



# Smithfield Mountain Bike Park Expansion Project

## MASTERPLAN

## Acknowledgement of Traditional Owners

The Department of the Environment, Tourism, Science and Innovation acknowledges Aboriginal and Torres Strait Islander peoples as the Traditional Owners and custodians of the land. We recognise Djabugay Nation, comprised of the Djabugay, Bulway, Yirrganydji, Nyakali and Guluy Peoples, as the recognised Cultural Heritage Party for the Smithfield Mountain Bike Park project area and recognise their connection to land, sea and community, and pay our respects to Elders past and present.

The department is committed to respecting, protecting and promoting human rights, and our obligations under the *Human Rights Act 2019*.

## Acknowledgements

The Queensland Government acknowledges the contributions of key partners to the development of this Masterplan including:

- Cairns Mountain Bike Club
- Cairns Regional Council
- Tourism Tropic North Queensland
- Far North Queensland Regional Organisation of Councils
- James Cook University
- World Trail
- Contour Works

## Cover Artwork

**Photo:** Mountain bike rider riding over wooden river crossing. © Tourism and Events Queensland

## Disclaimer

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# ABBREVIATIONS

| Abbreviation      | Meaning                                                    |
|-------------------|------------------------------------------------------------|
| <b>AMBTG</b>      | Australian Mountain Bike Trail Guidelines                  |
| <b>CMBC</b>       | Cairns Mountain Bike Club                                  |
| <b>CRC</b>        | Cairns Regional Council                                    |
| <b>eMTB</b>       | Motorised, electric pedal-assist mountain bike             |
| <b>DETSI</b>      | Department of Environment, Tourism, Science and Innovation |
| <b>FNQROC</b>     | Far North Queensland Regional Organisation of Councils     |
| <b>JCU</b>        | James Cook University                                      |
| <b>MTB</b>        | Mountain bike                                              |
| <b>QPWS&amp;P</b> | Queensland Parks and Wildlife Service and Partnerships     |
| <b>RoI</b>        | Registration of Interest                                   |
| <b>SCP</b>        | Smithfield Conservation Park                               |
| <b>SMBP</b>       | Smithfield Mountain Bike Park                              |
| <b>TTNQ</b>       | Tourism Tropical North Queensland                          |
| <b>UCI</b>        | Union Cycliste Internationale                              |
| <b>WT</b>         | World Trail                                                |

## EXECUTIVE SUMMARY

The Smithfield Mountain Bike Park (SMBP) Expansion Project represents a significant investment in one of Australia's most iconic mountain bike destinations. Located approximately 20 kilometres north of Cairns City, Smithfield has played a pivotal role in the development of mountain biking both nationally and internationally, hosting multiple UCI World Cups, World Championships and Crankworx events. The project seeks to build on this legacy by transforming the park into a nationally significant and internationally recognised mountain bike destination while protecting the environmental and cultural values that make the site unique. A key objective of the project is to expand the existing trail network from approximately 30 kilometres to more than 85 kilometres while improving trail quality, safety, sustainability and rider experience.

The emerging vision for the SMBP Expansion project is to:

**Deliver a nationally and internationally recognised and iconic ride destination with high quality trails, services and governance that is financially sustainable and compliant within a protected area context.**

This Masterplan has been prepared to guide the staged expansion, upgrade and long-term management of the SMBP located across Smithfield Conservation Park (SCP), James Cook University (JCU) and Cairns Regional Council (CRC) land parcels. It provides the information to guide project progress including statutory approvals, tendering, detailed design, construction and future investment decisions, while supporting trail development to be environmentally responsible, culturally appropriate and operationally sustainable.

The development of the Masterplan has incorporated various relevant considerations including a review of strategic documentation related to the expansion, land tenure, existing infrastructure, ecological and cultural heritage values, topography, watercourses, geography and vegetation.

Design principles form the foundation of effective trail network development and included consideration of the Trail Difficulty Rating System, trail styles, built infrastructure, user safety / emergency and evacuation planning, sustainability, trailheads and access points.

Community engagement was conducted in the early stages of the project, including a survey by the Cairns Mountain Bike Club, which helped inform the Concept Design. Further engagement activities were undertaken on the Concept Design which assisted in the development of the Masterplan Design.

The resulting trail network comprises 98 trails with a total length of almost 88 kilometres. This significant increase in the number and length of trails elevates Smithfield beyond the benchmark generally associated with nationally significant mountain bike destinations.

Key features of this Masterplan include:

- **A Mountain Bike Park Precinct:** Creates a connected mountain bike park precinct with a hierarchy of trailheads, diverse access opportunities, improved visitor orientation, major event-ready spaces and a staged framework for future infrastructure investment.
- **Trail Difficulty:** The majority of the proposed trails are rated Intermediate with 52 trails totalling 55km (63% of total length), followed by 20 Easy trails (16km, 19%), 24 Difficult trails (15km, 18%) and 2 Extreme trails (<1km, 1%).
- **New Trails:** Over 62kms of new trails are proposed within the expanded network. Added to the 25kms of existing trails, this increase will take Smithfield over the benchmark 80kms required for a Nationally Significant trail network.

- **Trail Styles:** Adventure is the trail style with the highest total length at 42km (48%) across 44 trails, followed by 27 Gravity trails (27kms, 32%), 9 Flow trails (6km, 7%), 6 Downhill trails (6km, 7%), 10 Airflow trails (4kms, 5%) and 2 Blended Air trails (<1km, <1%).
- **Mix of ascents and descents:** The primary trail slope is Descent, with 59 trails totalling 48km (55%), followed by 18 Ascent trails (18kms, 21%), 12 Mixed trails (18kms, 21%), and 9 Flat trails (1.5kms, 2%).
- **Longer trails:** There are 9 trails approximately 2kms or more in length, with the longest trail an Adventure Intermediate at 5.1km; climbing 232m and descending 251m. Of the 9 trails, 4 are Descents (2 x Gravity, 2 x Downhill), 2 are Ascents and 3 are Mixed. The descending trails include 2 Intermediate and 2 Difficult rated trails.
- **Top to bottom descents:** There are 2 Descent trails with over 300m in elevation, 5 with over 200m and 10 with over 150m. Of these 17 trails, 11 are rated Intermediate and 6 are rated Difficult.

Although the SMBP expansion project is primarily focused on expanding the mountain bike trail network, the current planning and investment establishes the foundations for a future precinct that could support a range of community uses and bring broader community benefits.

The Masterplan includes maps of the proposed expanded trail network, outlining access, trail status, trail difficulty ratings, trail styles and south and north network maps with trail numbers and directional arrows. Individual trail data sheets are provided for all trails and included in the appendices. Further to the proposed trail alignments, the Masterplan outlines trailheads, shuttle access and trail junctions across the expanded network.

The Masterplan provides an Implementation Plan covering the project schedule, trail construction, trail prioritisation for staged construction and environmental management in construction. Subject to statutory approvals, construction is anticipated to commence in 2027 and be delivered in stages while maintaining public access to the network. Completion is targeted for late 2028. The document also includes information on operational model development, trail maintenance and event staging, and a section on signage and wayfinding.

This comprehensive Masterplan provides essential information and trail design detail to enable the Queensland Government to tender for, and successfully deliver, the Smithfield Mountain Bike Park Expansion project. Once delivered, the Smithfield Mountain Bike Park Expansion will provide a world-class riding destination that enhances recreation, tourism, economic development and community wellbeing while safeguarding the environmental and cultural values of one of Queensland's most significant natural landscapes.

**While the Masterplan defines trail alignments and construction intent, it remains subject to detailed environmental assessment, cultural heritage processes, statutory approvals and final construction documentation. The Masterplan is intended to provide sufficient certainty to support approvals, procurement and delivery, while retaining flexibility to respond to site conditions and regulatory requirements.**

# PROJECT AT A GLANCE

## Smithfield Mountain Bike Park Expansion

Existing  
**30km**  
trail network

➔

Future  
**85km**  
expanded network

**98**  
trails

**2027–2028**  
staged delivery

**Our Vision**

Deliver a nationally and internationally recognised mountain bike destination with high-quality trails, services, and governance that is financially sustainable and compliant within a protected area context.

  
85km trail network

  
98 trails

  
hierarchy of trailheads

  
shuttle access and connections

  
event-ready precinct

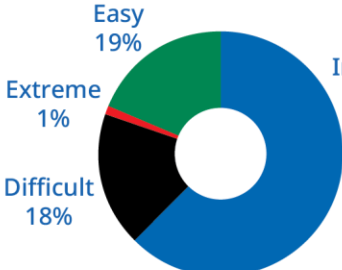
  
Diverse trails for all abilities and styles

  
Environmentally responsible design

  
Cultural heritage consideration

## What We're Delivering

**Trail Difficulty**



|              |     |
|--------------|-----|
| Easy         | 19% |
| Intermediate | 63% |
| Difficult    | 18% |
| Extreme      | 1%  |

**Trail Styles**

|             |     |
|-------------|-----|
| Adventure   | 48% |
| Gravity     | 32% |
| Flow        | 7%  |
| Downhill    | 7%  |
| Airflow     | 5%  |
| Blended Air | <1% |

**Signature Riding Experience**

- ➔ 62km new trails
- ➔ 17 top-to-bottom descents
- ➔ 300m maximum descent
- ➔ 5.1km longest trail (Adventure Intermediate 232m climb / 251m descent)

## Delivery Timeline



Planning and masterplan completed

Approvals 2026–2027

Construction 2027

Staged delivery 2027–2028 maintaining public access

Completion late 2028

## Creating lasting benefits for Queensland

Environmental protection

Cultural heritage

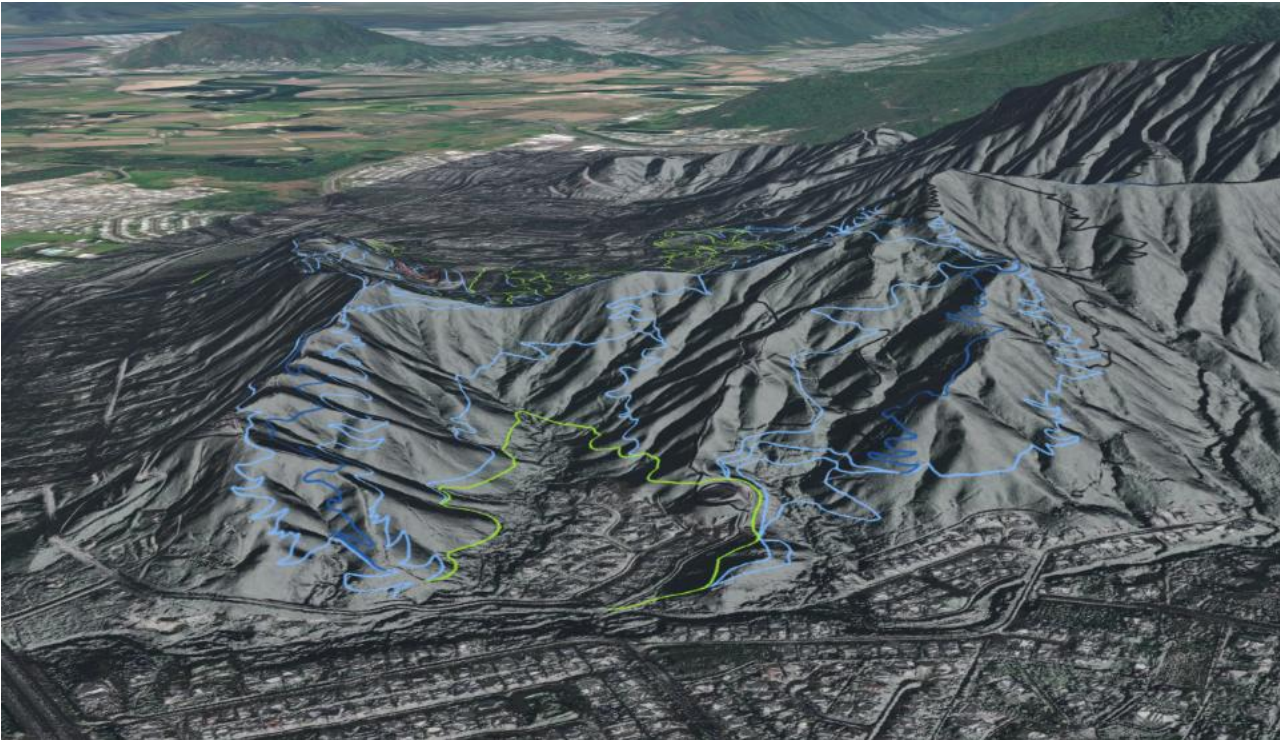
Recreation

Economic development

Tourism

Community wellbeing

*North Elevation Perspective*



*South Elevation Perspective*



# INTRODUCTION

This Masterplan has been prepared to guide the staged expansion, upgrade and long-term management of the Smithfield Mountain Bike Park (SMBP) located across Smithfield Conservation Park (SCP), James Cook University (JCU) and Cairns Regional Council (CRC). It provides comprehensive information to guide project progress including statutory approvals, tendering, detailed design, construction and future investment decisions, while supporting trail development to be environmentally responsible, culturally appropriate and operationally sustainable.

The Masterplan translates previous concept-level work into a ground-truthed trail design that defines proposed trail alignments, construction treatments and supporting infrastructure to a level suitable for cost estimation, tender documentation and approvals where required. It establishes the spatial structure, trail network intent, trailhead hierarchy and governance considerations necessary to deliver a high-quality mountain bike destination within a protected area context.

## Project Overview

|                      |                          |                              |                           |                        |
|----------------------|--------------------------|------------------------------|---------------------------|------------------------|
| Expand trail network | Improve rider experience | Protect environmental values | Respect cultural heritage | Support future tourism |
|----------------------|--------------------------|------------------------------|---------------------------|------------------------|

SMBP is one of Australia’s most established and recognised mountain bike destinations, with a long history of hosting elite competition and international events. Located approximately 20 kilometres north-west of the Cairns CBD, the park currently comprises approximately 30 kilometres of trails across a complex landscape of steep terrain, wet-tropical vegetation and multiple land tenures.

Previous studies commissioned by CRC - including a concept expansion plan (World Trail, 2022), detailed site and constraints analysis (RPS, 2025) and operational and business analysis (BDO, 2025) – confirmed both the significant opportunity for expansion and the substantial statutory, environmental and operational constraints that must shape any future development. This work aligns with regional strategies such as the Tropical North Queensland Regional Mountain Bike Strategy adopted by FNQROC in 2024.

In 2025, QPWS&P engaged specialist consultants to develop this trail Masterplan capable of supporting approvals pathways, ground-truthing and tender-ready documentation in accordance with relevant legislation, standards and department requirements.

This project involves investment in the expansion and upgrade of the mountain bike park and developing a more diverse range of high-quality trails, to continue to elevate its reputation as a premier destination for national and international mountain biking into the future.

The expanded trail network will be built with a strong focus on environmental protection, ensuring Smithfield’s unique rainforest landscape as well as cultural heritage values are preserved. QPWS&P acknowledges the Djabugay Nation as the recognised Cultural Heritage Party for the SMBP project area and is committed to working respectfully together to protect cultural heritage values.

## Key Project Details

- Trail network expansion – extending from 30 kilometres to 85 kilometres, including enhancements to trailhead facilities, signage and the skills park, while protecting the unique environmental and cultural heritage values of the area.
- Enhanced trails – there will be a mix of beginner-friendly easy trails to more challenging difficult and extreme trails. All new and upgraded trails are being designed for improved safety and long-term sustainability.

Ancillary infrastructure and service improvements – establishment of a mountain bike park precinct supported by upgraded trailheads, an event-ready precinct, commercial activation opportunities, shuttle-access infrastructure and supporting facilities, enhancing the rider experience, supporting long-term operational sustainability, strengthening tourism outcomes and laying the foundations for a future community precinct with broad community benefits.

## Project Benefits

The project aims to create a nationally significant MTB park which will:

| Tourism                                                                                                                                                                                                                                                                    | Community                                                                                                                                                                                                                                                                                                 | Economy                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   | Destination                                                                                                                                                                                                                                                                                                          |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <p>Provide a high-quality and diverse trail network catering to riders of all abilities, from beginners through to elite competitors</p> <p>Enhance the visitor experience through improved trailheads, facilities, wayfinding, shuttle access and supporting services</p> | <p>Increase opportunities for local participation in mountain biking, active recreation and community club involvement</p> <p>Support the evolution of the site into a broader mountain bike and community precinct accommodating recreation, events, and complementary visitor experiences over time</p> | <p>Attract greater numbers of international, national and regional visitors, supporting growth in tourism and the visitor economy, with visitation projected to increase to approximately 53,000 – 75,000 riders annually</p> <p>Encourage longer visitor stays and increased expenditure, generating economic benefits for local businesses, tourism operators and supporting multi-destination mountain biking experiences across Tropical North Queensland</p> <p>Create opportunities for sustainable park operations, commercial partnerships and long-term management and maintenance of the mountain bike park</p> | <p>Establish a distinctive mountain bike destination and precinct that strengthens the Cairns region's reputation for adventure tourism and outdoor recreation</p> <p>Support the attraction and delivery of national and international mountain biking events through event-ready infrastructure and facilities</p> |

# Destination 2045

Smithfield is identified as a key initiative under Destination 2045 to deliver Queensland's ecotourism vision.

Destination 2045 is a bold 20-year vision for our state to become a global tourism and events leader, showcasing the best assets of our environment, lifestyle and regions. The vision is 'By 2045, Queensland will be a global leader in tourism, showcasing our environment, lifestyle, cultures and regions'. Queensland aspires to become the world's leading ecotourism destination, leveraging its incredible biodiversity and natural environments that already attract visitors from across the globe. The Ecotourism priority focusses on: 'Delivering more experiences in nature. Responsibly showcasing our natural assets and connecting people to our environment'. It specifically highlights the expansion of the Smithfield Mountain Bike Trails as a key activity to achieve 'Initiative 1.3 - Deliver key government priority ecotourism projects'.

The expansion of the Smithfield Mountain Bike Trails directly delivers on Destination 2045 as a flagship ecotourism project that creates world-class nature-based experiences, drives regional economic growth and jobs, supports First Nations tourism, attracts private investment and strengthens Queensland's global tourism brand.

## Site Context

|                      |                    |                 |                        |                         |                         |
|----------------------|--------------------|-----------------|------------------------|-------------------------|-------------------------|
| 20km north of Cairns | Approximately 3km2 | 25 land parcels | Multiple land managers | Wet tropical rainforest | High conservation value |
|----------------------|--------------------|-----------------|------------------------|-------------------------|-------------------------|

SMBP is approximately 20km north of central Cairns, easily accessed via the Captain Cook Highway. The park spans approximately 3 square kilometres and intersects approximately 25 separately titled parcels of land, predominantly within SCP, with additional parcels under the control of CRC, JCU and transport infrastructure corridors.

The site is characterised by steep and highly variable terrain, wet-tropical vegetation and multiple drainage systems. The park supports high levels of recreational use and is managed as a high-priority conservation area that explicitly accommodates mountain biking as a core recreational activity. Sensitive environmental and cultural heritage values require careful planning, engagement and staged delivery.



Photo: Flow Mountain Bike

SMBP is centrally located within the region and complements several other existing MTB trail networks, supporting its role as the region's flagship mountain bike destination and enabling multi-day visitor experiences across Tropical North Queensland, as shown in the table on the next page. There are currently several other proposed new trail developments / expansions in the region including:

- Atherton Forest Mountain Bike Park Expansion Plan
- Cardwell (Proposed new development)
- Croydon (Proposed new development)
- Davies Creek Expansion Plan
- Mount Peter (proposed new development)

(Source: [Tropical North Queensland Regional Mountain Bike Strategy](#))

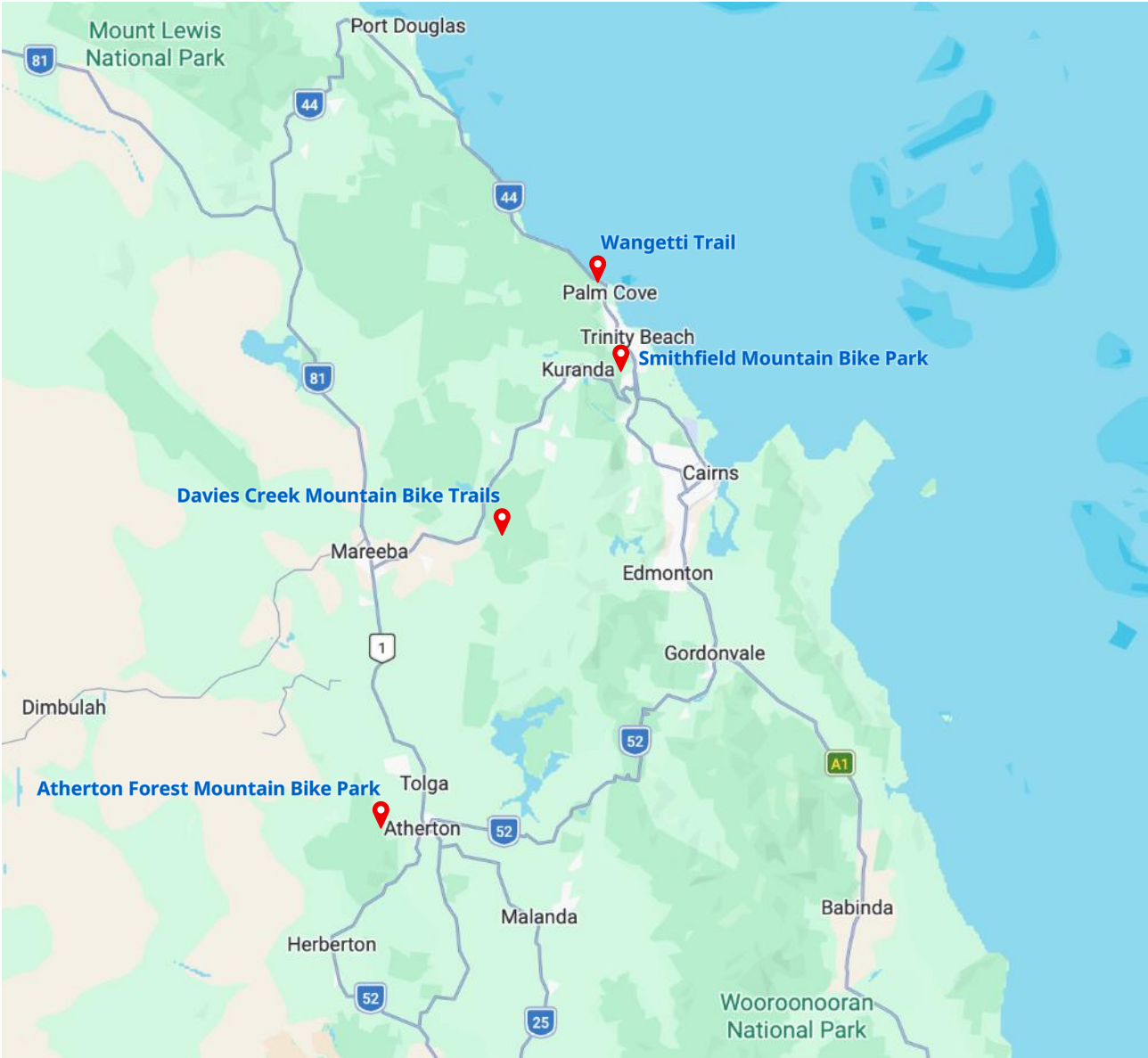
**Smithfield is the flagship mountain bike destination within Tropical North Queensland and complements surrounding trail networks.**

Table 1 – Cairns Region MTB Parks / Trails

| Facility                                         | Provision                             | Users                                                         | Distance to Smithfield |
|--------------------------------------------------|---------------------------------------|---------------------------------------------------------------|------------------------|
| <b>Smithfield MTB Park</b>                       | MTB trails<br>Trailhead<br>Pump track | MTB riders (Easy, Intermediate and Difficult trails)          | N/A                    |
| <b>Atherton Forest MTB Park</b>                  | MTB Trails<br>Skills Park             | MTB riders (Easy and Intermediate trails)                     | 1hr 20min (87kms)      |
| <b>Davies Creek MTB and Walking Trails</b>       | MTB Trails<br>Walking Trails          | MTB riders (Easy and Intermediate trails)<br>Walkers / hikers | 1hr (50kms)            |
| <b>Wangetti Trail (Palm Cove to Ellis Beach)</b> | Shared-use Trail                      | MTB Riders (Easy – Intermediate trail)<br>Walkers / hikers    | 15min (11km)           |

The figure on the next page shows the proximity of Smithfield to these other MTB networks.

Figure 1 – Regional Trail Map



Source: Google Maps

## Climate and Seasonality

Cairns offers a unique tropical lifestyle characterised by warm temperatures, abundant sunshine, and access to some of Australia's most spectacular natural environments. The region experiences a tropical climate with distinct dry and wet seasons, providing year-round opportunities for outdoor living and recreation.

Between May and August, Cairns experiences its most comfortable weather conditions. During these months, residents enjoy clear skies, low humidity, mild temperatures and refreshing evenings, creating an ideal environment for outdoor activities and events, with winter temperatures typically remaining in the mid-20s. The summer months, generally from December to February, bring warmer temperatures, increased humidity and seasonal rainfall associated with the tropical wet season.

(Source: [Cairns Regional Council](#))



Photo: World Trail

## Scope and Role of the Masterplan

This Masterplan for the SMBP Expansion is the result of ongoing planning and engagement on the future development opportunities for the site. Following the Concept Design Report developed in 2022, this Masterplan, the associated designs and supporting documentation will guide the construction and expansion of Smithfield MTB Park. The Queensland Government have confirmed \$15.5 million in funding to deliver upon this masterplan.

