Shire of Roebourne Trails Master Plan

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September 2013

Foreword

The National Trust of Australia (WA) is pleased to submit the Roebourne Trails Master Plan to the Shire of Roebourne for its implementation. This comprehensive plan outlines a range of benefits which will accrue to the rapidly expanding Pilbara population while at the same time proposing realistic levels of development which will be both economically and environmentally sustainable.

Here you will find trails which will appeal to a wide variety of users from local families to visiting grey nomads, from energetic mountain bikers to those who like to take their exercise at a more genteel pace while not forgetting those who want to learn about the rich natural, Aboriginal and historic heritage of this vast land – all are catered for in this trails program. As well, Roaming with Red Dog and the Pilbara Rocks GeoTour make the most of both traditional and cutting edge technology to engage a variety of audiences including families.

Central to the Shire of Roebourne's vision statement is the development of a cohesive and vibrant community celebrating diversity and working together to create a sense of place and a sustainable future. The Shire's mission is to provide community leadership and excellent local government services in an innovative and efficient manner to enhance the community's social, economic and environmental well being.

The Trail Master Plan links directly into both of these statements and the Shire should be congratulated for undertaking this initiative.

Current and future generations will reap significant benefits from the proposed plan.

Opportunities to interact with family, friends and others by participating in shared activities are some of the social benefits that will flow from the trails plan. Innovative interpretation of the trails will engage across generations encouraging both young and old to discover more about the rich heritage of the region. This is one of the most efficient and effective tools available to increase knowledge, awareness, understanding and commitment to the long term care and conservation of the flora, fauna and rock art that abound in the landscape.

Health benefits including reductions in the development of chronic illnesses and diseases such as cardiovascular disease and type two diabetes attributed to increased mobility such as walking, cycling, mountain biking and other trail uses are well documented. Physical activity improves energy levels resulting in increased muscle tone, concentration and even self-esteem. This is of extreme importance to both residents and visitors.

The flow on economic outcomes for business to provide equipment, accommodation and supplies for the utilisation of trails does not only provide new employment opportunities but is another foundation for the tourism industry. There is also an opportunity to develop cross cultural training programs to grow opportunities for Aboriginal businesses and employment.

The Shire of Roebourne's Trail Master Plan reflects the commitment by the Shire to create a sustainable community for well into the future and an opportunity to showcase the amazing values of the Pilbara to both those choosing to live there as well as those who visit.

The National Trust of Australia (WA)

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Preamble

This Trails Master Plan is an opportunity to showcase the Shire of Roebourne's vast array of cultural heritage values. The plan sets out to promote community health and recreation, sustainable cultural tourism and life-long educational values.

Cultural heritage is often misinterpreted as something either associated with an old building or an Aboriginal issue. It is far broader than either. Cultural heritage is defined as something that is inherited from the past and valued enough to leave for future generations. It is about the identification, conservation and interpretation of the social, scientific, aesthetic, historic and spiritual values of a place.

Internationally trails are being recognised not only for their health and recreational benefits but also for their ability to provide formal and informal learning opportunities leading to changes in behaviour which result in conservation and reconciliation outcomes.

Setting the Scene - a Remarkable Narrative

The Shire of Roebourne is the custodian to a story that goes back to beginning of life itself. While the town of Karratha is built on land that is, in geological terms relatively new, the basalt rocks of the Karratha Hills go back some 3.2 billion years. They are some of the oldest rock formations on earth.

Aboriginal habitation of the region dates back at least 30,000 years and is highlighted by the petroglyphs throughout the shire and particularly on the Burrup Peninsula – arguably the world's largest art gallery.

European contact came much later. The mapping of the rugged Western Australian coast began nearly 400 years ago when Dirk Hartog in the Eendracht came ashore at the island that now bears his name at the entrance of world heritage listed Shark Bay. His visit, recorded on an inscribed pewter plate he left nailed to a post, was more than 150 years before Captain James Cook mapped the east coast of Australia.

The recommended upgrading of the existing Yaburara Heritage Trail will provide residents and visitors with an outstanding experience on Karratha's backdoor.

More Dutch, English and French mariners followed Hartog, many heading north to the Spice Islands. They continued to map the coast - as a warning not a destination - so unimpressed were they with the dry and seemingly lifeless land.

Despite this extensive maritime activity little information was revealed about the area inland from the coast.

More expeditions in the mid 1800s led to the beginnings of the pastoral industry and the establishment of pearling at Cossack, the first port in the northwest. As a centre of the pearling and pastoral industries, Cossack soon became an international port trading directly with London.

In the 1880s the first hint of the region's immense mining wealth surfaced, first with copper and then gold. And 80 years later with the embargo on the export of iron ore lifted, the huge iron ore industry began to dominate the region along with natural gas and salt.

Now the Shire is crisscrossed with many hundreds of kilometres of railways and trains pulling over 250 wagons regularly head for coastal ports to ship iron ore to the giant industrial powerhouses to the north.

But with progress comes the challenges. How to provide for a rapidly expanding community, and meet the needs for housing, health, education and recreational amenities? How to make sure local Aboriginal peoples throughout the Shire are a central part of the story? And how to make sure this incredible sweep of history is not lost in the rush to the future?

An exciting way of capturing and sharing these stories is to develop a network of trails throughout the shire to link the rich and complex narratives of the past with the exciting and challenging developments of the present and future.

The Shire of Roebourne has commissioned the preparation of this Master Plan to provide direction for developing and expanding the network of trails. This plan identifies existing trails, suggests ways they can be upgraded and improved and recommends new trail projects that will provide more opportunities to highlight local heritage and increase the range of community leisure activities.

