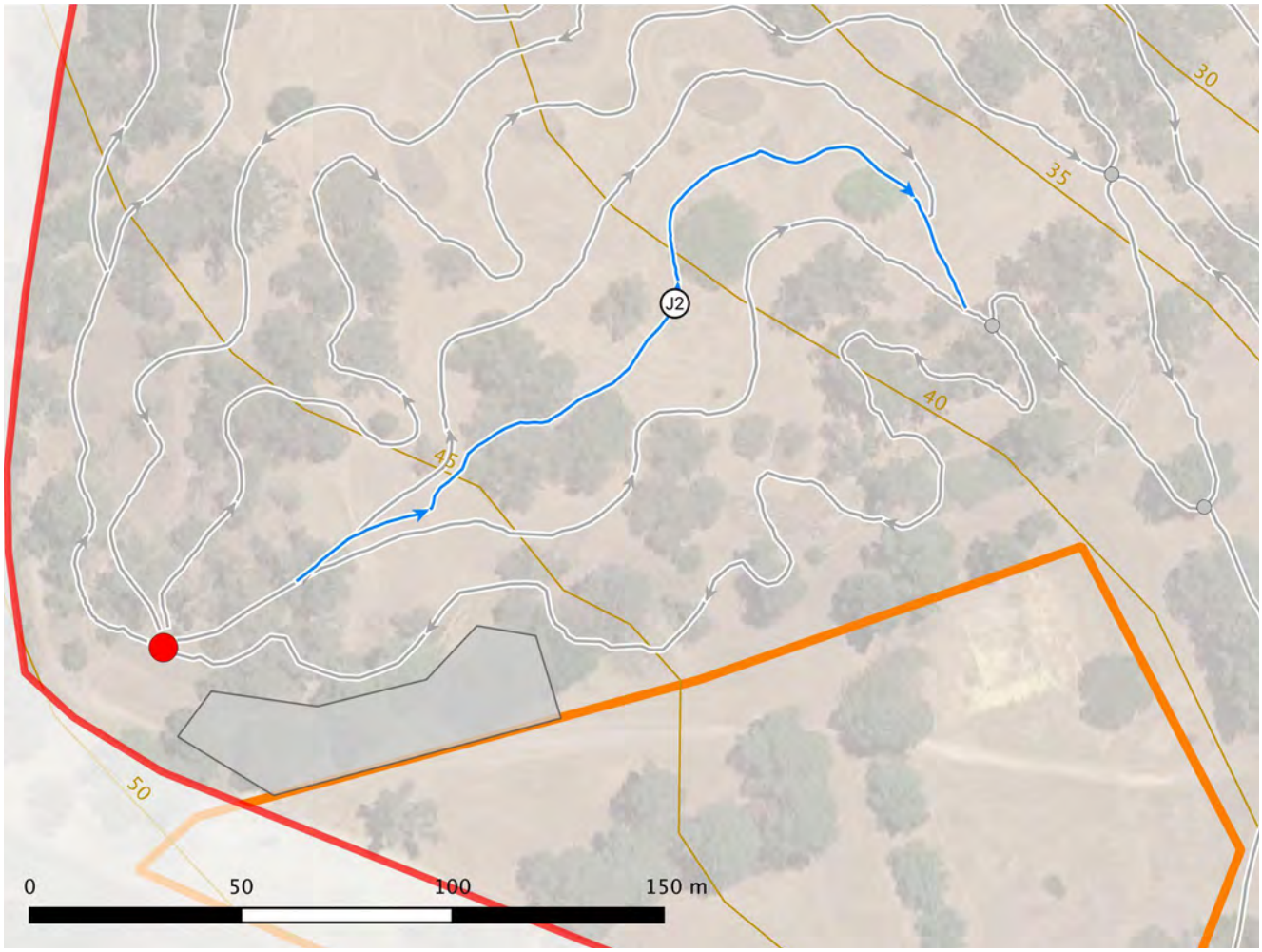
TURNS	VERTICAL CHANGE	OBSTACLES
Berm	Double Jump	
Descending Switchback	Feature Jump	
Insloped Descending Turn	Grade Reversal	
Insloped Turn	Hipped Jump	
Rising Catch Turn	Kicker Jump	
	Roll In	
	Rollable Double	
	Rollable Step Down	
	Roller Whoops	
	Rollers	
	Step Down Jump	
	Step Up Jump	
	Tabletop Jump	
	Whoops	