This Masterplan includes:

- Background about the site and the circumstances that have led to the Master Plan being developed
- The development of the design, from desktop to ground-truthed concept
- The risk management framework for the trail network
- Clear, legible mapping of the proposed trails
- Descriptions of all the proposed trails along with elevation profiles and key statistics
- Guidance on construction staging and timing
- Detailed information about the signage required to support the use of the trails
- Recommendations for management and maintenance

## Intended Use of the Masterplan

The Masterplan is intended to be used by QPWS&P, delivery partners and future consultants as the primary reference document for:

- Statutory approvals and supporting documentation
- Detailed design development and certification
- Tender documentation and contractor procurement
- Long-term management, maintenance and future expansion planning
- Informing stakeholders of the proposed trail network

## PROJECT OBJECTIVES

The SMBP Expansion Project seeks to deliver a significant, staged enhancement of the existing trail network that strengthens Smithfield's role as a flagship mountain bike destination while ensuring long-term environmental protection, cultural responsibility and operational sustainability within SCP.

The project responds to increasing demand for high-quality mountain bike experiences in Tropical North Queensland and builds on Smithfield's established reputation for technical riding and major events. It aims to expand and upgrade the trail network in a manner that improves safety, legibility and resilience, supports a broader range of riders, and enables efficient long-term management of the park.

The project objectives are to:

**Upgrade the existing trail network** to contemporary mountain bike industry best practice, including trail classification, construction standards, sustainability, signage and risk management.

**Expand the trail network** from approximately 30 kilometres to a total network length of **85 kilometres**, subject to statutory approvals, to provide a balanced range of riding experiences across a variety of skill levels while retaining Smithfield's established technical character.

**Improve rider safety, trail legibility and risk management** through a clear trail hierarchy, consistent difficulty rating system, improved wayfinding and appropriate treatment of trail intersections, technical features and high-risk locations.

**Ensure trail development is compatible with the conservation values of SCP**, including protection of environmental and cultural values, compliance with relevant legislation, and adoption of trail siting and construction approaches suited to a wet-tropical environment.

**Support inclusive riding opportunities**, including trail progression and skills development, while maintaining Smithfield's role as a destination for advanced and expert riders.

**Strengthen the park's capacity to host events** while maintaining a high-quality experience for day-to-day recreational use through appropriate trailhead planning, network zoning and operational management.

**Establish a framework for long-term commercial viability, operational and maintenance sustainability**, including trail and infrastructure design that supports efficient maintenance, staged delivery and governance and funding models capable of sustaining an expanded trail network over time.

Collectively, these objectives will ensure that the SMBP Expansion is deliverable, resilient, and capable of providing lasting recreational, tourism and community benefits while respecting the conservation values of the park.

## Vision

The emerging vision for the SMBP Expansion – consistent across the operational analysis and procurement framing – is to:

**Deliver a nationally and internationally recognised and iconic ride destination with high-quality trails, services and governance that is financially sustainable and compliant within a protected area context.**

The Masterplan vision for Smithfield will balance four non-negotiables:

|                                                                                                                                     |                                                                                                                                                               |                                                                                                                                     |                                                                                                                                                           |
|-------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------|
|                                                    |                                                                              |                                                   |                                                                        |
| Ride experience: trail variety, progression, signature experiences, event-readiness and clarity of network “story” from trailheads. | Sustainability in wet-tropical conditions: location-specific trail standards (grades, drainage, soils), durable construction and maintainable design choices. | Risk and legibility: a defensible Trail Difficulty Rating System, predictable junction design and signage / wayfinding consistency. | Operational viability: an operating model that can fund maintenance and renewal through diverse revenue streams without compromising conservation values. |



Photo: Flow Mountain Bike

## Funding

**\$15.5 million Queensland Government investment**

The Queensland Government is funding the \$15.5 million project as part of its election commitment to drive regional economic growth and job creation outlined within Destination 2045. Further to the capital investment the Queensland Government understands that ongoing success depends on establishing a sustainable and financially viable operational structure and multiple revenue streams to offset operating costs (maintenance, staffing, administration, marketing and renewals). To guide the operations of the expanded SMBP, the Queensland Government are seeking organisations and individuals with the capability and appetite to contribute to the long-term commercial activation of the SMBP. The development of the trail network design and associated decisions (trailhead location, access arrangements, shuttle / tour interfaces, commercial footprints) need to support long-term sustainability.

## Timing



This trail network Masterplan has been delivered in 2026 with planning approvals on track to be in place by 2027. It is expected construction will commence from 2027 in a staged approach ensuring the network is operational during works. Full project completion is on track for late 2028. The operational and maintenance planning is underway with commercial activation explored through an initial Registration of Interest (ROI) to establish the next steps.

## BACKGROUND

Cairns occupies a rare position in global mountain biking as both a historically significant and future-focused destination. Few locations worldwide can claim decades of continuous relevance in elite mountain bike competition while still offering strong potential to evolve into a contemporary, multi-day riding destination.

Mountain biking in Cairns helped shape the foundations of modern competitive mountain biking. In the early 1990s, Smithfield emerged as an internationally recognised proving ground, with steep, tropical and technically demanding terrain that challenged riders in ways rarely seen outside Europe and North America. The region quickly gained global attention when Smithfield hosted consecutive UCI Mountain Bike World Cup rounds in 1994 and 1995.

Cairns' defining moment came in 1996, when Smithfield hosted the UCI Mountain Bike World Championships, becoming the first venue outside Europe or North America to host the event. This milestone established Cairns as a legitimate global mountain bike destination and marked a turning point in the international growth of the sport.

Following this period, the Cairns Mountain Bike Club (CMBC) played a critical role in maintaining and developing the trail network under a Nature Conservation Act 1992 authority agreement. Through decades of volunteer stewardship, CMBC ensured Smithfield remained relevant and rideable as the sport evolved.

The international spotlight returned with UCI Mountain Bike World Cup rounds in 2014 and 2016, followed by the UCI Mountain Bike World Championships in 2017. More recently, Crankworx Cairns, held annually from 2022 to 2025, reinforced Cairns' reputation as a world-class gravity riding destination and introduced a new generation of riders and spectators to the region.



Photo: World Trail

Today, Cairns benefits from a unique combination of world-class riding and an internationally recognised natural setting, positioned between two World Heritage environments – the Great Barrier Reef and the Wet Tropics Rainforest. This creates an opportunity to position mountain biking as a primary tourism driver, encouraging visitors to travel for riding experiences while extending their stay to experience the broader region.

To achieve this, Cairns must continue to evolve as a connected mountain bike destination rather than simply a collection of trails. Expanded and diverse trail networks, skills areas, gravity-focused riding and multi-day experiences will help drive longer stays, repeat visitation and international recognition. Integration with accommodation, transport, trailheads and visitor services will also be essential.

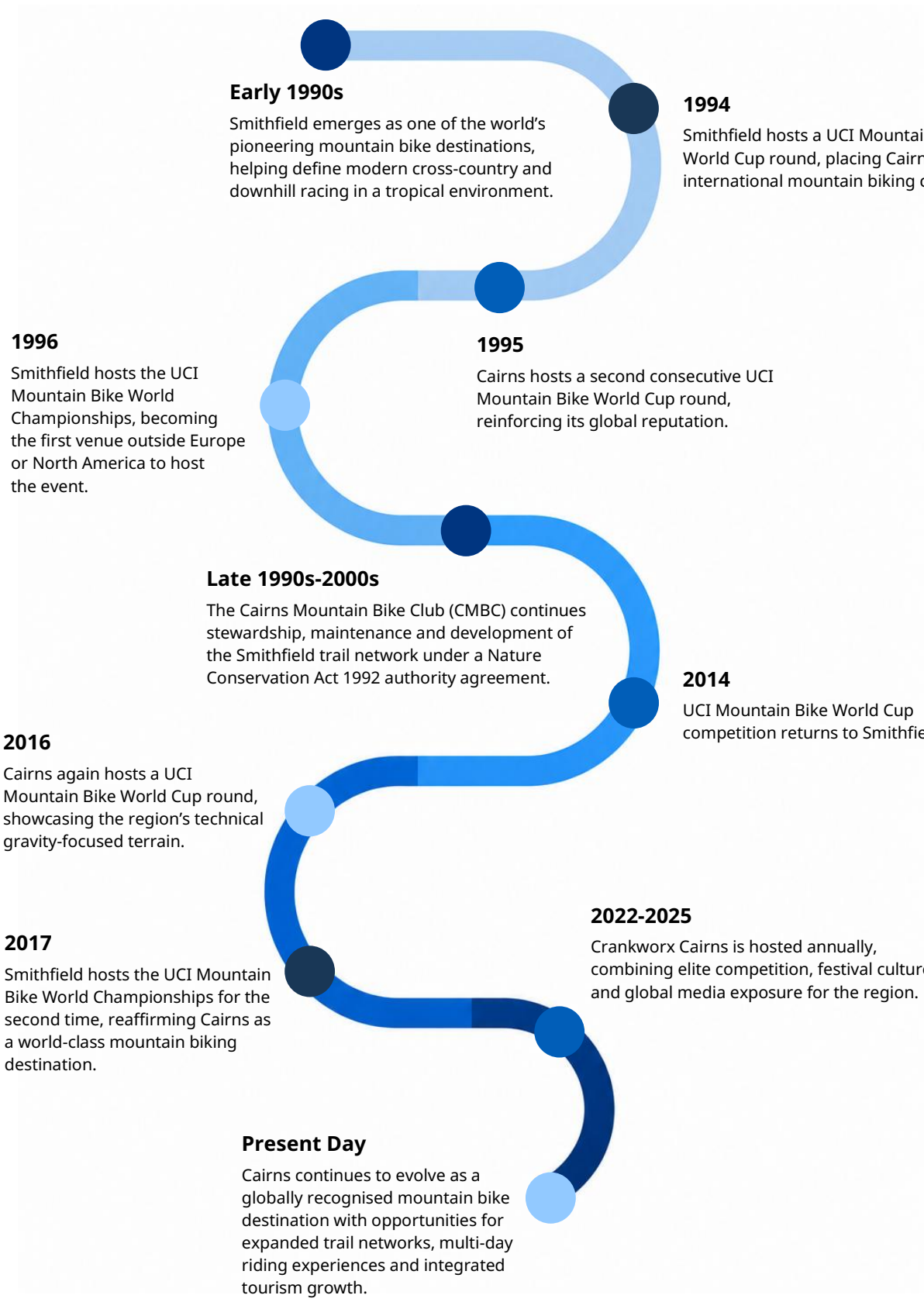
Major international events remain critical to this growth. Events such as the UCI World Cups, World Championships and Crankworx not only deliver economic benefits, but also showcase Cairns' terrain, climate and riding culture to a global audience. Combined with long-term planning and investment, these events create lasting infrastructure, stronger partnerships and a globally recognised destination identity.

Cairns has already proven itself on the world stage. The opportunity now lies in building the scale and connectivity of its trail network to transform Cairns from a destination riders recognise into one they actively plan their travel around.



Photo: World Trail

Smithfield Mountain Bike Park Timeline



## Comparison with Leading Australian MTB Destinations

The Australian Mountain Bike Trail Guidelines (AMBTG) utilises a Significance Hierarchy to provide a quantitative justification for identifying the size of a trail network. The levels are National Significance, Regional Significance and Local Significance. Australia's leading mountain bike destinations are categorised as National Significance. The criteria for each level include:

Table 2 – AMBTG Significance Hierarchy

| Criteria                                                     | National                                                                                                                                       | Regional                                                                | Local                                                        |
|--------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------|
| <b>Length of trails</b>                                      | >80km                                                                                                                                          | 20km - 80km                                                             | Up to 20km                                                   |
| <b>Number of loops</b>                                       | 4+                                                                                                                                             | 2+                                                                      | 2+                                                           |
| <b>Proportion of single track</b>                            | > 50%                                                                                                                                          | > 50%                                                                   | > 80%                                                        |
| <b>Minimum area of site</b>                                  | > 1500ha                                                                                                                                       | > 500ha                                                                 | > 250ha                                                      |
| <b>Location</b>                                              | < 180km                                                                                                                                        | < 40km from 15,000 population                                           | Selected areas                                               |
| <b>Road access</b>                                           | < 20km from major highways                                                                                                                     | < 10km from highways and primary roads                                  | Must have clear public road access                           |
| <b>Exclusion zones</b>                                       | > 90km from another national scale centre                                                                                                      | > 45km from another national or regional scale centre                   |                                                              |
| <b>Trail classification range</b>                            | Mixture of trail classifications. Green, Blue and Black Diamond required as a minimum.                                                         | Mixture of trail classifications. Green and Blue required as a minimum. | Green Circle – Double black Diamond.                         |
| <b>Minimum infrastructure required</b>                       | Trail Hub / Centre including car park, toilets, trail head signage, trail markers, accommodation, bike hire, café, event hosting capabilities. | Car park, toilets, trail head signage, trail markers.                   | Car park, toilets, trail head signage, trail markers.        |
| <b>Recommended trail classification percentage breakdown</b> | White ~10%; Green ~30%; Blue ~40%; Black ~15%; Double Black ~5%                                                                                | White ~10%; Green ~30%; Blue ~40%; Black ~15%; Double Black ~5%         | May only include one trail classification or one trail type. |

## Positioning of Cairns Following Expansion

SMBP currently sits within Regional Significance, however it exhibits several characteristics that differentiate it from, and in some cases exceed, existing National Significance destinations. The proposed expansion of the SMBP positions Cairns to function as a National Significance destination, while offering a distinct and complementary experience within the national MTB landscape, differentiated by the following characteristics:

**Scale and Diversity:** A trail network capable of supporting multi-day visitation across gravity, technical, endurance and progression-focused riding.

**Year-Round Operation:** Unlike alpine and southern destinations, Cairns offers a year-round mountain biking destination with a consistent riding season, reducing reliance on peak-season windows.

**Destination Accessibility:** Direct proximity to an international airport, major accommodation precincts and a large diverse existing supporting tourism sector.

**Environmental Distinctiveness:** Riding experiences embedded within tropical rainforest landscapes, offering a point of difference nationally and internationally.

**Event and Tourism Capacity:** Expanded trail capacity enables simultaneous recreational use, event hosting and skills development without network conflict.

## Strategic Role within the National MTB Network

Post-expansion, Cairns will not compete directly with destinations such as Derby, Maydena or Thredbo on a like-for-like basis. Instead, it will function as a complementary flagship destination, filling a geographic and climatic gap in Australia's MTB offering.

Cairns is uniquely positioned to:

- Anchor northern Australia's MTB tourism market
- Extend the national MTB riding calendar
- Attract both domestic and international riders seeking year-round riding
- Integrate MTB with broader adventure, nature-based and family tourism.

## Expanded Cairns Network – Comparison with Significant MTB Networks

The following table provides a comparison between the proposed expanded SMBP network and existing significant MTB networks, some of which meet National Significance criteria.

Table 3 – Comparison with Significant MTB Networks

| Destination / Location                | Length of Trail Network | Elevation                                            | Riding Season                                                      | Distance to Major Airport                                 | Accommodation                                                   | Tourism Product Availability                                                                                                         |
|---------------------------------------|-------------------------|------------------------------------------------------|--------------------------------------------------------------------|-----------------------------------------------------------|-----------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------|
| <b>Smithfield, Cairns, Queensland</b> | <b>85kms</b>            | <b>Approx. 350m vertical</b>                         | <b>Year-round; best May–October</b>                                | <b>20 min to Cairns Airport</b>                           | <b>Resorts, hotels, apartments, holiday accommodation</b>       | <b>Great Barrier Reef, rainforest, beaches, Kuranda, Skyrail, adventure tourism</b>                                                  |
| Blue Derby, Tasmania                  | 125km+                  | Approx. 450m vertical                                | Year-round; best September–May                                     | 90 min to Launceston Airport                              | Lodges, cabins, holiday homes, camping, boutique accommodation  | Bay of Fires, rainforest experiences, waterfalls, wineries, hiking, wellness tourism                                                 |
| Mogo Trails, New South Wales          | 125km+                  | Approx. 300m vertical                                | Year-round; best autumn–spring                                     | 15 min to Moruya Airport; 2 hrs to Canberra Airport       | Resorts, holiday parks, cabins, hotels                          | Beaches, whale watching, kayaking, national parks, wildlife park, coastal tourism                                                    |
| St Helens / Bay of Fires, Tasmania    | 125km+                  | 600–1,000m vertical (depending on trail combination) | Year-round; best October–May                                       | 2 hrs to Launceston Airport                               | Hotels, apartments, eco-lodges, holiday homes, camping          | Bay of Fires beaches, fishing, diving, coastal touring, wineries, national parks                                                     |
| Omeo, Victoria                        | 114km                   | Approx. 550m vertical                                | October–May; limited riding during winter due to alpine conditions | ~2.5 hrs to Albury Airport; ~4.5 hrs to Melbourne Airport | Hotels, motels, caravan parks, holiday homes, cottages, camping | Alpine National Park, High Country, 4WDing, hiking, fishing, rafting, road cycling and snow tourism within the broader alpine region |
| Dwellingup, Western Australia         | 108km+                  | Low–moderate forest terrain                          | Year-round; best autumn–spring                                     | 1.5 hrs to Perth Airport                                  | Chalets, cottages, camping, caravan parks                       | Lane Poole Reserve, kayaking, hiking, Munda Biddi Trail, 4WD touring                                                                 |
| Mt Buller, Victoria                   | 100km+                  | Approx. 1,600m elevation                             | November–April                                                     | 3.5 hrs to Melbourne Airport                              | Alpine lodges, apartments, hotels                               | Alpine hiking, scenic tourism, road cycling, snow sports in winter                                                                   |
| Melrose, South Australia              | 100km+                  | Approx. 500m vertical                                | March–November                                                     | 3 hrs to Adelaide Airport                                 | Heritage hotels, cottages, caravan parks, camping               | Mount Remarkable National Park, hiking, heritage tourism, gravel cycling, outback touring                                            |
| Maydena Bike Park, Tasmania           | 80km+ trails            | 820m+ vertical                                       | Spring–autumn                                                      | 1.5 hrs to Hobart Airport                                 | Lodges, cabins, holiday homes, camping                          | Mt Field National Park, waterfalls, wilderness tourism, food and wine experiences                                                    |

| Destination / Location                         | Length of Trail Network        | Elevation                                        | Riding Season                  | Distance to Major Airport                             | Accommodation                                                        | Tourism Product Availability                                                                       |
|------------------------------------------------|--------------------------------|--------------------------------------------------|--------------------------------|-------------------------------------------------------|----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|
| Warburton, Victoria                            | 70km+ (160km+ planned network) | Up to 800–1,000m vertical                        | Year-round; best spring–autumn | 90 min to Melbourne Airport                           | Hotels, motels, cabins, holiday rentals, caravan parks               | Yarra Valley wineries, rail trails, hiking, food tourism, wellness experiences                     |
| Forrest, Victoria                              | 70km+                          | Approx. 300–450m vertical                        | Year-round                     | 2 hrs to Melbourne Airport; 1.5 hrs to Avalon Airport | Cabins, holiday park, cottages, camping, guesthouses                 | Great Otway National Park, waterfalls, hiking, Great Ocean Road, food and wine tourism             |
| Atherton Forest Mountain Bike Park, Queensland | 55km+                          | Tableland terrain with moderate elevation change | Year-round; best April–October | 1.5 hrs to Cairns Airport                             | Motels, cabins, holiday parks, farm stays                            | Waterfalls Circuit, crater lakes, rainforest experiences, food tourism                             |
| Falls Creek, Victoria                          | 50km+                          | Approx. 1,600m elevation                         | November–April                 | 2 hrs to Albury Airport; 4.5 hrs to Melbourne Airport | Alpine apartments, lodges, hotels                                    | Alpine National Park, hiking, road cycling, lakes, winter snow tourism                             |
| Stromlo Forest Park, ACT                       | 50km+                          | Approx. 250m vertical                            | Year-round                     | 15–20 min to Canberra Airport                         | Hotels, apartments, caravan parks                                    | National attractions, museums, galleries, wineries, road cycling                                   |
| Kalamunda, Western Australia                   | 50km+                          | Perth Hills terrain                              | Year-round; best autumn–spring | 30–40 min to Perth Airport                            | Perth hotels, hills cottages, B&Bs                                   | Perth Hills wineries, hiking, national parks, food tourism                                         |
| Mystic Bike Park, Bright, Victoria             | 45–60km+                       | Approx. 450m vertical                            | Year-round; best September–May | 1.5 hrs to Albury Airport                             | Hotels, motels, caravan parks, holiday homes, luxury lodges, camping | Mt Buffalo National Park, wineries, breweries, hiking, road cycling, paragliding, river recreation |

# Literature Review

The Literature Review summarises the key findings and design implications from the key reference documentation and explains how each document informs the Masterplan. The following documents were included within the review, with the complete Literature Review provided as [Appendix 1](#).

- World Trail Smithfield MTB Expansion Concept Report – World Trail (2022)
- Smithfield Mountain Bike Park Trail Expansion Project – Detailed Site Analysis - RPS (2025)
- Smithfield Mountain Bike Park – Existing Trail Audit – Blue Sky Trails (2025)
- Smithfield Mountain Bike Park Trail Expansion – Operational Analysis – BDO (2025)
- Tropical North Queensland Regional Mountain Bike Strategy – FNQROC (2024)
- James Cook University Cairns Campus Master Plan - James Cook University (2019)
- Operational Policy – Visitor Management – Mountain biking in QPWS managed areas (2011)
- Smithfield Conservation Park Management Statement – QPWS (2015; review date 2025)
- Cairns Active Transport Strategy - Cairns Regional Council (2020)
- Northern Beaches Leisure Trail - Cairns Regional Council / Queensland Department of Transport and Main Roads (2026 webpage)
- Cairns Mountain Bike Club – Smithfield MTB Park User Survey (2025)

## Literature Review Key Takeaways

**This must be an approvals-ready Masterplan**

The literature is explicit that vision and experience intent must be reconciled with tenure, statutory pathways, environmental limits and delivery reality.

**Tenure certainty and approvals feasibility drive what is possible**

Trails should prioritise land with clear tenure and lower approval risk (primarily SCP) and avoid creating expectations in high-risk or constrained areas.

**Environmental and cultural constraints are binding conditions**

Wet Tropics, regulated vegetation, endangered ecosystems and cultural heritage requirements fundamentally limit where and how trails can be developed and must shape planning from the outset.

**Smithfield is a flagship destination with a distinct technical identity**

The park’s value lies in its raw, challenging character and event pedigree; progression and inclusivity must be delivered without diluting this point of difference.

**Expansion cannot be separated from existing network issues**

Wayfinding, rating integrity, junction safety and signage deficiencies must be addressed at a whole-of-park level to avoid compounding existing issues and risks.

**Operations and maintenance must be considered in design**

Long-term success depends on sustainable trail design, a maintenance funding strategy and a governance model that go beyond volunteer-only delivery.

**Trailheads are strategic infrastructure, not just entry points**

Trailhead location and design must support access, safety, shuttles, events, commercial activity and maintenance logistics.

**Regional access and connectivity matter, but are enabling rather than defining**

Active transport and leisure trail networks support safe access and visitation, but do not dictate MTB trail design within the conservation park.

**Delivery must be adaptive and realistic**

Delivery, including potential staging of construction, must respond to approvals timing, wet season constraints, funding availability and site-specific conditions and requirements.

**Community support is strong but conditional**

Expansion is supported only if it delivers high-quality, well-maintained trails, protects Smithfield's identity and is backed by a credible long-term management model.



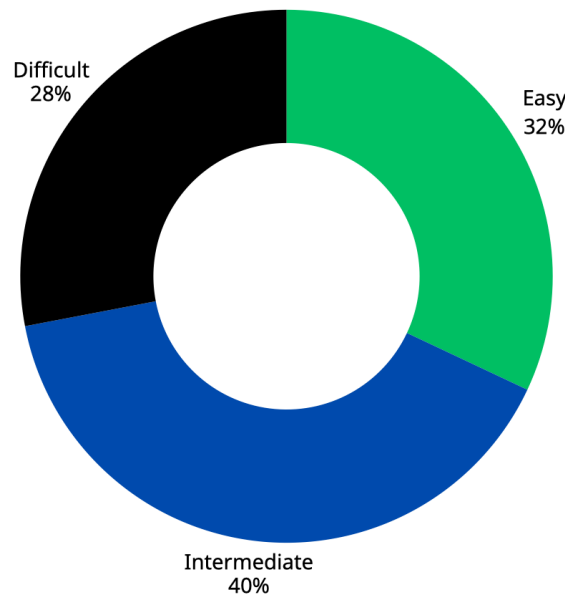
Photo: © Tourism and Events Queensland

# SITE ANALYSIS

## Existing Trail Network

The SMBP network currently offers 37 purpose-built trails, totalling 25km. The majority of the trails are rated Intermediate with 15 trails totalling 10km (40% of total length), followed by 10 Easy trails (8km, 32%) and 12 Difficult trails (7km, 28%).

Figure 2 – Existing Trail Network Breakdown (TDRS Ratings)



Trails are sculpted out of volcanic clay, twisting their way through magnificent vine-wrapped jungles. With names like Wobbegong, Flat Snake, Blue Marlin, Cuscus and Barramundi, many of these trails hug the jagged ridges overlooking the Great Barrier Reef. Trails are designed for all skill levels and follow standard Trail Difficulty Ratings, ranging from Easy to Difficult, including UCI-level technical short and long climbs plus technical descents for advanced riders.

The park includes a diverse mix of cross-country and downhill trails, technical singletrack and gravity-focused descents, supported by shuttle-accessed downhill routes and looped riding options. This variety allows both recreational riders and elite athletes to use the network. (Source: [Trailforks](#))

The map on the following page shows the existing trail network.



## Tenure

The Smithfield Mountain Bike park spans across approximately 3 square kilometres and intersects approximately 25 separately titled parcels of land, predominantly within the SCP, with additional parcels under the control of CRC, JCU and transport infrastructure corridors, as shown in the Existing Trail Network map on the previous page. The land tenures are denoted by the variations in green shading and the tenure boundary lines, with the associated names of the landowners located on the respective shaded areas.