The Shire is experiencing rapid growth as a result of the boom in mining, oil and gas and the growth of industries supporting these projects. It is expected that the growth in the region will see Karratha's population of 18,000 grow steadily towards projected population of more than 50,000 in the not too distant future, with a consequent need for more recreational facilities, such as trails.

The Vision for Karratha, as set out in the City Growth Plan – Karratha City of the North is, "*A liveable, compact, Regional City of 50,000+ people, with a diversified economy, a healthy local community which demonstrates demographic balance, affordability, high quality amenity, and infrastructure. It is a place of choice, to work, visit, grow up, raise families and age gracefully*."

A key element of this Master Plan is to develop a trails network that will add to the "liveability" of the towns in the shire, now and into the future.

The shire has a wide range of attractive landscapes, and a great diversity in wildlife and vegetation. One of its most famous, most significant and most visited attractions is the Burrup Peninsula (Murujuga National Park) with its stunning array of rock art now highly regarded nationally and internationally.

Deep Gorge, within the Murujuga National Park on the Burrup Peninsula, is already popular with visitors. New trails are proposed within the National Park. When constructed, they will be the highlight of the trails network of the region.

Currently there are 12 existing trails within the Shire including the Yaburara Heritage Trail (in Karratha), the Cossack Heritage Trail, the Emma Withnell Heritage Trail and a section of the Warlu Way (a drive trail   extending from Exmouth to Broome, through Karratha, Roebourne and Cossack). There are also numerous informal tracks and trails throughout the region.

As set out in the Consultant's Brief for this project, existing and potential trail users include walkers, mountain bikers, horse-riders, bird watchers, photographers and

rogainers. It is considered that the main target group for the Shire's trails will be local residents; however the Shire is interested in developing and maintaining new and existing trails that would attract visitors, especially in areas where these trails can link to existing towns and services bringing economic as well as social and cultural benefits to the local community.

One of the best known, and oldest trails of the region is the Yaburara Heritage Trail, right on the doorstep of Karratha. This walk trail was established in the late 1980s and is widely known and well used by residents and visitors alike despite the need for major upgrading works.

A primary recommendation of this Trails Master Plan is to realise the potential of the Yaburara Heritage Trail by adopting the recommendations of the Trail Upgrading Plan (Section 3.2).

The development of several new trails will provide a greater range of opportunities for local people and visitors to enjoy the beautiful environment and immerse themselves in the rich and varied history of the region.

The suite of trails proposed in this document reflects the quintessential character of the area – its natural features such as the rocky hills and coastline, its Aboriginal history, its European explorers and pioneer settlers, its pastoral and pearling history and the mining and industrial developments which have all led to some turbulent and tense situations in recent times.

The history of the settlement of Roebourne, its people, places and events will be showcased on two circuit trails in the town.

The costs involved in implementing the proposed projects need not be borne by the shire alone. A number of funding opportunities are currently available to assist in upgrading and enhancing existing trails and in the development and promotion of new trails. This will enable the shire to embark on a program to progressively upgrade and expand the trail network, and to promote the trails and natural attractions of the shire. Issues of governance and ongoing consultation remain key to the implementation of this report.

The Existing Trail Supply Situation

The inventory of existing trails prepared as part of this project has identified the following core characteristics of 'trail supply':

- ❖ Several walk trails already exist, including the Yaburara Heritage Trail in Karratha and walk trails in Cossack, Point Samson and Roebourne;

- ❖ The potential for walking in the Murujuga National Park has been recognised in the recently prepared Murujuga National Park Management Plan. The eventual development of trails on the Burrup Peninsula will add enormously to the visitor experience of Aboriginal culture and history and complement those already existing (such as the Yaburara Heritage Trail in Karratha), and proposed trails elsewhere in the Shire;

- ❖ Although mountain biking and horse riding occurs in several locations throughout the Shire, there are no formally recognised trails for these user groups. Given the

vast expanses of open spaces throughout the Shire, and the demand, there would appear to be ample opportunities to cater for these two activities;

❖ Trails in the Shire of Roebourne are currently not well packaged and promoted. The trail brochures that do exist have no consistency in look and no uniform branding;

❖ Some of the existing trails are poorly signposted, in terms of directional / promotional signage to the trailhead and directional signage along the trails; and

❖ Interpretation along the existing trails is spasmodic and limited and often is poor condition.

The Role of Trails

Trails have *much* to offer local governments.

Right across Australia the many benefits of well planned and promoted trails are being recognised by a range of agencies including tourism organisations, local government authorities and a host of health organisations. It is now well recognised that recreation trails perform a number of highly beneficial roles in the broader community:

❖ They provide opportunities for low-key unstructured passive recreation for local residents and visitors alike;

❖ They enable users to gain fitness and they foster general well-being;

❖ They are a valuable tourism attraction, especially when well maintained and marketed;

❖ They can help instil a conservation ethic amongst users; and

❖ They can be a means of educating users about the heritage values (natural, Aboriginal and historic) and highlights of an area, especially when good interpretation is a feature of the trail.

In the case of the Shire of Roebourne, with a high level of FIFO workers, trails can be a way of inducting new workers into the Aboriginal and European heritage of the region and developing a respect and understanding of the sometimes fragile nature of what looks like a robust landscape. Induction programs using the trails for cross-cultural awareness provides opportunity for Aboriginal employment and businesses.

