

Dungog Common Reserve
CONCEPT TRAIL MASTERPLAN

SEPTEMBER 2023



The Dungog Trail Audit and Masterplan was prepared by TRC Tourism for the Dungog Common Reserve Land Manager Board.

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ACKNOWLEDGEMENT

We acknowledge the Indigenous peoples of the lands, waters and communities we work together with. We pay our respects to their cultures; and to their Elders – past, present and emerging.

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VERSION CONTROL

Report name	Version	Date submitted	Author(s) / Editor(s)
Dungog Common Reserve Concept Trail Masterplan	1	16 May 2023	Chris Ord, Lachlan Mackay Wiggins

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Executive Summary

The demand for trail and nature-based recreation has grown exponentially across Australia, with user groups across multiple activity pursuits placing ever-increasing pressure on public lands being managed for recreation, especially those located nearby population centres and community.

The Dungog Common Reserve (Dungog Common or Common) has not escaped the pointed interest of mountain bikers, walkers, runners and horse riders, located as it is adjacent the rural township of Dungog and within proximity to a major urban centre (Newcastle) and the city of Sydney. An increase in patronage of the Dungog Common is particularly evidenced by the informal development of numerous mountain bike trails and the associated increase in rider visitation. The awarding of financial grants dedicated to the further development and formalisation of trails is indicative of the need for a strategic approach to management of the Common for public benefit.

To date, the 260 Hectare / 650 Acre Common and its mix of trails have developed in an organic fashion, driven by community use, with desire lines (informal paths that become commonly trafficked routes), defining the current trail offering along with numerous semi-formally developed mountain bike 'flow' and cross country (XC) trails and a limited network of existing gravel roads and fire trails located within the land parcel.

This Concept Trail Masterplan looks to the future of Dungog Common Reserve as a major recreational asset with a view to leveraging its significant natural assets for the benefit of multiple user groups while maintaining best experience, environmental and cultural values and equitable access for local residents and tourism-based visitation.

It is recommended that a staged development of trails be undertaken within the Common to improve user experience, safety and further promote environmental conservation and heritage values. The Concept is founded in providing equitable access and amenity for multiple users with a view to becoming a significant tourism asset of quantifiable value to the local community while also raising the measure of liveability in the region, thereby attracting positive population growth and business investment.

The Trails Concept Masterplan recommends developing Dungog Common Reserve to include in final development:

- Approx. 29km of mountain biking trails
- Focus on skills development and feature trails (flow, gravity, tech timber, dual slalom, skills and flow parks)
- Significant inclusion of 7km+ adaptive MTB trails
- Approximately 25km total walking trails
- Approximately 9.5km of walk-only trails
- Approximately 5km+ of shared use walk / ride trails
- Approximately 10km+km of shared use horse riding / walk trails

1.1 Estimates

The Concept Trails Masterplan as presented would cost in the region of \$1.6-2 million for full implementation of suggested trail (only) construction.

It is proposed this be broken into stages with estimates:

1. Mountain Biking Trail upgrades and rationalisation of existing MTB network: **\$500,000-\$600,000** with reference to Masterplan network
2. Detailed Design including full ground truthing, final design and materials estimates: **\$60,000-\$80,000**
3. New mountain bike trail construction, including developments of skills trails, pump track, dual slalom, flow trail #4, gravity trail #2 and tech timber trail **\$800,000-\$1million** (including estimates of \$400,000-\$450,000 for a new Skills Park and refurbished Pump Track)
4. Walking and cultural trail upgrades (Hungry Hill): **\$170,000-\$180,000**
5. Shared use trail development for horse riders and walkers/runners: **\$120,000-\$160,000**

Not included in estimations: gather and picnic zone (including Iconic View) feature infrastructure, proposed events shelter, car parks, trailhead infrastructure, gates and fencing have not been costed. Estimates would vary greatly pending detailed design phase of site development.

Costings are approximate estimates only pertinent to a broad trail concept plan.

Estimates are for trail construction only and do not include:

- Ecological and cultural heritage assessments
- Community and Traditional Owner engagement
- Permit planning costs
- Consultancy fees (i.e. legal, planning, project management)
- Operational, Management, Risk, Facilities Management plans
- Marketing & Branding
- Trailhead and Wayfinding Plan and Implementation
- Other visitor amenities (toilets, shelters)

1.2 Vision

The Trails Masterplan will contribute to the Dungog Common Reserve's aim to be the:

“Premier cultural and adventure recreation destination in the Hunter and Barrington Region for the enjoyment of all.”

The Vision of the Trails Masterplan is for Dungog Common Reserve to become:

“A focused trail hub hosting a unique combination of outdoor activities attracting a wide range of users of all abilities across mountain biking, walking, trail running, horse-riding and contemplative recreation, delivering immersive nature-based experiences that appeal to both community and visitors.”

A key point of difference will be the creatively layered design of the trail network that will focus on delivering a *variety* of unique trail experiences as a core design driver operating within the relatively confined land parcel of the Common.

Currently there are 22 kilometres of mountain bike trails within the Dungog Common. There are 10 kilometres of walking-only trails. Horse-riding is undertaken with no formally identified network. Walking and running activities are also undertaken on a number of the mountain biking trails. There are approximately 7km of vehicular access and management tracks, also used by horse riders, pedestrians and riders.

This Concept Trails Master Plan has been developed in partnership with land managers, Ride Dungog, Run Dungog and community user groups and is

designed to be concurrently integrated into other planning processes and plans already produced and in review.

1.3 Methodology

TRC Tourism was engaged to advise on and develop a Trails Concept Masterplan to compliment other planning strategies and documents developed or being developed.

The scope of this report focuses specifically on proposed trail network design, trail alignments, locations, trail types and user group requirements, reflecting where appropriate on previous studies and plans.

The Masterplan is based on a broad in-situ review and three-day inspection of existing trails and infrastructure by two TRC Consultants. The report takes into consideration the current status of the Dungog Common Reserve land parcel and existing conceptual directions as supplied by the current land manager. It identifies gaps in current experiences along with feasibility considerations reflected against the changing nature of trail user profiles and ever-growing demand for recreational opportunities in nature-based settings.

The Masterplan draws on community feedback gathered from a community workshop held 31 May 2022, along with numerous consultations with user group representatives across walking, running, horse riding and mountain biking, along with Dungog Common Reserve representatives. It also draws upon extensive desktop research.

1.4 Recommendations Overview

Recommendations contained in this Concept Trails Masterplan have been developed by assessing landscape, existing supply and condition of trails and infrastructure, limitations of land parcel boundaries, current and predicted user demand, tourism and commercial opportunities, governance, management and promotion of trail opportunities.

Concept recommendations form an indicative pathway to establishing an innovative, high-quality and cohesive network of trails that offer a broad variety of experiences, predicated on gradation of skill development that caters for user progression (with specific reference to mountain biking).

This is a concept recommendation only and does not articulate or indicate detailed trail alignments or specific trail infrastructure engineering. Detailed ground truthing, alignments, design and engineering, along with accurate cost quotations, would be delivered in next-step Detailed Design once conceptual directions are agreed upon.



Key strategic and conceptual recommendations of this Masterplan are as follows:

Table 1. Dungog Trail Recommendations

no	RECOMMENDATION	PRIORITY
1.1	Short term upgrade of existing mountain bike trails , developed to integrate with planned future network design, including trail rationalisation measures and application of designated ride direction per trail	1
1.2	Implementation of new flow trail (currently in Development Application), developed to integrate with planned future network design	1
1.3	Development of an adaptive cycling (shared use) loop(s) as integral to network improvements, inclusive of green flow trail upgrade to adaptive use	1
1.4	Zoned use overlay applied to direct future trail network design, use, development and investment	1
1.5	Development of Detailed Design , Implementation and Costing plan	1
1.6	Application of ‘stacked loop’ and ‘clover’ design principles to create multiple ways users can engage in trail experiences, characterised by length and/or skill level of route.	1
1.7	Development of identified hubs including: <ul style="list-style-type: none"> • Primary Trailhead HQ/Entrance for ride, walk/run/adaptive • Minor Trailhead Overflow Car Park for ride, walk/run/adaptive • Primary Trailhead Rifle Range North (Common Road) for horse riding • Major Decisions Decisions trailhead for ride, walk/run, horse riding, adaptive • Secondary Hungry Hill / Girrawa Loop trailhead for walk/run, adaptive • Major trailhead Short Street (Top) for ride, walk/run, horse riding, adaptive • Minor trailhead Tech Skills Zone for ride • Minor trailhead Dual Slalom for ride • Minor trailhead / Event Shelter for walk/run 	1+2
1.8	Development of car park infrastructure , including: <ul style="list-style-type: none"> • Primary Common Road Car Park • Secondary Overflow Car Park (Common Road), including Shuttle Shelter • Major horse float trail car park extension with appropriate infrastructure (Common Road) • Major Short Street ‘Top’ Car Park • Secondary Decisions Decisions (Common Road West) Car Park • Secondary Hungry Hill Car Park (Girrawa Loop) 	1+2

no	RECOMMENDATION	PRIORITY
1.9	Zone Hungry Hill / north of Common Road as a Wildlife and Culture Sanctuary / no domestic animal zone (i.e. no dog walking) to protect remnant native flora and fauna in sensitive zone (as per recommendation <i>Dungog Common & Hungry Hill Flora and Fauna Report 2018</i>)	1
1.10	Development of required Trail Management Plans and Assessments including: <ul style="list-style-type: none"> • Trail Maintenance Plan, • Activity Risk Assessments, • Emergency Response Plans, • Workplace Health & Safety frameworks 	1
1.11	Development of short form, high-quality, skills-development-focused mountain bike trail infrastructure including a Skills Park (1), Pump Track (1), Gravity Trails (1+2), Timber Tech Trail (2) and Dual Slalom/Jumps Track (2), creating a critical mass of trail features and trail engagement profiles.	1 + 2
1.12	Development of trailhead signage and wayfinding strategy and design	2
1.13	Upgrade of existing walking tracks	2
1.14	Development of passive recreation zones including <ul style="list-style-type: none"> • an Iconic View recreation zone with suitable infrastructure for picnicking, gathering and commercial activation (wedding venue etc) • picnic zones located at Rifle Range Dam and Top Paddock Dam • events shelter 	2
1.15	Close Common to public vehicular traffic for reasons of safety and best user experience, ensuring inclusion and access issues are alternatively addressed	2
1.16	Cease grazing on all zones in the interests of public user safety, ensuring environmental fire fuel load is alternatively addressed via management body mechanical (slashing) maintenance and/or engagement of Traditional Owner fuel load management burn services (cultural burns). <i>*DCRB has advised that grazing will likely continue on Rifle Range paddock. If so, adequate fencing and walk / horse ride gating is required (top mounted lever gates as per Horse Trail Infrastructure Guidelines, Horse SA.)</i>	2
1.17	Further development of Cultural Experience Zone activities and interpretative installations in association with Karuah Local Aboriginal Land Council. Potential expansion of interpretation to other sites across Common as identified as culturally appropriate by Traditional Owners, Custodians and Knowledge Keepers.	3

no	RECOMMENDATION	PRIORITY
1.18	Integrate limited mobility access trails to access key POIs integrated into future panning using Short Street as primary drive-to access point	3
1.19	Develop community access program offering assisted and managed vehicular access to specific POI (to be identified) within Common boundary	3
1.20	Development of new shared use walk / horse-riding trails based on a primary perimeter routing	2
1.21	Rationalisation of trail naming for better wayfinding / user planning	1

Guiding Principles

Supporting the vision and recommendations, the master plan has identified guiding principles critical to ensuring the Common is developed into a vibrant and sustainable trails destination:

Multi-user focus (ride, walk, run, horse ride, cultural, picnic/leisure)	Appropriate trail mix and integration including family friendly and skills development features	Low user conflict, high user safety
High experience quality	Meets expected market profile and fills gaps in experience offering	Culturally and environmentally sensitive
Maximise strengths of landscape	Develop unique positioning: Small Paddock, Big Experience ideal	Draw on previous planning
Maximise use of existing trails where matches desired experience	Rationalise trails where possible	Inclusive design addressing accessibility and delivering experiences for a diverse range of users and abilities
Leverages and facilitates potential tourism business and event opportunities	Recognises cultural heritage and partners with Traditional Owners	Develops opportunities for passive and contemplative recreation including cultural heritage POIs, picnic and contemplation zones

This Concept Trail Masterplan will be used in collaboration with and reference to other all-of-site planning (i.e. for trailhead, car parking, and visitor facility infrastructure) to help inform future planning, prioritisation, budgeting and management directions pertaining to trail development.

Success of the project including implementation of the Trails Concept Masterplan and other overarching land planning strategies relies on effective governance of the Common, clear and consistent communication with local community, the sourcing of adequate development funding which should at all times be linked to financial and management planning for ongoing maintenance of the site.



2 State of Play

2.1 Background

Dungog Common is a Crown reserve located along the Western edge of Dungog in NSW, approximately 2km from town centre.

It is owned by NSW Department of Planning Industry and Environment (DPIE) – Crown Lands and managed by the Dungog Common Recreation Reserve Land Manager as the appointed Crown Land Manager (CLM) under the NSW Crown Land Management Act 2016.

The NSW Government has reached an agreement with the Karuah Local Aboriginal Land Council (LALC) to resolve Aboriginal Land Claims over the land. The agreement means the land will be gradually transitioned to the Karuah LALC, with the community continuing to access and use the land, now and into the future.

Purposes of DCRR are public recreation, tourist facilities and services, environmental protection, heritage, and rural services (such as bee keeping and cattle grazing).

Dungog Common Recreation Reserve (DCRR) is currently accessed by the public for a variety of recreational uses including:

- Mountain bike riding
- Pump track
- Bushwalking / Trail Running
- Horse riding
- Landcare by Dungog Commoner's Landcare Inc.
- Cultural heritage purposes

The Dungog Common Reserve Board adopted a three-year Dungog Common Reserve Strategic Plan in November 2022 and is currently developing a more detailed Landscape Masterplan for the entire Reserve, to which this Trails Masterplan will form contribution.

A first draft of the landscaping plan was developed in 2022 focused on the Main Entrance area.

A draft Fire Management Plan for the Reserve was approved in February 2023, while planning on matters of environmental and cultural significance is done in partnership with the Dungog Commoners Landcare and the Karuah Local Aboriginal Land Council.

2.2 SWOT

STRENGTHS

- Environment – landscape and topography is interesting and varied
- Proximity – to township, to major user market (Newcastle, Sydney)
- Location – nearby Barrington Tops attraction, gateway locations
- Access – on public transport train line
- Online presence / promotion
- Management – DCRB engaged, proactive
- User Group Engagement – Ride Dungog, Run Dungog organised and proactive
- Attractive township

WEAKNESSES

- Degraded trails (ride and walk) not meeting user and market expectation
- Safety – some trail features unsafe, not compliant with Australian Standards
- Alignment – some trails not well aligned according to topography or use
- Lack of experience diversity
- Connectivity transit – poor and unsafe linkages to town
- Connectivity trails – lack of coherent flow for variable skill level experiences
- Confusing trail nomenclature – application of multiple names per segment is confusing when planning (or instructing) ride route
- Wayfinding – is inconsistent, no trailhead mapping at secondary sites
- Accommodation offerings in town for large events
- Facilitation – servicing, retail, rental, tours

OPPORTUNITIES

- Diversify trail (ride) offering
- Create unique skill development trails for premium experience
- Commercial activation - across shuttle, ride hire and service (including e-bike growth), location hire (i.e. weddings)
- Local business and employment development
- Traditional Owner partnerships & cultural activation
- Public transport activation (train line)
- Tapping into large regional markets (Newcastle and Sydney)
- Leveraging Barrington Tops visitation as gateway
- Establishing Dungog as hub for adventure cycling market (growth)
- Events – Ride Dungog and Run Dungog expansion
- Historical interpretation
- Potential for future eco-camp development on site
- Horse ride tour opportunities

THREATS

- Lack of council support
- Loss of community and volunteer support
- Lack of coordination between user and management groups
- Succession – loss of local community leaders driving change / loss of momentum
- User conflict
- Lack of development funding
- Lack of maintenance funding
- Climate change / significant weather events
- Lack of service industry development / facilitation
- Poor user experience delivery
- Weed proliferation and trail and other infrastructure deterioration

2.3 Native Title

There is a current Aboriginal Land Claim / Native Title process underway covering the Dungog region and Dungog Common.