### *Smithfield Conservation Park*

The area SCP is located in was previously freehold prior to the conservation parks gazettal on 23 June 2000 under the *Nature Conservation Act 1992*. The park is bordered by the Kuranda National Park, part of the Wet Tropics World Heritage Area. The park has a management statement (2015) for the conservation of natural and cultural values with the State acquiring to provide suitable recreational mountain bike opportunities for visitors.

To achieve the operations and management of the trails, the Cairns Mountain Bike Club first entered into a Section 34 agreement, authorised under the *Nature Conservation Act 1994*, during 2007 to manage the trail network within the park for the community. The club has and continues to play an important role in maintaining, managing and developing the trails, rider behaviour and events.

### *James Cook University*

Part of the MTB network is located across JCU freehold, with a license in place to access, maintain and use the trails. The ongoing support to these trails as well as hosting major events upon JCU campus, such as Crankworx, is further testament to the benefit JCU has to the community. JCU has been actively involved in the project to resolve tenure security for the MTB network into the future.

### *Cairns Regional Council*

CRC have a range of tenures including freehold and reserves that have trails within, including the McGregor Road trailhead location and services. CRC have played a pivotal role in maintaining and developing the MTB trailhead at McGregor as well as other land parcels with trails located on. CRC have actively participated in the expansion project to ensure trails and trailhead sites are secured into the future.

## Existing Infrastructure

Smithfield MTB Park has defined access points to the trails and associated infrastructure:

- McGregor Road Trailhead
- Northern trail access point (Panguna Street)
- Event Site, JCU

### McGregor Road Trailhead

The existing trailhead for the network is currently located on McGregor Road, adjacent to the entry to the AJ Hackett Bungy Jump. The trailhead provides a sealed car parking area for approximately 20 cars, with additional unsealed informal car parking along McGregor Road. Other facilities include an amenity building, which includes a small storage space for the CMBC, a small dirt pump track, a small skills area and trailhead signage.



Photos: World Trail

## Northern Trail Access Point

At the northern end of the park, there are two existing access points into the park currently, from Panguna Street and Moore Rd. The Panguna Street entrance is little more than a management vehicle track entrance into the park. The Moore Rd entrance is slightly more obtrusive, having a large concrete causeway across Moore's Gully and a gated, sealed road maintained by CRC for access to the water tank. Trailhead signage is installed at the gate, indicating that the Smithfield mountain bike trails can be accessed from here. There are no dedicated car parks or other visitor facilities at this northern end. These access points are primarily used by experienced, local mountain bikers living in the nearby vicinity. Approximately 500 homes have access south of Discovery Drive, with additional homes also to the north. A significant population is located further north and east of the highway; all within riding distance (noting some would be a similar distance from the McGregor Road Trailhead). Accessing the trails from the northern side currently requires fitness and experience and would not be suitable for inexperienced riders. There are a few small, informal jump trails close to the northern end of the Moore Rd entrance.



Photo: Queensland Government

## Event Site

As previously noted, Smithfield hosted the Crankworx event from 2022 to 2025. The establishment and operation of the event created a site capable of hosting large crowds, infrastructure and amenities. The site is accessed via an internal road running through JCU. There are approximately 80 sealed parks supporting use of the site. A symmetrical pump track is located adjacent to the car park, while gravel roads provide access to the trail network.

The site is maintained as a large, grassed open space and could be suited to other event purposes. In addition to the recent Crankworx events, it has previously hosted world-class mountain biking events, including UCI World Cup and World Championship events, as well as Australian local, state and national level mountain bike events.



Photo: World Trail

# Trail Usage Data

## Key Insights

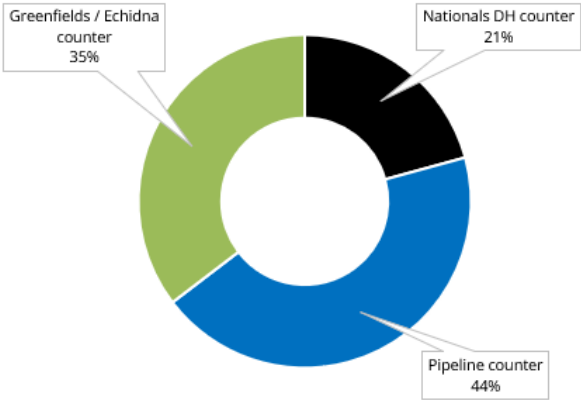
- Cross country riding remains the dominant activity.
- Smithfield attracts riders across a wide range of experience levels.
- Existing demand supports expansion of the trail network.
- The expanded network responds to current and future rider demand.

To provide an indication of access to and use of SMBP, trail use data was collected using three TRAFx counters installed on key points within the existing network:

1. Entry to Greenfields / Echidna – Easy
2. Exit from Pipeline – Intermediate
3. Exit from Nationals DH - Difficult

The counters collected usage data over an extended monitoring period from September 2025 to July 2026. The dataset captures both wet and dry season conditions and provides valuable insights into visitation patterns, trail popularity and rider behaviour across the network. While the data does not represent all trail users or provide a complete measure of park visitation, it provides a useful indication of trail use trends and demand across different trail difficulty levels.

Figure 3 – Trail Usage Comparison (Sep 2025 – July 2026.)



## Insights

The Pipeline (Intermediate) counter recorded the highest activity during the monitoring period, with an average of approximately 38 rider counts per day, followed by the Greenfields / Echidna (Easy) counter with approximately 30 rider counts per day and Nationals DH (Difficult) with approximately 18 rider counts per day. This indicates that the current network is heavily utilised across easy-to-intermediate riding experiences, while difficult trails continue to attract consistent use from more experienced riders.

It is important to note that the data collected does not strictly represent the exact breakdown of trail usage by rider skill level. For example, the counters at the easy (Greenfields / Echidna) and intermediate (Pipeline) trails may capture riders of varying skill levels. Additionally, the nature of the easy trail, with Echidna being a loop, likely encourages multiple laps per visit, which could inflate its usage counts compared to the intermediate and difficult trails, which are more likely to be ridden once per visit. As such, the data should be interpreted as a guide to trail popularity rather than a definitive measure of rider activity or existing skill-level distribution.

Use is strongly weekend-weighted across all monitored locations. Average weekend volumes were approximately 2.5 to 3.8 times higher than weekday volumes, demonstrating the importance of recreational riding and destination visitation outside the working week. Pipeline recorded average weekend volumes of almost 69 rider counts per day, while Greenfields / Echidna averaged approximately 58 rider counts per day and Nationals DH approximately 35 rider counts per day.

Time-of-day patterns show two distinct periods of peak use. A morning peak occurs between approximately 8:00am and 10:00am, particularly on weekends, while a stronger afternoon peak occurs between approximately 4:00pm and 5:00pm, reflecting both destination riding and after-work recreational use. The highest average hourly volumes were recorded on Pipeline during the late afternoon period.

The extended monitoring period also demonstrates seasonal variation in trail use. Visitation was generally strongest during the cooler and drier months and reduced during periods of wet weather and extreme heat. Despite this variation, all monitored locations recorded consistent year-round use, reinforcing Smithfield's role as a significant recreation asset and mountain biking destination for the region.

Implications for the Masterplan include:

- Capacity and safety on peak days / times: design trailheads, parking areas, and circulation spaces to accommodate pronounced weekend demand and late-afternoon peaks.
- Prioritise beginner-intermediate supply: the strongest demand continues to occur on easy and intermediate trails, supporting the provision of additional additional "everyday" trails to disperse riders and reduce crowding on Pipeline / Greenfields access routes.
- Maintain a diverse trail offering: ongoing use of Nationals DH demonstrates the importance of retaining advanced riding opportunities and Smithfield's established technical character.
- Maintenance planning: schedule high-disruption works during low-demand windows (typically weekday mid-day) and plan wet-season maintenance strategies to manage variability.

## Previous Uses

**Historic land uses continue to influence planning and environmental assessment today.**

SCP lies within the traditional Country of the Djabugay Nation people, whose lands extend across the rainforest, ranges, creeks and valleys surrounding Cairns and Kuranda. The area formed part of a broader network of hunting, gathering, travel and cultural sites connected to the Wet Tropics landscape.

Djabugay Nation, comprised of the Djabugay, Bulway, Yirrganydji, Nyakali and Guluy Peoples, maintained strong cultural connections to the rainforest environment, using local waterways, plant resources and animal species for food, medicine, tools and ceremony. Oral traditions and cultural lore are deeply tied to the mountains, creeks and ridgelines of the region, with many landscape features understood as important story places.

Following European settlement in the late 1800s, the area experienced major disruption through land clearing, mining, rail construction and violent frontier tension. Historical records document this conflict in the wider Smithfield and Barron Gorge region during this period.

The area of the SMBP has post-contact historical significance; there were old settler and gold supply trails, widespread timber harvesting, WWII military practice zones, various quarrying sites, pine forest plantations and later shared use with a bow hunters club as well as the development of the university in the mid 1990's. The long human history and European settlement patterns helped open tracks and access routes that later influenced where recreational trails and tourism facilities developed.

Located adjacent to JCU, the park has been used extensively for educational activities and scientific research since its gazettal in 2000. The history, especially Aboriginal culture and use of natural resources, is of particular interest for educational activities. The park, in conjunction with adjacent university land, is also used as an on-going study site for cyclone and climate change research, remote sensing of fire damage and habitat mapping.

The park is primarily utilised mainly by locals for mountain bike riding, walking and jogging.



Photo: World Trail

## Ecological Values

A local ecologist has been commissioned to undertake an ecological desktop assessment of the Concept design prior detailed field site assessments of the Masterplan alignment to support planning of the proposed upgrades to the Smithfield Mountain Bike Trail Network. The purpose of this assessment was to identify and evaluate ecological values and potential constraints associated with the proposed works, including the presence of threatened species and threatened species habitat.

The assessments are comprehensive; primarily covering threatened species, Matters of National Environmental Significance (MNES) and Matters of State Environmental Significance (MSES). The following section summarises the recommendations and conclusions across the Concept plan stage of the design.

Following a detailed site field assessment of the masterplan alignments (currently underway at the time of this Masterplan), the concept impact outcomes are tested and potential significant impacts to MSES and MNES matters will be better determine. Subject to final State and Commonwealth assessments, the project will seek final environmental approvals by late 2026.

| Ecological Constraints |                      |                    |           |
|------------------------|----------------------|--------------------|-----------|
| Habitat connectivity   | Protected vegetation | Threatened species | Waterways |

## Ecological Assessment Outcomes

### Detailed Field Assessment to Inform Micro-siting Trails

- A field assessment on proposed trail corridors to better determine potential significant impacts to MSES and MNES matters has been completed.
- Key to the field assessment is locating and providing data of MSES and MNES matters and providing opportunity to microsite trails to avoid significant impacts.

### Locating of Trailheads

- The field assessment findings will accurately inform the most appropriate location and design and provide opportunity to avoid ecological constraints and inform a sensitive design at the proposed location of trailhead infrastructure.

### Construction Environmental Management Plan

The project will develop a detailed Construction Environmental Management Plan (CEMP) to highlight environmental risks and ensure adequate mitigation measures are implemented and monitored during construction across, but not limited to, the following key areas:

- *Weed Management:* Controlling existing weeds to prevent their spread during trail construction is a key mitigation measure. A field survey will identify weed species and their legislative management requirements, and a construction environmental management plan will be developed to ensure effective implementation of weed management measures before works commence.
- *Biosecurity Management:* A construction and environmental management plan must include biosecurity measures such as using certified weed-free materials, cleaning and inspecting machinery before site entry, sterilising footwear daily, and washing vehicles and machinery in compliance with the Queensland Biosecurity Act 2016.
- *Tree Protection Measures:* Although the proposal is unlikely to remove large canopy trees, general tree protection measures should be applied during construction to avoid damage to trees resulting in compromised structure or death of trees. Recommendations for general tree

protection measures are provided in the assessment as per AS4970-2009 protection of trees on development sites.

- *Protected Plant Surveys:* Prior to construction, a protected plant survey as per the Flora Survey Guidelines (protected plants) is required to be undertaken to determine the location and quantify the population of all threatened flora present within high-risk trigger mapping areas.
- *Erosion and Sediment Control:* An erosion and sediment control plan will be required for the construction phase of the project to ensure downstream riparian habitats are not impacted upon.
- *Fauna Spotter / Catcher During Clearing Operations:* A licensed fauna spotter / catcher must be present during vegetation clearing and creek-bed disturbance to rescue and relocate wildlife.

## Statutory Environmental Assessment

### EPBC Act 1999

- *Threatened Species:* Four threatened flora and five fauna species, including the Southern Cassowary and Spectacled Flying-fox, are moderately likely to occur within the project area. Field assessments will confirm impacts under the EPBC Act and if a referral is required.
- *Migratory Species:* The project site is unlikely to support suitable habitat for migratory species, and an EPBC referral for these species is not anticipated, pending field confirmation.
- *Threatened Ecological Communities (TEC):* The Tropical Lowland Rainforest of the Wet Tropics TEC is likely present. Field assessments and a Significant Impact Assessment will determine if a referral to DCCEE is required, though the narrow trail design may mitigate significant impacts.

### Nature Conservation Act 1992

- *Threatened Species:* Nine threatened flora and eight fauna species listed under the NC Act are moderately likely to occur within the project area. Field assessments will confirm their presence, and any species identified will require a Significant Residual Impact Assessment (SRI) under the Nature Conservation Act 1992. If significant impacts are likely, a referral to DETSI will be necessary.

### Regulated Vegetation (Vegetation Management Act 1999)

- *Vegetation Clearing in SCP:* Clearing within a State Conservation Park (SCP) is regulated under the Nature Conservation Act 1992, not the Vegetation Management Act 1999. Biodiversity offsets may apply for significant impacts to threatened species.
- *Vegetation Clearing on Freehold Land:* Outside SCPs, vegetation clearing for trail access infrastructure may qualify as exempt development under the Planning Regulation 2017.

### Fisheries Act 1994

- *Waterway Barrier Works:* The proposed trail crosses three low-risk waterways classified as waterway barrier works under the Fisheries Act 1994. It is expected works will be designed and constructed to qualify as accepted development meeting code requirements; otherwise, development approval from Fisheries Queensland will be sought. Notifications are mandatory before and after works, even for exempt activities. Further information please see Watercourses.

### Water Act 2000

- *Watercourses, Drainage Features, and Vegetation Clearing:* The proposed alignment crosses mapped drainage features, but these are not regulated under the Water Act 2000, and no Riverine Protection Permit is required for works in these areas. For clearing remnant vegetation on freehold land, the works are considered exempt under the Planning Regulation 2017 as government supported transport infrastructure.

## Native Title

A previous conclusion (ID 75821, 24 October 2024) found Native title is wholly extinguished over the project area by a previous exclusive possession act. During 1887, a Deed of Grant for Conditional Purchase Selection No. 67847 was granted in conformity with the Laws and Regulations in force for the Alienation of Crown Lands in the Colony of Queensland over Portion 358, Parish of Smithfield, County of Nares, as shown on plan N15755. A Deed of Grant for Conditional Purchase Selection is a freehold estate which if granted validly on or before 23 December 1996 is a PEPA under s. 23B(2)(c)(ii) of the Native Title Act 1993 (NTA) and wholly extinguishes native title under s. 20 of the NTA (Queensland). This Deed of Grant for Conditional Purchase Selection does not fall within any of the exclusions listed in Module BA of the State Government Native Title Work Procedures.

## Cultural Heritage Values

SCP is located on Country that holds enduring cultural significance for Aboriginal people. The project area sits within Djabugay Nation Claim, comprised of the Djabugay, Bulway, Yirrganydji, Nyakali and Guluy Peoples and the project recognises the Djabugay Nation as the relevant Aboriginal Cultural Heritage Party (Reference QC2024/001; Federal Court No. QUD692/2016) for the Smithfield Mountain Bike Park expansion area. The project acknowledges, with respect and appreciation, the deep and continuing connection of Djabugay Nation people to this landscape, including its landforms, waters, stories, knowledge and living cultural responsibilities.

The project is required to meet its obligations under the Aboriginal Cultural Heritage Act 2003. That Act provides for the recognition, protection and conservation of Aboriginal cultural heritage in Queensland and establishes a cultural heritage duty of care. In practical terms, this means all reasonable and practicable measures must be taken to avoid harm to Aboriginal cultural heritage during planning, investigation, design and delivery. The Act recognises Aboriginal people as the primary guardians, keepers and knowledge holders of their cultural heritage, and it requires proponents to take cultural heritage considerations seriously from the earliest stages of a project.

For the SMBP Expansion Project, this means cultural heritage is not treated as a final compliance step. It is an important part of how the project is being planned, refined and staged. The Masterplan remains subject to ongoing cultural heritage processes, and any future works will need to be informed by those processes, including further assessment and agreed management arrangements where required.

The State and the project team are committed to meeting all relevant obligations and duty of care requirements under the Act. At the same time, the project remains firmly committed to progressing the expansion so the upgraded and expanded network can be open and operating by September 2028. There is genuine enthusiasm to continue working constructively with the relevant Aboriginal Cultural Heritage Party to help achieve both objectives: strong protection of cultural heritage values and timely delivery of a nationally significant project for the region.

Engagement with the relevant Aboriginal Cultural Heritage Party has been underway since January 2025 with the Djabugay Nation Applicant group through the North Queensland Land Council NTRB Aboriginal Corporation (NQLC).

The next steps are expected to include site-based cultural heritage assessments and the continued negotiation of an appropriate cultural heritage arrangement. These processes will assist in identifying and appropriately managing cultural heritage values and may inform refinements to staging, alignment and delivery methodology as the project progresses.

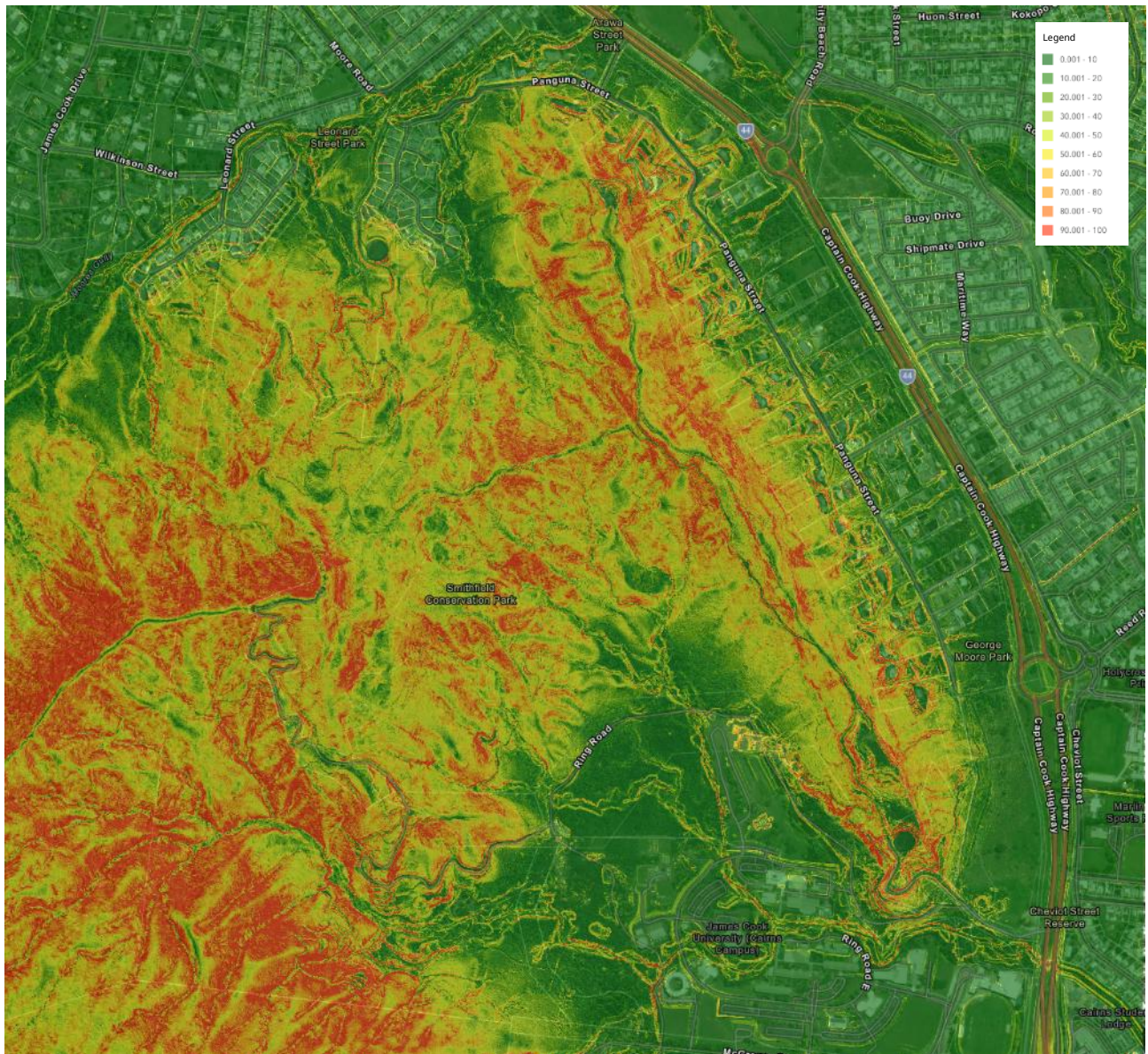
## Topography

SCP is approximately 278ha and encompasses the foothills of the Macalister Range and extends to the alluvial flats of Atika and Moon Creeks. The escarpment rises 350m above the suburbs of Smithfield and Trinity Beach. Dense rainforest clads the southward-facing slopes as well as the damp gullies and creek lines of the northern and eastern slopes. Open eucalypt woodlands cover the steep slopes and ridgelines of this park. These woodlands are dominated by emergent pink bloodwoods and Moreton Bay ash. Where the soil type changes acacia and swamp box open forests thrive.

The western side of the park, along the ridge line, borders Kuranda National Park. The residential area of Smithfield adjoins the remainder of the park's boundary.

The below aerial image provides a visual representation of the steepness of the landscape. Flat areas (0-10% side slope gradient) are shown in green and steep areas are shown in red (90-100% side slope gradient).

Figure 4 – Trail Network Topography



## Watercourses

The SCP is divided by numerous watercourses. Watercourses in the northern end of the park ultimately converge into Moores Gully, while those in the southern end converge into Atika Creek. Watercourses in the upper reaches of the park are generally small and often seasonal. In the lower parts of the park, the watercourses are larger and often carry water year-round.

The document 'Accepted Development Requirements for Operational Work That is Constructing or Raising Waterway Barrier Works' published by the Queensland Government in September 2025, outlines the accepted development requirements for operational work that is constructing or raising waterway barrier works.

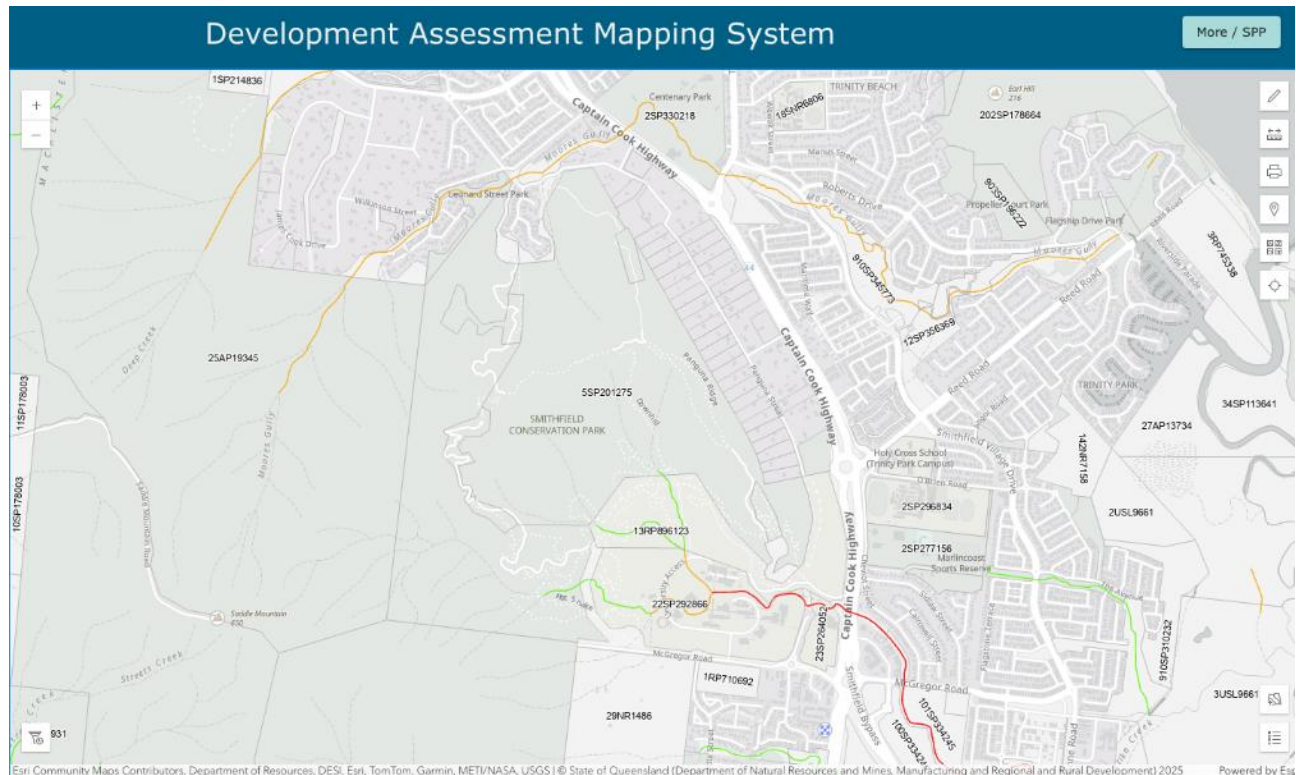
Key points in the document are:

- A waterway is defined as a river, creek, stream, watercourse, drainage feature or inlet of the sea, refer to s.4, schedule dictionary of the Fisheries Act 1994.
- When operational work that is constructing or raising waterway barrier works complies with the requirements in this document, the operational work is authorised as accepted development.
- These accepted development requirements are designed to allow self-assessment. It is the user's responsibility to comply with the requirements.
- The document does not address other legislative requirements for development, such as other development triggers or the need for other authorisation.
- Accepted development may only occur in a place where a person or entity has a lawful right to undertake that work. As such, it is the responsibility of the proponent to obtain tenure or otherwise meet requirements to lawfully access land where accepted development is proposed.
- If the proposed work does not comply with the accepted development requirements, the work is not accepted development. Work that is not accepted development is assessable development and requires development approval.