What This Document Provides

This Trails Master Plan proposes a number of significant trail projects that have the potential to deliver real benefits to the local communities. The Plan recognises the needs and demands of local residents and visitors, and it takes advantage of the diverse range of attractive landscapes and stories that define the Shire of Roebourne.

As is common with Trails Master Plans, the project provides the following:

❖ An inventory of existing trails including their purpose, general condition and use and maps showing their location.

❖ Identification of potential trails.

❖ Mapping of existing and proposed new trails.

❖ Preliminary cost estimates and priorities for upgrading of existing trails and development of proposed new trails.

❖ Results of consultation with key stakeholders and groups within the community.

❖ A recommended action plan and strategies for implementation of the plan.

❖ An overview of the actions required (such as the preparation of a detailed development plan) to establish each proposed new trail.

❖ Consideration and recommendations for trail information and interpretation including brochures, signs and use of digital media, along with an appropriate branding.

Principles for Selection of Trail Projects

Candidate trails and trail projects were assessed against a number of important criteria:

❖ Trail demand - the majority of walkers seek short trail opportunities; mountain bike riders and horse riders seek trails that are recognised and formalised;

❖ Community and Shire staff input;

❖ New trails should be different to those already available and offer new experiences;

❖ Value for money (recognising that there will be limited budget). Trail projects should look to provide value for money and a good return on the investment made by the Council and other land managers. A few high quality, well built, well maintained and well promoted trails highlighting the best features of the Shire of Roebourne is preferable to a large number of poor quality trails badly constructed and not maintained;

❖ Trail availability in adjoining local governments and 'point of difference' – the Shire of Roebourne should seek to develop trails that highlight the special features of the region;

❖ Practicalities of trail development – costs, land tenure and access, environmental issues, cultural issues, funding possibilities, possible (on-going) community support and the possibility of opposition, and the safety of users; and

❖ User experience. Trails have to provide a high quality user experience to promote return visits – word of mouth is a much stronger advocacy tool than marketing strategies. The trail projects need to ensure a high-level user experience.

Combined with the field assessment, consideration of these elements allows the determination of trail projects.

The following trail projects have been identified but are **not listed in any particular order**. The prioritisation of the trails will be determined each year by staff and will be dependent on available resources, funding opportunities and how they link with other shire projects eg. townscape strategies and urban development extensions. It should be noted that it would be possible to develop more than one trail at a time, especially if different organisations were responsible for implementation of different projects.

This Trails Master Plan proposes a walk trail around Ieramugadu Pool on the Harding River in Roebourne. The trail will highlight the bush tucker and bush medicines to be found along the banks of the river.

It is also highly likely that groups within the community (for example, the Ngarluma Aboriginal Corporation, the Ngarluma and Yindjibarndi Foundation Ltd and the Burrup Mountain Bike Club) may independently seek funding to proceed with the implementation of one or more of the key projects.

At the time of the preparation of this Trails Master Plan the Ngarluma Aboriginal Corporation intends to pursue the development of a 'Ngarluma Country Trails Plan'. Should it proceed, that plan will encompass a range of trails focussing on the heritage and culture of the Ngarluma people across the region.

Twelve specific projects are recommended in this Trails Master Plan.

1) **Roaming with Red Dog**

This trail is a mixture of driving and walking and directed towards shared family experiences. There is a Quest element overlaying the trail inviting participants to 'sniff out' clues and solve a mystery. The Quest is aimed at engaging and entertaining younger family members using geolocational games and a range of other activities.

The specific points of interest have been chosen to appeal to families and engage with many of the themes identified in the current Municipal Inventory often through the eyes of Red Dog.

The two key family-based activities are the variety of games and learning experiences contained in the *Roaming with Red Dog* Activity Booklet (and/or interactive Smart phone app) and searching for geocaches, both existing ones and those specifically created for this trail.

2) **Ieramugadu Bush Tucker Trail**

This proposed trail is a self-guided walk around the pool (Ieramugadu Pool) on the Harding River in Roebourne. The walk would be approximately 1600 metres, utilising some existing tracks and the old road bridge (now a footbridge) to cross the Harding River at the southernmost end of the proposed trail.

The trail would feature interpretive signage depicting bush tucker and bush medicines (as well as other matters of significance to the Aboriginal community). The trail's location close to town and good mobile reception lends itself to Smartphone technology featuring oral histories.

There is also potential for guided tours by local Elders with its close proximity to the proposed Cultural Centre providing economic as well as social/cultural benefits to the community.

3) **Roebourne Heritage Trail**

This project involves developing two new self-guided heritage trails in Roebourne – a short loop and a longer loop. The proposed heritage trails would commence from the Visitor Centre and take users to a range of significant and historic sites and buildings throughout Roebourne. The opportunity exists along each of the proposed trail routes to highlight people, places and events that have helped shape Roebourne into the town that it is today.

These heritage trails provide a signposted and interpreted route to the most significant sites within Roebourne.

4) **Cossack Heritage Trail Redevelopment**

The history and buildings (and remains of buildings) at Cossack are currently featured in three existing trails: the Emma Withnell Heritage Trail, the Cossack Heritage Trail and the Cossack Historic Walk. Existing signage along the trail(s) is old, sometimes faded and the information is duplicated in the brochures. Having almost identical information in several brochures is confusing, and there is an unnecessary amount of signage at some sites.

The intention is to completely revamp and consolidate the information and signage on the three existing heritage trail(s) by providing two stand-alone loop trails – a western loop of approximately 1800 metres (which follows the original alignments

of the Cossack-Roebourne Tramway) and an 1800m eastern loop (which follows the road out towards the cemetery and returns along the beach).