The Government has reached agreement with the Karuah Local Aboriginal Land Council (LALC) to resolve all their outstanding Aboriginal Land Claims on the Dungog Common. This Agreement has two key parts:

- The land which forms the Common will be gradually transferred to Karuah LALC
- The community will continue to have access to and use the Common now and into the future.

In 1983 the NSW parliament passed into law the *Aboriginal Land Rights Act 1983*. The Act allows the Aboriginal Community to form Land Councils and make Aboriginal Land Claims on Crown Land. The Common is Crown Land and subject to several of these Aboriginal Land Claims. Most of these Claims are more than a decade old. The announced agreement will resolve all Aboriginal Land Claims on the Common.

Karuah LALC's Claims have been progressing through the administrative process for some time. When it became apparent that the resolution of these claims could fracture ownership of the Common into several parts the Government with input from community partners decided a better outcome would be to preserve the Common as a whole and work with Karuah LALC to ensure certainty of community use and access over the long term.

2.4 Site Characteristics

The Dungog Shire district is situated between Barrington Tops mountains and the wide lowlands of the Hunter Valley.

The Shire lies along the narrow valleys of three main rivers, each with a number of tributaries, which flow down into the Hunter. These valleys have fertile but small river flats and are divided by rough hills of medium height, including those hosted within Dungog Common.

The Dungog Common consists of 260 hectares of land on the western edge of Dungog. In addition to open grazing land, the Common contains areas of woodland as well as rainforest plant communities.

The study area contains a diverse range of habitat, with varying aspects, landforms and vegetation types. Common Creek bounds the southern extent of the site. A dry ridge runs east-west through the centre of the site, with north and south facing slopes either side.

The northern portion of the site (north of Common Road) contains another creek line (un-named), and steep south facing slope running up to the northern boundary. Northern aspects and ridges contain dry woodland vegetation, and southern aspects and creeks contain rainforest and wet sclerophyll vegetation. It is home to threatened plant species such as Slaty Red Gum and White-flowered Wax Plant.

With rolling low hills to hills, the underlying geology of the Common consists of Carboniferous Flagstone Formation-lithic sandstone, mudstone and conglomerate with minor limestone. The soil types identified within the

Dungog soil landscape include Brown Sodosols (Soloths) as well as Bleached-Leptic Tenosols (Lithosols). The landscape limitations associated with this soil landscape include localised seasonal water logging, high run-on on localised lower slopes and localised rock outcrops. In addition, there is high sheet erosion risk as well as a high gully erosion risk.

There is evidence of Red-necked Wallabies, Echidna, and Bandicoots inhabiting the Common. Kangaroos are known to sometimes frequent grassy areas



Heritage & Culture

The heritage significance of the Dungog Common – first proposed as such in the late 1800s – remains unassessed.

However, the area shows evidence of relics including from mining activity, stockyard structures, market gardens, and Aboriginal stone tool campsites along creek lines.

Grazing of livestock has been an historical activity within Dungog Common since European settlement in the 1830s with grazing tenures remaining.

Dungog village gradually grew from a mere 25 houses in the 1846 census to a population today of more than 2000.

Aboriginal interpretive elements are present within the Hungry Hill area north of Common Road, with walks identified by Aboriginal names (Girriwa, Gulugu and Boorangong) and interpretation of flora and fauna in the context of Traditional Owner knowledge.

There are opportunities for further development of Aboriginal heritage and cultural interpretation across the Common.

There also exists opportunity for more detailed interpretations of European settler, stock route and military history, especially in the Rifle Range paddock area where a rifle range was established in the early 1900's for the use of locals and soldiers in training for WW1.



Figure 2. Dungog Common Reserve Zoned Area Map



2.5 Current Mapping

Existing public and activity mapping of the Dungog Common Reserve includes:

Figure 3. Dungog Trail Map - Ride Dungog Website (and in situ map board) – mountain biking focus <https://ridedungog.org>

Figure 4. Dungog Trail Map - Trailforks Website – mountain biking focus www.trailforks.com/region/dungog-common-13162/

Figure 5. Walking Brochure – walking/running/cultural focus www.dungogcommon.org

Run Dungog – running event focus www.rundungog.com

Figure 3. Dungog Trail Map (Ride Dungog)

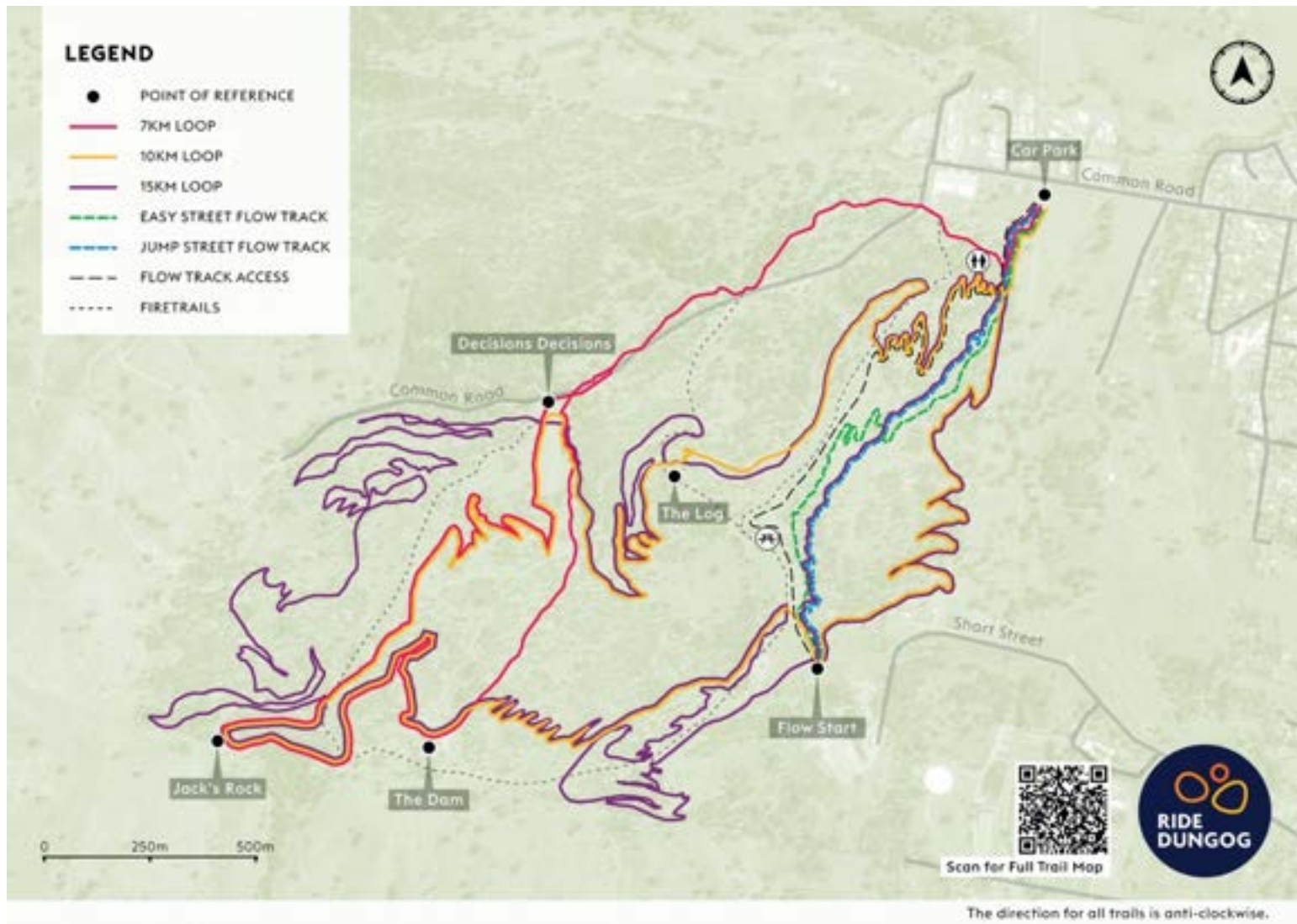
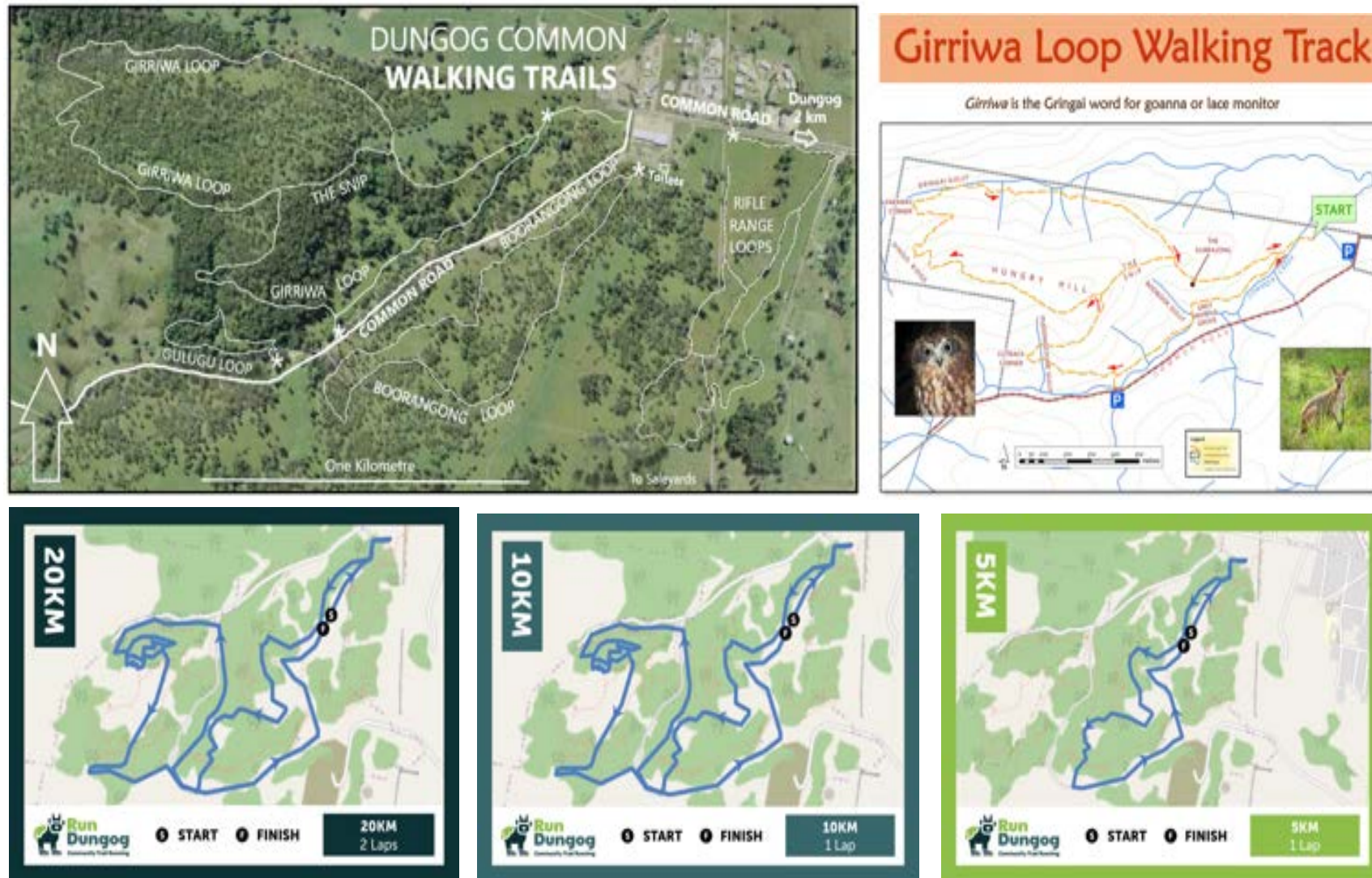


Figure 5. Dungog Common Walking and Running Trail Mapping



2.6 Management & Land Status

Dungog Common is a Crown reserve located along the Western edge of Dungog in NSW. It is owned by NSW Department of Planning Industry and Environment (DPIE) – Crown Lands.

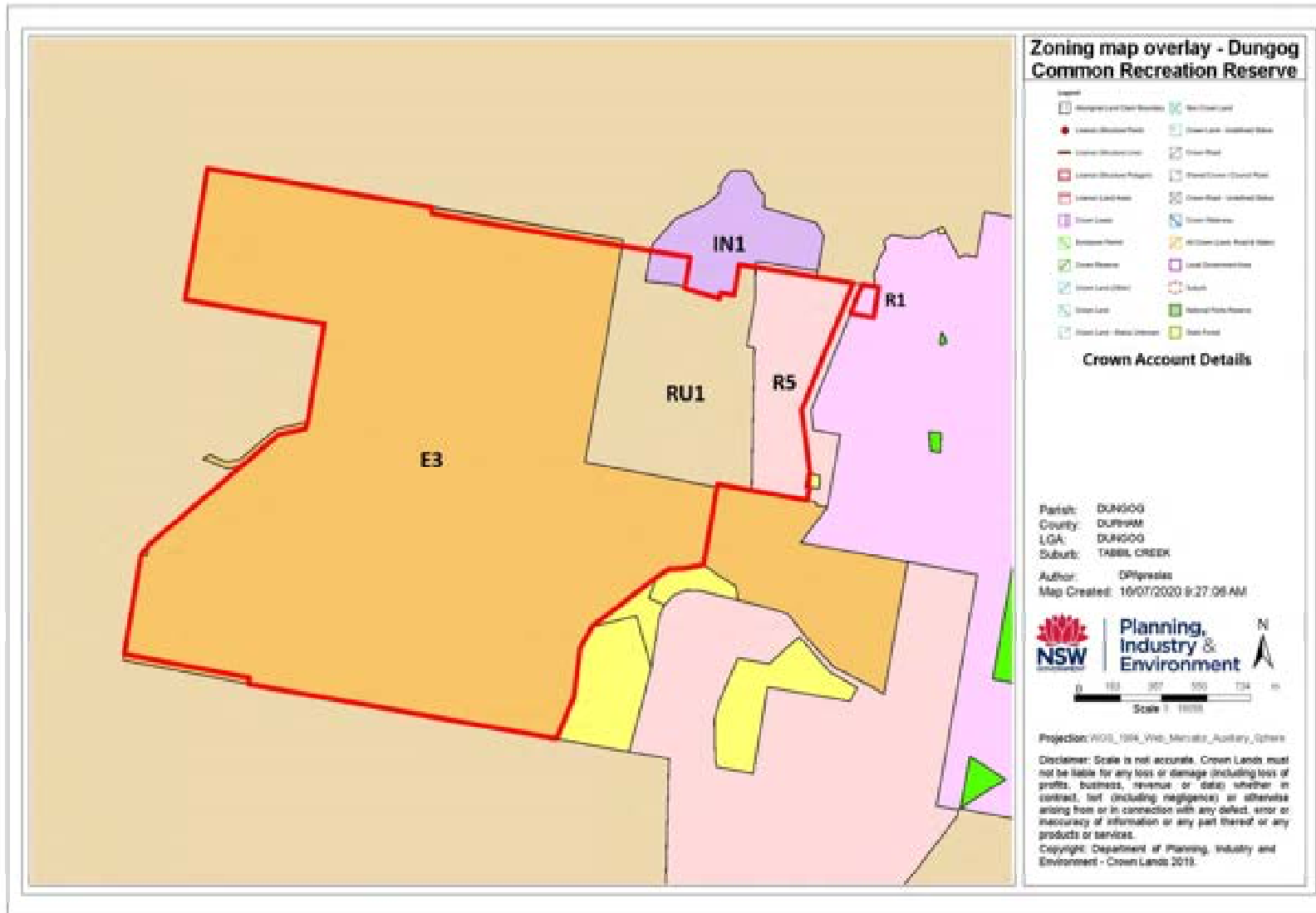
The Dungog Common Recreation Reserve Land Manager (Board of Crown Land Managers) is the appointed Crown Land Manager (CLM) under the NSW Crown Land Management Act 2016 and is responsible for the stewardship and management of the Dungog Common Reserve.

With reflection to the current ongoing process of Native Title Claim pertaining to the Common, the Reserve will continue to be jointly managed by representatives from across the community, Karuah Local Aboriginal Land Council (KLALC), and Dungog Shire Council. The majority of the Common is currently zoned for the purposes of environmental protection and recreation (E3) and the agreement entered into with KLALC doesn't impact the activities allowed on the Common in any way.

If KLALC chooses to exercise its right to sell the Common (in any part or as a whole) in the future, it has agreed the NSW Government will have first right of refusal to purchase any land that forms the Common.

The Dungog Common Reserve is currently managed for the purpose of environmental and heritage protection, public recreation, rural services and tourist facilities.