The Queensland Government's Development Assessment Mapping System tool identifies the watercourses that intersect with the SCP, as shown in the figure on the next page.

There are 3 green (low risk) waterways mapped within the lower parts of the SCP, as also noted in the Ecology Report (Four Elements Consulting). Infrastructure works required to cross the watercourses in these areas may qualify as accepted development if code requirements are met.

Figure 5 – Development Assessment Mapping System – SCP



## Geology and Vegetation

The tropical rainforest gullies and sclerophyll and woodland forests of SCP provide interest for scientists and recreational users alike. The park is characterised by two, distinct topographic features – the flat, alluvial plains of Atika and Moon Creeks and a high relief that rises approximately 350m in altitude at the top of the coastal ridge. The steep, vegetated ridges of the park form an important scenic backdrop to Trinity Beach and Smithfield suburbs.

Significant soil and vegetation communities include eucalypt woodland on metamorphic soils with steep slopes and ridgelines; rainforest on metamorphic soils with southward-facing slopes; and moister protected areas and creeks lines on northern and eastern slopes.

Vegetation communities are influenced by soil type and moisture. The park is characterised by open forest and woodland dominated by eucalypt species such as pink bloodwoods *Corymbia intermedia*, Moreton Bay ash *Corymbia tessellaris* and *Eucalyptus tereticornis*; and, in moister areas, by vine forest with these species emerging above the canopy. In areas of different soil type, open forest is dominated by pink bloodwoods and large-fruited red mahogany *Eucalyptus pellita* or black wattle *Acacia mangium* and swamp box *Lophostemon suaveolens*. In the moister areas, these species emerge above the canopy of vine forest.

# STAKEHOLDER ENGAGEMENT

The development of the Masterplan has involved working closely with land managers, key stakeholders and the broader Smithfield community to gather feedback and help inform the trail network design.

## Project Advisory Committee

A Project Advisory Committee was formed in 2025 and has been consulted through the development of the design, with insights and expertise guiding the project outcomes, comprising:

- Member for Barron River and Assistant Minister for Tourism, Early Learning, Creative Industries, and Far North Queensland, the Honourable Bree James, (MP Bree James)
- Queensland Parks and Wildlife Service & Partnerships (QPWS&P),
- Cairns Regional Council (CRC)
- Cairns MTB Club (CMBC)
- James Cook University (JCU)
- Tourism Tropical North Queensland (TTNQ).

## CMBC Rider Survey

CMBC undertook a survey of club members to provide critical input into the development of the concept design. The questions focussed on the trailhead (location and services), types of trails, shuttles, engagement and aspirations for the project.

The key findings from the survey informing the design included:

- Trailhead – the Crankworx site is the preferred location (56%), followed by McGregor Road (32%) and Captain Cook Highway (12%).
- Trailhead services – toilets (74%), skills park (74%) and parking for locals (53%) were the 3 most important services.
- Trail types – the preferred trail types were ‘blue with black alternatives’ (59%), ‘flow trails’ (57%), ‘blue (intermediate)’ (38%), ‘jump trails’ (36%) and ‘black (advanced)’ (36%).
- Shuttle service options – ‘Connected shuttle roads with multiple drop-offs’ (71%) were the preference, followed closely by ‘multiple drop-off locations’ (68%).
- Shuttle service features – ‘Mix of commercial and private shuttles’ (59%) and ‘weekend shuttles’ (55%) were the clear preference.
- Engagement with the network – respondents identified that ‘more trails for my skill level’ (76%), and ‘shuttle service’ (61%) and ‘local races / events’ (52%) would increase their engagement with the network.
- Engagement with MTB – respondents identified that ‘greater variety of trails’ (87%), ‘skill development areas’ (60%) and ‘social events’ (48%) would increase engagement in MTB as an activity.
- Park expansion – respondents identified the key project inclusion as ‘tracks and trails’ (70%), with ‘black trails’ (29%), ‘maintenance’ (18%) and ‘shuttles’ (16%) also important.

Further, while members have an interest in new trails, shuttle services, facilities, and signage, the overriding need is ongoing trail maintenance. The more trails that are built, the greater the maintenance needed.

## Community Engagement

Broader community engagement has occurred in two distinct phases:

1. Early phase (i.e. pre-design)
2. Concept design phase



Photos: Cairns Mountain Bike Club Facebook Page

## Early Phase Stakeholder Engagement

Early stakeholder engagement was undertaken to inform the development of the Smithfield MTB Park Expansion, and to test initial opportunities and constraints prior to concept design finalisation and ground-truthing.

This early phase of engagement included targeted face-to-face meetings with key stakeholders including:

- CMBC
- QPWS&P local rangers
- CRC
- TTNQ
- JCU
- Far North Queensland Regional Organisation of Councils (FNQROC)
- Queensland Police Service (QPS)
- Queensland Ambulance Service (QAS)

Engagement focused on understanding stakeholder aspirations, operational considerations, land tenure constraints and destination-level objectives, ensuring the Masterplan responds to both local user needs and broader strategic outcomes.

Across stakeholder groups, several consistent themes emerged:

Strong support for locating the majority of new trails within the SCP, reflecting tenure certainty, environmental protection and long-term manageability, while still enabling strategic connections.

The critical importance of trailhead location, with strong preference for the Crankworx event site as the primary trailhead, supported by both riders and tourism stakeholders. Supported by future integration with off-road shared-use paths and regional trail connections.

Broad support for a precinct or zoned approach to trail development and management to allow for differentiated trail experiences, and support effective operational management including safety, wet-weather resilience, access management, maintenance or event staging without impacting the entire network.

A need for a diverse and progressive trail offering, including intermediate trails with optional difficulty, flow and jump trails and retention of Smithfield's technical, raw character.

Provide a wider range of trail difficulties with clear progression opportunities for riders, improving overall rider experience.

Early consideration in trail network design (and subsequent construction quality) to ensure erosion control, wet season resilience and access logistics to support long term maintenance and sustainability.

Recognition that ongoing trail maintenance and sustainable funding models are essential, particularly as the network expands beyond what can be supported by volunteer labour alone.

Safety, wayfinding and emergency access should be key priorities.

## Concept Design Phase Stakeholder Engagement

Stakeholder engagement in the concept design phase was undertaken throughout early 2026, as the concept design was developed and refined. Direct face-to-face meetings with key stakeholders such as CMBC, CRC, JCU and TTNQ were undertaken to explain and outline the key features of the concept design and obtain critical feedback. Furthermore, a workshop was held with the Project Advisory Committee in late January 2026, which reviewed the concept design. Stakeholder feedback arising from that workshop was incorporated into the final concept design that was taken into the ground-truthing stage.

QPWS&P facilitated a number of broader stakeholder engagement activities through February and March 2026 to gather community feedback on the draft trail network design for the SMBP Expansion, and to inform refinement of the concept design to ensure the design reflects the needs and aspirations of the community. This included direct letter mailouts to adjacent residents in some areas, two resident only drop-in sessions at the Marlin Coast Neighbourhood Centre, two broader community drop-in sessions at the Smithfield Shopping Centre (Wednesday 18<sup>th</sup> and Thursday 19<sup>th</sup> February) and a public on-line survey.

Overall, the community highlighted that there's strong support for the design concept and that the expansion will improve rider enjoyment, increase trail variety and appeal to a wider range of riders. The package of Concept Design maps presented to the community are provided in Appendix 2.

The survey was open from 23 February and 13 March 2026 and received 106 responses, mostly from local residents and mountain bike users. Responses reflected a mix of riding experience levels and included people who visit the park alone, with friends or with family.

### Survey Outcomes

Overall, feedback was very positive for the draft trail network design, with respondents indicating:

- **Strong support for the draft design:** most respondents supported the new design (82%)
- **More trail variety and progression:** there was strong interest in introducing more intermediate and advanced trails, with clear progression pathways through more beginner trails
- **A better riding experience:** the expanded network was widely seen as an opportunity to enhance overall enjoyment for riders (86%)
- **Value for Cairns and the region:** feedback recognised the park's role in supporting recreation, tourism and Cairns' reputation as a mountain biking destination.
- **Opportunities to strengthen the park highlighted by:**
  - providing **more** beginner-friendly trails alongside intermediate and advanced options
  - ensuring a clear, long-term plan for **trail maintenance**
  - **improving safety**, wayfinding and emergency access, including clearer signage and location markers
  - carefully **managing environmental impacts** such as erosion and wet-season resilience
  - considering how **other users**, such as walkers and dog owners, will be safely managed
  - **improving trailhead facilities**, such as toilets, water, rest areas and bike wash stations.

# DESIGN PRINCIPLES

## Trail Difficulty Rating System

The AMBTG was first published in 2020 by Mountain Bike Australia, Australia's peak body for the sport of mountain biking at the time. Not long after releasing the Guidelines, Mountain Bike Australia was incorporated into the new peak body for all cycling disciplines, AusCycling. An updated version of the Guidelines was released by AusCycling in 2023 and is available to download free of charge from the AusCycling [website](#).

The Guidelines include a Trail Difficulty Rating System (TDRS) that is generally used and accepted throughout Australia as the standard approach to rate the difficulty of mountain bike trails. It provides detailed information to use when planning, designing, constructing and maintaining mountain bike trails to ensure a consistent classification standard is applied and includes guidance on how to use the system, the criteria to be used to determine the ratings and the symbols to be used to identify the ratings.

As part of this masterplan development, the standard AusCycling Trail Difficulty Rating System was reviewed, to determine whether there were elements of the TDRS that could be better defined or clarified to remove some of the ambiguity in the current system.

The resulting Smithfield site-specific TDRS is presented on the following pages. It is based on the AusCycling TDRS, with some minor modifications to improve clarity and reduce ambiguity. None of the key criteria that are used to rate the trails have been changed, ensuring that the ratings remain consistent with other destinations throughout Australia.

Note that this TDRS only includes the categories of Easy, Intermediate, Difficult and Extreme. The trail network doesn't include any Very Easy trails; largely due to the challenging terrain and topography. A decision was made to exclude the 'in-between' ratings of Easy / Intermediate and Intermediate / Difficult, to reduce confusion for trail users and maintain simplicity in signage and ongoing maintenance.

In reviewing the TDRS, please note the following definitions apply:

- Technical Trail Feature – Objects that have been introduced to a trail to add technical challenge.
- Natural Obstacles – Naturally occurring objects that add technical challenge to a trail.
- Unavoidable – Any obstacle or TTF that spans across the trail and can't be ridden around without going off trail, is considered unavoidable.

## Easy Mountain Bike Trail

|                          |  | Technical Description<br>(for land manager use)                                                                                                                                                                                                                                                             | Trail Description<br>(for public information)                                                                                                                                          | Generic Description<br>(for public information)                                                                                                                                           | Short Classification<br>Key                                                                                       |
|--------------------------|-----------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------|
|                          | Grade of trail                                                                    | Easy                                                                                                                                                                                                                                                                                                        |                                                                                                                                                                                        |                                                                                                                                                                                           |                                                                                                                   |
|                          | Description                                                                       | Likely to be a combination of fire road or wide single track with a gentle gradient, smooth surface and relatively free of obstacles.<br><br>Short sections may exceed these criteria with the written approval of the Superintendent.                                                                      | Likely to be a combination of fire road or wide single track with a gentle gradient, smooth surface and relatively free of obstacles.<br><br>Short sections may exceed these criteria. | Wide trail with a gentle gradient smooth surface Some obstacles such as roots, logs and rocks.<br><br>Suitable for beginner cyclists with basic mountain bike skills, and off-road bikes. | Wide trail, gentle gradient, some obstacles.<br><br>For beginner mountain bikers with basic mountain bike skills. |
| Guiding Criteria         | Trail Width                                                                       | 900 mm plus or minus 300 mm<br><br>Width may be increased on steep side slopes.                                                                                                                                                                                                                             | Handlebar width or greater                                                                                                                                                             |                                                                                                                                                                                           |                                                                                                                   |
|                          | Trail Surface                                                                     | Mostly firm and stable natural earth                                                                                                                                                                                                                                                                        | Mostly firm and stable natural earth                                                                                                                                                   |                                                                                                                                                                                           |                                                                                                                   |
|                          | Trail Gradient                                                                    | Climbs and descents are mostly shallow, but trail may include some moderately steep sections.<br><br>Ave. trail grade – 7% or less<br><br>Max. trail grade – 15%                                                                                                                                            | Climbs and descents are mostly shallow, but trail may include some moderately steep sections.                                                                                          |                                                                                                                                                                                           |                                                                                                                   |
|                          | Quality of Markings                                                               | Trailhead signs and route markers at intersections.                                                                                                                                                                                                                                                         | Clearly signposted                                                                                                                                                                     |                                                                                                                                                                                           |                                                                                                                   |
| Risk Assessable Criteria | Level of Trail Exposure                                                           | Exposure to either side of the trail corridor includes downward slopes of up to 30%.<br><br>Short sections may exceed these criteria, with suitable risk mitigation measures in place and the written approval of the Superintendent.                                                                       | Minimal exposure on either side of the trail corridor.                                                                                                                                 |                                                                                                                                                                                           |                                                                                                                   |
|                          | Natural Obstacles and Technical Trail Features (TTFs)                             | Unavoidable obstacles to 100mm high, such as logs, roots and rocks.<br><br>Avoidable, rollable obstacles or jumps may be present.<br><br>All unavoidable bridges to have standard width of 900mm – 1200mm.<br><br>Short sections may exceed these criteria with the written approval of the Superintendent. | Trail may have obstacles such as logs, roots, rocks and jumps.                                                                                                                         |                                                                                                                                                                                           |                                                                                                                   |
|                          | Experience Required                                                               | Suitable for beginner / novice mountain bikers with basic mountain bike skills.<br><br>Suitable for off-road bikes.                                                                                                                                                                                         | Suitable mountain bikers with basic mountain bike skills.<br><br>Suitable for most bikes.                                                                                              |                                                                                                                                                                                           |                                                                                                                   |

## Intermediate Mountain Bike Trail

|                          |                                                       | Technical Description<br>(for land manager use)                                                                                                                                                                                                                                                                                                                                                                                                          | Trail Description<br>(for public information)                                                             | Generic Description<br>(for public information)                       | Short<br>Classification<br>Key                                                                           |
|--------------------------|-------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|
|                          | Grade of trail                                        | Intermediate                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                                                                                           |                                                                       |                                                                                                          |
|                          | Description                                           | Single trail with moderate gradients, variable surface and obstacles.<br><br>Dual use or preferred use.                                                                                                                                                                                                                                                                                                                                                  | Single trail with moderate gradients, variable surface and obstacles.                                     | Single trail with moderate gradients, variable surface and obstacles. | Single trail, moderate gradients, obstacles and some steep sections.<br><br>For skilled mountain bikers. |
| Guiding Criteria         | Trail Width                                           | 600 mm plus or minus 300 mm.<br><br>Width may be increased on steep side slopes.                                                                                                                                                                                                                                                                                                                                                                         | Handlebar width or greater                                                                                | May include steep sections.                                           |                                                                                                          |
|                          | Trail Surface                                         | Possible sections of rocky or loose tread                                                                                                                                                                                                                                                                                                                                                                                                                | Possible sections of rocky or loose tread                                                                 | Suitable for skilled mountain bikers with mountain bikes.             |                                                                                                          |
|                          | Trail Gradient                                        | Mostly moderate gradients but may include steep sections.<br><br>Ave. trail grade – 10% or less<br><br>Max. trail grade – 20%<br><br>Short sections may exceed these criteria with the written approval of the Superintendent.                                                                                                                                                                                                                           | Mostly moderate gradients but may include steep sections                                                  |                                                                       |                                                                                                          |
|                          | Quality of Markings                                   | Trailhead signs and route markers at intersections.<br><br>Some unavoidable obstacles may be signposted to warn riders.                                                                                                                                                                                                                                                                                                                                  | Clearly signposted                                                                                        |                                                                       |                                                                                                          |
| Risk Assessable Criteria | Level of Trail Exposure                               | Exposure to either side of the trail corridor includes downward slopes of up to 50%.<br><br>Short sections may exceed these criteria with suitable risk mitigation measures in place and the written approval of the Superintendent.                                                                                                                                                                                                                     | Sections of trail will include moderate exposure on either side of the trail corridor                     |                                                                       |                                                                                                          |
|                          | Natural Obstacles and Technical Trail Features (TTFs) | Unavoidable obstacles to 350 mm high, such as logs, roots and rocks.<br><br>Avoidable, obstacles to 600 mm may be present, width of deck is greater than half the height of the obstacle.<br><br>Tabletop jumps to 1500mm high, rollable double jumps and avoidable gap jumps.<br><br>All unavoidable bridges to have standard width of 900mm – 1200mm.<br><br>Short sections may exceed these criteria with the written approval of the Superintendent. | Trail will have obstacles such as logs, roots, rocks and jumps.                                           |                                                                       |                                                                                                          |
|                          | Experience Required                                   | Suitable for skilled mountain bikers with basic mountain bike skills.<br><br>Suitable for mountain bikes.                                                                                                                                                                                                                                                                                                                                                | Suitable for skilled mountain bikers with basic mountain bike skills.<br><br>Suitable for mountain bikes. |                                                                       |                                                                                                          |

## Difficult Mountain Bike Trail

|                          |  | Technical Description<br>(for land manager use)                                                                                                                                                                                                                                                                                                                                                                                                                      | Trail Description<br>(for public information)                                                                                                                                                                  | Generic Description<br>(for public Information)                                                                                                                                                                                                                          | Short<br>Classification<br>Key                                                                                                 |
|--------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------|
|                          | Grade of trail                                                                    | Difficult                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                |                                                                                                                                                                                                                                                                          |                                                                                                                                |
|                          | Description                                                                       | Likely to be a challenging single trail with steep gradients, variable surface and many obstacles. Single use and direction. Optional lines. Suitable for cross country, downhill or trials                                                                                                                                                                                                                                                                          | Likely to be a challenging single trail with steep gradients, variable surface and many obstacles                                                                                                              | Suitable for experienced mountain bikers, used to physically demanding routes.                                                                                                                                                                                           | For experienced mountain bikers.                                                                                               |
| Guiding Criteria         | Trail Width                                                                       | 300 mm plus or minus 150 mm for tread and bridges<br>Width may be increased on steep side slopes.                                                                                                                                                                                                                                                                                                                                                                    | Can be less than handlebar width                                                                                                                                                                               | Navigation and personal survival skills are highly desirable.<br><br>Expect large, dangerous and unavoidable obstacles and features.<br><br>Challenging and variable with long steep climbs or descents and loose surfaces.<br><br>Some sections will be easier to walk. | Challenging trail.<br><br>Large, unavoidable obstacles and features.<br><br>Long, steep climbs or descents and loose surfaces. |
|                          | Trail Surface                                                                     | Variable and challenging                                                                                                                                                                                                                                                                                                                                                                                                                                             | Variable and challenging                                                                                                                                                                                       |                                                                                                                                                                                                                                                                          |                                                                                                                                |
|                          | Trail Gradient                                                                    | Contains steep descents and climbs<br>Ave. trail grade – 20% or less<br>Max. trail grade – 30%<br>Short sections may exceed these criteria with the written approval of the Superintendent.                                                                                                                                                                                                                                                                          | Contains steep descents and climbs                                                                                                                                                                             |                                                                                                                                                                                                                                                                          |                                                                                                                                |
|                          | Quality of Markings                                                               | Trailhead signs and route markers at intersections.<br>Some unavoidable obstacles may be signposted to warn riders.                                                                                                                                                                                                                                                                                                                                                  | Limited signs                                                                                                                                                                                                  |                                                                                                                                                                                                                                                                          |                                                                                                                                |
| Risk Assessable Criteria | Level of Trail Exposure                                                           | Exposure to either side of the trail corridor includes steep downward slopes.                                                                                                                                                                                                                                                                                                                                                                                        | Exposure to either side of the trail corridor includes steep downward slopes.                                                                                                                                  |                                                                                                                                                                                                                                                                          |                                                                                                                                |
|                          | Natural Obstacles and Technical Trail Features (TTFs)                             | Unavoidable obstacles to 500 mm high, such as logs, roots, drop off's or constructed obstacles.<br>Avoidable, obstacles to 1200 mm may be present, width of deck is greater than half the height of the obstacle.<br>Tabletop jumps to 2500mm high, rollable double jumps and avoidable gap jumps.<br>All unavoidable bridges to have standard width of 900mm – 1200mm.<br>Short sections may exceed these criteria with the written approval of the Superintendent. | Unavoidable obstacles such as logs, roots, drop off's, jumps or constructed obstacles                                                                                                                          |                                                                                                                                                                                                                                                                          |                                                                                                                                |
|                          | Experience Required                                                               | Suitable for experienced mountain bikers with good skills, used to physically demanding routes.<br>Navigation and personal survival skills are highly desirable.<br>Suitable for better quality mountain bikes                                                                                                                                                                                                                                                       | Suitable for experienced mountain bikers with good skills, used to physically demanding routes.<br>Navigation and personal survival skills are highly desirable.<br>Suitable for better quality mountain bikes |                                                                                                                                                                                                                                                                          |                                                                                                                                |

## Extreme Mountain Bike Trail

|                          |  | Technical Description<br>(for land manager use)                                                                                                                                                                                                                                                                                              | Trail Description<br>(for public information)                                                                                                                                                                                     | Generic Description<br>(for public Information)                                                                                                            | Short<br>Classification<br>Key                                                     |
|--------------------------|-----------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------|
|                          | Grade of trail                                                                    | Extreme                                                                                                                                                                                                                                                                                                                                      |                                                                                                                                                                                                                                   |                                                                                                                                                            |                                                                                    |
|                          | Description                                                                       | Extremely difficult trails incorporating very steep gradients, highly variable surface and unavoidable, severe obstacles.<br><br>Single use and direction.<br><br>Optional lines.<br><br>Cross country, downhill or trials.                                                                                                                  | A challenging single trail with steep gradients, variable surface and many obstacles                                                                                                                                              | Suitable for highly experienced mountain bikers, used to physically demanding routes.<br><br>Navigation and personal survival skills are highly desirable. | For highly experienced mountain bikers.<br><br>All sections extremely challenging. |
| Guiding Criteria         | Trail Width                                                                       | 150 mm plus or minus 100 mm for tread and bridges.<br><br>Structures can vary.<br><br>Width may be increased on steep side slopes.                                                                                                                                                                                                           | Can be less than handlebar width                                                                                                                                                                                                  | Severe constructed trails and/or natural features, all sections are challenging.                                                                           | Large, unavoidable jumps, obstacles and severe features.                           |
|                          | Trail Surface                                                                     | Widely variable and challenging                                                                                                                                                                                                                                                                                                              | Widely variable and challenging                                                                                                                                                                                                   |                                                                                                                                                            |                                                                                    |
|                          | Trail Gradient                                                                    | Expect prolonged steep, loose and rocky descents or climbs.<br><br>Average trail grade – 20%<br><br>Max. trail grade – 40%<br><br>Short sections may exceed these criteria with the written approval of the Superintendent.                                                                                                                  | Expect prolonged steep, loose and rocky descents or climbs                                                                                                                                                                        | Includes extreme levels of exposure and/or risk.<br><br>Expect large and unavoidable jumps, obstacles and features.                                        |                                                                                    |
|                          | Quality of Markings                                                               | Trailhead signs and route markers at intersections.                                                                                                                                                                                                                                                                                          | Minimum signs                                                                                                                                                                                                                     |                                                                                                                                                            |                                                                                    |
| Risk Assessable Criteria | Level of Trail Exposure                                                           | Exposure to either side of the trail corridor includes steep downward slopes.                                                                                                                                                                                                                                                                | Exposure to either side of the trail corridor includes steep downward slopes.                                                                                                                                                     | Some sections will be easier to walk.                                                                                                                      |                                                                                    |
|                          | Natural Obstacles and Technical Trail Features (TTFs)                             | Unavoidable obstacles over 1000mm.<br><br>Avoidable, obstacles may be present.<br><br>Unavoidable gap jumps and doubles.<br><br>All unavoidable bridges to have standard width of 900mm – 1200mm.<br><br>Width of bridges is unpredictable.<br><br>Short sections may exceed these criteria with the written approval of the Superintendent. | Unavoidable obstacles such as gap jumps, logs, roots, drop off's or constructed obstacles                                                                                                                                         |                                                                                                                                                            |                                                                                    |
|                          | Experience Required                                                               | Suitable for highly experienced mountain bikers with excellent skills, used to physically demanding routes.<br><br>Navigation and personal survival skills are highly desirable.<br><br>Suitable for high quality mountain bikes.                                                                                                            | Suitable for highly experienced mountain bikers with excellent skills, used to physically demanding routes.<br><br>Navigation and personal survival skills are highly desirable.<br><br>Suitable for high quality mountain bikes. |                                                                                                                                                            |                                                                                    |

## Trail Styles

MTB trail styles are a critical component of effective trail network planning, influencing user experience, participation and long-term sustainability.