The heritage values of the remaining buildings, the landscapes, the vistas, the social values and the ruins will be highlighted in future interpretation.

5) Karratha Mountain Bike Park

Mountain biking is undoubtedly a popular activity in the Shire of Roebourne, particularly in Karratha, and the popularity is increasing. At present mountain bikers have no formal trails or areas where mountain biking is accepted as a legitimate activity. Consequently, mountain biking occurs unsanctioned on the hills of Karratha – and elsewhere.

The proposal is to assess areas of the Karratha region to identify suitable sites (or, preferably, one site) where the different types of mountain biking can be accommodated. It is common to cluster the various mountain biking activities into one consolidated area known as a 'mountain bike park'.

6) Mulataga Trail

The new residential areas proposed for development to the east of the existing urbanised area of Karratha will need to be connected to other existing and proposed trails of the area.

It is proposed that a walk trail be developed around and through the hills to the east of Karratha Road (subject to Aboriginal heritage approvals) with a connection across Karratha Road to the Visitor Centre and hence to the existing Yaburara Heritage Trails.

This project will examine the potential for a series of trail circuits in this hilly region, and the most appropriate locations for connecting trails to and from the Mulataga area and the Karratha Visitor Centre.

Harding Dam is an outstanding attraction and features outstanding views, amazing birdlife and a rich cultural heritage. It should be one site selected for a proposed 'geotour' of the region.

7) Yaburara Heritage Trail upgrade project

The recently prepared *Yaburara Heritage Trail Upgrading Plan* recommends the development of 5 'stand-alone' trails in the Karratha Hills, based on the existing tracks that form part of the current Yaburara Heritage Trail alignment.

When upgraded and promoted, these 5 trails will provide local people and visitors to the region with a range of spectacular walk trail experiences due to their locations on the Karratha Hills, their differing lengths and varying levels of difficulty.

8) The Pilbara Rocks GeoTour Project

As highlighted in the (draft) revised Municipal Heritage Inventory, the region contains a rich array of Aboriginal and European history. The intention of the proposed "GeoTour" project is to select the most accessible, important and interesting sites, events and stories in the region for promotion.

Development of the sites recommended in this project will result in a smorgasbord of places that visitors and local people can select from (and visit – by car or 4WD), according to their interests (rather than following a defined and signposted route).

9) Karratha Bridle Trail

Horse riding is popular in Karratha, despite the heat. The number of members of the club is constantly rising and there is a waiting list for yards at the Agistment Centre.

Horse riders already use a myriad of tracks to the south of the Karratha Hills East area. A clearly signposted trail is recommended, as well as continued access north to the beach.

This project involves fieldwork to ascertain the most suitable location for a bridle trail circuit in the vicinity of the Agistment Centre along Robins Road.

10) Dampier Heritage and Fitness Trail upgrade project

The Dampier Heritage and Fitness Trail circuits already exist. Given the emphasis of this Trails Master Plan is to cater for local people (as well as visitors) it is considered important to ensure that local trails are attractive and well used.

The proposed project involves determining improvements to the existing fitness circuits (concrete footpaths). Some of the possible improvements would include the installation of interpretation at selected locations, improved directional signposting and additions to the path network.

11) Point Samson Heritage Trail upgrade project

At present 5 separate trails are promoted for use by visitors and local people in the Point Samson area. These include a Heritage Trail that utilises roads and concrete paths around the Point Samson area, and 4 others that use gravel roads and sandy tracks, including one that follows the former Roebourne – Point Samson tramway as far as Pope's Nose Bridge.

The Point Samson Heritage Trail requires upgrading. The proposed project is to completely revamp the trail route to provide logical start and end points (ie. trailheads), and to determine where improvements are required (such as additional sections of path, directional signage and interpretation).

12) Wickham Tank Hill Trail

Tank Hill lookout at Wickham provides outstanding views in all directions, enabling visitors to the lookout to enjoy 360° vistas over the town and the surrounding natural and built landscape.

It is intended that a circuit trail be established around Tank Hill, with easy access to the trail from the nearby residential area.

The proposed 1,000 – 1,500m trail would be attractive to visitors to the town/region, as well as a place where local people could exercise. The route of the proposed trail has not been determined, but would follow ridgelines, creek valleys and existing tracks and pass rock outcrops and a variety of vegetation types.

In addition to the trails development/upgrading projects listed above, another important task (or trails-related project) for the shire is a Marketing and Promotion Program.

A series of new (and upgraded existing) trails will be developed through the programs set out above. When in place, they will need to be better promoted. This is best achieved through a concerted effort at compiling information, and publishing it in the form of simple but aesthetically pleasing brochures/maps, web sites and phone apps.

In proposing a total of 12 projects this Trails Master Plan recognises that the Shire of Roebourne already has a number of existing trails and it has a limited capacity to construct and maintain more trails. It is more appropriate to embark upon a restricted program of activity – but one that is *achievable* – rather than a list of projects that could well seem

too daunting to even attempt. The emphasis therefore is to build on what the Shire already has, and then selectively over the coming years add to that suite of trails.

Education and Life Long Learning

The Trails Master plan also offers strategies for using the trails as a focus for a variety of education and learning scenarios. These range from formal school based programs linked to the Australian Curriculum and highlighting the local history of the region, to informal family centred discovery experiences such as the *Roaming with Red Dog* trail. These strategies are described in detail in Section 10.

A Program of Delivery

This Trails Master Plan sets out a ten-year implementation program for the Trails Master Plan projects.