TRAIL 18 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD		GOOD		**DEGRADED**
TRAIL TYPE	TOURING	CROSS COUNTRY	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	**PARK**
TRAIL STYLE	TECHNICAL	NATURAL	OPEN	FLOWING	FLOW TRAIL	**FREERIDE**
ORIENTATION	ASCENT ONLY	UNDULATING ASCENT	CONTOURING	UNDULATING DESCENT		**DESCENT ONLY**
FLOW / SINUOSITY	IRREGULAR	STRAIGHT		WINDING		**FLOWING**
SCALE	VERY NARROW	NARROW	OPEN	**WIDE**		VERY WIDE
ROUGHNESS	VERY ROUGH	ROUGH		SMOOTH		**GROOMED**
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED	**CONSTRUCTED**			IMPORTED MMTTF
FEATURE FREQUENCY	NONE	VERY LONG	LONG	MODERATE		**SHORT**
FEATURE MAGNITUDE	NONE	SMALL	MEDIUM	**LARGE**		VERY LARGE
EXPOSURE	VERY HIGH	HIGH	**MEDIUM**	LOW		VERY LOW

TRAIL J2 BENCHMARK & PRECEDENT IMAGERY

TRAIL J2 ALIGNMENT



BLUE JUMP TRAIL 2

Trail ID **J3**

CLASSIFICATION	TRAIL TYPE	TRAIL LENGTH	AVERAGE GRADIENT	TRAIL WIDTH
INTERMEDIATE BLUE SQUARE	PK PARK JUMP TRAIL	221M DESCENDING SINGLE DIRECTION	4% 10M VERTICAL 10M VARIATION	1.5M GROOMED CONSTRUCTED

TRAIL J3 OVERVIEW

Trail J3, blue descent jump trail, is a intermediate - blue square graded descending trail with flow trail style with jumps. It is a single direction, single use - bike optimised trail.

It is located within the open woodland and forms part of the Park zone. It is a 221m long descending jump trail which has a vertical change of 10m with an average gradient of 6%.

The trail is situated within open woodland with a degraded understory. The terrain is generally uniform featuring moderate side slopes and sandy soils.

The trail user objective for this trail is play and challenge. This results in a trail that has flowing sinuosity with wide finish. It features constructed technical trail features with short feature frequency of large magnitude.

Trail J1 originates at the primary trail head. As part of the park zone it is of low importance to the overall functionality of the network design.

The intended trail with is 1.5M wide with a groomed surface. It will be non optimised for hand cyclists. Construction should be by machine of up to 3T or 1500mm wide machine.

There is potential to make this trail into a black classification with works to the trail features in the future should the demand for a more advanced trail be evident.

TRAIL J3 DETAILS

Trail ID	J3
Provisional Name	Blue Jump Trail 2
Classification	Intermediate - Blue Square
Strategic Value	Low
Trail Type	PK - Jump
Trail Style	Jump Trail
Tread Width	1.5m
Use	Single Use - Bike Optimised
Direction	Single Direction
Ascent / Descent	Descending
Options	NIL
Corridor Width	30m
Trail Length	221m
Vertical Range	10m
Elevation Variation	10m
Prevailing Cross Slopes	Moderate
Average Trail Gradient	4%
Maximum Trail Gradient	50% up to 10m
Minimum Line of Sight	Average 15m
Qualifier / Filter	Technical Trail Filter

ANTICIPATED TECHNICAL TRAIL FEATURES

TURNS

Berm
Descending Switchback
Insloped Descending Turn
Insloped Turn
Rising Catch Turn

VERTICAL CHANGE

Double Jump
Feature Jump
Grade Reversal
Hipped Jump
Kicker Jump
Roll In
Rollable Double
Rollable Step Down
Roller Whoops
Rollers
Step Down Jump
Step Up Jump
Tabletop Jump
Whoops