A diverse range of trail styles is important to ensure that the network caters to the widest range riders and caters to varying skill levels and preferences. This diversity supports inclusivity and enables structured skill progression, allowing users to develop confidence and competence in a controlled manner.

Variation in trail style also assists in distributing rider demand across the network. By reducing the concentration of use on a limited number of trails, it helps mitigate surface degradation, erosion and associated maintenance requirements.

From a strategic perspective, a well-balanced mix of trail styles enhances the overall attractiveness and competitiveness of a destination. Networks that offer varied and high-quality riding experiences are more likely to attract repeat visitation and support regional tourism outcomes.

The trail styles identified for the Smithfield MTB Park are included in the following table. The descriptions provided were developed by the Project Team.

*Table 4 – Smithfield Trail Styles*

| Trail Type         | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | Typical Users                                                                                     | Comparison with AusCycling Trail Types   | Compatible AusCycling Trail Difficulty Ratings              |
|--------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------|------------------------------------------|-------------------------------------------------------------|
| <b>Adventure</b>   | Adventure trails are generally undulating, and may include flat, climbing or descending sections. Traditionally referred to as cross-country trails, Adventure trails are the most common trail type. Most purpose-built Easy trails for beginners are Adventure trails. They encourage progression without forced risk or intimidating obstacles. Adventure trails can include elements of all other trail types and may include challenging and difficult terrain or features. | Beginners through to experienced riders, families, school and youth programs, recreational riders | Cross-country (XC) and All Mountain (AM) | Easy (green circle) – Extreme (double black diamond)        |
| <b>Airflow</b>     | Descending trail type, emphasising jumps, airtime, line choice and rider progression. A progression of Flow trails, Airflow trails combine elements of flow, enduro and gravity while maintaining ‘no forced risk’ through rollable and optional features.                                                                                                                                                                                                                       | Intermediate to advanced riders, progressing riders, gravity-focused users                        | Hybrid of Flow / Gravity.                | Intermediate (blue square) – Extreme (double black diamond) |
| <b>Blended Air</b> | Blended Air is a bigger, more expansive version of Airflow, designed to be fast, smooth, and playful with larger features that let riders carry momentum and                                                                                                                                                                                                                                                                                                                     | Advanced riders only. May be more suited to dirt                                                  | Hybrid of Park (PK) and Freeride (FR)    | Difficult (black diamond) – Extreme                         |

| Trail Type      | Description                                                                                                                                                                                                                                                                                                                                                                                                                                            | Typical Users                                                         | Comparison with AusCycling Trail Types | Compatible AusCycling Trail Difficulty Ratings              |
|-----------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------|----------------------------------------|-------------------------------------------------------------|
|                 | explore progression. Expect a wider trail corridor and the option for gap jumps, hip jumps and other large features for experienced riders. The surface is typically an imported soil blend, providing a smooth and consistent surface that can be compacted and shaped to create the smooth curves and ramps required.                                                                                                                                | jump bikes than regular MTBs                                          |                                        | (double black diamond)                                      |
| <b>Downhill</b> | Descending trail type designed for long-travel downhill bikes and often associated with competitive downhill racing. The steepest and most technically demanding trail style, features may include steep fall-line sections, minimal benching, rock gardens, drops and large transfers.                                                                                                                                                                | Advanced and expert riders only, competitive riders                   | Downhill (DH)                          | Intermediate (blue square) – Extreme (double black diamond) |
| <b>Flow</b>     | Descending trail type with continuous rollers, berms and achievable obstacles, creating a rhythmic, roller-coaster-like riding experience. Designed to maximise safety, control and enjoyment with minimal decision-making.                                                                                                                                                                                                                            | Beginners to advanced riders, recreational and gravity-oriented users | Flow (FL)                              | Easy (green circle) – Intermediate (blue square)            |
| <b>Gravity</b>  | Descending trail type combining Flow, Airflow and Downhill elements. Typically suited to trail and enduro bikes, with multiple line choices, occasional short climbs and terrain-driven features. Emphasises skill, technical terrain and excitement. Gravity trails may include sections with minimal earthworks, shaped primarily by the existing natural terrain and ground surface, requiring riders to read terrain and adapt their riding style. | Intermediate to advanced riders, enduro riders                        | Gravity / Enduro (GE)                  | Intermediate (blue square) – Extreme (double black diamond) |

# Built Infrastructure

Mountain bike trails are predominantly constructed from natural materials found on-site in the natural environment – rock and soil primarily. From time to time however, different forms of built infrastructure are required to enable users to safely ride the trails through the natural landscape. In this project, there are three categories of built infrastructure that are expected to be required:

Watercourse Crossings

Trail Overpasses

Visitor Experience Infrastructure

## Watercourse Crossings

The proposed trail network flows through a beautiful rainforest environment punctuated with creeks and gullies. Rainfall in the Wet Tropics is highly seasonal, with very high rainfall totals throughout the wet (summer) season. This strong seasonality of rainfall means that some watercourses only carry running water during the wet season (referred to as seasonal or ephemeral watercourses), while the larger watercourses may carry water year-round.

Where a proposed new trail encounters a watercourse, a decision needs to be made on the best construction treatment to cross the watercourse. Whichever crossing treatment is chosen, the following requirements must be met:

- 1. It must be safe to cross whenever the trail is open, with access determined based on agreed weather event thresholds.
- 2. It must not impact on water quality or other environmental values.
- 3. It must meet expectations for rider experience and be appropriate to the trail difficulty rating.

On some rare occasions, the existing watercourse bed may have a large, flat slab that is not too slippery and has low water flow, allowing riders to ride across the watercourse without any trail construction treatment. Such crossings would only be suitable on Intermediate, Difficult or Extreme trails.

There are a number of different construction treatments that can be used for watercourse crossings as described in the table below.

Table 5 – Construction Treatments

| Construction Treatment | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |
|------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Bridge</b>          | <p>A bridge is a raised structure designed to span a watercourse, drainage line or other obstacle while maintaining rider and pedestrian access above the ground surface. In a trail context, bridges typically span from one side of the crossing to the other, with primary structural footings located at each end of the structure and minimal disturbance within the watercourse itself.</p>  <p>Photo: World Trail</p>                                                                                                                                                                                                     |
| <b>Boardwalk</b>       | <p>A boardwalk is an elevated trail structure constructed close to the ground surface, typically used to traverse wet areas, minor drainage lines or environmentally sensitive terrain. Unlike bridges, boardwalks are generally supported by multiple footings or support posts located at regular intervals along the alignment, allowing the structure to follow changes in terrain and direction. Boardwalks help protect sensitive ground conditions, improve trail durability and maintain a consistent trail experience through areas prone to water, soft soils or seasonal inundation.</p>  <p>Photo: World Trail</p> |

| Construction Treatment | Description                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |
|------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Culvert</b>         | <p>A culvert is a drainage structure installed beneath a trail to allow water to pass under the trail corridor while maintaining the continuity of the trail surface above. Culverts are typically used at minor watercourse crossings, drainage lines or areas of concentrated surface flow to manage water movement, reduce erosion and protect trail infrastructure. Culverts may consist of pipes, box structures or formed drainage channels depending on the required flow capacity and site conditions.</p>  <p>Photo: World Trail</p>                                   |
| <b>Rock Armouring</b>  | <p>Rock armouring is a form of rock paving used on trails to protect trail surfaces, drainage crossings, embankments or watercourse interfaces from erosion and scour. In a trail context, rock armouring is commonly used in seasonal watercourses or drainage lines, on steep terrain or locations subject to water inundation, helping to improve long-term durability. Rock armouring may be applied as surface protection, edge reinforcement, drainage lining or hardened crossing treatments depending on the site requirements.</p>  <p>Photo: Flow Mountain Bike</p> |

## Trail Overpasses

### Why trail overpasses?

Where high-speed trails cannot safely intersect, grade-separated crossings may be required to protect rider safety and preserve trail experience.

Given the small size of the SCP, and the goal of achieving 85km of trails, it is a certainty that trails will intersect other trails from time to time. Trail intersections are useful as they allow riders to choose their own path through the trail network, and they often function as rest-points.

Where possible, trail intersections should be designed so that the trail naturally slows riders as they approach the intersection. This can be achieved using the following interventions:

1. Altering the gradient of approaching trails (i.e. send the rider uphill just before the intersection)
2. Aligning the trail with sharp twists and turns
3. Implementing technical features and obstacles that force riders to slow down
4. Placement of signage to alert riders of an approaching intersection.

Where two trails are intersecting from similar angles and merging into one trail continuing forward, rider speed can be maintained, provided that the two merging trails:

1. Have similar difficulty ratings
2. Have similar styles
3. Have similar rider speeds at that point
4. Run parallel prior to the merge, ensuring riders on both trails can see each other.

In some cases, however, it is not desirable for trails to intersect at all. An example of this is an intersection half-way down a high-speed downhill racecourse. Not only would an intersection ruin the flow and experience of the descending trail, but it would potentially create an unacceptable risk of collision between riders. Under these circumstances, it may be appropriate to install a trail overpass.

A trail overpass is a grade-separated crossing structure that allows one trail to safely pass over another trail, without interaction. Overpasses are typically used on high-speed trails, where at-grade crossings are unsafe, impractical or would create unacceptable impacts on rider safety or experience.

Trail overpasses are commonly constructed from:

| Natural in situ materials | Structural steel | Reinforced concrete | Timber | Fibre Reinforced Plastic (FRP) |
|---------------------------|------------------|---------------------|--------|--------------------------------|
|---------------------------|------------------|---------------------|--------|--------------------------------|

In trail environments, lightweight bridge-style overpasses are generally preferred, minimising structural bulk and reducing footing requirements. Simpler structures with modular components are often favoured due to reduced construction complexity, improved constructability in constrained environments and lower long-term maintenance requirements.

Overpasses should be designed to integrate with the surrounding landscape and maintain a comfortable, intuitive experience for trail users, including appropriate width, sightlines, gradients and safety treatments for both riders and pedestrians. Where possible the landscape may be used to minimise the size and complexity of the structure – for example, it may be possible to use a large rock outcrop or boulder for one end of the structure. Overpass construction will prioritise natural materials

and designs that blend with the surrounding environment, ensuring functionality while maintaining aesthetic harmony with the natural landscape.

Example overpasses made from timber and Fibreglass Reinforced Polymer (FRP) from other trail networks include:



Photo: [singletracks](#)



Photo: [Composite Engineering](#)

## Visitor Experience Infrastructure

In addition to infrastructure that enables users to access and ride a trail network, items to enhance the visitor experience are often included within the design and/or construction stages. These infrastructure items can allow access to special areas, encourage and support breaks, provide improved access and/or increase comfort. Examples include:

### Pause and appreciate:

#### Lookouts

Infrastructure may include a designated stopping point and/or built access to a viewpoint for users to appreciate the landscape, enjoy a break with a beautiful view and/or grab a memorable photo.

#### Waterfalls / creeks / rock formation

Infrastructure may include a designated stopping point and/or built access to a natural wonder where people can enjoy the sounds, sight and textures of the environment.

### Rest and socialise:

#### Platforms

Infrastructure at lookouts, waterfalls or creeks that provide users with access to a space to stop, enjoy the view, rest and socialise between trails. This may include natural on-ground or a raised structure with or without railing and/or built seating.

#### Furniture

Infrastructure at lookouts, waterfalls, creeks, trail junctions and/or other natural stopping area where users are likely to stop and rest. Natural (i.e. logs) or manufactured furniture (i.e. bench seats) are often provided at junction points, in particular at the end of a climb, where users are keen to take a break and decide which trail to tackle next. The inclusion of furniture in a trail network can provide opportunities for creativity in the use of materials and incorporation of artwork.

### Navigate the network:

#### Trail junctions

Infrastructure may include a designated circulation space to allow users to arrive and depart, a natural (i.e. log) or manufactured bike rack and/or furniture to encourage a break.

#### Shuttle drop-off points

Infrastructure may include a designated circulation space to allow users to disembark the shuttle and wait for their turn to enter their trail of choice, a natural (i.e. log) or fabricated bike rack and/or furniture to allow a break.

## User Safety / Emergency and Evacuation Planning

| Safety by design        |                          |                                |                           |                                   |
|-------------------------|--------------------------|--------------------------------|---------------------------|-----------------------------------|
| Single direction trails | Clear difficulty ratings | Emergency location information | Emergency access planning | Consistent signage and wayfinding |

Mountain biking can be an inherently risky activity, particularly as riders progress towards more difficult trails. The proposed trail network aims to provide a range of riding options for varying ages and abilities, and support rider progression from beginners through to advanced skills. The design of the network has considered user safety as a constant, including factoring in the following features:

- The network design includes single-use, single-direction trails to minimise potential conflicts.
- New climbing trails will remove riders from vehicle and service roads, improving safety.
- Easier trails are generally located closer to the trailheads (and visitor entry points), while more challenging trails are generally located further away. This design principle helps ensure inexperienced riders are less likely to attempt difficult trails that they are not prepared for.
- Trails have been designed to meet the AusCycling TDRS. This is the primary risk management tool embedded in the network design. The use of the TDRS allows clear communication of the difficulty of (and therefore risk posed by) any given trail, ensuring users can make an appropriate choice for their skill level, and are not exposed to forced risks.
- Trailhead signage will outline rider and user code of conduct to ensure people use the trails safely and look after others.
- The network signage will meet best practice embedding safety messaging and wayfinding.
- Emergency response requirements will be included on signage including 000, 'what3words' and location information.

### Emergency and Evacuation Planning

Emergency management and evacuation procedures are a critical consideration in the planning and design of mountain bike trail networks. The design of the expanded Smithfield MTB Park has thoroughly considered and implemented measures to ensure user safety and management of emergencies. Throughout the design process, the design team held discussions with representatives from CMBC, QPWS&P, the Queensland Police Service (QPS) and Queensland Ambulance Service (QAS).

The outcomes of initial emergency planning offer the following guiding principles regarding risk management and emergency access:

- Risk management and emergency access must be incorporated early in the design phase to ensure rider safety and enable effective responses to incidents and natural emergencies such as storms or medical emergencies.
- The trail network be designed to provide appropriate emergency vehicle access and clear evacuation routes where practical.
- Trail alignments, access roads and intersections should allow as far as practical emergency services to efficiently locate and reach injured riders and the ability to safely extract injured users.
- Clear and consistent signage trailhead signage, directional markers, location identifiers and emergency information throughout the network to assist riders in identifying their location and communicating this information to emergency services

- Effective emergency planning reduces response delays and improves overall safety outcomes for riders and emergency personnel.

There are a number of characteristics of the SMBP relating to emergency management that need to be considered:

1. Vehicle access throughout the park is reasonably good, with most parts of the park within about 300-400m from the nearest vehicle track. Note that some vehicle tracks are not suited to 2WD vehicles and can be slippery in wet conditions.
2. Mobile phone coverage throughout the park is quite good, with consistent reception in most parts of the park.
3. Topography is steep and rugged – walking off-track is not recommended in most cases.
4. Vegetation can be dense and challenging – walking off-track is not recommended in most cases.
5. The expanded trail design significantly improves access across the entire park

When an incident does occur, the key considerations for emergency responders are:

|    |                                                                                                                                                                                                                                          |
|----|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1. | <b>Locate: where is the incident?</b><br>This requires that the person making the emergency phone call is able to identify their location and that the information provided to emergency responders matches their records / information. |
| 2. | <b>Access: what is the safest route?</b><br>Emergency responders need to know which roads / trails to use to reach the incident and the current condition.                                                                               |
| 3. | <b>Access: what is the safest route?</b><br>What equipment is required to attend to the patient?                                                                                                                                         |

In relation to emergency management, the following measures are considered best practice and should be integrated into the design and implementation of the SMBP Expansion moving forward:

General:

- Clear and consistent naming of trails is critical to avoid confusion
- Ensure that pre-trip information sources (i.e. websites) have correct and up-to-date information, including third-party websites and apps, such as Trailforks, Strava and other popular fitness / tracking platforms.
- Roads, shuttle points and other key access locations are clearly identified and have unique names
- Development of an Emergency Response Plan as the park expansion is implemented.

Trailhead Signage:

- Provide clear and concise information about the emergency response process
- Encourage trail users to take photo of the trailhead signage and map
- QR code link to Emergency+ App and text-based referenced to actionable emergency protocol within park to enable consistent identification of location
- QR code link to Trailforks for interactive mapping
- Instructions on gaining emergency information

**Trail Signage:**

- Clear and consistent naming of trails and trail junctions is critical to avoid confusion
- Use of What3Word on all trail signage

## Sustainability

The AMBTG describes sustainable trails as trails that align with user's needs, provide social and economic benefits, minimise environmental impact and require less maintenance.

The Guidelines provide a comprehensive overview of how sustainable trails can be designed and constructed through understanding trail location and alignment, understanding soil types, drainage, the 'half rule', sustainable grade (10 percent rule) and supporting sustainability through a range of effective construction techniques. To be sustainable, land managers must develop the right trail, in the right area, the right way and for the right reasons. For mountain bike trail development, the word sustainable refers to different things for different groups.

### Social

Social sustainability should be a primary goal of any trail network. However social sustainability is complex and often difficult to address correctly.

Each trail user seeks a specific experience from a trail network, and while this seems simple to achieve, varying requirements and expectations of users may create tension within and between user groups who each believe the trail network should be delivering a different experience.

Engaging user groups during the planning phase, and before any major changes are made, will assist to identify the social expectations for a trail. Failure to address social sustainability issues often results in overcrowded trails, trails with little use, trail users who feel 'pushed out' by other users and the creation of unauthorised trails.

### Economic

Trail networks offer significant economic benefits by driving tourism, boosting local business growth, and encouraging spending on related goods and services such as bike purchases, travel, accommodation and dining. They also contribute to broader community benefits, including improved health and wellbeing, which can reduce healthcare costs and enhance quality of life.

To ensure these benefits are sustained over time, it is essential to consider the economic sustainability of the trail network. This involves balancing the costs of construction, maintenance and user management against the revenue generated directly or indirectly by the trails. While broader economic gains often come from tourism and local business activity, capturing direct revenue (such as through shuttle services, coaching or other trail-related products) can help fund ongoing maintenance and ensure the trails remain in good condition. Proper planning and management are critical to maintaining a sustainable and economically beneficial trail network.

### Environment

Trail development must be planned, designed and constructed with the highest environmental standards. Trails should be appropriate to the landscape, sense of place, and add value to the area. Trails should not destabilise soils or slopes. Vegetation should not be cleared or damaged beyond the bounds of the required trail footprint, and trails should be located to avoid impacting on areas of high environmental values. Trails should be designed and constructed in way that minimises the potential spread of pathogens, diseases and weeds.

### Trails and Infrastructure

Trail development must be consistent with the sustainable provision of resources to manage the trail and associated infrastructure. Design and construct of trails should minimise maintenance requirements and ongoing costs.

### Land Use

In some areas, trails may coexist with other land uses such as recreation, land management or commercial enterprises. Trails need to be planned in a way that does not adversely affect the existing land use and ensures that the land use does not impact other trail users negatively.



Photo: Flow Mountain Bike

**Sustainable trails balance recreation outcomes with environmental protection, maintenance requirements and long-term management needs.**

# Trailheads and Access Points

Trailheads are the gateway to the riding experience. Trailhead support:

|                     |                   |                       |                              |                   |
|---------------------|-------------------|-----------------------|------------------------------|-------------------|
| Visitor orientation | Rider preparation | Safety and wayfinding | Vents and shuttle operations | Visitor amenities |
|---------------------|-------------------|-----------------------|------------------------------|-------------------|

Trailheads can vary significantly in scale and available facilities, depending on the size, popularity and intended use of the trail network, but typically include a combination of parking, signage, gathering spaces and rider support infrastructure.

Essential facilities:

- Parking
- Bike wash
- Toilets
- Water
- Repairs
- Maps and safety information

Destination facilities:

- Food and beverage
- Bike hire
- Skills area
- Event infrastructure
- E-bike charging
- Public amenities

## Primary vs Secondary Trailheads

Some large trail networks have multiple trailheads. In this case, there is usually one single main trailhead, referred to as the Primary Trailhead. The Primary Trailhead is the main gateway to the trail network and typically functions as the central visitor hub. It is designed to accommodate the highest volume of users and generally contains the most comprehensive range of facilities and services.

Primary trailheads are often located near towns, tourism centres or major access roads and are intended to support longer visitor stays and broader economic activity. Any promotional material or road signage should direct first-time visitors to the Primary Trailhead.

A Secondary Trailhead provides supplementary access into the network and is generally smaller and more utilitarian in nature. These trailheads are intended to disperse riders and spread parking demand, improve connectivity and provide convenient local or mid-network access points.

Facilities at secondary trailheads are usually scaled to the expected use and may consist only of parking, signage and basic trail information.

|                | Primary Trailhead                                                                                    | Secondary Trailhead                                                           |
|----------------|------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------|
| <b>Purpose</b> | Provide the main arrival experience and                                                              | Supporting access for specific trails or zones                                |
| <b>Scale</b>   | Larger facilities                                                                                    | Smaller footprint                                                             |
| <b>Users</b>   | Cater to visitors and first-time destination users<br>Support events, shuttles, and tourism activity | Support local or repeat riders                                                |
| <b>Role</b>    | Act as the key orientation and information point<br>Offer toilets, water, and rider amenities        | Reduce pressure on primary trailhead during events, support network dispersal |

The AusCycling Guidelines recommend that trailhead signage should display the entire trail system and provide key navigation and trail user information. The trail user should be able to easily identify the location of trailhead signage from the access point (e.g. the car park).

As an existing network with a proposed significant expansion, Smithfield will need multiple access points to accommodate all users and provide convenient access into the large expanse of trails. The primary trailhead provides a foundation for a future community precinct, with staged investment opportunities enabling broader site uses, community activities and events over time. Detailed parking, traffic and access requirements will be informed by separate investigations currently underway.

At the time of publication, a design team has been engaged to develop concept designs for the trailheads as part of the SMBP expansion project. Trailhead designs will be progressed with input from key stakeholders, with final designs expected in 2027.

# PREVIOUS CONCEPT DESIGN

## Overview

The Smithfield MTB Trail Network Concept Design was developed in early 2026 with input from key stakeholders, mountain bike users and community insights. The concept design was developed utilising advanced LiDAR (Light Detection and Ranging) spatial data, local expertise and site-specific knowledge, ensuring a comprehensive and sustainable approach to the expanded trail network design.

The previous concept design was led by some of Australia’s most experienced trail designers and Cairns locals, World Trail (WT) and Contour Works, with additional input from Cairns MTB Club representatives and well-known local former professional racers, Michael and Tracey Hannah. Their combined expertise, site-specific knowledge, and passion for mountain biking were instrumental in shaping the vision for concept design, which then led into the ground-truthed design.

## Key Features of the Previous Concept Design

- **Increased trail network:** The concept design increases the size of the trail network from 25km to 85km, which means it will meet the criteria for a trail network of National Significance, as per the AMBTG.
- **Bigger focus on Intermediate trails:** The concept design delivers a larger proportion of Intermediate trails, which corresponds to market demand, but maintains a focus on inclusivity, sustainability, and rider progression. The range and ratio of trail difficulty ratings before and after is shown in the table below:

Table 6 – Current Trail Network vs Proposed Trail Network (TDRS Ratings)

| Difficulty Rating   | Current km | Current % | Proposed km | Proposed % |
|---------------------|------------|-----------|-------------|------------|
| Green (Easy)        | 8km        | 32%       | 13km        | 15%        |
| Blue (Intermediate) | 10km       | 40%       | 54km        | 63%        |
| Black (Difficult)   | 7km        | 28%       | 19km        | 22%        |
| TOTAL               | 25km       | 100%      | 86km        | 100%       |

- **Enhanced trail variety:** The concept design includes a wider range of trail types (Adventure, Airflow, Downhill, Flow, and Gravity) to cater to riders of all skill levels and preferences.
- **Improved rider progression:** A new mid-mountain climb has been introduced as a key linkage to support rider development, along with a new green trail at Cockatoo Flats shuttle drop off point offering beginner riders a new descending experience that will support skill development and progression for riders.
- **Balanced trail design:** The concept design features a balanced mix of descending (53%) and climbing / adventure (47%) trails, ensuring a diverse and enjoyable experience.

- **New jump precinct:** An expanded jump precinct in the Bowhunters area will cater to riders of varying abilities and provide easy access from the McGregor Road trailhead.
- **Additional shuttle points:** Four new shuttle drop-off points will improve access to the trail network via existing service roads.
- **Event-friendly design:** The network has been designed to be able to support competitive events, while keeping other trails open simultaneously for public use.
- **Safety enhancements:** Predominantly single-use and single-direction trails have been developed, including collaboration with emergency services response planning to prioritise rider safety. New clearer signage will be implemented as part of this project.
- **Trail hubs and wayfinding:** Major junctions will feature trail hubs with signage and seating to improve navigation and enhance the rider experience.