A range of grant programs is outlined in the report, which support various elements of the program. The shire will need to be ready to make applications for a share of funds from the various grant programs, and this Trails Master Plan will facilitate that process.

The costs estimates set out in this Trails Master Plan are based on full commercial rates (using contractors and consultants). Savings can be made using volunteers for some tasks (such as research for background information to support the trails).

Key stakeholders other than the Shire of Roebourne could accomplish some of the proposed projects – and get them implemented sooner. For example, the Ngarluma Aboriginal Corporation (NAC) could assume control of the upgrading of the Yaburara Heritage Trail; the Ngarluma and Yindjibarndi Foundation Ltd (NYFL) could take ownership of the proposed Ieramugadu Bush Tucker Trail; the Burrup Mountain Bike Club could take control of the proposed Karratha MTB Park project; and the Karratha & King Bay Horse & Pony Club could take ownership of the project to develop the Karratha Bridle Trail. These organisations could seek funding from some of the major corporate entities operating in the region and use those funds/sponsorship when applying to Lotterywest or any of the other funding programs outlined in this Trails Master Plan.

Summary and Costs

The Shire of Roebourne is fortunate to have an enviable array of historical, physical and geographical attributes – including the petroglyphs of the Burrup Peninsula and the Karratha Hills (as well as elsewhere in the region), the heritage buildings of Roebourne and Cossack, the Aboriginal history, the rich European exploration and settlement history and the current natural resource developments.

This Trails Master Plan sets out a simple project-focussed program designed to deliver the maximum benefits to the widest cross-section of the community. It does not focus solely on developing new trails, but recognises there are trails already in existence. It recommends the upgrading of a number of these, and enshrines the requirement for quality and carefully targeted marketing and promotion.

The estimated cost of implementing the trails program set out in this Trails Master Plan is **$3.079 million** (+ GST). The proposed Trails Marketing and Promotion Program will add another $55,000.

The implementation program is spread over a suggested 10-year period.

Developing trails in this part of Western Australia is expensive. However, the benefits are great and there are numerous funding programs that would provide funding for individual trail development projects. There are also numerous potential corporate sponsors who may be willing to provide substantial sponsorship towards development of the proposed trails.

Recommendations

It is recommended that the Shire of Roebourne:

o   Resolve to endorse the Shire of Roebourne Trails Master Plan and seek to implement the recommendations contained therein.

o   Refer this Trails Master Plan to the following organisations for review and comment:

- Ngarluma Aboriginal Corporation
- Ngarluma and Yindjibarndi Foundation Ltd
- Juluwarlu Aboriginal Corporation
- Murujuga Aboriginal Corporation
- Burrup Mountain Bike Club
- Karratha & King Bay Horse & Pony Club
- Roebourne Visitor Centre
- Karratha Visitor Centre
- Department of Environment and Conservation
- Dampier Community Association
- Point Samson Community Association

o   Consider an annual allocation to supplement grants from other sources to implement the projects contained within the Roebourne Trails Master Plan.

o   Seek funds from other sources (including major corporate entities in the Pilbara) and funding programs for the projects contained within the Shire of Roebourne Trails Master Plan.

o   Provide support to the Ngarluma Aboriginal Corporation for its proposed Ngarluma Country Trail Plan.

o   If external funding can be sourced, make arrangements for a portion of the work time of an officer of the Shire of Roebourne to be dedicated to trails and implementation of this Trails Master Plan.

o   Establish an annual allocation of funds for trail maintenance.

o   Establish a *Friends of Roebourne Shire Trails* to assist with trail maintenance and promotional activities.

o   Promote links to the Local History section of the Library to encourage public research associated with various trails.

o   Encourage the Library to arrange a schools research liaison person to assist schools in local research projects.

o   Prepare an information package – such as a booklet – that contains maps and other details about the Shire of Roebourne trails.

o   Add the recommended new trail signs to the Shire of Roebourne Corporate Style Guide.

SECTION 1: PROJECT OBJECTIVES AND METHODOLOGY

1.1 Background

The Shire of Roebourne, with funding support from Lotterywest, has commissioned the National Trust of Australia (WA) (NTWA) to prepare this Trails Master Plan for the Shire of Roebourne. The NTWA has sub-contracted Transplan Pty Ltd and Mike Lefroy.

The vision of the National Trust is to remain the pre-eminent organisation promoting the conservation and interpretation of Western Australia's unique heritage (historic, natural, Aboriginal) and educating the community about the use of this cultural heritage for the long-term social, economic and environmental benefit of the community.

The National Trust recognises that trails represent an important education and learning tool for a community to increase its knowledge, awareness, understanding and commitment to its cultural heritage, and contributes to the conservation of natural, Aboriginal and historic heritage values.

The widely held impression of a 'trail' is a route or pathway which has as its primary land usage any one of - or combination of - recreational walking/hiking/running, mountain biking or horse riding - and which passes through or has a strong connection to the natural environment.

Trails in this context refer primarily to non-motorised users (cyclists, walkers, horse riders). (See Section 1.5).

This Trails Master Plan provides the framework to direct the development of trails in the Shire of Roebourne to ensure they are well planned, managed, resourced, promoted and maintained and, where practical, linked to external trails networks and wider regional trails.

The purpose of this study is the production of a conceptual plan that will identify existing trails and assist in forward planning for the provision of new trails throughout the Shire of Roebourne.

The project includes an overview report detailing existing trails and potential new trails, and management and maintenance of existing trails and the construction and infrastructure development of new trails.