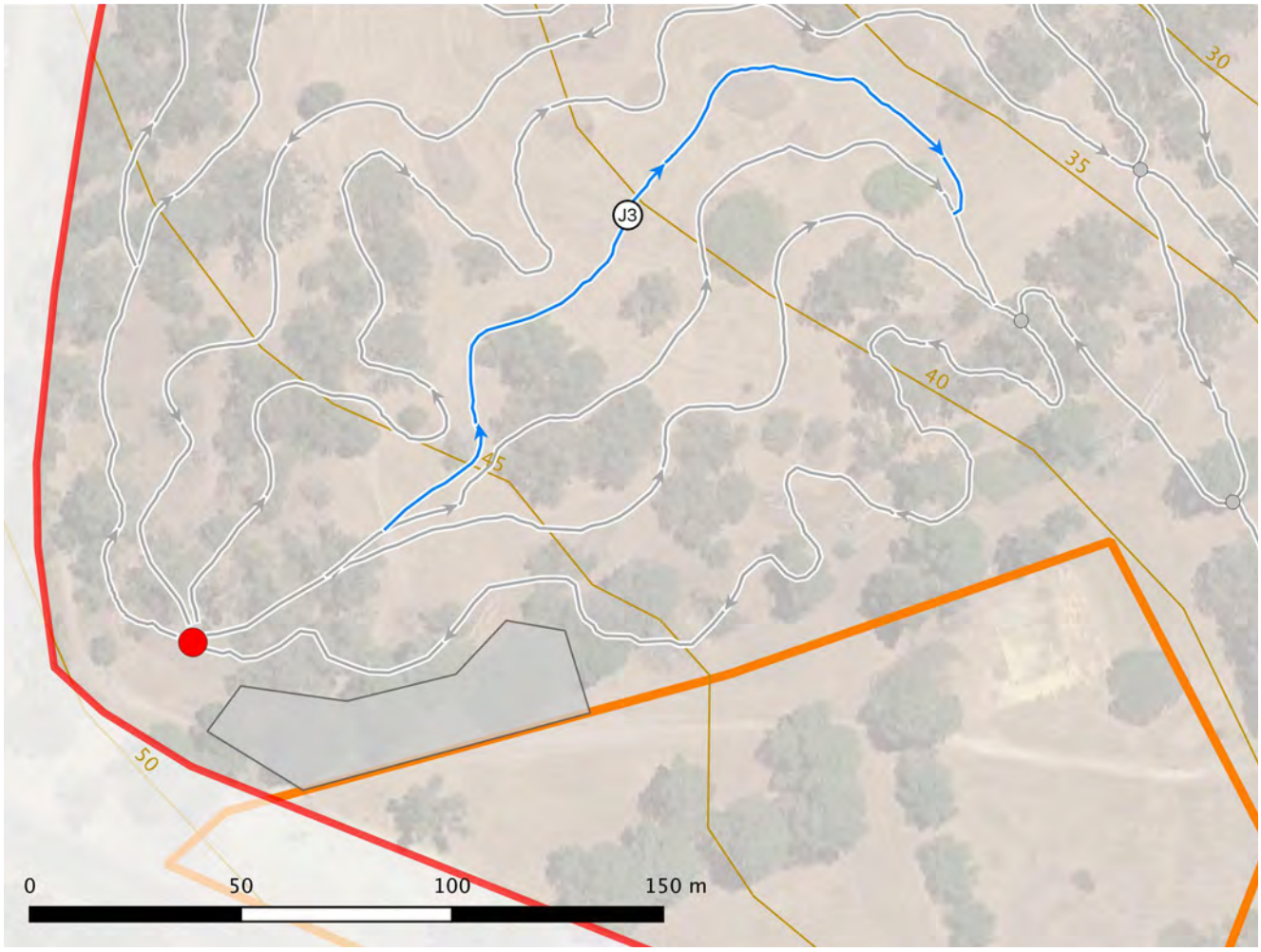
OBSTACLES

TRAIL J3 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD	GOOD			**DEGRADED**
TRAIL TYPE	TOURING	CROSS COUNTRY	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	**PARK**
TRAIL STYLE	TECHNICAL	NATURAL	OPEN	FLOWING	FLOW TRAIL	**FREERIDE**
ORIENTATION	ASCENT ONLY	UNDULATING ASCENT	CONTOURING	UNDULATING DESCENT		**DESCENT ONLY**
FLOW / SINUOSITY	IRREGULAR	STRAIGHT	WINDING			**FLOWING**
SCALE	VERY NARROW	NARROW	OPEN	**WIDE**		VERY WIDE
ROUGHNESS	VERY ROUGH	ROUGH	SMOOTH			**GROOMED**
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED	**CONSTRUCTED**			IMPORTED MMTTF
FEATURE FREQUENCY	NONE	VERY LONG	LONG	MODERATE		**SHORT**
FEATURE MAGNITUDE	NONE	SMALL	MEDIUM	**LARGE**		VERY LARGE
EXPOSURE	VERY HIGH	**HIGH**	MEDIUM	LOW		VERY LOW