## Trailheads

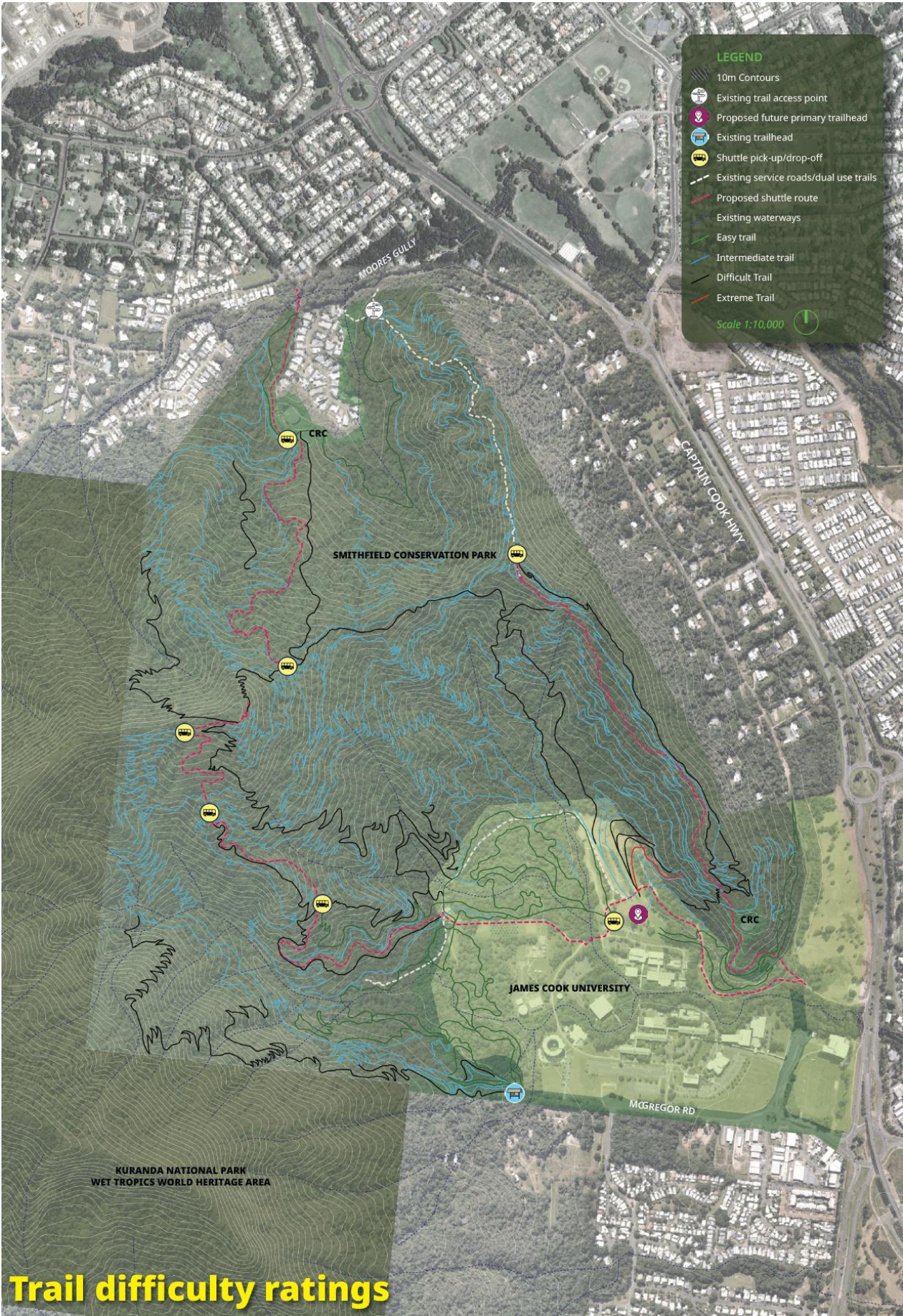
The Smithfield MTB Trail Network Concept Design recommends the following trailheads:

1. Primary Trailhead – the recommended site for the proposed Primary Trailhead is at the event site just to the west of JCU, where Crankworx was held previously.
2. Secondary Trailhead – the current McGregor Road trailhead remains an important access point for the trail network but is designated as the Secondary Trailhead. The McGregor Road trailhead will continue to perform an important operational role within the expanded network, and provides a key service for the new jump precinct.
3. Trail Access Point – in addition to a Primary and Secondary Trailhead, retaining the existing 'Trail Access Point' at the north of the park, on Panguna Street, provides the ride-in, ride-out access to the trails in the northern end of the park. There are no proposed amenities or facilities at this trail access point, other than standard trailhead signage.

## Map

The map on the next page shows the Smithfield MTB Trail Network Concept Design with trails highlighted by Trail Difficulty.

Note that Appendix 2 shows the full package of 5 maps that map was provided to the community during the March 2026 engagement period run by QPWS&P. The engagement website also provided an interactive map where people could click on each existing or proposed trail for more information.



# SMITHFIELD MTB PARK MASTERPLAN

## Overview

The Smithfield MTB Trail Network Masterplan has a total of 98 trails, at an estimated total length of almost 88kms. This significant increase in the number and length of trails moves Smithfield into the realm of a National Significance MTB destination in Australia.

The final Masterplan design represents hours of painstaking fieldwork, undertaken throughout early 2026 and builds upon the community consultation from the Concept Design in the previous section. Every trail included in the final Masterplan design has been carefully walked, assessed and mapped and has been determined to be feasible for construction. While this is the case, further consideration of site factors prior to and during construction may mean that alignments require amending and/or trails may not be able to be constructed. The available funding for project delivery may also be a factor in the construction of all trails within the proposed network, and will be determined as the project progresses.

The 98 trails will not all require individual names. The allocation of names to trails, including consolidation, use of existing names and logical naming, will occur during the construction stage.

## Refinement of the Concept Design

Following the community engagement period on the concept design, QPWS&P, World Trail and Contour Works worked collaboratively to ground-truth the proposed trails by walking, assessing and mapping all alignments. This process enabled designers to consider environmental factors including topography and elevations, side slope exposure, terrain, vegetation, water courses and other construction limitations. The ground-truthing also considered the construction of the trails, specifying trail treatments such as bridges, boardwalks, retaining walls and rock armouring.

The ground-truthed design largely follows the alignments proposed in the concept plan, with minor changes and variations according to the opportunities and constraints presented by the terrain, topography, vegetation and soils encountered in the field. The types of changes that have occurred from concept design to ground-truthed design can be summarised as:

- Alignment changes to trails based on the ground-truthing process, where either opportunities or constraints necessitated a change in the trail alignment.
- Alignment changes to improve connectivity to junction points and flow to adjoining trails.
- Alignment changes in response to community feedback or concerns
- Changes of trail difficulty rating or style, based on the actual terrain encountered in the field.

Some specific changes that occurred are noted below:

- Removal of Concept Trail 410 – this trail was a long, challenging adventure trail in the southwest corner of the park. Due to extremely steep and rocky terrain, this trail was deemed to be unfeasible and was removed.
- Addition of Trail 86 – this trail utilises sections of an existing informal trail on the north side of the park, that was discovered during ground-truthing.
- Modification of Concept Trail 802 / Masterplan Trail 78 – this trail was realigned to move it further away from the park boundary and provide a greater privacy buffer for adjacent houses.
- Modification of Concept Trail 308 / Masterplan Trail 7 – the alignment and length of this trail was modified and extended to make better use of the gentle terrain available as well as respond to the community's aspiration for an increase of beginner friendly trails.
- Modification of Concept Trail 1 and 2 / Masterplan Trail 1 and 2 to make better use of a proposed new two-way bridge, enabling the removal of a problematic existing, low-level bridge currently in place on the Greenfields trail identified as not meeting the current TDRS.
- Modification of Concept Trail 115 / Masterplan Trail 18 to avoid steep, dangerous quarry area below the current Black Snake trail. This section was deemed to be unfeasible for trail construction, and the trail alignment was adjusted to avoid it.

## Key Features of the Masterplan Design

**Trail Difficulty:** The majority of the proposed trails are rated Intermediate with 52 trails totalling 55km (63% of total length), followed by 20 Easy trails (16km, 19%), 24 Difficult trails (15km, 18%) and 2 Extreme trails (<1km, 1%).

**New Trails:** Over 62kms of new trails are proposed within the expanded network. Added to the 25kms of existing trails, this increase will take Smithfield over the benchmark 85kms required for a Nationally Significant trail network.

**Trail Styles:** Adventure is the trail style with the highest total length at 42km (48%) across 44 trails, followed by 27 Gravity trails (27kms, 32%), 9 Flow trails (6km, 7%), 6 Downhill trails (6km, 7%), 10 Airflow trails (4kms, 5%) and 2 Blended Air trails (<1km, <1%).

**Mix of ascents and descents:** The primary trail slope is Descent, with 59 trails totalling 48km (55%), followed by 18 Ascent trails (18kms, 21%), 12 Mixed trails (18kms, 21%), and 9 Flat trails (1.5kms, 2%).

**Longer trails:** There are 9 trails approximately 2kms or more in length, with the longest trail an Adventure Intermediate at 5.1km; climbing 232m and descending 251m. Of the 9 trails, 4 are Descents (2 x Gravity, 2 x Downhill), 2 are Ascents and 3 are Mixed. The descending trails include two Intermediate and two Difficult rated trails.

**Top to bottom descents:** There are 2 Descent trails with over 300m in elevation, 5 with over 200m and 10 with over 150m. Of these 17 trails, 11 are rated Intermediate and 6 are rated Difficult.

The following charts provide visual representations of the key aspects of the network.

Figure 7 – Masterplan Trail Network Breakdown (TDRS Ratings)

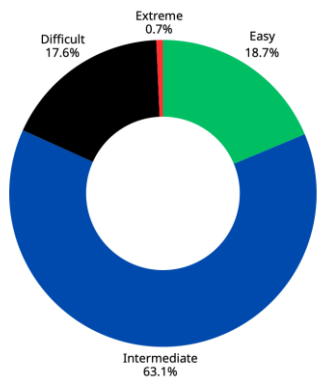


Figure 8 – Masterplan Trail Network Breakdown (Trail Style)

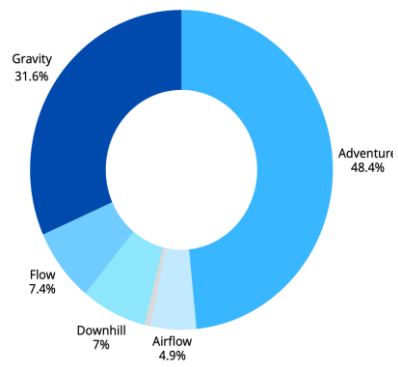
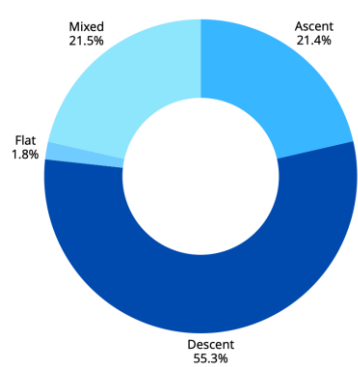


Figure 9 – Masterplan Trail Network Breakdown (Trail Slope)



### Trail Styles

|             |     |
|-------------|-----|
| Adventure   | 48% |
| Gravity     | 32% |
| Flow        | 7%  |
| Downhill    | 7%  |
| Airflow     | 5%  |
| Blended Air | <1% |

### Signature Riding Experience

- 62km new trails
- 17 top-to-bottom descents
- 300m maximum descent
- 5.1km longest trail (Adventure Intermediate 232m climb / 251m descent)

Table 7 – Smithfield MTB Trail Network Masterplan (TDRS Ratings)

| Difficulty Rating      | Masterplan km | Masterplan % |
|------------------------|---------------|--------------|
| Green (Easy)           | 16km          | 19%          |
| Blue (Intermediate)    | 55km          | 63%          |
| Black (Difficult)      | 15km          | 18%          |
| Double Black (Extreme) | <1km          | <1%          |
| TOTAL                  | 86km          | 100%         |

## Trailheads

The Smithfield MTB Trail Network Masterplan recommends the trailheads remain the same as the Concept Design.

The Project is actively working with key stakeholders to progress a long-term land tenure solution for the proposed Primary Trailhead site. This work is intended to support the establishment of a permanent trailhead, visitor facilities and event-supporting infrastructure at the event site. At the time of publication, a draft land transfer agreement has been developed to facilitate this outcome.

Further to this, a design team has been engaged to develop concept designs for the trailheads as part of the SMBP expansion project. Trailhead designs will be progressed with input from key stakeholders, with final designs expected in 2027.

## Shuttle Access

A key deliverable for the proposed trail network was to design a trail network that facilitates shuttle-assisted riding, while still being accessible by pedalling. The trail network includes three proposed shuttle routes, and a total of six drop-off points as shown on the 'Masterplan – Access map' below.

The pick-up point for the Northside shuttle route is at the Moore Rd water tank. The pick-up point for both Oceanside and Southside shuttle routes is at the Proposed Future Primary Trailhead.

## Trail Junctions

The proposed network includes 13 trail junctions that will provide critical rest and decision points for riders throughout the trail network.

The primary purpose of these trail junctions is navigation – maps will be included in the signage at these junctions – enabling riders to re-orientate themselves and make informed decision about their next trail.

The secondary purpose of these trail junctions is to rest and socialise. Trail junctions are recommended for major junction points where riders will likely choose to rest anyway.

To support rest and social interaction, trail junctions can be designed with widened, safe, and level areas that include opportunities for seating. This allows groups to regroup, hydrate, and adjust their gear without obstructing or inconveniencing other riders, depending on the location and available space within the network.

Each trail junction has been named, allowing them to be easily displayed and located on maps:

- Alien Tree Junction
- Atika Creek Junction
- Clifftop Junction
- Cockatoo Flats Junction
- Greenfields Junction
- Harvest Junction
- Island View Junction
- Mortar Junction
- Mountain View Junction
- Pine Sap Junction
- Reef View Junction
- Reservoir Junction
- Wait-a-While Junction

## Trail Network Summary

The following table provides key information on all trails in the Masterplan. The maps with correlating numbers are provided further below. As noted above, the 98 trails will not all require individual names. The allocation of names to trails, including consolidation, use of existing names and logical naming, will occur during the construction stage.

Table 8 – Masterplan Trail Network Summary

| Trail No. | Existing Trail                                                                            | Difficulty Rating | Length (m) | Direction | Climb / Descent | Trail Style | Slope   |
|-----------|-------------------------------------------------------------------------------------------|-------------------|------------|-----------|-----------------|-------------|---------|
| 1         | Incorporates sections of existing trails Green Turtle and Greenfields                     | Easy              | 2264       | Single    | 28m / -53m      | Adventure   | Mixed   |
| 2         | Incorporates sections of existing trails including Ring Road, Dan's Trail and Greenfields | Easy              | 1886       | Single    | 51m / -30m      | Adventure   | Mixed   |
| 3         | Existing trail - Flat Snake                                                               | Easy              | 1062       | Single    | 26m / -19m      | Adventure   | Mixed   |
| 4         | Incorporates sections of the existing trails Green Frog and Red Belly                     | Easy              | 417        | Single    | 18m / 0m        | Adventure   | Ascent  |
| 5         | Incorporates the existing trail Echidna                                                   | Easy              | 612        | Single    | 3m / -18m       | Adventure   | Descent |
| 6         | Existing trail - Greenfields                                                              | Easy              | 144        | Single    | 0m / -3m        | Adventure   | Flat    |
| 7         |                                                                                           | Easy              | 1475       | Single    | 29m / -43m      | Adventure   | Mixed   |
| 8         |                                                                                           | Easy              | 200        | Single    | 11m / 0m        | Adventure   | Ascent  |
| 9         |                                                                                           | Easy              | 215        | Single    | 0m / -9m        | Flow        | Descent |
| 10        |                                                                                           | Difficult         | 207        | Single    | 0m / -12m       | Blended Air | Descent |
| 11        | Incorporates the existing trail Beginner's Jump Line                                      | Easy              | 221        | Single    | 0m / -16m       | Flow        | Descent |
| 12        | Incorporates the upper section of the existing trail Red Belly                            | Intermediate      | 839        | Single    | 56m / -11m      | Adventure   | Mixed   |
| 13        | Existing trail Bowhunter Blue                                                             | Intermediate      | 393        | Single    | 0m / -28m       | Airflow     | Descent |
| 14        |                                                                                           | Intermediate      | 291        | Single    | 0m / -24m       | Airflow     | Descent |
| 15        |                                                                                           | Difficult         | 361        | Single    | 0m / -30m       | Blended Air | Descent |
| 16        | Existing trail - Bowhunter Black                                                          | Difficult         | 247        | Single    | 0m / -22m       | Airflow     | Descent |
| 17        |                                                                                           | Intermediate      | 288        | Single    | 0m / -26m       | Airflow     | Descent |
| 18        |                                                                                           | Easy              | 625        | Single    | 28m / -2m       | Adventure   | Ascent  |
| 19        |                                                                                           | Easy              | 407        | Single    | 0m / -21m       | Flow        | Descent |
| 20        | Existing trail Black Snake                                                                | Intermediate      | 340        | Single    | 0m / 17m        | Adventure   | Descent |

| Trail No. | Existing Trail                                                               | Difficulty Rating | Length (m) | Direction | Climb / Descent | Trail Style | Slope   |
|-----------|------------------------------------------------------------------------------|-------------------|------------|-----------|-----------------|-------------|---------|
| 21        | Existing Black Snake climb                                                   | Intermediate      | 282        | Single    | 25m / 0m        | Adventure   | Ascent  |
| 22        |                                                                              | Intermediate      | 997        | Single    | 86m / -91m      | Adventure   | Mixed   |
| 23        |                                                                              | Difficult         | 547        | Single    | 0m / -59m       | Gravity     | Descent |
| 24        |                                                                              | Intermediate      | 843        | Single    | 59m / 0m        | Adventure   | Ascent  |
| 25        | Incorporates the existing trail Centipede                                    | Intermediate      | 678        | Single    | 5m / -44m       | Flow        | Descent |
| 26        | Existing trail - Centipede                                                   | Intermediate      | 50         | Dual      | 0m / 0m         | Adventure   | Flat    |
| 27        | Existing trail - Crankworx Slopestyle                                        | Extreme           | 323        | Single    | 0m / -44m       | Airflow     | Descent |
| 28        | Existing trail - Crankworx Full Tilt                                         | Difficult         | 348        | Single    | 0m / -34m       | Airflow     | Descent |
| 29        | Existing trail - Crankworx Dual Slalom                                       | Difficult         | 400        | Single    | 0m / -36m       | Airflow     | Descent |
| 30        | Existing trail - Crankworx Whip-off                                          | Difficult         | 213        | Single    | 0m / -25m       | Airflow     | Descent |
| 31        |                                                                              | Easy              | 760        | Dual      | 20m / -6m       | Adventure   | Ascent  |
| 32        | Using portions of existing cross-country trails including sections of Cadels | Easy              | 1284       | Single    | 33m / -32m      | Adventure   | Mixed   |
| 33        | Using a small section of the existing trail Cadels                           | Easy              | 145        | Single    | 9m / 0m         | Adventure   | Flat    |
| 34        | Using a section of the existing trail Cadels                                 | Intermediate      | 137        | Single    | 2m / 0m         | Adventure   | Flat    |
| 35        |                                                                              | Easy              | 512        | Single    | 12m / -8m       | Adventure   | Flat    |
| 36        |                                                                              | Easy              | 628        | Single    | 24m / -20m      | Adventure   | Mixed   |
| 37        |                                                                              | Intermediate      | 744        | Single    | 48m / -14m      | Adventure   | Ascent  |
| 38        | Using the existing trail Whiskers                                            | Intermediate      | 344        | Single    | 5m / -27m       | Gravity     | Descent |
| 39        | Using the existing trail Wobbegong                                           | Intermediate      | 592        | Single    | 21m / -26m      | Adventure   | Mixed   |
| 40        | Following the existing trail Black Marlin                                    | Difficult         | 540        | Single    | 31m / -22m      | Adventure   | Mixed   |
| 41        | Existing trail - Pipeline                                                    | Intermediate      | 5164       | Single    | 232m / -251m    | Adventure   | Mixed   |
| 42        |                                                                              | Intermediate      | 1554       | Single    | 64m / -41m      | Adventure   | Ascent  |
| 43        |                                                                              | Difficult         | 335        | Single    | 0m / -41m       | Gravity     | Descent |
| 44        |                                                                              | Intermediate      | 2527       | Single    | 4m / -254m      | Gravity     | Descent |
| 45        |                                                                              | Intermediate      | 861        | Single    | 47m / -17m      | Adventure   | Ascent  |
| 46        |                                                                              | Intermediate      | 328        | Single    | 6m / -12m       | Flow        | Descent |
| 47        | Modified version of the classic Nationals DH                                 | Difficult         | 1490       | Single    | 5m / -193m      | Downhill    | Descent |
| 48        | Modified version of the existing trail Cuss Cuss                             | Intermediate      | 1504       | Single    | 9m / -83m       | Adventure   | Descent |

| Trail No. | Existing Trail                                                  | Difficulty Rating | Length (m) | Direction | Climb / Descent | Trail Style | Slope   |
|-----------|-----------------------------------------------------------------|-------------------|------------|-----------|-----------------|-------------|---------|
| 49        | Existing trail - Nationals DH                                   | Intermediate      | 356        | Single    | 0m / -39m       | Gravity     | Descent |
| 50        |                                                                 | Intermediate      | 1578       | Single    | 0m / -167m      | Gravity     | Descent |
| 51        |                                                                 | Intermediate      | 222        | Single    | 0m / -5m        | Adventure   | Flat    |
| 52        |                                                                 | Intermediate      | 456        | Single    | 18m / -3m       | Adventure   | Ascent  |
| 53        |                                                                 | Intermediate      | 3201       | Single    | 34m / -263m     | Gravity     | Descent |
| 54        |                                                                 | Intermediate      | 3723       | Single    | 333m / -84m     | Adventure   | Ascent  |
| 55        | Following an existing trail - BOM Ridge                         | Intermediate      | 172        | Dual      | 0m / -7m        | Adventure   | Flat    |
| 56        | Short end section of the existing Nationals DH                  | Difficult         | 111        | Single    | 0m / -17m       | Downhill    | Descent |
| 57        |                                                                 | Intermediate      | 920        | Single    | 64m / -10m      | Adventure   | Ascent  |
| 58        |                                                                 | Easy              | 1140       | Single    | 0m / -95m       | Flow        | Descent |
| 59        | Modified version of the existing trail Happies                  | Difficult         | 493        | Single    | 0m / -78m       | Gravity     | Descent |
| 60        |                                                                 | Intermediate      | 768        | Single    | 5m / -84m       | Gravity     | Descent |
| 61        | Existing Worlds DH trail                                        | Difficult         | 2126       | Single    | 9m / -313m      | Downhill    | Descent |
| 62        | Follows existing Spectator trail                                | Difficult         | 94         | Single    | 0m / -3m        | Downhill    | Descent |
| 63        |                                                                 | Difficult         | 1952       | Single    | 0m / -314m      | Downhill    | Descent |
| 64        |                                                                 | Intermediate      | 1275       | Single    | 1m / -188m      | Gravity     | Descent |
| 65        |                                                                 | Intermediate      | 1080       | Single    | 0m / -65m       | Gravity     | Descent |
| 66        |                                                                 | Intermediate      | 574        | Single    | 37m / -1m       | Adventure   | Ascent  |
| 67        |                                                                 | Intermediate      | 763        | Single    | 63m / 0m        | Adventure   | Ascent  |
| 68        |                                                                 | Intermediate      | 1677       | Single    | 101m / -3m      | Adventure   | Ascent  |
| 69        | Modified version of Rocky Dingo                                 | Difficult         | 1485       | Single    | 5m / -105m      | Gravity     | Descent |
| 70        |                                                                 | Intermediate      | 1608       | Single    | 3m / -117m      | Airflow     | Descent |
| 71        | Existing trail - Periodic Detention                             | Difficult         | 42         | Single    | 0m / 0m         | Gravity     | Descent |
| 72        |                                                                 | Intermediate      | 172        | Single    | 0m / -6m        | Adventure   | Flat    |
| 73        |                                                                 | Intermediate      | 1512       | Single    | 1m / -158m      | Flow        | Descent |
| 74        |                                                                 | Difficult         | 378        | Single    | 0m / -43m       | Downhill    | Descent |
| 75        |                                                                 | Intermediate      | 932        | Single    | 4m / -91m       | Gravity     | Descent |
| 76        | Mix of existing and new trail                                   | Extreme           | 285        | Single    | 1m / -21m       | Gravity     | Descent |
| 77        | Using a mix of existing and new trails, including Jacobs Ladder | Difficult         | 201        | Single    | 0m / -35m       | Gravity     | Descent |
| 78        |                                                                 | Easy              | 2131       | Dual      | 58m / -51m      | Adventure   | Mixed   |

| Trail No. | Existing Trail                                       | Difficulty Rating | Length (m) | Direction | Climb / Descent | Trail Style | Slope   |
|-----------|------------------------------------------------------|-------------------|------------|-----------|-----------------|-------------|---------|
| 79        | Using new entry to an existing trail                 | Difficult         | 806        | Single    | 0m / -206m      | Gravity     | Descent |
| 80        |                                                      | Intermediate      | 1530       | Single    | 1m / -197m      | Gravity     | Descent |
| 81        |                                                      | Intermediate      | 834        | Single    | 3m / -88m       | Gravity     | Descent |
| 82        |                                                      | Intermediate      | 481        | Single    | 0m / -56m       | Adventure   | Descent |
| 83        |                                                      | Intermediate      | 344        | Single    | 1m / -18m       | Adventure   | Descent |
| 84        |                                                      | Intermediate      | 1737       | Single    | 15m / -229m     | Gravity     | Descent |
| 85        |                                                      | Intermediate      | 1695       | Single    | 0m / -183m      | Gravity     | Descent |
| 86        | New modified version of the existing Stallones trail | Difficult         | 925        | Single    | 6m / -151m      | Gravity     | Descent |
| 87        |                                                      | Intermediate      | 1633       | Single    | 5m / -167m      | Gravity     | Descent |
| 88        |                                                      | Difficult         | 521        | Single    | 0m / -83m       | Gravity     | Descent |
| 89        |                                                      | Difficult         | 1200       | Single    | 0m / -182m      | Gravity     | Descent |
| 90        |                                                      | Easy              | 307        | Single    | 0m / -13m       | Flow        | Descent |
| 91        |                                                      | Intermediate      | 173        | Single    | 0m / -6m        | Airflow     | Descent |
| 92        |                                                      | Intermediate      | 2038       | Single    | 188m / -37m     | Adventure   | Ascent  |
| 93        |                                                      | Intermediate      | 691        | Single    | 52m / -21m      | Adventure   | Ascent  |
| 94        |                                                      | Intermediate      | 1730       | Single    | 4m / -153m      | Flow        | Descent |
| 95        |                                                      | Intermediate      | 1060       | Single    | 15m / -113m     | Gravity     | Descent |
| 96        |                                                      | Difficult         | 410        | Single    | 0m / -34m       | Gravity     | Descent |
| 97        |                                                      | Intermediate      | 35         | Single    | 0m / 0m         | Adventure   | Flat    |
| 98        |                                                      | Intermediate      | 1693       | Single    | 102m / -4m      | Adventure   | Ascent  |

## Elevation Perspectives

The following maps show the north and south elevation perspectives to provide a 3D representation of the network relative to the contours of the landscape.