The shire has a variety of historic sites and heritage assets, and these too could well be linked by trails. Therefore the importance of trails in increasing environmental awareness and heritage conservation, as well as providing recreational and tourist potential to residents and visitors to the Shire is paramount.

1.2 Purpose and Need for this Trails Master Plan

Trails' planning does not exist in isolation. This plan is part of a broader approach by the Shire of Roebourne to provide growth that meets community, environmental and economic goals, and enhances the quality of life for residents of the Shire.

As set out in the Project Brief, the Shire of Roebourne requires a Trails Master Plan to provide direction for the management and development of trails across the Shire.

Trails are not an isolated product – they link with a whole range of other planning processes – tourism, open space planning, regional planning, economic development, and natural resource management planning. Trails need to be placed in a wider context of other issues. (See Section 3 which deals with a range of background information and reports that have helped shape the outcomes of this Trails Master Plan).

Experience elsewhere indicates that recreational trails can indeed be a focal point for quality tourism with the right infrastructure and the right packaging. Recreational trails

can be a significant component of a sustainable tourism industry capitalising on outstanding natural assets.

The Project Brief states that the main target group would be local residents. However the Shire would also be interested in developing trails that would attract visitors to the region and specific-interest groups such as mountain bikers, especially in areas where these trails can link to existing towns and services bringing economic benefits to the local community.

The area offers a broad spectrum of possible trail types and standards and the development of a trails master plan will allow the various governments, private and community organisations to effectively, cooperatively and appropriately plan for the future, with potential in some cases to link with potential future trails in other municipalities.

A series of trails would serve the following purposes.

1. Enable convenient and safe access to natural areas of the Shire for local residents and visitors to the towns of the Shire.

2. Provide a safe recreational asset in close proximity to the towns of the Shire.

3. Provide an attraction to tourists that would educate them about the natural, Aboriginal and historic values of the Shire of Roebourne.

4. Provide an opportunity for an integrated community project; i.e. community involvement in all aspects of the trail from track alignment to design to signage and rehabilitation of the area's vegetation.

5. Incorporate Aboriginal heritage (especially in interpretive signage).

6. Support the historical significance and status of the towns of Roebourne and Cossack (and other locations and sites within the Shire of Roebourne).

1.3 Scope of the Trails Master Plan – the Project Brief

The project brief, as issued by the Shire of Roebourne, sets out the following:

Project Overview

The Shire aims to audit the existing trails (creating a baseline inventory) and develop a Master Plan for the provision of trails and tracks. The Master Plan should identify the tracks and trails which can be further developed to create a formal and managed network. Additionally, the consultant will be required to investigate any potential trails, whether they are conceptual or physical. Conceptual trails include linkages through places and towns via a range of transport which often involves a cultural or spiritual journey.

Project Rationale

The Master Plan will meet the needs of an increasing population and demands of the tourist and the residents who enjoy outdoor activities. This result is a need for increased recreational activities which are safe and well managed. It is envisaged the formal network would accommodate the following activities and community groups;

- *Walking.*
- *Equestrian.*
- *Cycling (mountain bike).*
- *Duathlons.*
- *Bird Watching.*
- *Photography*
- *Rogaining.*

Trails are also useful as ways to provide access to cultural and natural heritage. In this way they are useful for a number of community groups, particularly Aboriginal people, to give managed access to their heritage as well as providing social and economic benefits to their community. Trails are an opportunity for people to learn and explore local culture and landscapes. There is a great chance to use trails such as this (the Yaburara Trail is a great example) for cross cultural awareness training for new people in town and for mining company inductions.

For the wider community these trails will provide opportunities to walk, socialise, exercise and reflect whilst exploring the unique history, geology, ecology and culture of the Pilbara region.

Scope of Services

The Consultant will, under the direction of the Shire of Roebourne, be required to develop the Master Plan for the Shire's Tracks and Trails network.

Audit Existing Tracks and Trails.
- *Condition of Track/Trail and its infrastructure.*
- *General Use of each Track/Trail.*
- *If there is any specific heritage or relevance to the Track/Trail.*
- *Provide mapped inventory - Identify location, route and any trail infrastructure (trail head, parking, signage - interpretation, directional, 'ownership' of trail, brochures, websites, etc) of known trails/tracks in the Roebourne Shire*
- *An information sharing process shall be established with the following organisations;*
  - *Ngarluma Aboriginal Corporation*
  - *Murujuga Aboriginal Corporation*
  - *Department of Environment and Conservation*
  - *Department of Sport and Recreation*
  - *Department of Indigenous Affairs*
  - *Other Government Agencies as relevant*
  - *Other Community Groups as relevant*
  - *Karratha Visitor Centre*
  - *Karratha Small Business Centre*
  - *Appropriate recreation groups*
  - *Appropriate environmental groups*

Key Tracks/Trails
The Consultant will be required to begin identifying key tracks and trails in order to shape and proposed formal network moving forward which would be maintained and managed. This stage should include;

- *Outline of Primary and Secondary Tracks/Trails.*
- *Key theme for interpretation and education based on heritage learnt in stage 1.*
- *Examine multi use options.*
- *Examine against the proposed growth development of townships and hard infrastructure.*
- *Identify key audiences and their trail requirements*
- *Identify current and future marketing and promotional opportunities.*
- *Place the trails plan in a broader trails context – regional, state*
- *Key consultation if not done as part of stage 1*
- *Identify potential trails.*
  - *Provide an overview of the location,*
  - *Extent (route),*
  - *Trail type, and*
  - *Key themes.*
- *Identify current and future marketing and promotional opportunities.*
- *Develop marketing and promotion guidelines*

- *Provide recommendations on governance, native title, Aboriginal sites and insurance issues on existing tracks/trails.*
- *Preparation of Master Plan draft.*
- *Present back to Community Consultation organisations as a part of the information sharing process.*
- *Preparation of Master Plan final.*

Detailed Design
- *Development of detailed schematic design based on Master Plan. This includes the following;*
  - *Signage*
  - *Materials used*
  - *Any alterations to current tracks/trails*
  - *Methodology for managing heritage sites if required.*
  - *Order of probable costs*

The above would only be for existing trails. New trails as (if) identified in stage 2 would require trails planning as a separate exercise.