Figure 6. Zone Map Overlay - Dungog Common Recreation Reserve



E3: Environmental Management

This zoning cover the majority of the primary area planned for recreation and trail development.

Objectives of Zoning

- To protect, manage and restore areas with special ecological, scientific, cultural or aesthetic values.
- To provide for a limited range of development that does not have an adverse effect on those values.
- To promote the rural amenity and scenic landscape values of the area and prevent the silhouetting of unsympathetic development on ridgelines.

Permitted with consent (relevant)

Camping grounds; Eco-tourist facilities; Environmental facilities; Environmental protection works; Extensive agriculture; Farm buildings; Farm stay accommodation; Information and education facilities; Pond-based aquaculture; Recreation areas; Roads; Sewerage; Water supply.

RU1: Primary Production

This zoning covers some of the trail alignment recreational space including the primary (planned) trailhead, skills trails, parking, community garden and potential visitor facilities including clubhouse and toilets.

Objectives of Zoning

- To encourage sustainable primary industry production by maintaining and enhancing the natural resource base.
- To encourage diversity in primary industry enterprises and systems appropriate for the area.
- To minimise the fragmentation and alienation of resource lands.

- To minimise conflict between land uses within this zone and land uses within adjoining zones.
- To provide for recreational and tourist activities that are compatible with the agricultural, environmental and conservation value of the land.
- To promote the rural amenity and scenic landscape values of the area and prevent the silhouetting of unsympathetic development on ridgelines.

Permitted

Environmental protection works; Extensive agriculture; Horticulture; Markets; Roads; Roadside stalls

Permitted with consent (relevant)

Camping grounds; Car parks; Community facilities; Eco-tourist facilities; Environmental facilities; Function centres; Kiosks; Recreation areas; Recreation facilities (outdoor); Restaurants or cafes.

R5: Large Lot Residential

This zone includes the Rifle Range Paddock, covering planned horse float trailer parking, pump track, dam-side picnic facilities and trails inclusive shared use walk / horse riding alignments.

Objectives of Zoning

- To provide residential housing in a rural setting while preserving, and minimising impacts on, environmentally sensitive locations and scenic quality.
- To ensure that large residential lots do not hinder the proper and orderly development of urban areas in the future.
- To ensure that development in the area does not unreasonably increase the demand for public services or public facilities.
- To minimise conflict between land uses within this zone and land uses within adjoining zones.

- To isolate housing from existing intensive agriculture or future intensive agricultural areas.

Permitted

Extensive agriculture; Home occupations; Markets; Roads; Roadside stalls

Permitted with consent (relevant)

Car parks; Cellar door premises; Community facilities; Environmental facilities; Environmental protection works; Flood mitigation works; Function centres; Recreation areas; Recreation facilities (major); Recreation facilities (outdoor); Water recreation structures; Water supply systems.

IN1: General Industrial

This zone covers a small portion of a site that may be used for a secondary trailhead and car park for the Hungry Hill Wildlife and Cultural Sanctuary zone.

Objectives of Zoning

- To provide a wide range of industrial and warehouse land uses.
- To encourage employment opportunities.
- To minimise any adverse effect of industry on other land uses.
- To support and protect industrial land for industrial uses.

Prohibited (relevant)

Camping grounds; Eco-tourist facilities; Food and drink premises; Recreation facilities (outdoor); Registered clubs.

SP2: Special Purpose Infrastructure

This zone covers an area around the existing saleyards, which is planned as a site for a secondary trailhead, car and horse float parking and visitor amenities access trails from the southern (high) boundary of the Common.

Objectives of Zoning

- To provide for infrastructure and related uses.
- To prevent development that is not compatible with or that may detract from the provision of infrastructure.

2.7 Stakeholders

- Karuah Local Aboriginal Land Council
- Dungog Shire Council
- Dungog Common Recreation Reserve Land Manager (Board of Crown Land Managers)
- NSW Department of Planning Industry and Environment (DPIE) – Crown Lands
- Ride Dungog
- Run Dungog
- Dungog Commoners Landcare
- User groups and individuals (cyclists, walkers, rail runners, horse riders, naturalists)

2.8 Literature Review – Guiding Documents

DOCUMENT	OUTLINE
Dungog Common Reserve Strategic Plan - 2022-2025	3 Year Strategic Plan guiding development of the Common.
Draft Landscape Concept Plans, Moir Landscape Architecture (2022)	Concept planning of Entrance Layout, Community Garden, Top of Flow Tracks, Events Shelter, Sculpture Park, Cultural Mural Project.
Dungog Common Risk Assessment Report, NSW DPIE (2021)	Report identifying user risks and recommendations in response to incident on Common
Dungog Common Erosion Report, 2016	Topographical and geographical report identifying erosion risks and response recommendations.
Dungog Common – Hungry Hill Flora and Fauna Survey Report, Hunter Local Land Services (2018)	Flora and Fauna report.
Dungog Common Recreation Reserve Heritage and Biodiversity Conservation Areas (2021)	Mapping outlining identified heritage and biodiversity markers of note.
Dungog Local Environment Plan 2014	Standard instrument local environment plan under the Environmental Planning and Assessment Act 1979. Aims to make local environmental planning provisions for land in Dungog in accordance with the relevant standard under section 33A of the Act.

2.9 Strategic Context

Trails cannot be developed in isolation; they must ‘fit’ within a strategic and legislative context.

It is essential that careful consideration is given to all relevant legislation, policies and strategies when planning a new trail or reviewing an existing one.

The Dungog Common Trails Masterplan should reflect upon and respond to the guidelines and directions of:

State Strategies

- Adventure Cycling Strategy, 2022 Department of Regional New South Wales
- Aboriginal Tourism Action Plan 2017-2020
- NSW Visitor Economy Strategy 2030
- NSW Disability Inclusion Plan 2021 – 2025
- Strategic Directions for Horse Riding in NSW National Park (reference)

Regional Strategies

- Dungog Shire Visitor Strategy & Destination Management Plan 2021-2026
- Dungog Land Use Strategy
- Dungog Shire Open Space and Recreation Plan
- Dungog Parks and Recreation Asset Management Plan
- Hunter Sport and Active Recreation Plan 2018 - 2023

2.10 Legislation and Policy

Legislation, planning instruments and policies that may guide development and implementation of the proposed trail includes, but is not limited to:

- Native Title Act 1993 (Commonwealth)
- Aboriginal Land Rights Act 1983 (NSW)
- Heritage Act 1977
- Environmental Planning and Assessment Act 1979 (NSW)
- Biodiversity Conservation Act 2016 (NSW)
- Native Vegetation Act 2003 (NSW)
- Environmental Protection and Biodiversity Conservation Act 1999 (Commonwealth)
- State Environmental Planning Policy (Infrastructure) 2007
- Crown Land Management Regulation 2018
- Crown Lands Management Act 2016 (NSW)
- Local Government Act 1993
- Local Land Services Act 2013 (NSW)
- Disability Inclusion Act 2014 No 41.

2.11 Planning to Date

Dungog Common Landscape Masterplan components and authors informing overall site design to date include:

- Reserve Masterplan – Moir Landscape Architects
- Sculpture Park/Cultural Park – Sculpture on the Farm
- Flow Track, Pump Track and Car Park Development Application – Perception Planning / DRB Consulting
- Aboriginal Consultations – Dungog Common Reserve Board / KLALC / Myall Coast Archaeological Services
- Bike Shuttle, financial model – Dungog Common Reserve Board
- Fencing, Grazing & Fire Plan – Dungog Common Reserve Board / LLS & RFS
- Environmental Impact Assessment – multiple contractors, ongoing
- Heritage Research Committee – CAG
- Pump Track and Skills Park Plans – multiple contractors

There is currently a Development Application (DA) in process for the construction of a fourth flow trail (along with a planned trailhead car park).

A design concept and cost estimate for the pump track refurbishment and bike skills park is estimated at \$400,000-450,000.

3 Trail Audit

A full trail audit has been carried out surveying existing trails with prioritised and costed works identified (see separate *Dungog Common Trail Audit Report 2023*).

The following methodology was used to complete the trail audit that took place over three days and was completed by TRC Trails. The aim of the audit was to identify any issues or maintenance needs to improve the overall quality and safety of the existing trails.

1. Defining the scope of the Audit: this included identify the purpose of the audit, the objectives and the expected outcomes.
2. Desktop review: collecting and reviewing all the available information regarding the trails such as; maps, trail guides, previous audit reports and any other relevant documentation.
3. The team conducted a detailed site inspection of all the trails within the Dungog common. This included evaluating the condition of the trails, vegetation and the natural environment.
4. All the main data was collected using an auditing application that the TRC team use for data collection as well as utilising handheld GPS Devices for collecting backup tracking and waypoint information as well as a small drone for high quality imagery when required.
5. Identifying of key issues: key issues such as erosion, poor trail conditions, inadequate signage and other significant concerns were identified and captured.
6. Recommendations were then developed from all captured data, that address the key issues identified. These recommendations include changes to trail design, site maintenance and management and signage updates etc.

Improvements to the trail as outlined in the report can be categorised as either minor / maintenance works, or major / capital improvement works and for the sake of costing the construction works have been broken down into three maintenance categories:

3.1 Category 1

Category 1 Maintenance works include the suggested repairs captured within the audit, to the existing trail tread to resolve drainage issues, water erosion, trail cupping, or trail widening, and are aimed at both short- and long-term improvements to trail sustainability. These works can be conducted with relative ease and as part of normal ongoing maintenance practices scheduled for the trail, or planned and executed as a one-off works program. Below can be seen the most frequently reoccurring issues:

1. **Water channelling/Trail Cupping:** The natural movement of water - down the hill's slope through the trail - acts as a channel for drainage. This resulting erosion of the trail's surface becomes more pronounced over time as ruts form and soil displacement speeds up. When the slope is steep, the water moves faster and exacerbates the effects of erosion. The repair method involves utilising a small excavator or hand tools and reinstating trail tread with effective grade reversals and drainage. In some instances, a realignment is required to a more sustainable alignment.

Estimated repair cost:

- Reestablishment of in track drainage + Grade reversals \$20-30 p/m
- Realign trail to more sustainable trail alignment \$50-60 p/m

2. **Drainage:** To manage water flow, it is necessary to unblock or clear drains that have accumulated sediment or debris as well as introduce new drains. Together, these interventions will enhance the effectiveness of water displacement off the trail tread. In multiple locations throughout the trail network it was identified that current creek crossings or cross drains were causing ongoing erosion issues, for these particular sections it is recommended that stone armouring or paving is implemented to create a more sustainable drainage solution.

Estimated Repair Cost:

- Reestablishment of in track drainage + Grade reversals \$20-30 per metre.
- Stone armouring cross drains and creek crossings \$350-450 per metre².

3. **Trail widening:** The expansion of the trail tread footprint, either by users creating alternative paths next to the existing trail or by widening the trail, is referred to as Trail Widening. Repairing of trail widening includes closing off and revegetating informal and newly formed line as well as correcting whatever issue was causing trail users to alter their course off the original alignment. In some instances this may be steps that are too large, erosion courses or various other obstacles.

Estimated repair cost:

- Repairing of trail tread and revegetation \$20-30 per metre
- Installation of new steps etc. \$350-450 per step

4. **Fall line trail:** generally where the trail has been constructed in an unsustainable alignment, and follows the fall line of the slope. In this situation water follows the path of least resistance which is the trail corridor which in turns lead to severe erosion. The repair method Involves utilising a small excavator or hand tools and reinstating trail tread with effective grade reversals and drainage. In some instances, a realignment is required to a more sustainable alignment.

Estimated repair cost:

- Reestablishment of in track drainage + Grade reversals \$20-30 per metre
- Realign trail to more sustainable trail alignment \$50-60 per metre

5. **Low lying trail:** Areas where trail is situated in flatter areas, often with trail lower than the surrounding area. This provides little opportunity to drain the trail effectively, and requires either substantial benching and drainage/GR construction or realignment out of area to a side slope where drainage can occur. It is worth noting that quite often, the re-benching of the existing trail in low lying areas proves to be more of a “band aid” solution and may lead to the requirement of ongoing remediation works in the future.

Estimated repair cost

- Reestablishment of in track drainage + Grade reversals \$20-30 per metre
- Realign trail to more sustainable trail alignment \$50-60 per metre

3.2 Category 2

This maintenance recommendation is based on the observation that the trail in question has reached a state of significant disrepair, addressing individual sections of the trail may not be enough to prevent further degradation. A full repair of the trail using a small team which consists of a small machine and operator as well as 1 or 2 labourers with hand tools, provides the opportunity to assess and address all aspects of the trails condition, ultimately resulting in a more comprehensive and effective solution.

By giving the entire trail a full rebuild, any underlying issues or challenges can be addressed, helping to ensure the long term integrity and safety of the trail. This approach can also help to minimize the need for ongoing maintenance in the future, allowing for the trail to remain accessible and enjoyable for all trail users with minimal interruption.

- Estimated Repair cost: \$25-60 per metre

3.3 Category 3

Category 3 Maintenance category refers to the trails that are generally well-constructed and designed, with no apparent need for significant maintenance.

These trails require only regular maintenance procedures outlined in the annual trail maintenance plan.

The primary objective of maintaining Category 3 Trails is to address any minor maintenance issues before they turn into significant issues that can become costly and time-consuming to repair. These minor maintenance activities may include such things as removing debris, repairing signs, and re-grading the trail surface where necessary.

Maintaining these trails within the annual trail maintenance plan guarantees that they continue to provide comfort, safety, and enjoyable recreational experiences for the users. Adequate attention to Category 3 Trails highlights

best practices in trail maintenance, promoting a culture of excellent trail maintenance. The end goal of any land managers trail maintenance plan should be that all trail within their care should all end up at the category 3 maintenance requirements.

- Estimated Repair cost: \$8-12 per metre

The Trail Audit found that all existing trails require some degree of refurbishment and/or remediation to meet general Australian Standards for mountain biking trails and to meet generally accepted industry standard for high quality user experience delivery.



4 Trail Design Principles

4.1 MTB Trails

All trail refurbishment, upgrade, realignment and new build should adhere to the Australian Mountain Bike Trail Guidelines (AusCycle 2023).

The Australian Mountain Bike Trail Guidelines will be an important tool for land managers, trail professionals and mountain bike groups by providing guidance to ensure a consistent approach to planning, designing, constructing, and managing sustainable mountain bike trails. These guidelines aim to ensure that mountain bike trails are developed to align with landholder expectations, to meet the needs of riders, to minimise environmental impacts and to provide opportunities for the public to connect with the environment.

For the Dungog Common Trails Masterplan, recommended trail alignments have been specifically guided by the design principles of:

- Stacked Loops
- Cloverleaf designs

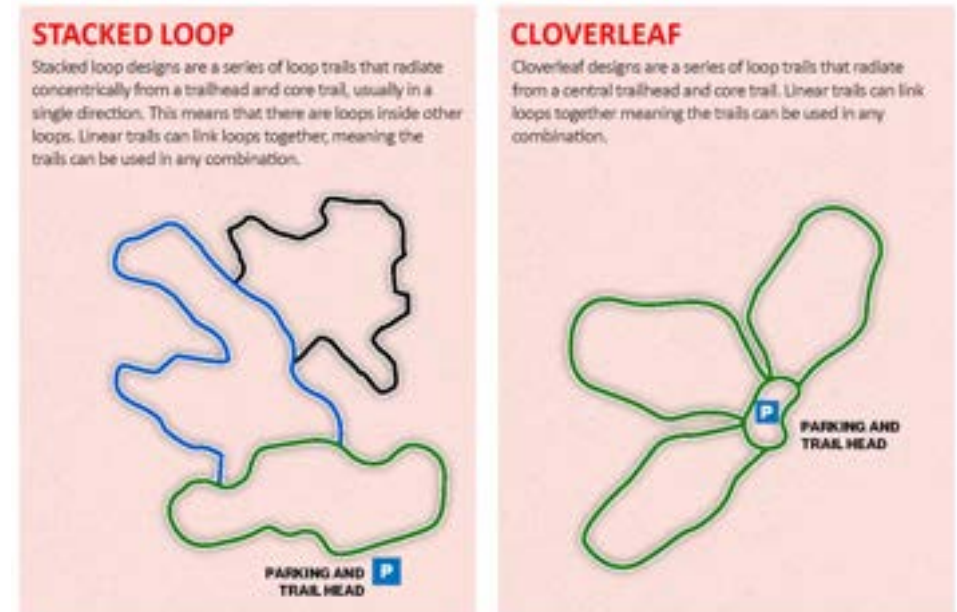
These guiding alignment principles have been implemented to ensure best use of limited space, variability of experience in terms of length and challenge level, dispersal, and user safety.