TRAIL J3 BENCHMARK & PRECEDENT IMAGERY

TRAIL J3 ALIGNMENT



GREEN CONNECTIONS

Trail ID **C1 & C2**

CLASSIFICATION	TRAIL TYPE	TRAIL LENGTH	AVERAGE GRADIENT	TRAIL WIDTH
EASY GREEN CIRCLE	XC CROSS COUNTRY OPEN	28M ASCENDING/ DESCENDING DUAL DIRECTION	7% 3M VERTICAL 3M VARIATION	1.5M SMOOTH CONSTRUCTED

TRAIL C1 OVERVIEW

Trail C1 and C2, Green connections, are easy - green circle graded cross country trail with open style. They are dual direction, single use - bike optimised trail.

Trails C1 & C2 are located within the open woodland link the trail network to the Yaberoo Trail. Each trail is 28m long XC trail with a vertical change of 3m with an average gradient of 7%.

The trails are situated within open woodland with a degraded understory. The terrain is generally uniform featuring moderate side slopes and sandy soils.

The trail user objective for this trail is connection to and from the Yaberoo Budjara Heritage Trail. There will be no features on this trail.

Trail C1 originates at the trail node on trail 01 at the bottom of the slope and terminates at the Yaberoo Budjara Heritage Trail. Trail C2 originates at the sub trail head at the southern end of the Technical zone and terminates at he Yaberoo Budjara Heritage Trail. As connecting trails these trails are of low importance to the overall functionality of the network design, however high importance in terms of accessing the network.

The intended trail with is 1.5M wide with a smooth surface. It will be optimised for hand cyclists. Construction should be by a combination of hand build and machine of up to 2t or 900mm wide machine.

TRAIL C1 DETAILS

Trail ID	C1 & C2
Provisional Name	Green Connection
Classification	Easy- Green Circle
Strategic Value	High
Trail Type	XC - Cross Country
Trail Style	Open
Tread Width	1.5m
Use	Single Use - Bike Optimised
Direction	Dual Direction
Ascent / Descent	Varies
Options	NIL
Corridor Width	30m
Trail Length	56m
Vertical Range	3m
Elevation Variation	3m
Prevailing Cross Slopes	Gentle
Average Trail Gradient	7%
Maximum Trail Gradient	15% up to 20m
Minimum Line of Sight	Minimum 7.5m
Qualifier / Filter	None

ANTICIPATED TECHNICAL TRAIL FEATURES

TURNS	VERTICAL CHANGE	OBSTACLES
	Grade Reversal	Chicane

TRAIL C1 CHARACTERISTICS

SETTING	WILDERNESS	NATURAL LANDSCAPE	PLANTATION	RURAL	**URBAN FRINGE**	URBAN
VEGETATION QUALITY	EXCELLENT	VERY GOOD		GOOD		**DEGRADED**
TRAIL TYPE	TOURING	**CROSS COUNTRY**	DOWN COUNTRY	ALL MOUNTAIN	DOWNHILL	PARK
TRAIL STYLE	TECHNICAL	NATURAL	**OPEN**	FLOWING	FLOW TRAIL	FREERIDE
ORIENTATION	ASCENT ONLY	UNDULATING ASCENT	**CONTOURING**	UNDULATING DESCENT		DESCENT ONLY
FLOW / SINUOSITY	IRREGULAR	**STRAIGHT**		WINDING		FLOWING
SCALE	VERY NARROW	NARROW	OPEN	**WIDE**		VERY WIDE
ROUGHNESS	VERY ROUGH	ROUGH		**SMOOTH**		GROOMED
TECHNICAL TRAIL FEATURES	NATURAL	ENHANCED		**CONSTRUCTED**		IMPORTED MMTTF
FEATURE FREQUENCY	**NONE**	VERY LONG	LONG	MODERATE		SHORT
FEATURE MAGNITUDE	**NONE**	SMALL	MEDIUM	LARGE		VERY LARGE
EXPOSURE	VERY HIGH	HIGH	MEDIUM	LOW		**VERY LOW**

TRAIL C1 BENCHMARK & PRECEDENT IMAGERY

TRAIL C1 ALIGNMENT