1.4 Methodology

In common with other Trails Master Plans, this project uses the following methodology to establish the desired outcomes.

Background Research – the first stage of the preparation of this Trails Master Plan was to review background material that may influence the supply of, or demand for, trails within the Shire of Roebourne. In particular, any information pertaining to existing trails, or proposed trail projects, within the Shire was collected and reviewed. The intention was to compile a list of existing trails, their user groups, their condition and relevant background information. During this stage, digital mapping data was obtained in preparation for the fieldwork. Information about likely urban and industrial expansion in the towns and region, and especially in Karratha, was gathered to assist the overall planning.

Initial Discussions with client to confirm requirements of brief – it was imperative to establish the desired outcomes sought by the Client, and to clarify the requirements of the Brief. Initial discussions revealed the intentions of the Client, the prevailing attitudes towards trails development, the role of trails within the local communities, and importantly some local insight into the availability of, and scope for, trails within the Shire of Roebourne. It became clear that the primary purpose of this Trails Master Plan was to enhance the 'liveability' of the towns in the Shire for local residents.

Meeting with key stakeholders – the input from interested local people and key stakeholders (such as various Aboriginal groups, the mountain bike and horse riding clubs, the visitor centres and the Department of Environment and Conservation) was crucial to the successful preparation and implementation of this Trails Master Plan. In any community there are individuals and groups with interests in cultural, social, environmental, heritage and historical issues that have a vital role to play in shaping the Plan.

Fieldwork – there is no substitute for actually walking (or cycling) existing trails, and assessing areas for possible new trails development. Visiting existing trails enables a comprehensive account of the condition of each trail to be compiled. These include such matters as signage, trail surface, maintenance requirements and interpretation needs. The in-the-field assessment of natural areas and other trail opportunities provided ideas about future trail development possibilities.

Report writing – following background research, consultation and in-the-field assessment of existing and future trail opportunities, all relevant information was compiled and

distilled down into a report that dealt with all matters set out in the Brief. In the case of the Shire of Roebourne Trails Master Plan, the essential tasks were to compile an account of the nature and condition of all existing trails, make recommendations about the need for additional trails (ie. a 'gap' analysis) and trail projects, and to provide costs and priorities to the Shire.

Further discussions and consultation – upon completion of the fieldwork, and during the preparation of the draft plan, it was necessary to follow up with various stakeholders to clarify matters. This often involved additional meetings and/or discussions with key stakeholders to clarify regulations and requirements, or to elicit feedback on ideas and draft proposals. Meetings with key representatives of stakeholder groups were held in Roebourne and Karratha to discuss possible trail projects.

Mapping – of the trails, an essential element of the Master Plan, involved an overall map showing the location of all existing trails, and a second map illustrating the recommended location for the suite of proposed trails. Individual plans (on aerial photography) were also produced for each proposed new trail.

Submission of Draft Report to Client for review – upon completion of the draft plan and mapping, the report is submitted to the Client for initial review and feedback.

Public Review of Draft Report – the community usually has between two and four weeks to review the proposals contained within the Draft Report. Their comments will be collated by the Client, and passed on to the Consultant. Comments received on the Draft Report will be incorporated into the final version of the Trails Master Plan.

Receipt and consideration of submission from the community – interested stakeholders and persons in the community are invited to provide feedback on the Draft Plan to the Shire of Roebourne, which is then be passed on to the Consultant. All comments received on the Draft Plan are taken into consideration in the preparation of the final Trails Master Plan.

Preparation of final Trails Master Plan – following receipt of comments from the Client, stakeholders and interested community members, the final Trails Master Plan is prepared and submitted to the Client for consideration and adoption by the Council. Should the Trails Master Plan be adopted, action should commence soon after, with funding to be sought for the immediate implementation of highest priority tasks identified in the Plan.

1.5 Definition of a 'Trail'

From extensive discussions over many years in Australia and overseas, it is clear that the concept of a trail means different things to different people.

For this project to provide effective results it has been important to clarify the definition of a Trail in the local context.

In Western Australia the definition of a trail has been recently set out in the Western Australia Trails Strategy 2009 – 2015 (*Department of Sport and Recreation 2008*):

Trails are areas that provide an opportunity for the community to experience recreational, health & wellbeing, environmental, economic and/or cultural enrichment through interaction with the environment. This includes;

o *Areas used for active and passive pursuits;*

o *Areas used for motorised and non motorised activities;*

o *Defined (or formally recognised) and undefined trails;*

o *Land (eg. walking and cycling) and aquatic (eg. diving, snorkelling or canoeing) trails;*

o *Trails within metropolitan and regional areas; and,*

  o *Areas administered on behalf of the community by local government and the DEC. In some situations, trails may also pass through areas of privately owned land.*

This is the definition that will be used throughout this Trails Master Plan.

1.6 Some Underlying Philosophies

Constructing and maintaining trails can be an expensive undertaking. The history of the development of trails in Western Australia has demonstrated that there are limited funds available for the construction of trails – and few, if any, funding programs provide money for the maintenance of trails.