The use of multiple trailheads assists in creating a greater variety of user engagement experiences, and dispersal. Gather points have been strategically designed to make best use of landscapes, views, points of interest and safety.

Trail design should also be informed by:

- Australian Adaptive Mountain Bike Guidelines (2017)
- IMBA Guidelines for a Quality Trail Experience (2017).

Figure 7. Stacked loop and clover leaf trail designs



Source: Australian Mountain Bike Trail Guidelines, AusCycling

Given Dungog Common's limited space and imperative for multiple user groups able to undertake recreation simultaneously, the Concept Trails Masterplan suggest a mix of Single Use and Shared Use Trails with specific designations:

Single Use: mountain biking only (some including adaptive)

Single Use: Walk/Run. Typically, more technical trails that are not rideable by mountain bikes nor horses, that are more basic in structure and infrastructure, are narrower, tighter and have fewer length sightlines. Also used where cultural and environmental sensitivities only allow pedestrian access for sustainability purposes.

Shared Use Ride/Walk/Run: for trails where it is safe for riders to share with walkers and runners, typically on uphill trails rated as easy and non-technical with slowed speeds and longer sight lines for safety.

Shared Use Horse/Walk/Run: for trails where it is safe for horse riders to share trails with pedestrians but not bike riders, with reference to the dangers of fast moving cycle-horse interactions and the potential for spooking horses.

Trails recommended for Single use can:

- Enable construction of mountain bike trails and Technical Trail Features (TTFs) as well as any other challenges that are not suitable for other user types
- Be desirable in order to eliminate/avoid conflict with other user groups, for example in high use areas to alleviate congestion on very technically difficult and/or high-speed sections of trail
- Provide more predictable experiences as riders are unlikely to encounter other user groups.

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

Shared use trails are advocated by IMBA. IMBA advises responsible mountain biking is compatible with most other types of trail users.

Shared use trails can:

- Take advantage of the available space
- Be more cost effective than single user trail types. By accommodating different user types they can receive more traffic than a single use trail, increasing their overall value and justifying the investment to build and maintain them.
- More effectively service destinations/ points of interest or transport corridors, for example through many users travelling in the same direction
- Help to build relationships and cooperation between different user groups, for example through encounters on the trail and mutual interest in maintaining a shared resource
- Be more attractive to funding bodies than single use trails or facilities.

Further technical mountain bike trail design and construction standards can be referenced via Australian Mountain Bike Trail Guidelines, AusCycling, 2023.

4.2 Walking Trails

All walking (only) trail refurbishment, upgrade and new build should meet the construction guidelines as described by the Australian Walking Track Grading System (AWTGS).

AWTGS classifies tracks into 5 grades, based on the Australian Standard for walking track construction (AS 2156).

The grading system assesses a walk's difficulty based on several criteria, including: experience required, steps, gradient, path quality and signage. The walk's final grade is based on the most difficult of these 5 criteria, rather than an average. So some walks will have criteria that meet an easier grade.



Grade 1

No bushwalking experience required. Flat even surface with no steps or steep sections. Suitable for wheelchair users who have someone to assist them. Walks no greater than 5km.



Grade 2

No bushwalking experience required. The track is hardened or compacted surface and may have a gentle hill section or sections and occasional steps. Walks no greater than 10km.



Grade 3

Suitable for most ages and fitness levels. Some bushwalking experience recommended. Tracks may have short steep hill sections a rough surface and many steps. Walks up to 20km.



Grade 4

Bushwalking experience recommended. Tracks may be long, rough and very steep. Directional signage may be limited.



Grade 5

Very experienced bushwalkers with specialised skills, including navigation and emergency first aid. Tracks are likely to be very rough, very steep and unmarked. Walks may be more than 20km.

Walking trails in the Hungry Hill (Wilderness Sanctuary Walk / Culture Zone north of Common Road, known as Hungry Hill) would typically be graded 2-3

Shared use walking trails would typically be graded 1-2, remembering that any trail that is to accommodate users with disabilities is to be built to a Grade 1 specification.

4.3 Horse riding / Shared Use Trails

With the absence of an Australian Standard for Horse Trails, the Trail Difficulty Rating System – Horse (Recreation SA) should be applied, which is used by land managers throughout Australia.

Construction should be informed by the Horse Trail Infrastructure Guidelines for Peri-Urban Precincts in Australia (Horse SA, 2019)

4.4 Adaptive Mountain Bike Trails

Adaptive Mountain Biking encompasses a broad range of events and riders who typically cannot ride a standard mountain bike and require adapted equipment and trails to suit their physical, intellectual, neurological and sensory abilities. Adaptive riders have specific requirements for trails to allow their bikes to navigate the trails, these include:

- Minimum trail widths
- Minimum turning radius
- Limits on technical trail features
- Maximum trail gradients
- Maximum trail camber.

Break the Boundary Inc. has developed the Australian Adaptive Mountain Bike Guidelines and resources for use by associate members, clubs, charities, associations and government agencies around Australia.

The Guidelines address many challenges with adaptive mountain biking and provide solutions such as the Adaptive Trail Rating (ATR) system, which should be implemented within Dungog Common Trail Network.

TRAIL DIFFICULTY RATING SYSTEM - HORSE

Cover photo courtesy Michael Muller

HORSE TRAIL CLASSIFICATIONS

	EASIEST	INTERMEDIATE	ADVANCED
			
Description	<p>Most likely to be fire roads or wide single tracks (bridlepaths) with a gentle gradient (not exceeding 10%), smooth surface and a relatively obstacle free, hardened natural surface.</p> <p>Frequent encounters are likely with other users including cyclists, walkers and runners.</p>	<p>Intermediate Trails are most likely to be a combination single trail and/or fire road with obstacles, variable surface, and a moderate slope.</p> <p>Intermediate Trails are likely to be multi-use so encounters with other users including cyclists, walkers, runners and horse riders should be expected.</p>	<p>Advanced Trails are most likely to consist of challenging single trail and/or fire road with many obstacles, variable surface, and steep sections. Some trail routes may not be marked at all.</p> <p>Advanced Trails may possibly be multi-use so encounters with other users possibly including cyclists, walkers, vehicles and other stock should be expected, however, many of these trails may be located in remote areas and encounters with others is expected to be minimal.</p>



5 Trail Recommendations

5.1 Upgrades - existing trails

As per Trail Audit Reporting undertaken by TRC Trails, it is recommended that all existing trails receive refurbishment treatment to varying degrees according to audit classification.

With a view to economies of scale, it is recommended that a full trail refurbishment and upgrade program of existing trails be undertaken simultaneously with realignment and rationalisation of trails as per this Concept Masterplan network design.

It is further recommended that all walking trails require upgrades and refurbishments (including stair construction) in order to meet Australian Walking Track Standards.

5.2 Flow Trails

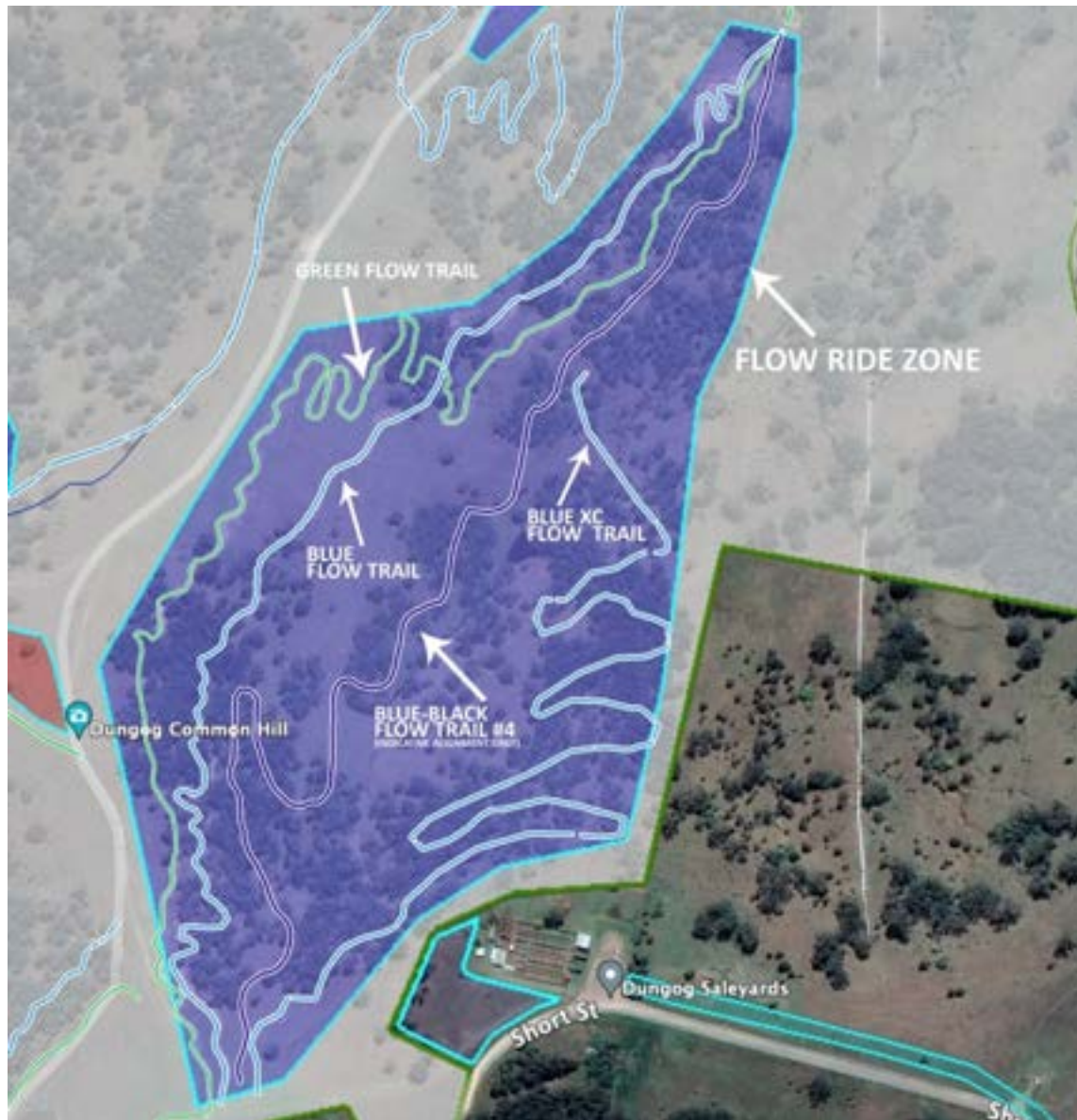
As per in-process development plans and current Development Application, it is recommended that the #4 Flow Trail be constructed as the third trail to the west of the green flow trail, using the central valley slopes to best 'flow effect'. This trail should adhere to skills progression protocol by being built to a blue-black standard with significant jump, berm and other technical features.

Masterplan mapping shows a potential corridor alignment only for general placement and does not represent detailed alignment, which would require further ground truthing and alignment testing with reflection to any DA caveats and/or biodiversity and cultural heritage restrictions.

Green Flow Trail should be refurbished to cater to adaptive riders. Blue Flow Trails requires general refurbishment. Rifle Range XC flow trail should remain a technical XC-style trail with flow elements. It requires upgrading and some realignment to ensure a corridor is available for proposed shared horse-walk trail in the south accessing Short Street Trailhead.

All flow trails should be slowed at their co-joining point to the north with a technical rock garden 'choke point' constructed prior to the intersection of the proposed shared use (walk/run/horse ride) trail aligned east-west.

Figure 8. Dungog Flow Trails Map



5.3 Pump track

This masterplan concurs with current planning for the full refurbishment of the Pump Track and its location to the east of the northern Rifle Range dam side, as currently situated. The intention is for this track to be asphalted for all-weather usage.

5.4 Skills Park

This masterplan concurs with current planning for a new Skills Park, in line with the Masterplan design guideline of fostering skills development.

Proposed location is to be to the adjacent south of the existing amenities block and the main entrance tailhead hub. This then leaves the site immediately south of the trailhead as a 'Gather' site, and potential location for events and public gathering.

Locating the bike skills park further away from the main entrance also means visitors exiting the car park / trailhead to enter the main grounds are not immediately entering an active ride zone (safety concerns).

Figure 9. Dungog Pump Track and Skills Park Zoning Map



5.5 Dual Slalom

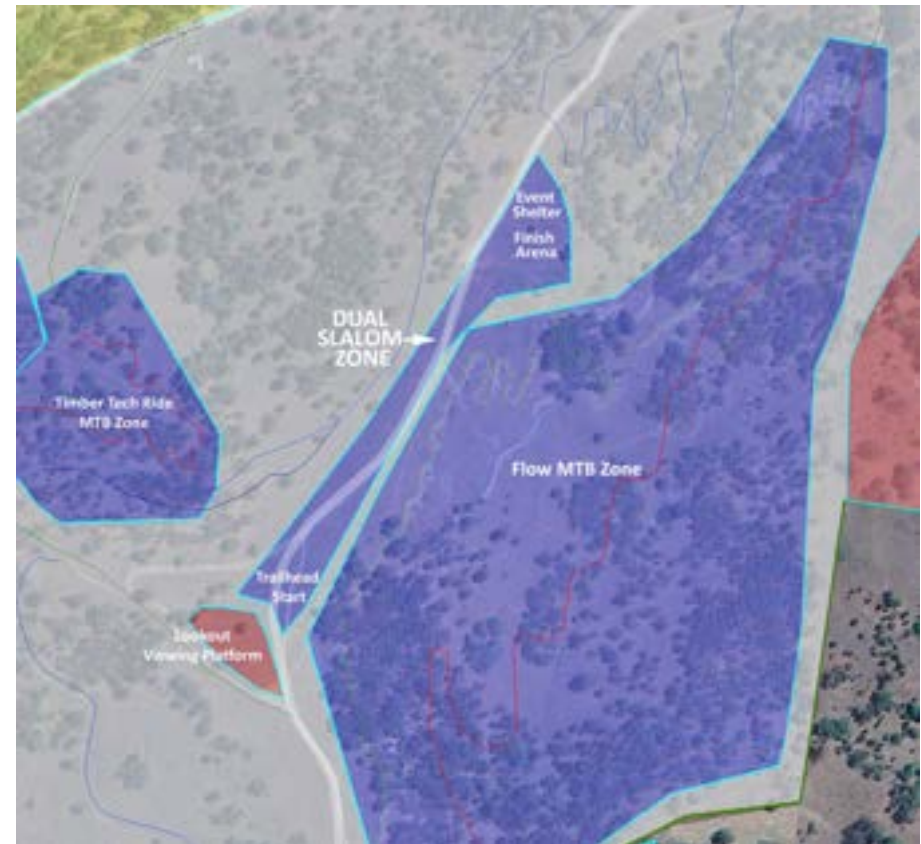
The addition of a Dual Slalom in the Masterplan furthers the intention of developing Dungog Common into a major skills progression ride park. It also offers more diversification of rider attraction within a limited space, and establishes both a spectator friendly ride zone and infrastructure ideally suited to events (while remaining a skills progression trail).

Clever trail design and construction could double this 300-metre dual trail into a jumps and freestyle track, potentially aligned along the centreline or by building the dual slalom as a double wide trail with capacity for dual runs with integrated jump capacity (when not being used as dual slalom).

Dual Slalom is a growing niche in mountain biking, however there is currently limited supply of adequate trail infrastructure catering to the market. This would position Dungog Common as a unique offering while advancing ride diversity.

Dual Slalom is a format that sees two riders race head to head down heavily engineered and manicured, open mountainside trails that are set side by side. The dual trails are packed with mostly mirrored berms and jumps and the visual spectacle is very much like slalom skiing, only no snow and on two wheels. Courses are typically short (200-300 metres) and the side-by-side, open-view nature combined with fast and furious racing makes it a popular spectator sport.

Figure 10. Dungog Dual Slalom Zoning



5.6 Gravity Trail(s)

Gravity riding is another growth sector in high demand. Gravity combines elements of Downhill (DH), XC and All Mountain riding with a focus on riding downhill courses with less pedalling required. Gravity is more inclusive as trails are not as aggressive or extreme as pure DH, allowing a broader range of rider skill base to tackle them.

It is recommended that an existing trail (12 Les's Lair) be refurbished to better serve the gravity style of riding at a Blue rider level.

It is further recommended that a new Blue-Black gravity trail be constructed in the same zone, flowing west down the slope towards the Decisions Decisions secondary trailhead.