*Figure 10 - North Elevation Masterplan Perspective*

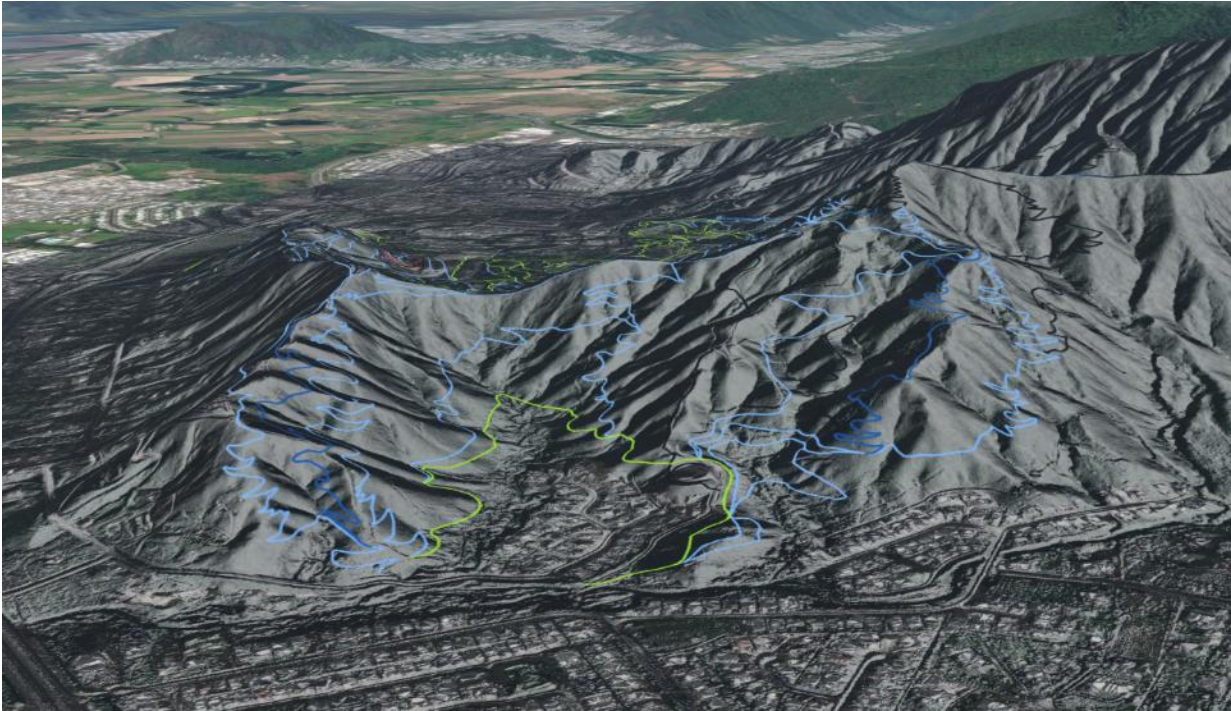
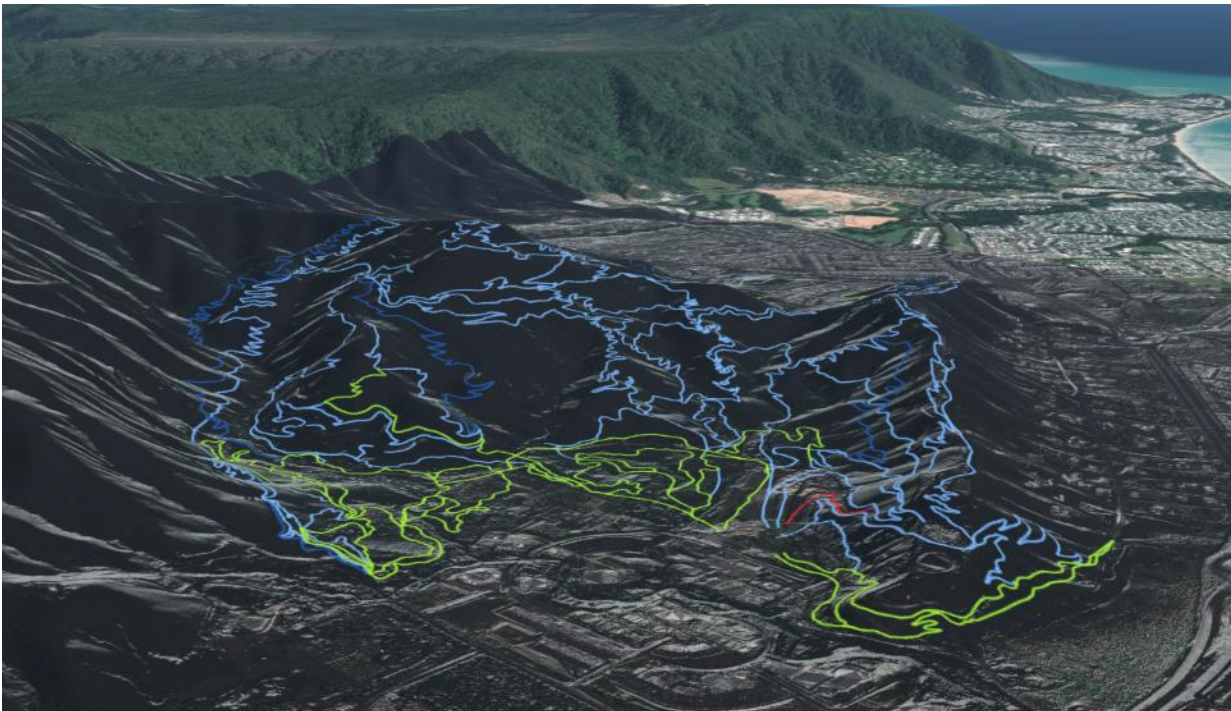


*Figure 11 - South Elevation Masterplan Perspective*



## Masterplan Maps

The following pages contain maps of key trail network attributes to provide an overview of network access, status, classification, and overall trail distribution:

- Access
- Trail Status
- Trail Difficulty Ratings
- Trail Styles
- Trail Network North
- Trail Network South