A top of run trailhead would be established for these two gravity trail, which would also service a proposed Technical Timber feature trail to the east.

5.7 Tech Timber Trail

An added offering to the Gravity Trails to complete out a 'mountain ride technical skills zone' would be a technical timber feature ride hosting a number of timber-built skills features including wall rides, balance rides, jumps, and other timber features. It would be designed to a Blue-Black standard and aligned to join at the higher end of the Blue-Black gravity trail for an extended Blue-Black technical ride experience (alternatively riders can loop quickly back to the Timber Trailhead).

Figure 11. Dungog Gravity Trail and Timber Tech Trail Map



5.8 Adaptive Trails

It is important in any new trail development to consider all abilities access. The adaptive ride market is a growing one with significant user demand and planning encouragement. The design requirement and impact on trail footprint and cost is less than perceived. TRC Trails recently built lengths of adaptive trail in Newcastle, to popular reception.

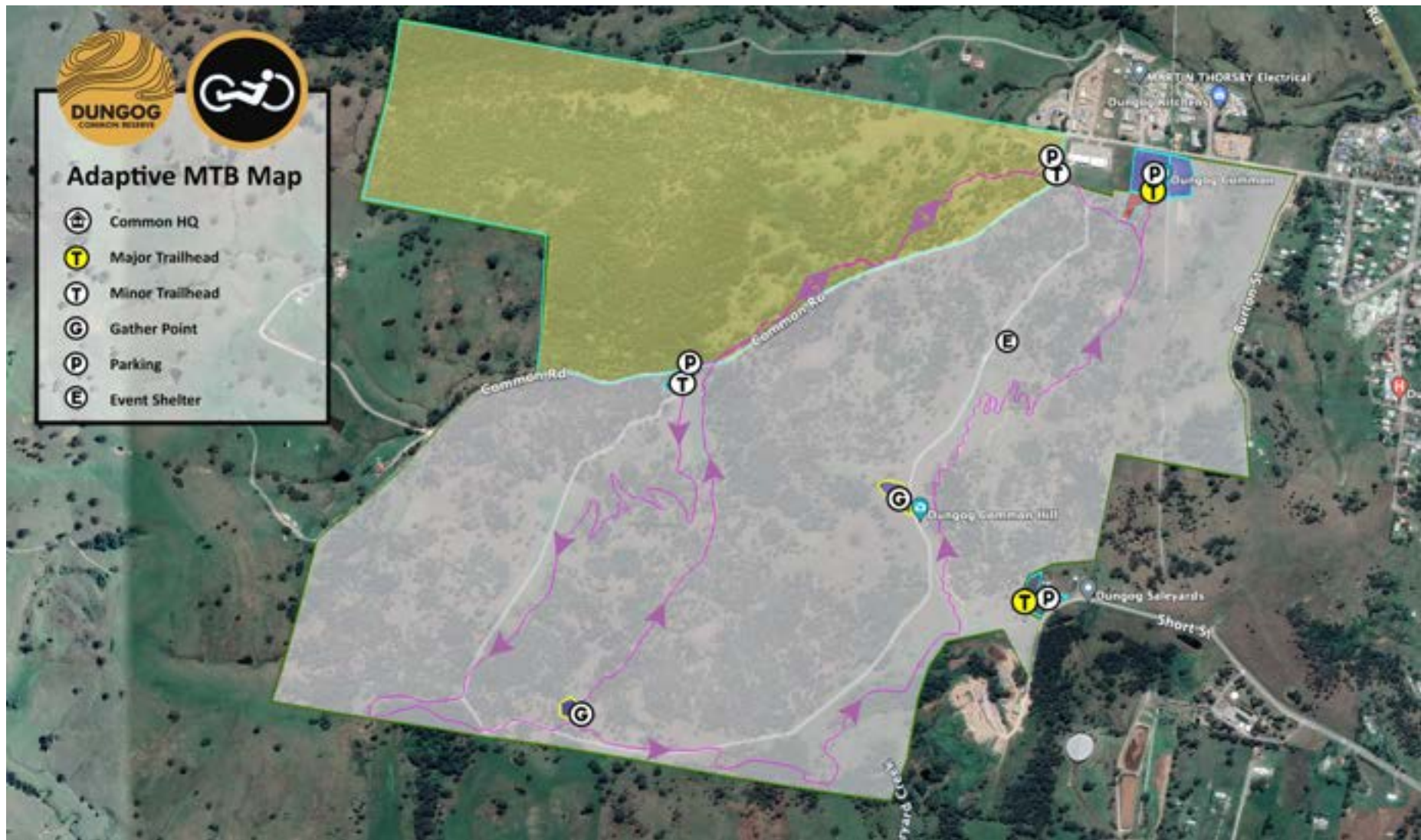
This Masterplan recommends refurbishing a set of existing trails to be suitable for adaptive riding, noting design changes increase quality of rider experience for non-adaptive riders also.

Adaptive loops would link together:

- Inny & Outty
- Necessary Evil (up)
- Firetrail Sprint
- Easy Way Out
- Giddy Up
- Easy Street

Design would refer to, be guided by and rated according to Break the Boundary Inc.'s Australian Adaptive Mountain Bike Guidelines.

Figure 12. Dungog Adaptive MTB Map



5.9 Shared Horse / Walk Trails

It is recommended that a full network of shared use horse riding and walking trails be established, notably using the Rifle Range (in east) and unused paddock space in the western region of the Common with a new central east-west linking trail to be constructed.

The proposed network:

- maximises use of existing trails
- creates a total horse riding network of more than 10km
- focuses on use of a dedicated (new) horse float car park accessed from Common Road in the north
- includes float access trailheads at Short Street and Decisions Decisions
- adheres to Masterplan design direction of creating 'cloverleaf' and 'stacked loop' route options creating short, medium and long distance rides
- creates critical mass of horse trail routes for commercial activation (tours)

Shared use horse riding trails would refer to and be graded according to Horse Trail Infrastructure Guidelines for Peri-Urban Precincts in Australia (Horse SA, 2019).

Figure 13. Dungog Horse Riding Map





5.10 Gather Zones

This masterplan identifies a number of ‘gather zones’ or hold points for users in addition to nominated trailheads:

- Dam North (Rifle Range)
- Dam South
- Central Common ‘Iconic Viewpoint’

These sites should be developed for rest / passive recreation and contemplative usage with seating and picnic tables (extent and cost to be determined in detailed design phase). Where gather zones are catering to riders there should be some form of bike racking available. Where catering for horse riding there should be water available and rail facilities for securing of horses, located a safe distance from any seating / gathering area.

The central ‘Iconic Viewpoint’ located in the centre of the Common is already a popular viewing spot with excellent views towards Barrington Tops National Park. It is recommended this location be specifically developed with potential for a ‘hero’ viewing experience in the form of a constructed feature balcony / viewing area. This infrastructure would also create an ideal space for events and commercial activations, including weddings, that would attract fee for use and therefore an income stream for Dungog Common.



5.11 Trailheads

Trailheads identified for suitable development include:

1. Major trailhead (Common Road north) – ride, walk, run, passive recreation
2. Overflow Car Park – east of pipeline – ride, walk, run, passive recreation
3. Horse float Car Park (Major; Common Road north) – horse
4. Short Street Top Trailhead Major – all users
5. Decisions Decisions Trailhead – all users (minor Horse)
6. Girrawa Cultural Zone (Common Road north west) – walk, adaptive
7. Skills Zone Trailhead – servicing gravity and timber tech trails
8. Dual Slalom Trailhead
9. Skills Park Trailhead
10. Pump track Trailhead

5.12 Event Shelter

Dungog Common Reserve Board has identified a site for a proposed events shelter, offering expansive views to Barrington Tops, a rest zone and a staging zone for some forms of events.

This site would be located along the central service road, with spectator viewing of the proposed Dual Slalom Tracks. Structure capacity, footprint, design and functionality to be determined.

5.13 Car Parks

Car parks all require development. Proposed siting of car parks match current informal sites:

1. Major Entrance Car Park – Common Road north to west of pipeline as currently planned
2. Overflow Car Park (catering to events, public holiday attendance etc) – Common Road north, to east of pipeline
3. Horse Float car park – to east of Overflow Car Park, specifically cordoned off and designed for horse float capacity.
4. Short Street Car Park – at top of trails, preferably matched to adequate visitor facilities
5. Decisions Decisions – Common Road west; a secondary car park, minimal facilities, catering to all users (limited horse)
6. Girrawa Cultural Zone Car Park – catering primarily to walkers and cultural visitors. Some adaptive users may depart from here.

5.14 Cultural experiences

It is recommended that further focused investigation be undertaken in partnership with Karuah Local Aboriginal Land Council to establish opportunities for broadening the potential cultural interpretation, storytelling and other Aboriginal cultural experiences on Dungog Common Reserve.

All gathering point and/or any identified suitable locations along trails should where possible and favoured by Traditional Owners feature some form of interpretation of landscape, flora, fauna, story and cultural heritage.

The Hungry Hill zone has already emerged as a primary cultural heritage zone, however this should extend across the entire Common.

Opportunities for engaging with Traditional Owner communities and growing employment opportunities through maintenance, tourism and other relevant required roles should be a core tenant of any Management and development plan moving forward.

It is not the place of this report to assume knowledge of Traditional Owner wishes or to tell their stories, hence specific relationships and conversations with the Karuah and its communities should be nurtured with a view to establishing what is possible and desirable in the cultural heritage space overlaying the Dungog Common landscapes and experience.

6 Trails Concept Masterplan

6.1 Dungog Common Masterplan Zone Map

Figure 14. Dungog Common Masterplan Zone Map



Table 2. General zone application assistance with user activity planning and designation

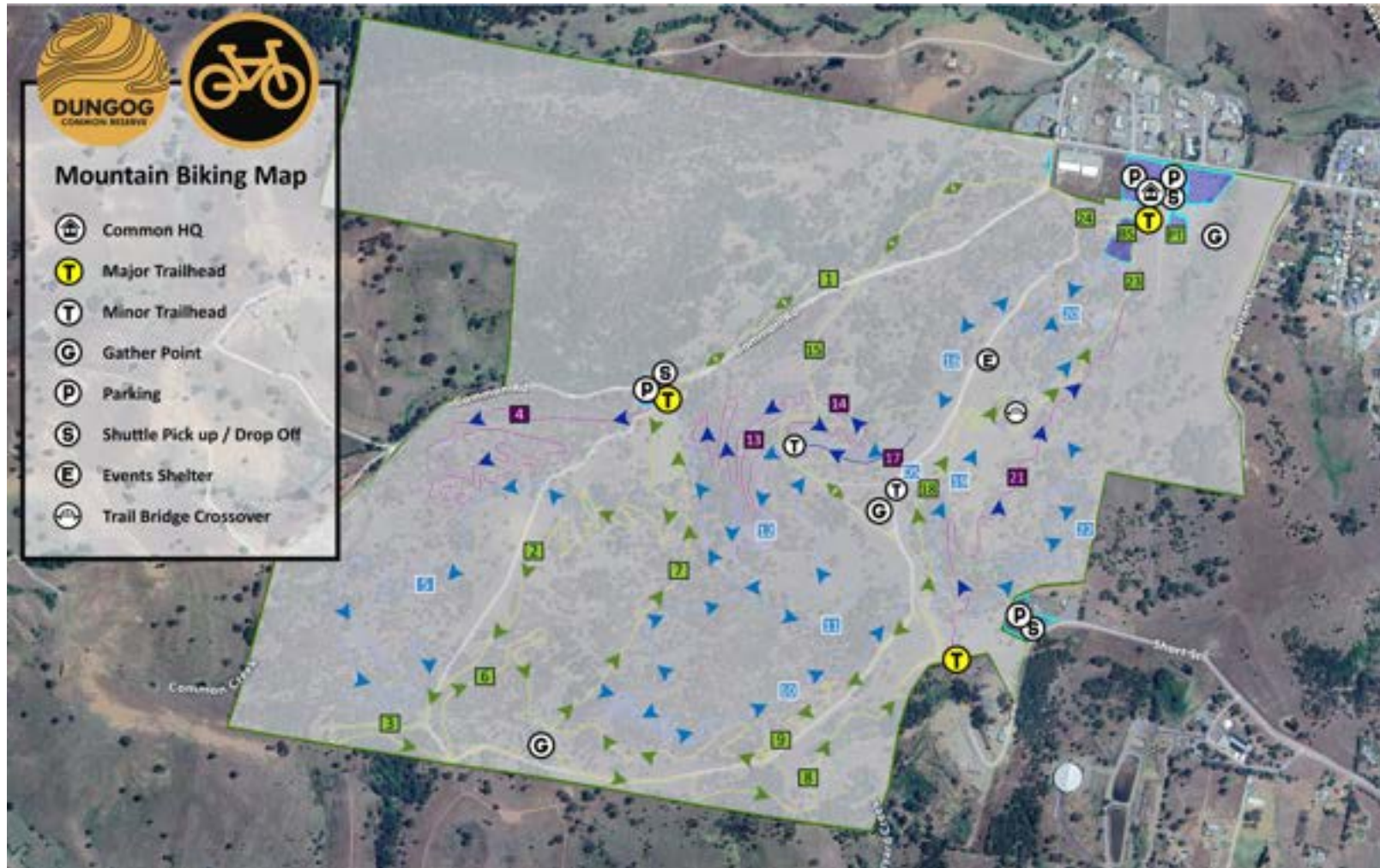
ZONE	DESCRIPTOR	USE	RECOMMENDATION OVERVIEW
1	Wilderness Sanctuary – Walk/Run & Culture Zone reserved for pedestrian traffic only. No domestic animals (suggested).	Walk, run, cultural	Upgrade all trails, construct missing link/s, develop cultural interpretation/s, develop contemplative zones (seating etc)
2	Gravity MTB Zone	Ride	Upgrade and develop new gravity trail between trailheads
3	Tech Timber Skills Trail	Ride	Develop new technical timber feature
4	Multi-purpose recreational trail zone - Ride, Walk, Run, horse ride, Cultural	Multi-purpose Ride, Adaptive, Walk, Run, Horse ride, Cultural	Rationalise, upgrade and realign MTB trails (minimal new build); construct new perimeter shared use Horse / Walk / Run trail including repurpose of MTB trail in west, linking to Rifle Range trails and new Showground access trail
5	Flow Zone	Ride	Upgrade existing trails including Green Flow to include Adaptive access; build new Flow Trail #4 to Blue-Black standard; upgrade and realign Rifle Range XC Flow trail.
6	Rifle Range Shared Use Horse/Walk/Run	Horse ride / Walk / Run	Upgrade Rifle Range trails for shared use, realign, new build around dam (walk only) and linking trails to northern Primary Trailhead (horse) and southern high trailhead (shared). Investigate improved heritage interpretation.
7	Dam Recreation and Pump Track zone	Walk / Ride (pump track only)	Build new pump track on existing BMX track site; create ‘Gather’ picnic area; align trails around dam to connect south and east.
8	Dual Slalom (+ Jumps) Zone	Ride	New build dual slalom trails; consider ‘smart integration’ of jumps line. Consider spectator zone/s and finish zone design.
9	Skill Park zone	Ride	New build skills park. Note different location to that proposed previously, saving space in front of amenities block for gather / picnic / presentation area.
10	Showgrounds Shared Use link zone	Horse, Walk, Run	Out of scope of this Trails Masterplan. In process of design and construction project. Reflected in this report as

ZONE	DESCRIPTOR	USE	RECOMMENDATION OVERVIEW
			important connectivity link to town and services amenities. Dungog Common Trails Masterplan should link to trailhead.
Common HQ	Primary trailhead	Ride, Walk, Run, Events	Zone to match current design aspirations (Moir). Car park, community garden, potential events shelter developed as currently planned. Include ‘Gather’ recreation area between car park entry/exit and existing toilet amenity. Link trail through to overflow car park east of pipeline. Design for general public use and events use.
Major Trailhead	<ol style="list-style-type: none"> 1. Common Road (North) – Major Park Entry and Trailhead 2. Common Road – Major Horse Ride Trailhead 3. Common Road (West, Decisions Decisions) – Major Park Entry (Secondary) 4. Short Street (South) – Major Park Entry (Secondary) 	<ol style="list-style-type: none"> 1. Ride, Walk, Run 2. Horse riding 3. Ride, Walk, Run, Horse ride (secondary) 4. Ride, Walk, Run, Horse ride 	<ol style="list-style-type: none"> 1. Major Car Parking plus overflow east of pipeline 2. Separated horse float only car parking to east with access to trailhead to east 3. Redeveloped car parking design with access in mind for walkers (north and south), riders (south) and horse riders (secondary access – requires water and hold posts) heading east or west. 4. Combined trailhead for all users accessing from high point. New build, utilising sale yards and paddock as available. Secondary horse float turning and parking area required.
Minor Trailhead	<ol style="list-style-type: none"> 1. Tech Skills Zone 2. Dual Slalom 	Ride	Upgrade to support new trails (gravity and tech timber + dual slalom). Ensure emergency access capacity (vehicular from south or north)
Gather Point	<ol style="list-style-type: none"> 1. Trailhead Major 2. Iconic Viewpoint 3. High Dam south 4. Low Dam Rifle Range 	<ol style="list-style-type: none"> 1. Ride, Run, Walk 2. All users 3. All users 4. Walk, Run 	New build and upgrade for all sites. Trailhead Major to include picnic facilities, seating, and capacity for events. Iconic Viewpoint to be majorly developed with wide viewing balcony, for general use gatherings (mid activity), picnic, contemplative and functions use (i.e. outdoor wedding) – requires management / minimal special access parking zone nearby site TBC. Dam sites require basic seating and picnic benches. High Dam (located in south west area of Common) requires horse rails.

ZONE	DESCRIPTOR	USE	RECOMMENDATION OVERVIEW
Parking	<ol style="list-style-type: none"> 1. Trailhead Major – west of pipeline, access via Common Road (North) 2. Trailhead Major – east of pipeline, access via second entrance Common Rd (North) – overflow, shuttle access and horse ride specific 3. Trailhead Major Secondary – Common Road (West) 4. Trailhead Major Secondary – Short Road (South) <p>*plus management / special access minor parking bays located nearby Iconic Viewing Area for all abilities facilitation, function and management service parking</p>	<ol style="list-style-type: none"> 1. Ride, Run, Walk 2. Overflow all users, Shuttle 3. All users, Shuttle 4. All users, Shuttle 	All car parks to be formalised, built and infrastructure to reflect user priorities
Shuttle	Shuttle bus services pick up and drop off points.	Ride, Walk, Run	Van + Trailer. Pay per use. Operational timings TBC. Include stop in town centre to drive commercial inputs from visitors (and local use).

6.2 Dungog Common Mountain Bike Masterplan

Figure 15. Dungog Mountain Biking Map



6.3 Mountain Bike Trails

Table 3. Mountain Bike Trails Refurbishment and New Build Costs

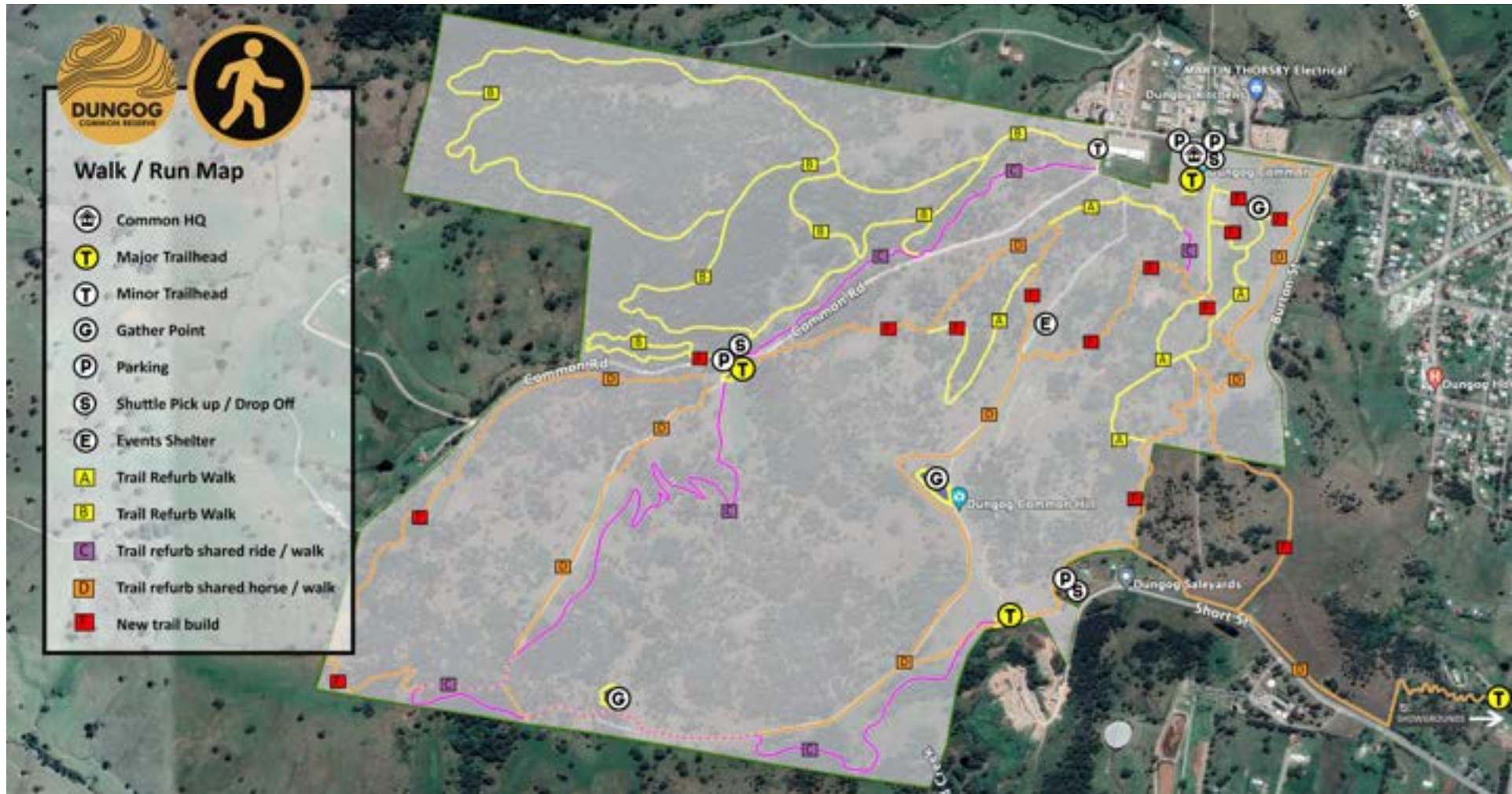
MAP #	NAME	IMBA RATING	USE	DIRECTION	CONSOLIDATED TRAIL SET	DISTANCE	WORKS	ESTIMATED COST
1	Inny & Outty	Green	Shared / Ride, Walk, Run, Adaptive	Dual	Inny & Outty	1100m	Existing trail. Refurb for shared use including adaptive	\$29,304
2	Necessary Evil	Green	Shared / Ride, Walk, Run, Adaptive	Up	Necessary Evil	1600m	Existing trail. Refurb for shared use including adaptive	\$42,624
3	Firetrail Sprint	Green	Shared / Ride, Walk, Run, Adaptive, Horse	Dual	Firetrail Sprint	300m	Existing trail. Requires major work on steep section (erosion) and make useable for adaptive	\$7,992
4	Jack's Black	Blue-Black	Bike only	Up	Jack's Black, Lean's Leap	2000m	Consolidation of existing trails + some short new sections. Delete some old alignment (repurpose to horse/walk))	\$53,280
5	The Bowlo	Blue	Bike only	Up	The Bowlo, Up Up & Away	2300m	Consolidation of existing trails. Refurb.	\$36,616
6	Al's Downer	Green	Top: Shared Bottom: Bike only	Down	Al's Downer, Snake Track	1100m	Consolidation existing trails. Refurb.	\$17,512
7	Easy Way Out	Green	Ride only	Down	Easy Way Out	900m	Refurb, incl for adaptive	\$23,976
8	Giddy Up	Green	Shared / Ride, walk, run	Up	The Boneyard + Exposed	1500m	Refurb, incl for adaptive	\$39,960

MAP #	NAME	IMBA RATING	USE	DIRECTION	CONSOLIDATED TRAIL SET	DISTANCE	WORKS	ESTIMATED COST
9	Dirty Boulevard	Green	Bike only	Down	Dirty Boulevard + Jimmy's Delight	1500m	Refurb	\$23,880
10	Beehives Up	Blue	Bike Only	Up	Beehives + Switchback Up	1700m	Refurb	\$27,064
11	Wolf's Way	Blue	Bike Only	Dual (potentially west to east only)	Wolf's Way	1200m	Refurb	\$19,104
12	Les's Lair	Blue	Bike Only	Down	Les' Lair	1500m	Refurb for Gravity	\$23,880
13	Black and Blue	Blue-Black	Bike Only	Down	Black and Blue + New	1500m	New build	\$59,940
14	Tech Timber	Blue-Black	Bike Only	Down	New	700m	New build	\$27,972
15	West Side Fire Trail	Green	Shared Use / Ride, Walk, Run (Horse portion)	Dual	West Side Fire Trail	900m	Refurb	\$14,328
16	Fire Me Up	Blue	Bike Only	East - West	Fire Me Up + Rock n Rollin	1200m	Refurb	\$19,104
17	Fire Me Up A Line	Blue-Black	Bike Only	East - West	Fire Me Up A Line	300m	Refurb	\$4,776
18	Easy Street	Green Flow	Bike only	Down	Easy Street	1550m	Refurb for adaptive	\$41,292
19	Blue Flow	Blue Flow	Bike only	Down	Easy Street	1300m	Refurb (seasonal maint)	\$10,400
20	Hile Climb	Blue	Bike Only	Up	Hile Climb	1000m	Refurb	\$15,920
21	New Flow Track	Blue-Black	Bike Only	Down	New	1200m	New build	\$79,200
22	Rifle Range XC flow	Blue	Bike Only	Down	Rifle Range	1400m	Realign, part new build, refurb	\$37,296

MAP #	NAME	IMBA RATING	USE	DIRECTION	CONSOLIDATED TRAIL SET	DISTANCE	WORKS	ESTIMATED COST
23	Fence Run Out	Green	Shared in part	Dual	Fence Run Out + Pipeline	300m	Refurb incl rock choke points	\$4,776
24	West Link Track	Green	Shared / Ride, Walk, Run	Dual	Fence Run Out	300m	Refurb	\$4,776
DS	Dual Slalom	Blue	Bike Only	Down	New	300m x 2	New build	\$58,080
BS	Bike Skills	Green	Bike Only	Single direction	New	TBC	New build	\$450,000 Preliminary Estimate
PT	Pump Track	Green	Bike Only	Single direction	New	TBC	New Build	
TOTAL GREEN						11,050		
TOTAL BLUE						12,200		
TOTAL BLUE-BLACK						5,700		
TOTAL						28,950	<i>Not including Common Road or Dungog Common Fire Road</i>	\$1,173,052.00

Dungog Common Walk / Run Trails Masterplan

Figure 16. Dungog Walk / Run Map



6.4 Walk Only Trails – New Build

Table 4. Walk Only Trails New Build Costs

ID	LOCATION DESCRIPTION	DISTANCE	NOTES	ESTIMATED COSTS
F	Dam Loop	450m	New trail build - grasslands	\$15,588
F	Dam Link East	100m	New trail build - grasslands	\$3,464
F	Dam Link South	100m	New trail build - grasslands	\$3,464
F	Crosslink to Shared	300m	New trail build - grasslands	\$10,392
F	Guluwa Link > TH	100m	New trail build - grasslands	\$3,464
TOTAL		1050m		\$36,372

**NOTE: C = shared use ride / walk / run trails – accounted for in MTB trail development matrix.*

6.5 Walk Only Trails – Refurbished

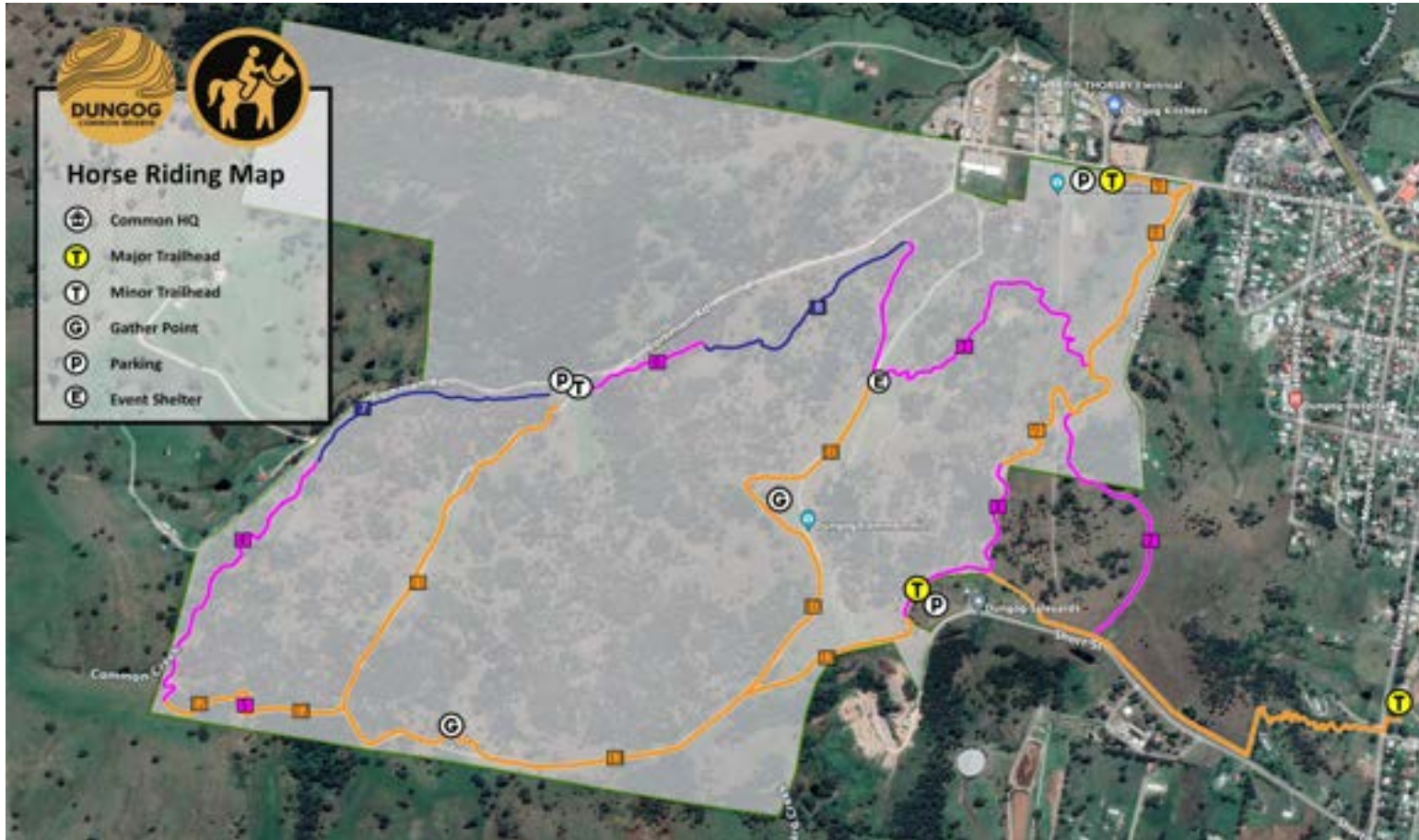
Table 5. Walk Only Trails Refurbishment Costs

ID #	LOCATION DESCRIPTION	DISTANCE	NOTES	ESTIMATED COSTS
F	East West TH > Common Road Trails	500m	Refurb old MTB	\$7,800
B	Guluwa Loop	750m	Refurb old walking trail	\$11,700
A	Rifle Range Outer Loop West	850m	Refurb old walking trail (grasslands)	\$13,260
F	Rifle Range Loop Link 1 East	300m	Refurb old walking trail (grasslands)	\$4,680
F	Rifle Range Link south	100m	Refurb old walking trail (grasslands)	\$1,560
A	Boorangong Walk section	400m	Refurb old trail section	\$6,240
A	Girriwa Walk Short Loop	1500m	Refurb old walking trail – including stair requirement	\$23,400
A	Girriwa Walk Mid Loop	1600m	Refurb old walking trail – including stair requirement	\$24,960
A	Girriwa Walk Outer Loop	2300m	Refurb old walking trail – including stair requirement	\$35,880
F	Girriwa Walk Link to Common Rd	150m	Refurb old walking trail - requires creek crossing treatment (stepping stones)	\$2,340
TOTAL		8450m		\$131,820

*NOTE: C = shared use ride / walk / run trails – accounted for in MTB trail development matrix.