Figure 12 – Masterplan design, Access

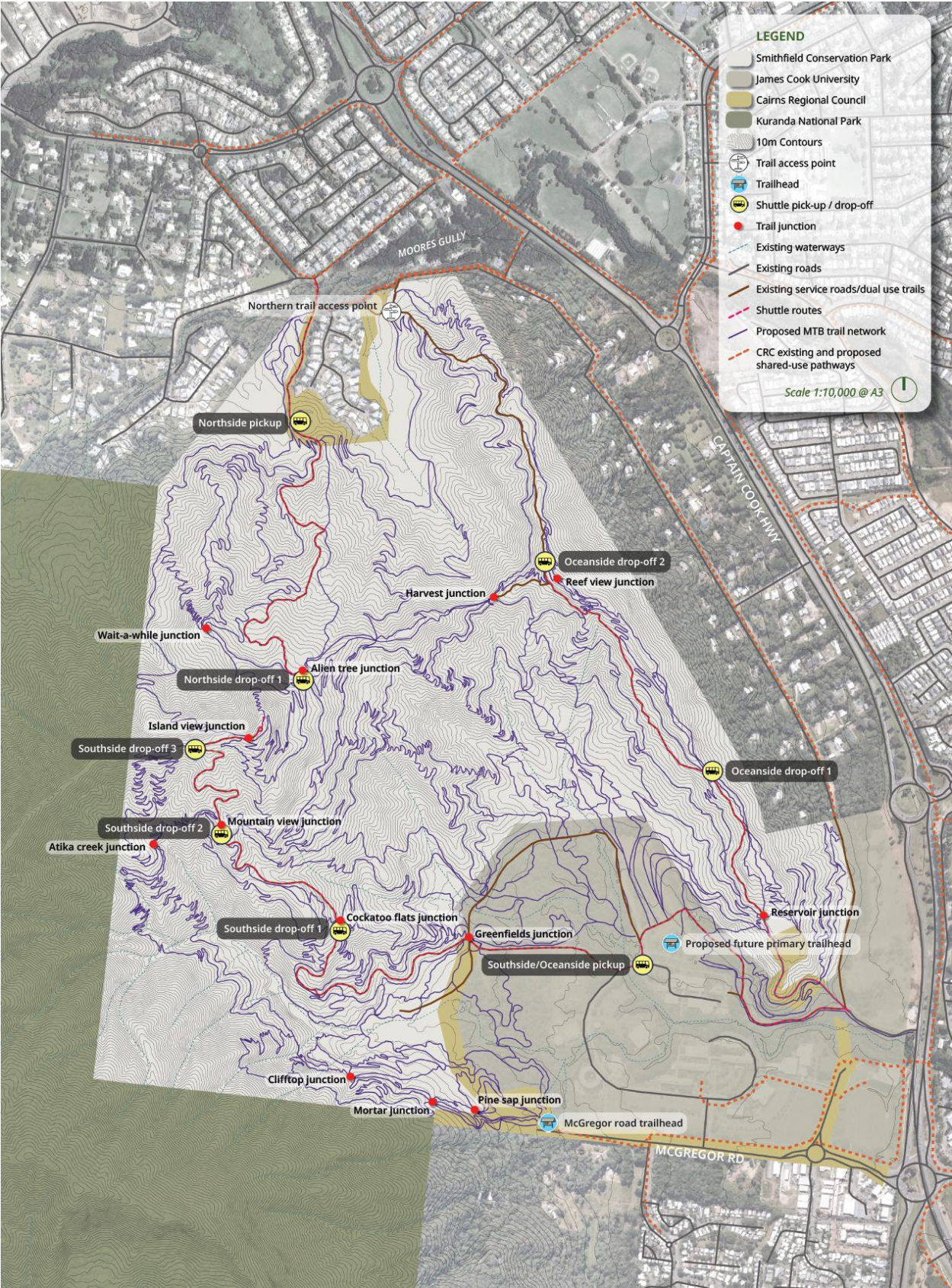


Figure 13 – Masterplan design, Trail Status

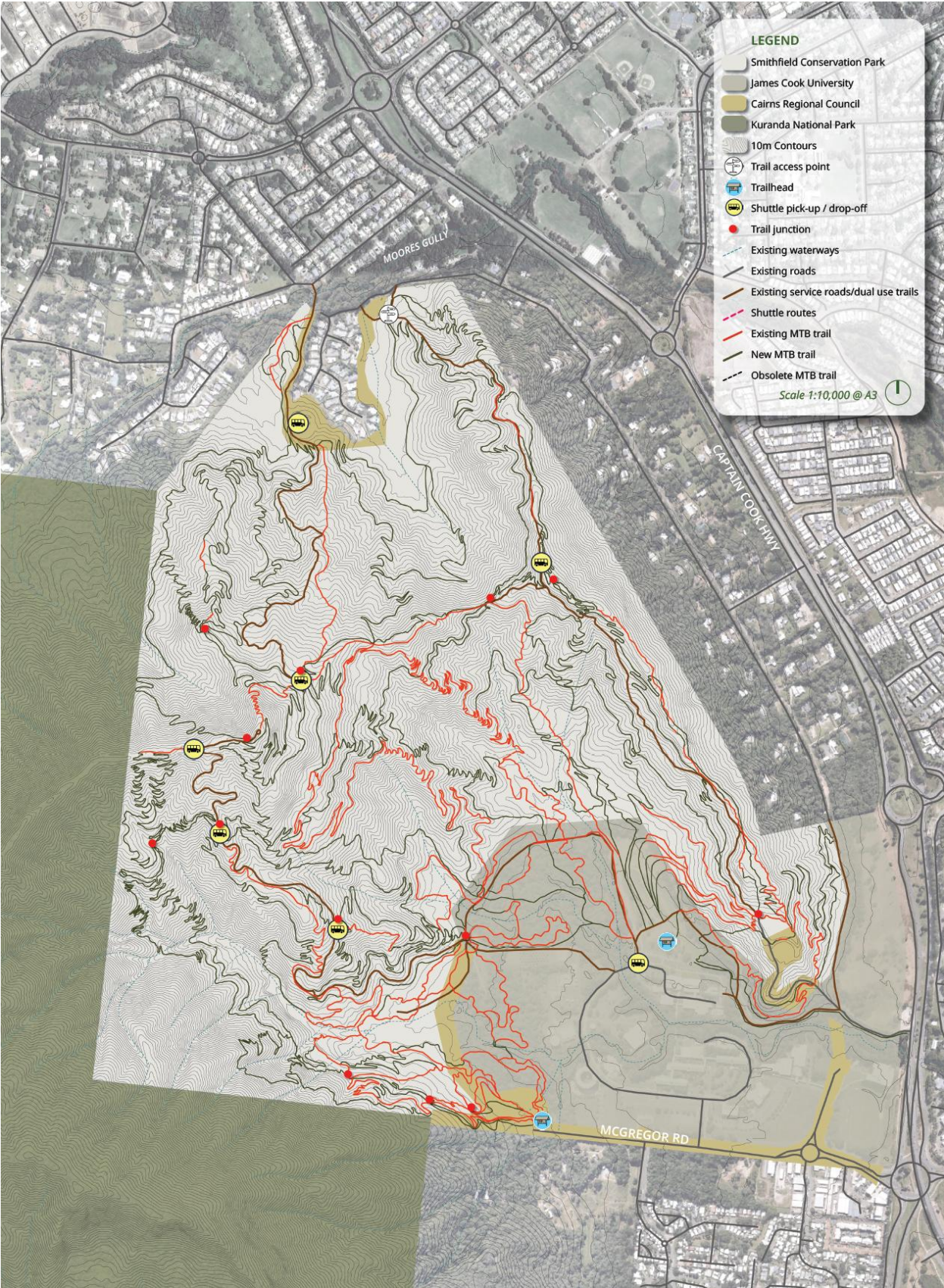


Figure 14 – Masterplan design, Trail Difficulty Ratings

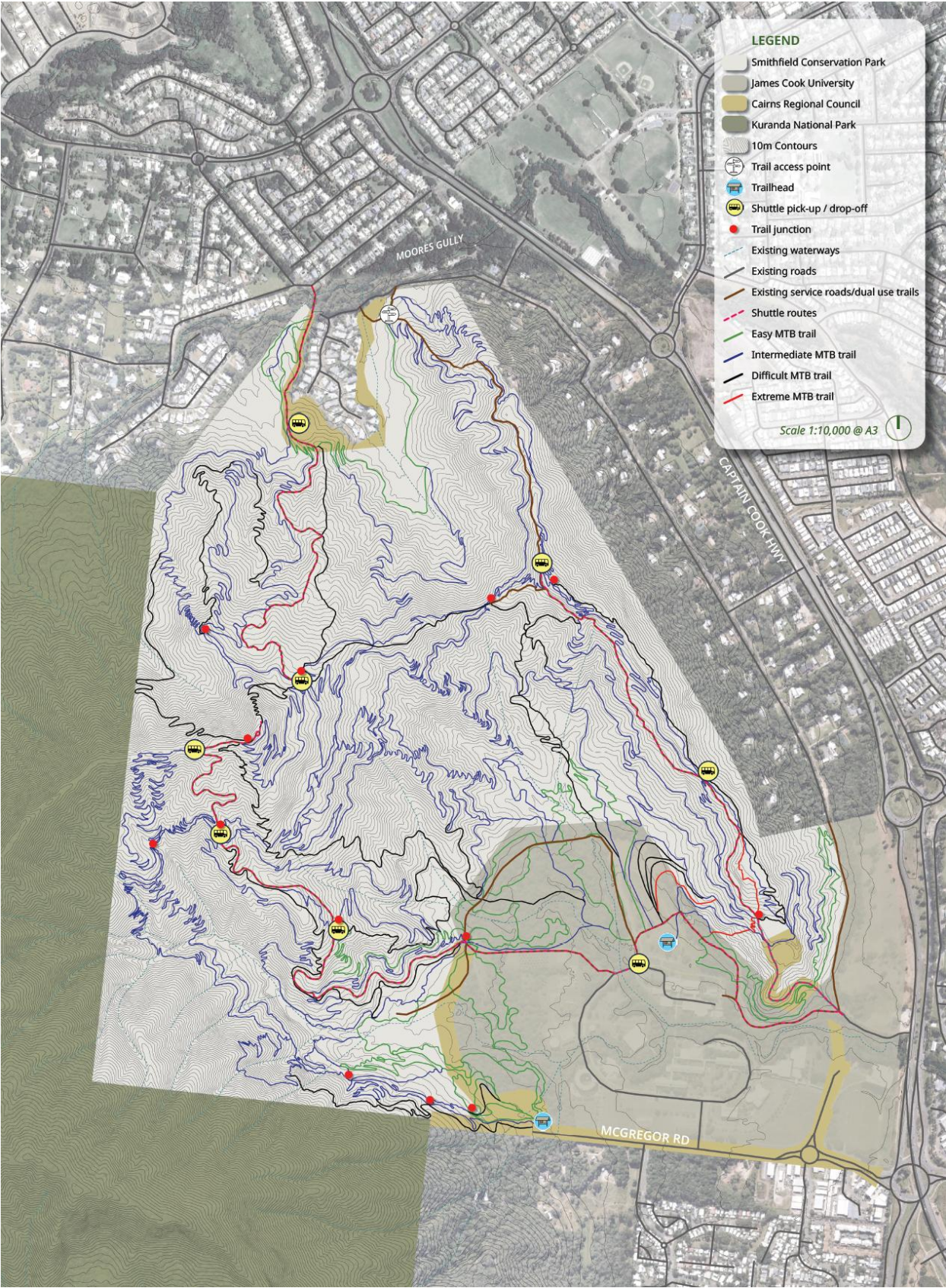


Figure 15 – Masterplan design, Trail Styles

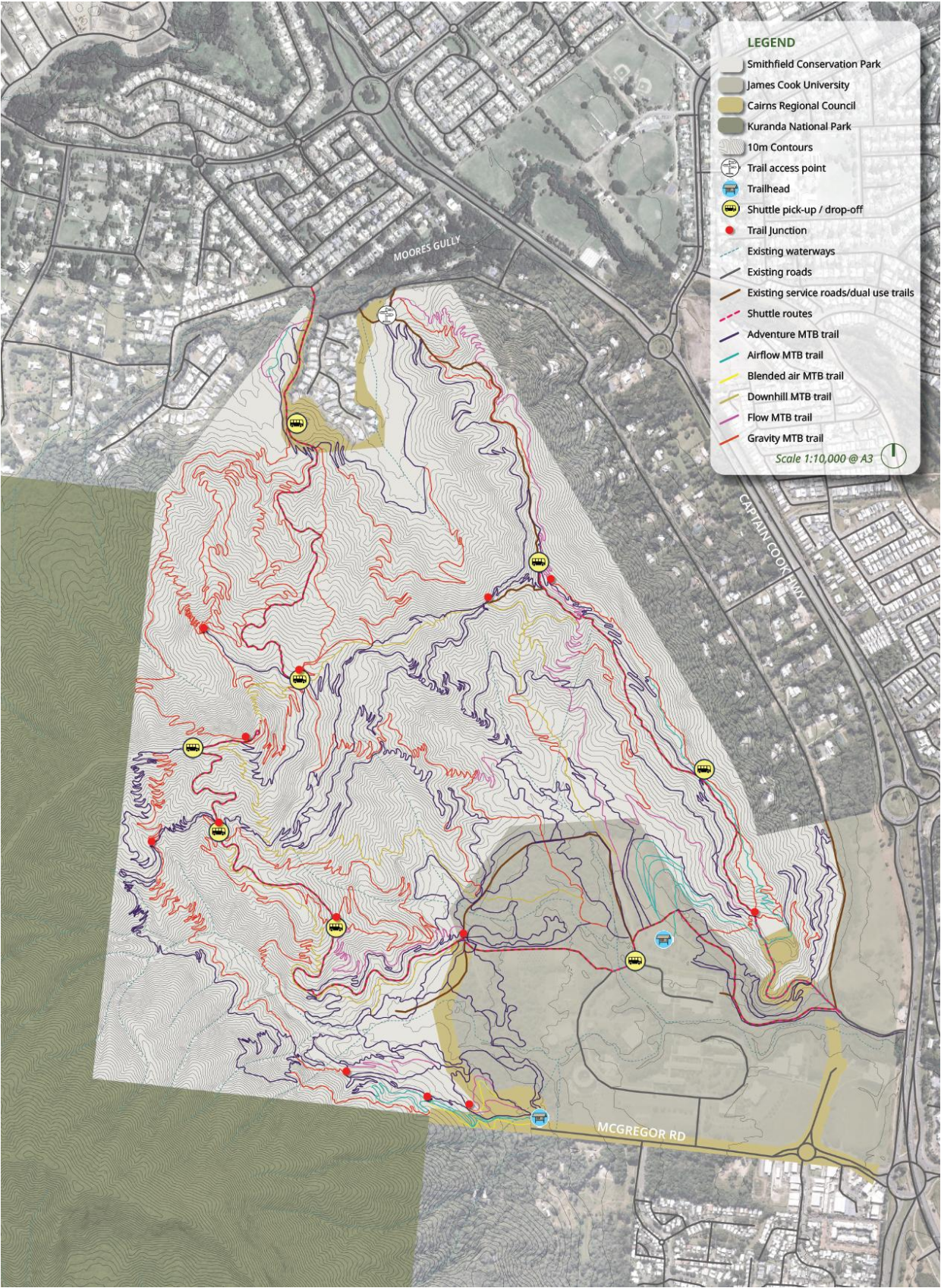


Figure 16 – Masterplan design, Trail Network North

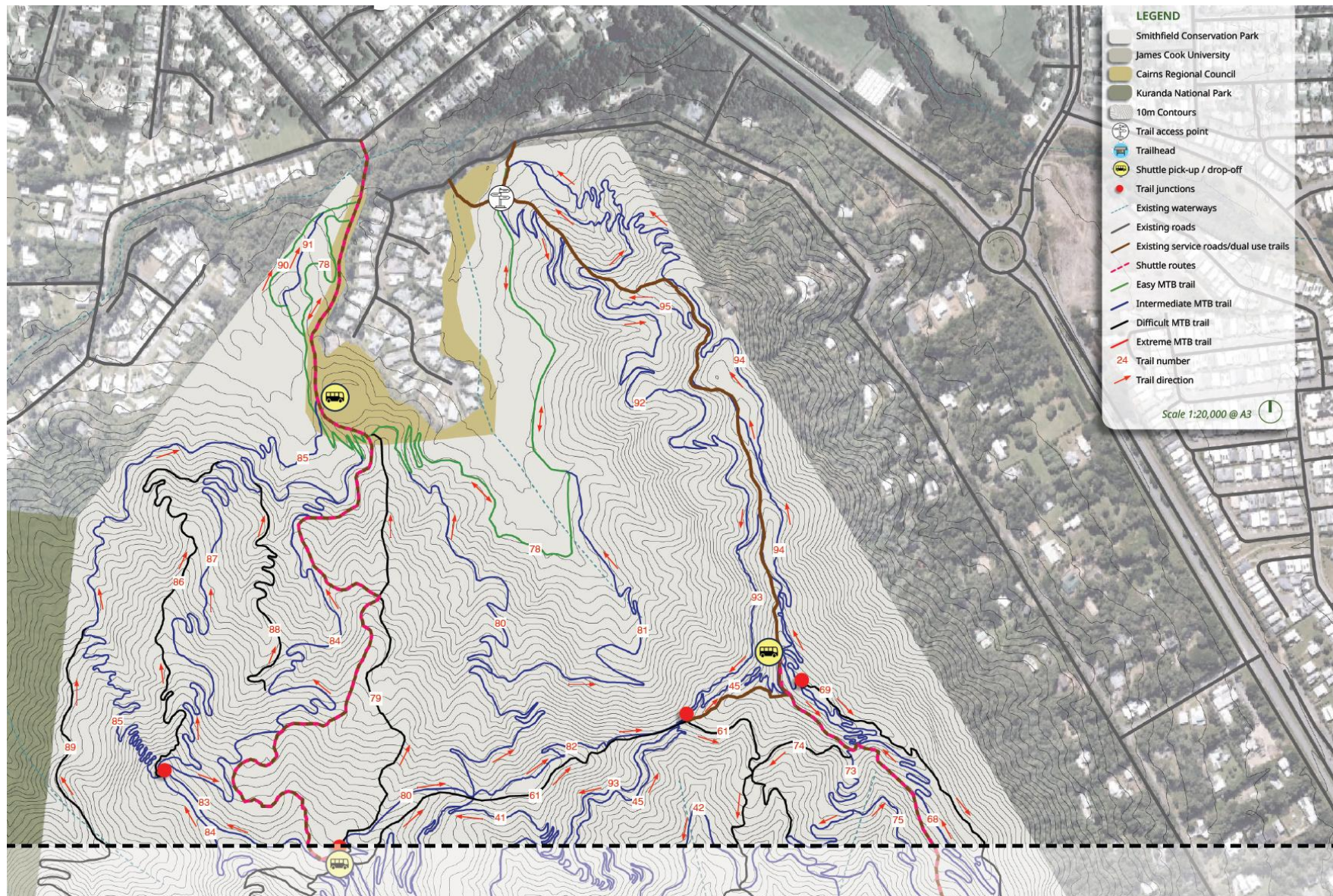
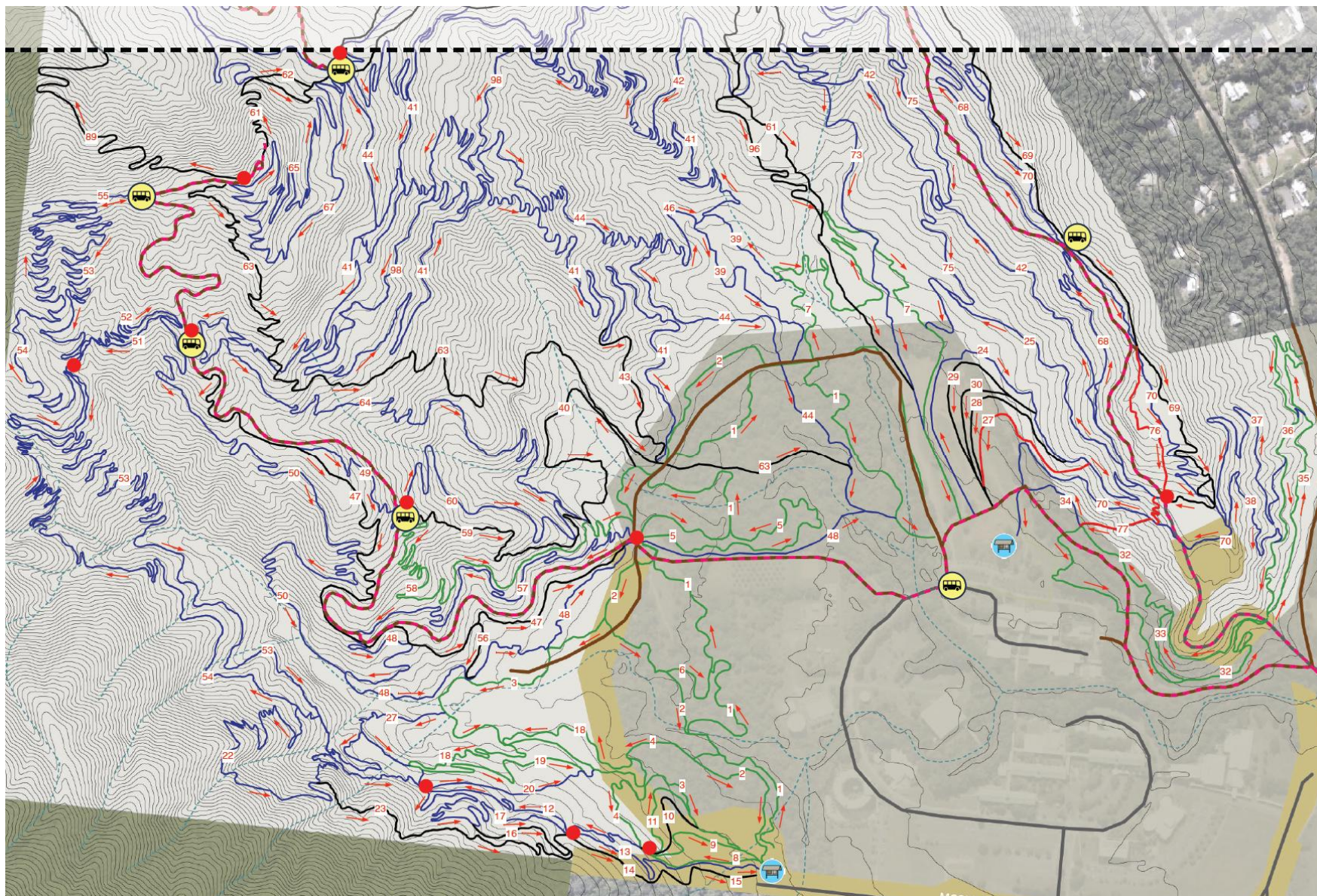


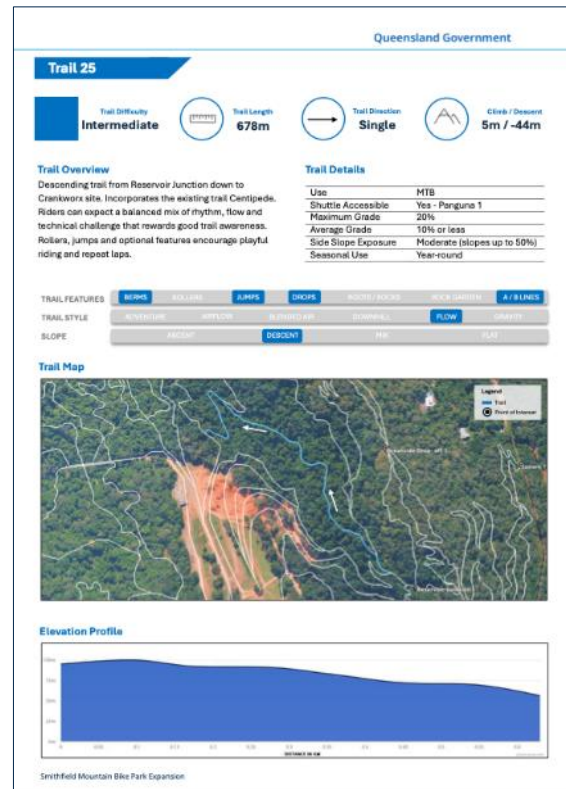
Figure 17 – Masterplan design, Trail Network South



## Individual Trail Data Sheets

Trail Data Sheets have been produced for all trails in the Smithfield Mountain Bike Expansion Masterplan. Each trail data sheet is colour-coded to its Trail Difficulty Rating System rating and provides a snapshot of the trail including a range of key and interesting information for users:

- Trail difficulty, length and direction
- Climb / descent
- Trail overview (written description)
- Trail details including:
  - Use
  - Shuttle accessible (with closest drop off location)
  - Maximum grade
  - Average grade
  - Elevation gain / loss
  - Side slope exposure
  - Seasonal use
- Trail features (berms, rollers, jumps, drops, roots / rocks, rock garden, A / B lines)
- Trail Style (adventure, airflow, blended air, downhill, flow, gravity)
- Slope (ascent, descent, mix, flat)
- Trail Map
- Trail elevation profile



The Trail Data Sheets for all 98 trails in the network are provided below in Appendix 4.

# IMPLEMENTATION PLAN

## Project Schedule

This Masterplan outlines the process and the variety of inputs considered in the development of the proposed trail network for the SMBP. At the completion of this design process, the project will transition towards implementation and construction of the new trails.

The project is funded by the Queensland Government, with a budget of \$15.5 million. Key project milestones are:



## Trail Construction

In order to engage a construction contractor, a tender process will be undertaken for the design and construction of the trail expansion. The development of the Masterplan and the associated design has occurred alongside the creation of detailed Tender Specifications. The sequenced development of both documents has ensured that comprehensive and coordinated documentation will be provided to tenderers, and subsequently to the successful contractor. This will ultimately result in clear construction requirements leading to high quality trails and a premier user experience.

With the significant quantity of trails to be constructed and the seasonality of Far North Queensland, implementation will need to take a staged approach for delivery, avoiding trail construction during the wet season. This will require a proportion of trails to be constructed in the 2027 dry season, and the remaining trails to be constructed in the 2028 dry season.

## Trailheads

At the time of publication, a design team has been engaged to develop concept designs for the trailheads as part of the SMBP expansion project. Trailhead designs will be progressed with input from key stakeholders, with final designs expected in 2027. The ultimate scope of trailhead development and delivery timeframes remain subject to tenure resolution and will be confirmed once designs are completed.

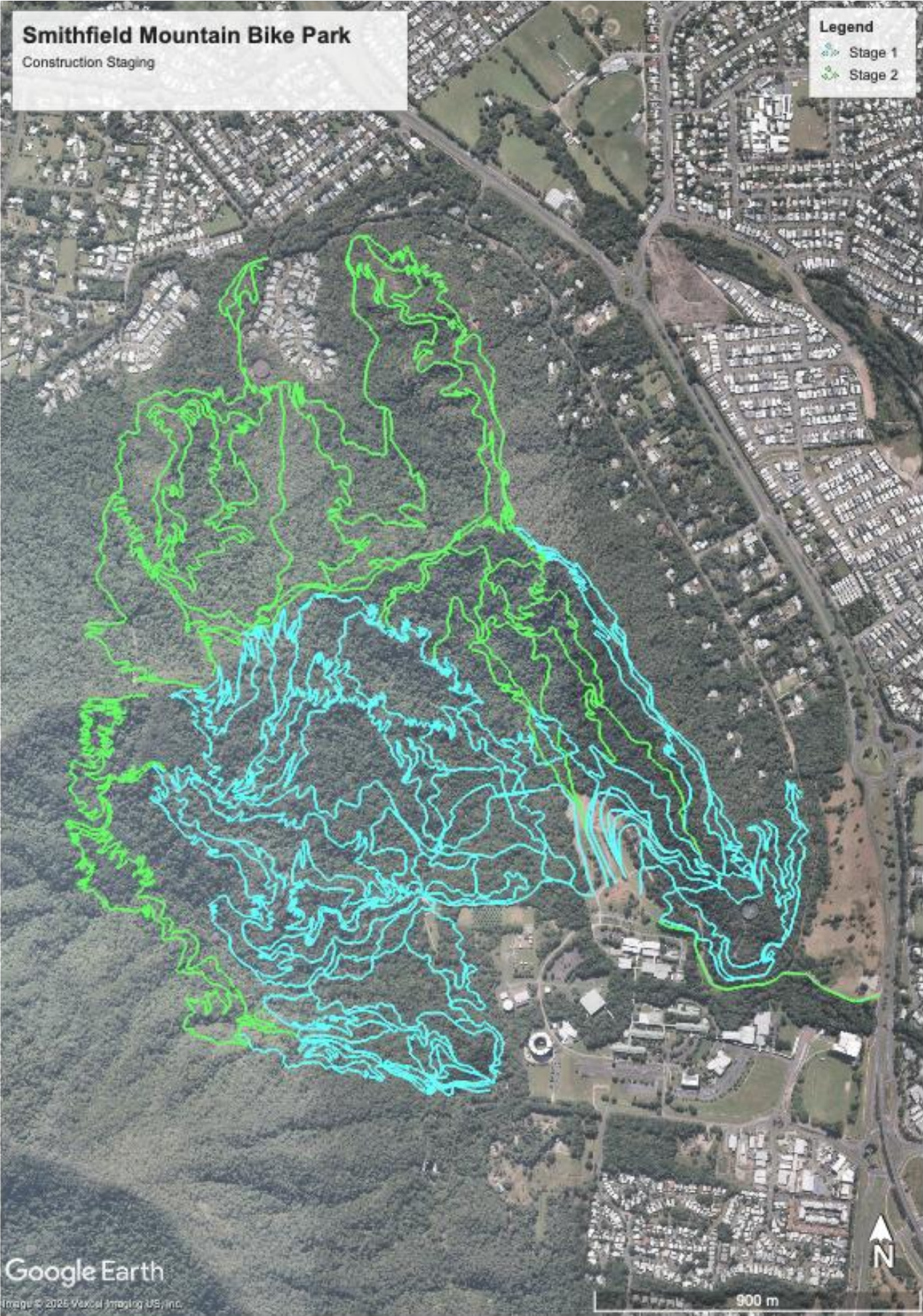
## Trail Prioritisation for Staged Construction

Construction of the SMBP Expansion is proposed to be undertaken over the 2027 and 2028 dry seasons. To achieve this construction program for new trails, the Masterplan has prioritised the trails for inclusion in Stage 1, with lower priority trails included in Stage 2. The map on the following page provides a visual representation of the proposed construction staging. Key information for both stages are:

| Stage 1 new trails                                                                                                                                                                                                                             | Stage 2 new trails                                                                                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Approximately 28.8km                                                                                                                                                                                                                           | Approximately 33.3km                                                                                                                                                                                  |
| <p>Focuses on the southern and eastern areas, including trails in the:</p> <p>McGregor Road Trailhead area</p> <p>Lower parts of the site (Greenfields area)</p> <p>Former Crankworx site</p> <p>Bowhunters area</p> <p>Panguna Ridge area</p> | <p>Focuses on the northern and western areas, including trails in the:</p> <p>Northern slope area</p> <p>Westernmost section of the network</p> <p>Area to the north of the former Crankworx site</p> |
| Includes approximately 6.5km Easy trails (23% of total), 17.5km Intermediate trails (59%), 5km Difficult (17%) and <1km Extreme (<1%).                                                                                                         | Includes approximately 2.25km Easy trails (7% of total), 26.75km Intermediate trails (82%) and 3.5km Difficult (11%).                                                                                 |
| Includes approximately 12km Adventure trails (42% of total), 2.25km Airflow trails (8%), <1km Blended Air trails (<1%), 2.25km Downhill trails (8%), 2.25km Flow trails (8%) and 9.5km Gravity trails (33%).                                   | Includes approximately 14km Adventure trails (42% of total), <1km Downhill trails (<1%), 3.25km Flow trails (10%) and 15.5km Gravity trails (46%).                                                    |

Please note:

- Staging is indicative for Masterplan purposes and may be subject to change during construction.
- The following map includes new trails for construction. While the trails will be new, some include sections of existing trails, as identified in the second column.
- Trail 31 is included in Stage 2, noting that this is the proposed pathway running from the highway past the JCU campus to the former Crankworx site. This may end up as a shared use footpath, however the construction type is yet to be determined.



# Environmental Management in Construction

The construction phase of the project will require the successful contractor to undertake specific environmental management requirements to ensure trails are constructed sustainably, and that the natural environment is protected and preserved pre, during and post construction.

The primary requirement is a Construction Environment Management Plan (CEMP), which is a site-specific document detailing how a construction project will manage environmental risks, comply with legislation and reduce negative impacts.

Additional requirements outlined in the project Ecology Report include:

**Erosion & Sediment Control Plan (ESCP)**

A site-specific document outlining strategies to prevent soil erosion and stop sediment from leaving a construction site to enter waterways.

**Weed Management Plan**

A weed management plan will be required to outline how the contractor will control the existing weeds present to prevent further spreading throughout the project site as a result of trail construction.

**Biosecurity Management Plan**

A biosecurity plan will be required to outline measures to be used by the contractor to protect the environment including cleaning, inspections and use of vehicles and machinery.

**Tree Protection Measures**

Although the proposal is unlikely to remove large canopy trees, general tree protection measures should be applied during construction to avoid damage to trees resulting in compromised structure or death of trees.

**Protected Plant Surveys**

A protected plant survey as per the Flora Survey Guidelines (protected plants) is required to be undertaken to determine the location and quantify the population of all threatened flora present within high-risk trigger mapping areas.

**Fauna Spotter / Catcher During Clearing Operations**

A licensed fauna spotter / catcher must be present during vegetation clearing and creek-bed disturbance to rescue and relocate wildlife.

# TRAIL OPERATIONS

## Operational Model Development

The future management and operation of the expanded trail network are being actively developed through the Queensland Government's Registration of Interest (RoI) process for the SMBP expansion. This process ran from April to May 2026 and invited organisations and individuals to propose innovative and diverse ideas for the long-term commercial activation of the mountain bike park. Submissions explored opportunities including trail and shuttle operations, hospitality, training, retail experiences, major events and integrated trail connections across Tropical North Queensland.

At the time of publication, the ROI process remains ongoing, with outcomes expected to inform the next steps in establishing a sustainable operating model for the park. The long-term success of the expanded mountain bike park will depend on clear governance arrangements, sustainable funding mechanisms and an operating model that can support the increased scale, complexity and use of the park. These matters will continue to be developed through subsequent phases of operations planning as part of the SMBP expansion project.

A key focus of the future operating model is ensuring the expanded park has the right governance, resourcing and delivery arrangements to support safe, sustainable and high-quality operations. Clear roles and responsibilities between the trail owner, currently QPWS&P, and the trail operator, currently CMBC under a Section 34 agreement authorised under the *Nature Conservation Act 1994*, will be essential to maintaining agreed service standards and supporting public safety. CMBC makes a significant contribution to maintaining and supporting the site under current arrangements.

The proposed expansion will substantially increase the scale and complexity of the park, requiring a future operating model that considers the resourcing, capability and governance needed to manage a significantly larger destination. This includes determining the most appropriate roles for community clubs, contractors, specialist trail builders and/or a commercial operator.

Future operations planning is considering the support and resourcing arrangements that may be required during the transition to operations following construction of the expanded trail network. Revenue generated through trail operations will be reinvested back into the network, supporting the transition towards an operating model that is financially self-sustaining over time.

To support long-term sustainability, a diversified funding approach is being considered. Potential funding sources include club memberships, merchandise sales, event fees, sponsorships, appropriate visitor-related revenue streams, shuttle service revenue, grants and community fundraising initiatives. Establishing direct links between trail usage and maintenance funding will help ensure increasing visitation contributes positively to the network's quality and resilience. These measures, combined with outcomes from the ROI process, aim to create a sustainable and vibrant trail network that benefits users and the broader community.

Based on existing trail use data, benchmarking against comparable destinations and the proposed expansion of the network, visitation is projected to increase to approximately 53,000–75,000 rider visits annually. This growth is expected to support increased recreation participation, tourism expenditure and event activity across the Cairns region.

## Trail Maintenance

Maintaining mountain bike trails is critical to ensuring rider safety, environmental sustainability, trail longevity and a high-quality user experience. Regular maintenance minimises erosion, manages drainage and protects environmental and cultural heritage values, while preventing costly repairs and unsafe conditions caused by trail deterioration. Poorly maintained trails risk shifting beyond their intended difficulty ratings, compromising both safety and user satisfaction. Sustainable trail design and proactive maintenance practices are essential to preserving natural landscapes, protecting the asset and ensuring trails remain fit for purpose. (Source: [AusCycling](#))

The Queensland Government envisions Smithfield MTB Park as a premier mountain biking destination, complementing world-class attractions like the Great Barrier Reef and delivering on the Destination 2045 Plan. To achieve this, trails must be constructed to high standards and supported by effective maintenance programs that uphold quality, promote repeat visitation, and generate economic benefits for the Cairns region.

Newly constructed trails are at their optimal condition but often experience high initial use, which can reveal issues as surfaces, drainage and features settle under real-world conditions. While minor wear and natural adaptation can enhance trail character, significant deterioration – such as erosion, drainage failures or changes to trail difficulty – can negatively impact safety and sustainability. To address this, a structured inspection and monitoring program will be implemented to identify and resolve issues early, ensuring trails meet rider expectations, maintain safety standards and operate as intended over the long term.



Photo: Cairns Mountain Bike Club Facebook Page

## Events Staging

Mountain bike events can provide substantial economic, social and operational benefits for both a trail network and the surrounding region. Cairns and the SMBP have a long and well-established history of hosting national and international mountain bike events, demonstrating the significant value that major events can bring to a destination over time. Past events include:

- 2026** Cairns Rainforest Rumble
- 2025** Crankworx
- 2024** Crankworx
- 2023** Crankworx
- 2022** Crankworx
- 2017** UCI Mountain Biking World Championships
- 2016** UCI Mountain Biking World Cup
- 2014** UCI Mountain Biking World Cup
- 1996** UCI Mountain Biking World Championships
- 1994** UCI Mountain Biking World Cup

Major events can generate strong economic outcomes through increased visitation, longer visitor stays and higher expenditure across accommodation, hospitality, retail and tourism sectors. Research undertaken across a range of Australian and international mountain bike destinations has consistently demonstrated that events can significantly elevate the profile of a region, attract new visitors and stimulate ongoing tourism growth well beyond the event period itself. Events also create opportunities for private investment, industry partnerships and the growth of supporting tourism services such as guiding, shuttle operations and bike hire.

Beyond economic outcomes, mountain bike events also deliver important social and community benefits. Events encourage participation in active recreation, support volunteer engagement and strengthen connections between riders, clubs, businesses and land managers. They can foster local pride, create opportunities for youth participation and skills development, and contribute to the broader identity of a region as an outdoor recreation destination, helping to drive tourism visitation.

Experience from established mountain bike destinations demonstrates that considering event use during the planning and design phase can significantly improve the long-term functionality and adaptability of a trail network. Networks designed with event operations in mind are better positioned to support competitions, festivals, coaching programs, community rides and tourism activation while reducing operational constraints and minimising the need for costly future upgrades.

Event-ready trail networks typically require infrastructure and operational spaces beyond the trail corridors themselves. Key facilities commonly incorporated into successful event venues include:

|                     |                    |
|---------------------|--------------------|
| Event staging areas | Parking            |
| Spectator areas     | Emergency access   |
| Rider facilities    | Registration areas |
| Mechanical support  | Vendor/expo spaces |

Trailheads and hub areas are particularly important, as they often function as the operational and social centre of events while also supporting everyday visitor use. Designing these spaces to accommodate larger user numbers improves event functionality and enhances the overall rider and visitor experience across the broader network.

With decades of experience hosting high-profile mountain bike events, Smithfield is well positioned to continue supporting regional, national and international events across the expanded trail network.

The proposed future primary trailhead is located on the former Crankworx event site, just north of JCU. With around 4.6 Hectares of cleared open space, the site is well suited to hosting large events, as has been proven with Crankworx and UCI World Cups and World Championships including the recent Rainforest Rumble. While this site has not yet been secured for the future proposed primary trailhead, investigations regarding future access and tenure arrangements continue and will inform future delivery decisions.

While the design of the proposed future primary trailhead is outside the scope of this Masterplan, it does consider and plan for major events to continue at the site. A separate design team has been engaged to develop concept designs for the trailhead areas.



Photo: World Trail

## Overview

Queensland Parks & Wildlife Service & Partnerships (QPWS&P) aim to provide accurate, well-presented information to park visitors through the effective design and placement of signage. The signage design develops continuity of design throughout the park, contributing to a particular 'sense of place' to visitors in their understanding and orientation.

QPWS&P utilise four distinct types of signs throughout the parks they manage. The types are:

1. **Advisory signs:** fall into two main categories – site orientation and management activities.
  - Site orientation signs are designed primarily to:
    - assist visitors to establish their location in relation to the area and its natural and cultural attractions and facilities
    - indicate a route of travel to a destination
    - label a site, facility or feature.
  - Management activity signs are designed primarily to:
    - advise visitors of management activities and practices in a park or forest
    - advise visitors of any change to usual management practices.
2. **Legislative signs:** are used to advise visitors of access, behaviour and park management issues covered by QPWS-administered legislation.
  - Legislative signs are particular signs authorised by Queensland legislation, primarily the following Acts (and the regulations under these Acts):
    - Nature Conservation Act 1992 (NCA)
    - Forestry Act 1959 (FA)
    - Recreation Areas Management Act 2006 (RAMA)
    - Marine Parks Act 2004 (MPA)
  - There are different types of legislative signs. The following sign types are specifically mentioned in QPWS&P administered legislation:
    - Regulatory notices and information notices
    - Forest information notices
    - Restricted access area notices
    - Special activity notices
    - Camping notices
    - Signs for vehicle and boat control (including official traffic signs)
    - Signs declaring special management areas.
3. **Safety signs:** identify potential or actual risks to visitors.
4. **Interpretive signs:** are a means of communicating ideas and feelings that enrich people's understanding of the world and their role within it.

| Signage scope                                                                                                                            |                                                                                                                           |
|------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------|
| <b>Included:</b> <ul style="list-style-type: none"><li>• Navigation</li><li>• Visitor orientation</li><li>• Safety information</li></ul> | <b>Not included:</b> <ul style="list-style-type: none"><li>• Legislative signage</li><li>• Interpretive signage</li></ul> |

This section of the Masterplan focuses on the provision of advisory and safety signs to support people’s use and enjoyment of the SMBP trail network. Legislative signs and interpretive signs are excluded from this Masterplan.

Beyond implementing signage to provide safety and navigation, signage helps establish a destination, its identity and create a consistent experience from pre-destination through to trailheads, facilities and the trail network. Signage elements, artwork, trail names, symbols and interpretive content can reflect the unique character, stories and mountain biking heritage of the park and broader Cairns region, helping create a memorable and recognisable destination. A strong and distinctive destination identity can also be leveraged in marketing, where consistent use of colours, shapes, logos and visual design elements enables visitors to instantly recognise and associate the trail network with the location, strengthening brand awareness and reinforcing the destination's unique mountain biking experience across all touchpoints.

The future identity, branding and naming of the mountain bike park will be considered as part of broader destination positioning and product development activities, with flexibility retained to respond to future opportunities and evolving requirements. Any future branding and visual identity development will also be undertaken in accordance with the relevant Queensland Government approval processes.

Emergency response

Emergency and incident management has been carefully planned in consultation with local representatives from the Queensland Ambulance Service (QAS) and Queensland Police Service (QPS).

Users of the trail network will be encouraged to download the free Emergency Plus app, which is supported by both QAS and QPS. This app enables users to call Triple Zero (000) and share their precise location using the what3words feature.

Trailhead signs will include clear references to the Emergency Plus app, emphasising its importance in emergency situations and providing straightforward instructions on emergency protocols within the park.

To further support emergency response, trail junction signs will be clearly named to minimise confusion and assist in navigation. Once the trail network is complete, specific emergency response details for each trail junction will be integrated into QAS and QPS systems.

Additionally, wayfinding totem signs will feature an emergency pictogram at the top and display location-specific what3words. In the event of an emergency, users can relay the three words to Triple Zero (000) to ensure their exact location is identified for a prompt response.

## Sign Types

The following advisory and safety sign types are recommended for use in the SMBP and are documented in the following sections:

1. Trailhead Signs
2. Trail Junction Signs
3. Ride Itineraries Signs
4. Wayfinding Totems
5. Timber Plank Signs

Details on each sign type are provided in Appendix 4: Sign Types.

# APPENDICES