Dungog Common Horse Riding Trails Masterplan

Figure 17. Dungog Horse Riding Map



Shared Use Horse / Walk – New Build

Table 6. Shared Use Horse / Walk New Build Costs

ID #	LOCATION DESCRIPTION	DISTANCE	NOTES	ESTIMATED COSTS
1	East West Link (North) – from Rifle Range to Boorangong Section	1300m	New build, rock feature choke points at Flow MTB trail crossings, significant safety signage	\$20,696
2	South Link > Showground TH	700m	New trail	\$11,144
3	South Link > Short Street TH	600m	New trail and some repurpose of old Rifle Range XC MT trail	\$7,200
4	Perimeter West Section	800m	New build requiring water crossing treatments TBC	\$12,736
5	South west short link to Fire Road Sprint	100m	New build	\$1,592
6	Perimeter Decisions Decisions to Boorangong Section	350m	New build	\$4,776
TOTAL		3850m		\$58,144

**NOTE: C = shared use ride / walk / run trails – accounted for in MTB trail development matrix.*

Shared Use Horse / Walk – Refurbishment

Table 7. Shared Use Horse / Walk Refurbishment Costs

ID #	LOCATION DESCRIPTION	DISTANCE	NOTES	ESTIMATED COSTS
7	Common Street West Link	600m	Refurb old MTB	\$7,200
8	Common Street East Link	550m	Refurb old walking trail	\$6,600
9	Rifle Range East	1300m	Refurb old walking trail (grasslands)	\$15,600
10	Dungog Common Hill Road	1100m	Existing Road – basic treatment. Signage only	\$2,000
11	Decisions Decisions > Shared Use	900m	Existing Road – significant refurb required	\$14,328
12	Fire Trail Sprint	300m	Accounted for in MTB Shared Use	-
13	High Trail south > Short Rd TH	2000m	Mostly refurb / little treatment needed (access road)	\$16,000
TOTAL		6450m		\$61,728

**NOTE: shared use ride / walk / run trails – accounted for in MTB trail development matrix. Short Street – Showgrounds Trail Link out of scope accounted for under separate project*

Run Dungog - Potential Event Routes

In considering the overarching trails masterplan for the Dungog Common Reserve, it is important to consider its regular use by trail runners and particularly its hosting of the popular Run Dungog trail running event, held annually in August attracting upwards of 250 participants.

Run Dungog typically hosts 5km, 10km and 20km+ distance events with potential for expansion fuelled by the continued growth of trail running in general, as reflected elsewhere in this report.

Consultation with Run Dungog confirms that the current route distances are preferable for both recreation and competitive use. Consideration has also been given to the 5km becoming a registered Park Run event, with a view to encouraging both regular local community participation for health and wellbeing outcomes and visitors partaking in 'Park Run tourism', targeting Park Runs across Australia.

The proposed trail realignments and configurations contained within the Masterplan network do differ some from the current network, albeit not to any disadvantage of trail runners. Indeed, the new Masterplan network seeks to offer trail runners more distance without retracing trails and, importantly, more *singletrack* trail – a primary consideration in designing a quality experience for runners.

Recreationally, runners can choose to use any of the walk or shared use network and can effectively 'choose their own adventure' to create routes and experiences of different lengths and characteristics (i.e. elevation profile, technicality, features).

Run Dungog, however, requires specific courses to be identified according to desired distance profiles: 5km, 10km, 20km (or thereabouts).

The following maps display *potential* draft routes that meet these criteria based on the proposed Masterplan Network. These routes are not definitive with alternative iterations feasible via a change of direction or different methodology of linking trails and loops together to achieve outcomes including inclusion of specific Common features, inclusion or exclusion of specific areas, or establishment of preferred aid station locations and crossovers.

The relatively small size of the Common and multi-user nature of the trail network restricts single loop distances to 15-20km pending chosen route and combination of trail sections. As is the current case, it is suggested a half marathon course entertain a two 10km loop set up.

The use of the northern quadrant as illustrated is also not prescriptive, rather only suggested with a view that an event would only use these trails once a year, and as discovered via a trail audit, they represent some of the best trail running (post renovation) available within the Common. Inclusion in an event route would not only improve a participant's experience, it would also give a touchstone to communicate the area's cultural, heritage and environmental value and foster better understanding and protective stewardship overall.

It is also noted that the suggested routes below do not include the currently used Wolfs Way Trail. This Masterplan currently recommends that this trail is turned over to the mountain biking network for reasons of connectivity and safety. It is, however, feasible that should the broader stakeholder community believe Wolf's Way should remain a walk/run accessible trail, that it be designated a shared use trail in the final Masterplan. This would also allow for more iterations of suggested Run Dungog Routes.

Further to this point, mountain biking trails could also be opened up to running specifically (and only) for the Run Dungog Event, with MTB trails closed for event day. This opens up more possibilities for longer loops without retracing steps or creating convoluted run courses.

Figure 18. Run Dungog Event Map 5Km Option A (draft)

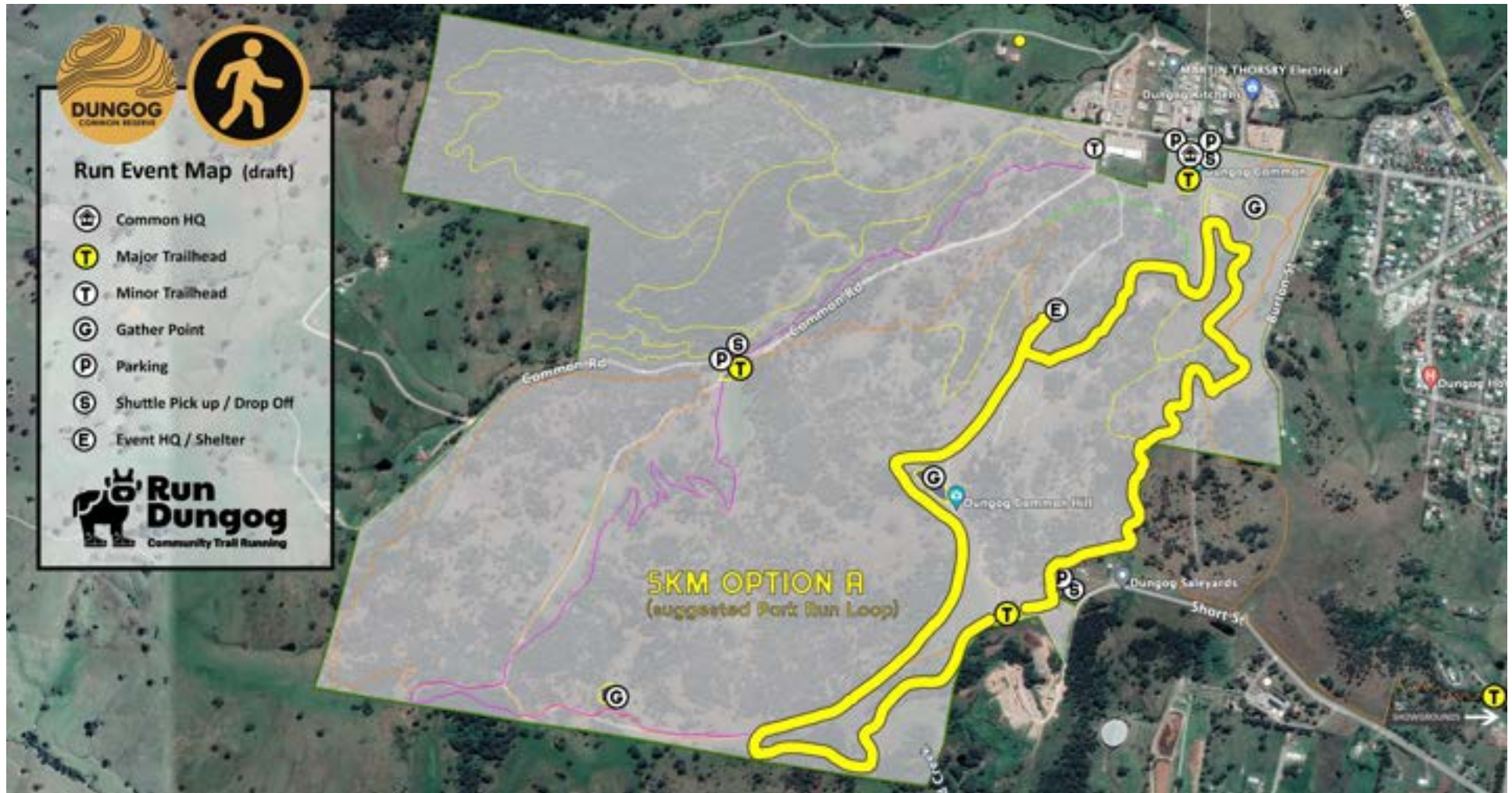


Figure 19. Run Dungog Event Map 5Km Option B (draft)

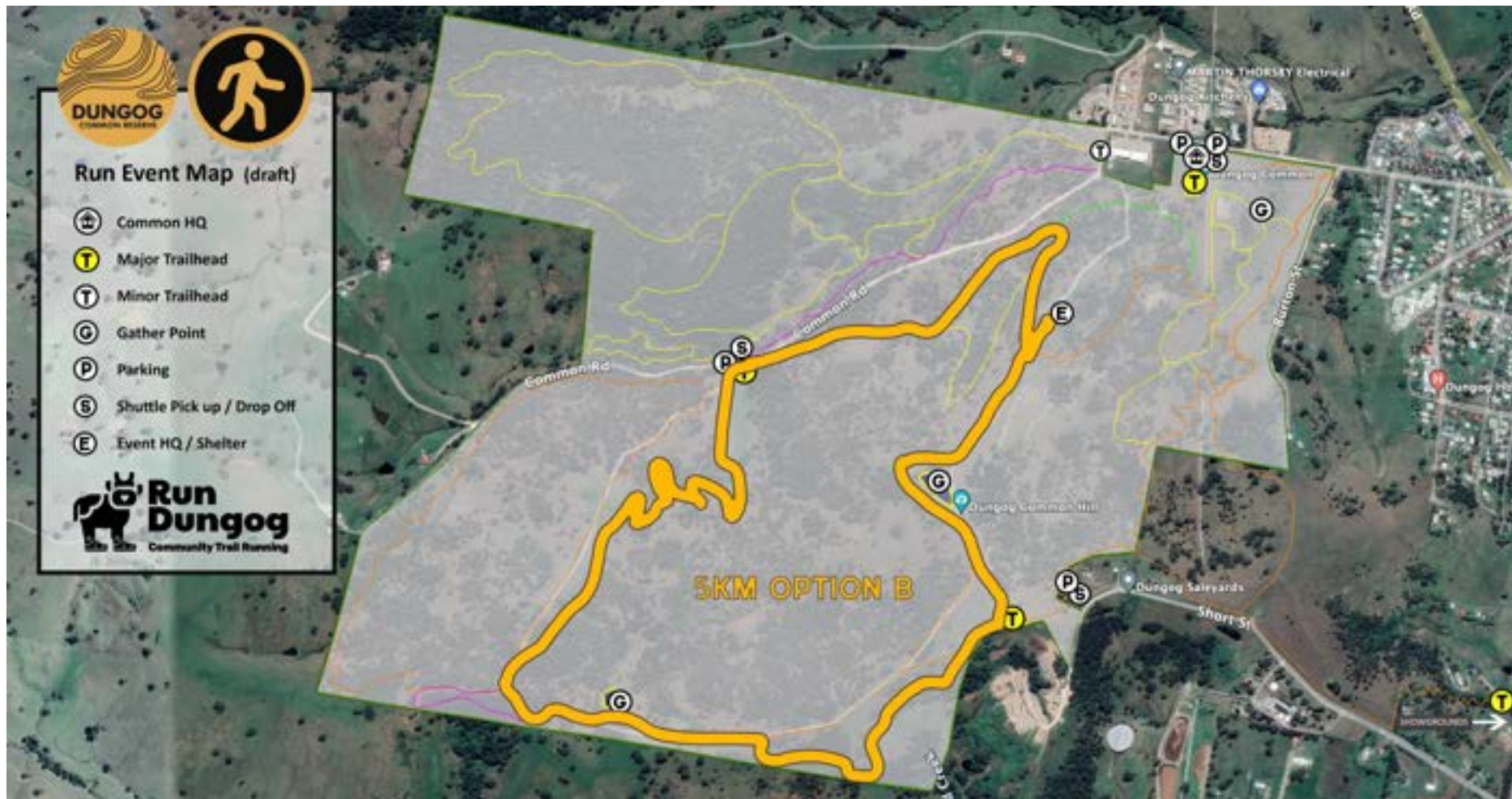


Figure 20. Run Dungog Event Map 10Km (draft)

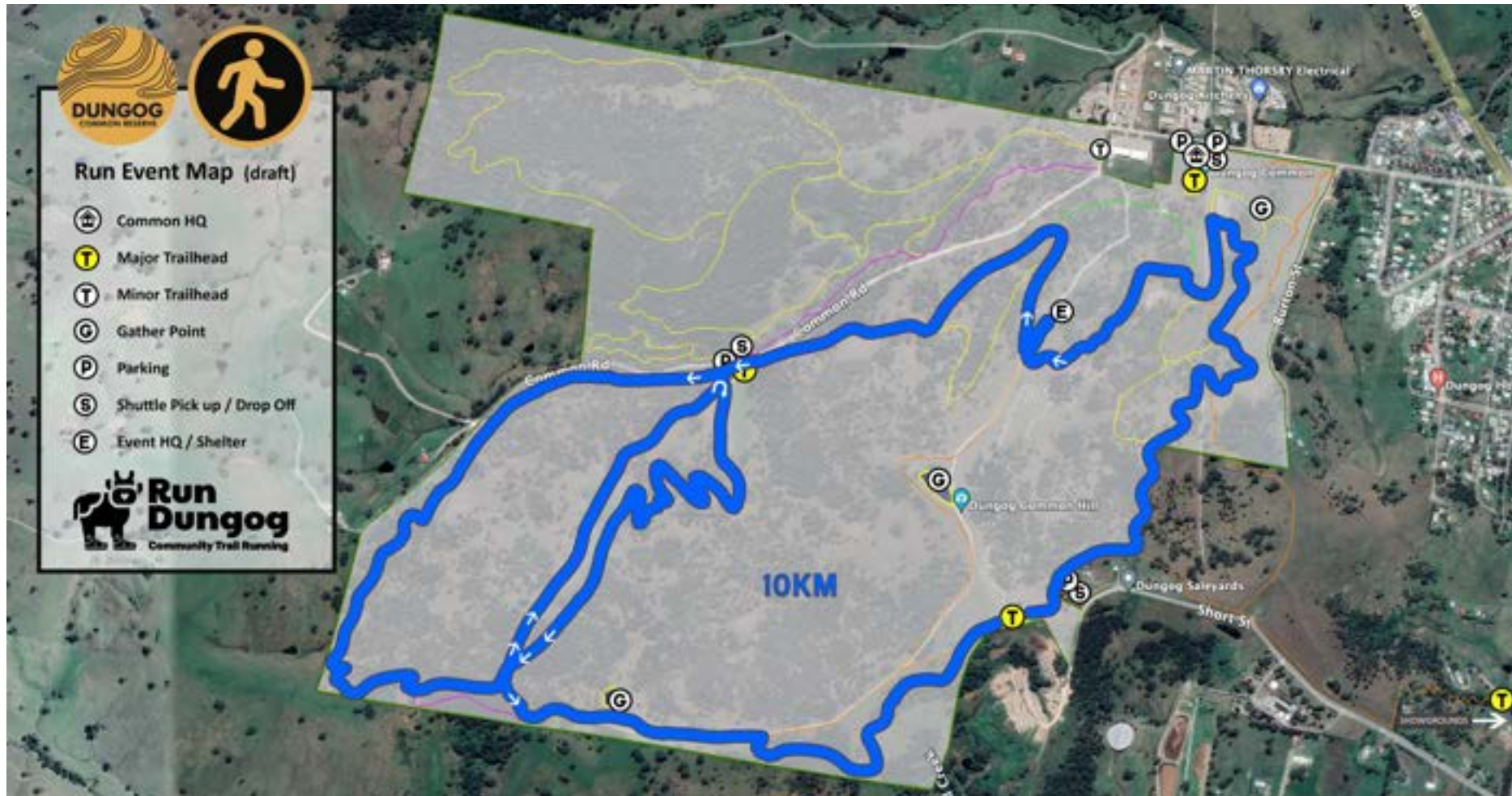
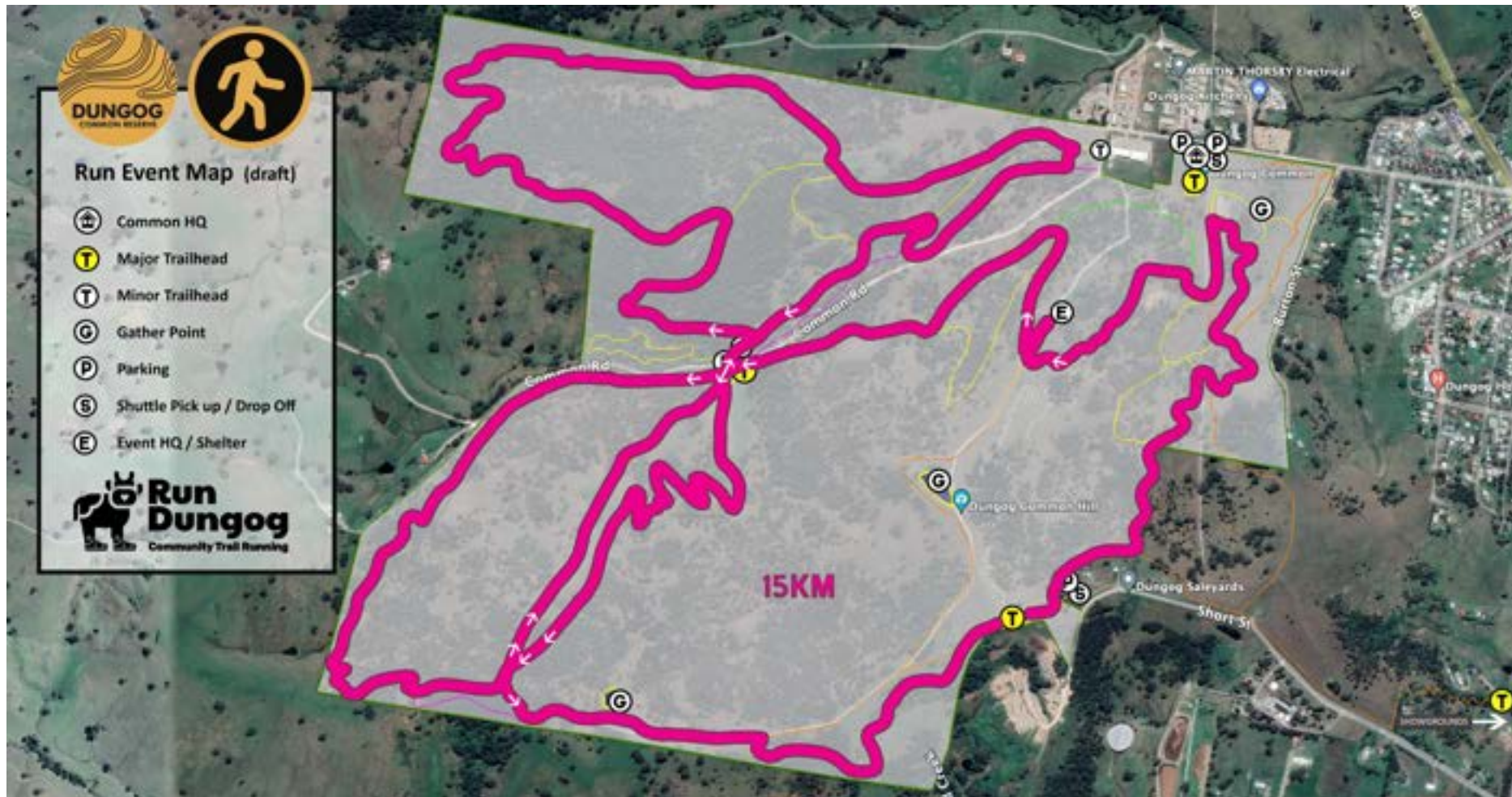
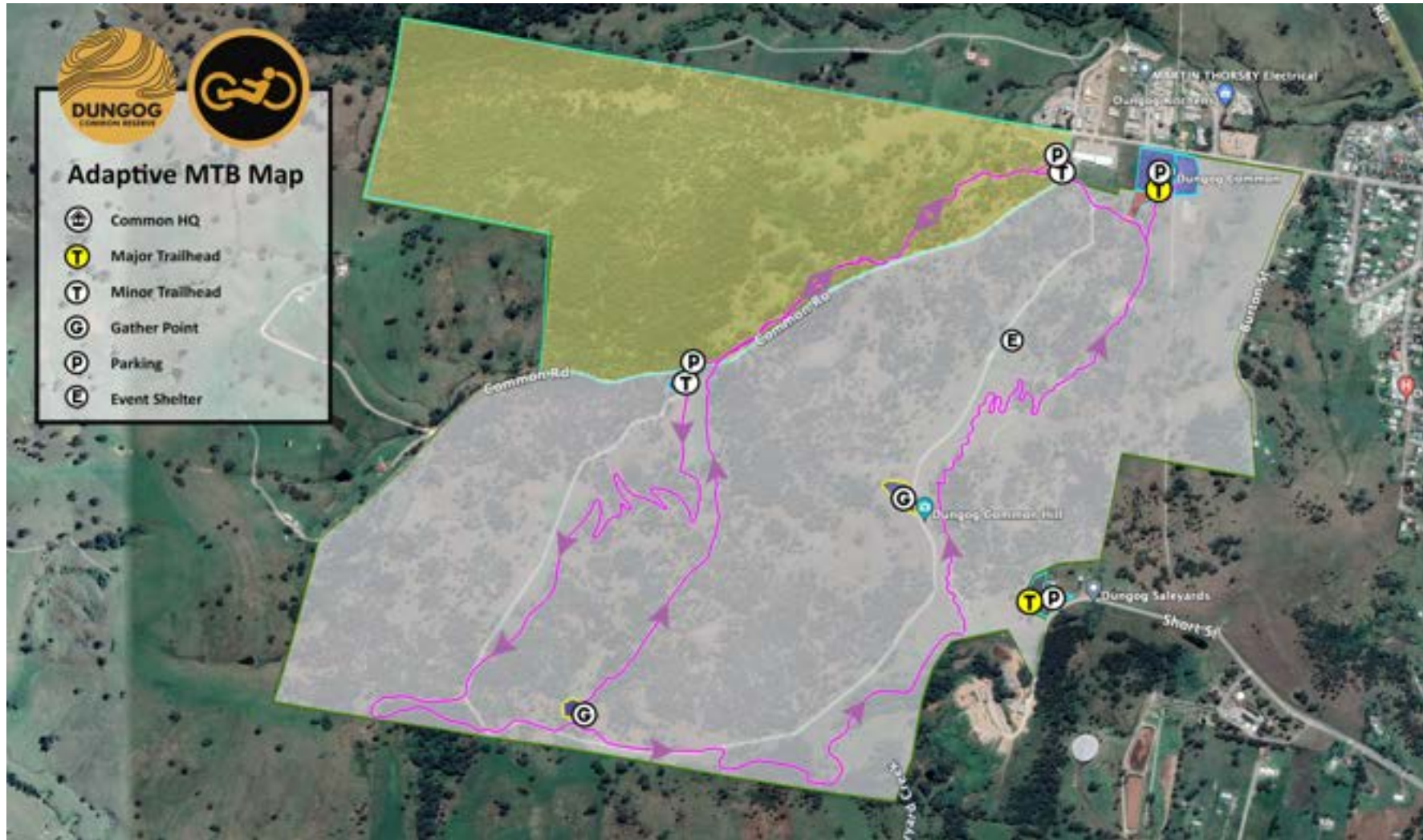


Figure 21. Run Dungog Event Map 15Km (draft)



6.6 Adaptive Loops Map

Figure 22. Dungog Adaptive MTB Map



6.7 Access points / township links

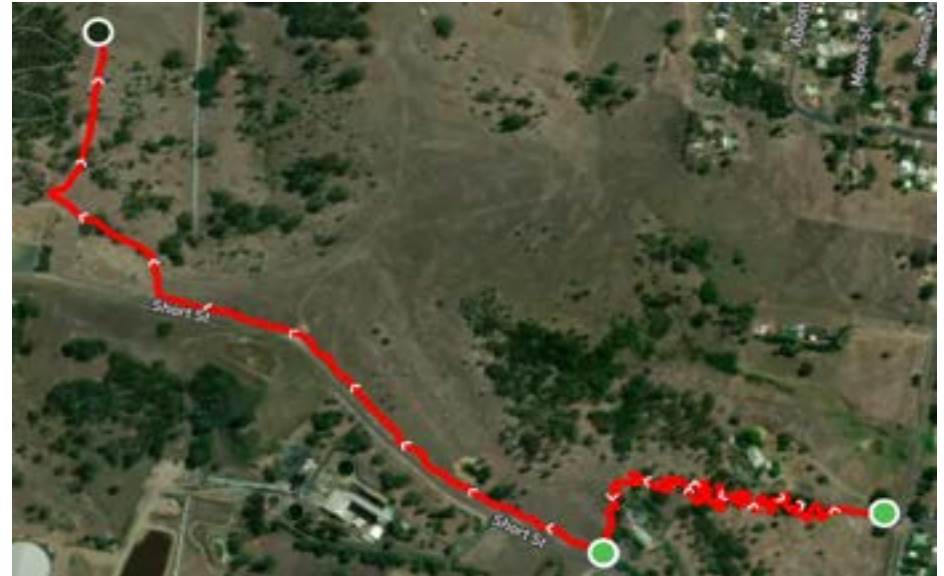
Camping to Common access trail

TRC Trails was recently engaged by Dungog Shire council to complete the detailed design of a shared use path that allows users to access the Common from Eloiza street (near the Dungog showgrounds). The proposed shared use trail aims to provide a safe and accessible recreational trail for cyclists, runners, walkers, horse riders and any other outdoor enthusiasts within the community, to access the Dungog Commo. The map of the trail alignment is seen right and construction is expected to commence in June 2023.

Common Road HQ to Town

Currently, riders wishing to cycle from/to the township centre and main residential areas have to ride on undefined and low quality road verges with a high degree of rider risk. It is recommended (out of scope of this Concept Masterplan) that efforts be made to design and implement cycling lane verges and/or shared footpath alignments (off road) where feasible. This is critical to connectivity and safety.

Figure 23. Dungog access point



7 Maintenance

7.1 Trail Management Plan

Trail maintenance is an essential component of promoting responsible use of the trails and ensuring long-term sustainability. As constant usage of trails can lead to wear and tear, regular maintenance is required to prevent them from falling into disrepair.

An annual trail maintenance management plan serves as a reliable document that outlines the specific steps to be taken in upholding the condition of the trails throughout the year. This plan ensures that trails remain in optimum condition and are safe for public use. The management plan typically includes a set of procedures that involve inspection, trail maintenance, volunteer management, communication, and other essential maintenance activities. In this regard, the plan must balance proactive and reactive approaches to assist in the prevention of significant deterioration and repair of the trails.

The following are some key inclusions/considerations within an annual trail maintenance plan that enhances longevity and sustainability of trails.

- 1. Regular Inspection:** Trails should be inspected before the start of each season to identify any issues that need to be addressed. These inspections should focus on potential hazards, vegetation growth, and signs of erosion.
- 2. Signage and Maps:** Prior to the start of the season, all signage and maps should be checked for wear and tear, replaced if required, and new signage or maps installed.

3. Trail Maintenance: The trail maintenance procedures that must be undertaken annually will depend on the extent of the work required. In general, this includes removing debris or obstacles, clearing fallen trees, repairing new drainage problems, and re-grading the trail surface in areas where drainage has been poor, whether due to weather or user impact.

4. Trail Markers: Trail markers may fade over time, making it difficult for users to follow. Trail marker colours should be refreshed at regular intervals, or as required, so users can easily know where to go.

5. Volunteer Management: Recruiting volunteers who have expertise or an interest in trail maintenance is a great way to keep the trails maintained. Organize training sessions, if possible, for volunteers and provide background information regarding the maintenance and preservation of the trails.

6. Communication: Regular communication between the land manager and the public can go a long way to maintaining trails. This includes publishing trail updates, changes, or closures and creating awareness of safety hazards or trail maintenance days/events.

Maintaining trails at optimum condition requires a systematic and consistent approach. An annual trail management plan is a valuable tool that guarantees that public trails are safe, sustainable, and accessible to all users.

Estimated maintenance cost per annum: \$120,000-\$140,000

8 Next Steps

8.1 TRAIL SPECIFIC

1. Adopt Trails Concept Masterplan. Integrate into Dungog Common Reserve Masterplan to align with other site development directions i.e. trailhead and car park infrastructure, visitor facility infrastructure
2. Undertake priority refurbishment works, rationalisations and realignments according to Concept Masterplan
3. Develop Detailed Design including ground truthing and final design of new trails
4. Confirm Implementation Plan for works
5. Undertake required planning procedures and permitting as required including cultural heritage and biodiversity studies
6. Develop detailed infrastructure plan and costing
7. Confirm construction funding
8. Tender and confirm construction works supplier/s
9. Commence trail build/s and associated infrastructure works

8.2 STRATEGIC

1. Finalisation of the Dungog Common Draft Fire Management Plan for the Reserve
2. Monitoring and respond as required to Aboriginal Land Claim/Native Title process
3. Develop cultural attractions and activations in partnership with Karuah Local Aboriginal Land Council (LALC)
4. Develop a Risk Assessment and Risk Management plan for the various activities at the Common
5. Develop a Work Health & Safety framework and relevant protocols to assist management operations
6. Develop a Trails Maintenance Plan
7. Create a Commercial Operations and Tourism Plan for the Common, including leasing arrangements (i.e. Shuttle Commission)
8. Develop a Marketing Strategy for Dungog Common Reserve

Appendix A - Trail Audit Existing Trails

This table details results from the initial Trail Audit covering EXISTING TRAILS only, as carried out by TRC Trails in January 2023.

Categorisations and cost estimates are for existing trails as a stand-alone, as-is maintenance upgrade cost for the existing network.

Cost estimates for the Concept Masterplan draw upon these initial estimates, however differ in total amount with increased cost estimates taking into account the recommendations of the Concept Masterplans and integrations of new, amended and realigned trails.

Trail Name (MTB)	Current Length	Maintenance Category	Costing Estimate
Jacks Black	1500	Category 1	\$17,200.00
The Bowlo	986	Category 1	\$28,545.00
Les's Lair	1500	Category 1	\$10,100.00
Necessary Evil	1500	Category 2	\$37,500.00
Up Up and Away	1300	Category 2	\$32,500.00
Inny and Outty	1100	Category 1	\$18,400.00
Leans Leap	770	Category 1	\$13,000.00
Wolfs Way	1200	Category 2	\$30,000.00
Easy Street Green Flow	1500	Category 3	\$12,000.00
Easy Way Out	777	Category 2	\$19,425.00
Switch Back Up	1100	Category 2	\$27,500.00
Al's Downer	905	Category 1	\$7,700.00
Fire Me Up	912	Category 2	\$22,800.00
The Rifle Range	1400	Category 2	\$35,000.00
The Rock Gardens	770	Category 2	\$19,250.00
Obscurity	531	Category 1	\$23,000.00
Hile Climb	1000	Category 1	\$5,000.00
Firetrail Sprint	406	Category 2	\$10,150.00
Black n Blue	751	Category 1	\$19,700.00
The Dirty Boulevard	915	Category 2	\$22,875.00
Rock n Rollin	258	Category 2	\$6,450.00
BeeHive	533	Category 2	\$13,325.00
The Boneyard	643	Category 2	\$16,075.00
GiddyUp	722	Category 2	\$18,050.00
Snake Track	314	Category 1	\$2,000.00
Jimmy's Delight	253	Category 2	\$6,325.00
Blue Flow	1200	Category 3	\$9,600.00
Total Maintenance Estimates			\$483,470.00

Trail Name (Walk)	Current Length (metres)	Maintenance Category	Costing Estimate
East West TH > Common Road Trails	500	Category 2	7800
Guluwa Loop	750	Category 2	11700
Rifle Range Outer Loop West	850	Category 3	13260
Rifle Range Loop Link 1 East	300	Category 4	4680
Rifle Range Link South	100	Category 5	1560
Boorangong Walk Section	400	Category 6	6240
Girriwa Walk Short Loop	1500	Category 7	23400
Girriwa Walk Mid Loop	1600	Category 8	24960
Girriwa Walk Outer Loop	2300	Category 9	35880
Girriwa Walk Link to Common Rd	150	Category 10	2340
Total Maintenance Estimates			\$131,820.00



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