The lack of maintenance has plagued the trails world in Western Australia. All too often the maintenance of a trail is left in the hands of some willing, enthusiastic (and capable) volunteer group. But over time personnel in the volunteer group changes, enthusiasm wanes or focus changes. When that happens the trail surface deteriorates through neglect. Paths erode, vegetation becomes overgrown, trail signage disappears and brochures/leaflets become out of date or non-existent. The trail then is no longer suitable for use. The original expense and effort in developing the trail has been wasted.

This is the case with the Yaburara Heritage Trail. Developed in 1988, it has suffered significantly in the last 25 years because of a lack of maintenance, misuse by illegal activities (such as trail bikes, mountain bikes and 4WDs) and by cyclonic weather. Its current state reflects the absence of an effective maintenance program.

It is imperative that the proponents of trail projects be aware that over-ambitious trail development programs may fail due to limited availability of funds and other resources for upkeep and visitor safety.

Care must therefore be taken to ensure the proposed trails network be thoughtfully put together.

In this regard, it is makes more sense to have a few QUALITY trails rather than a vast QUANTITY of poorly constructed, poorly maintained and little used trails.

When proposing a trails network, there fundamental questions must be answered:

- *Where is the money going to come from?*
- *Who is going to use the trail?*
- *Who is going to maintain the trail?*

Proposing a long list of trails projects can be counter-productive. When faced with a daunting and expensive list of trail development or upgrading projects, a community can often abandon plans for the trails network as it all becomes too hard.

This Trails Master Plan therefore proposes a number of specific projects that have the potential to deliver solid and *real* benefits to the Shire of Roebourne. It recognises the needs and demands of local residents and visitors, and it takes advantage of the diverse range of attractive landscapes and powerful stories on offer.

This Trails Master Plan also recognises that there are existing trails in the Shire of Roebourne – and more in adjoining local government areas (including in the Millstream Chichester National Park).

1.7 The Benefits of Trails

Right across Australia the many benefits of well-planned and promoted trails are being recognised by a range of agencies from National Park services to tourism departments, and from Local Governments to a host of health organisations.

It is now well recognised that recreation trails perform a number of highly beneficial roles in the broader community. The Western Australian Trails Strategy 2009 – 2015 (*Department of Sport and Recreation 2008*) provides a succinct summary of these. The Strategy states (page 12):

> ➢ Trail users identify numerous benefits from the use of trails, including the sense of well being, unwinding and relaxing, closeness to nature and ability to both spend time with family and friends and time on their own. (*Source: Market Equity Trails Research, 2004*)

> ➢ Trails are a key enabler of community access to sport, recreation, adventure and challenge. Physical activity has been associated with many benefits.

> ➢ 63 per cent of Western Australians walk for recreation, nine per cent cycle for recreation. (*Source: Market Equity Trails Research, 2004*)

> ➢ Regular physical activity is widely recognised as protective against the overall burden of disease. (*Source: Mathers C., Vos T., & Stevenson C. (1999). The burden of disease and injury in Australia. Canberra: Canberra Institute of Health and Welfare*)

> ➢ There is clear evidence of the benefits of physical activity in preventing and treating obesity and depression. (*Sources: Roberts C.K. & Barnard R.J. (2005, January). Effects of exercise and diet on chronic disease. Journal of Applied Physiology. 98(1), 3-30.* And *Warburton Darren. E., Nicol, Crystal Whitney, & Bredin, Shannon. D (2006, March) Prescribing exercise as preventative therapy. Canadian Medical Association Journal, 174(6), 801 – 809*)

> ➢ Research confirms the mental health benefits of physical activity in a "natural" environment. (*Source: Pretty, J., Peacock, J., Sellens, M., & Griffin, M. (2005, October). The mental and physical health outcomes of green exercise. International Journal of Environmental Health Research, 15(5), 319-337*)

Trails provide an opportunity to conserve and interpret heritage values. They enable engagement of the community with heritage values and can help change attitudes and habits.

Trails provide economic benefits through trail construction and user spending. These benefits are often enjoyed by regional areas.

> ➢ Trail construction invested $9 million into the community between 1988-2007.

> ➢ Individual users on major trails spend an average of $72 (1 day) to $737 (4 days). *(Sources: Bibbulmun Track Foundation; Colmar Brunton. (2003). Bibbulmun Track User Research Report. Perth, Western Australia).*

> ➢ Total revenue generated by the Bibbulmun Track (an example of a major WA trail) exceeded $21 million per annum. *(Sources: Bibbulmun Track Foundation; Colmar Brunton. (2003). Bibbulmun Track User Research Report. Perth, Western Australia).*

Trails also provide an avenue for community development and an opportunity to engage the enthusiasm of volunteers. Volunteerism is a significant input into the Australian economy.

1.8 Local Use of Trails

Development of a trail network will bring benefits to local residents, visitors and those that depend on the tourism industry. Development of a trail network will give local people opportunities to recreate outdoors, will deliver significant health benefits and encourage the community's appreciation of the high quality natural resource on their doorstep.

In particular, this Trails Master Plan proposes several projects of direct benefit to local people in their home environment, such as upgrading of the trails in Dampier and Karratha, and new trails in Roebourne and Wickham.

The re-development of heritage trails in Roebourne, Cossack and Point Samson will be of value to current and former residents (as well as visitors) providing a historical overview of

the development of a town and keeping alive the rich history of the region, its pioneers and its prominent residents.

1.9 Demand for Trails

1.9.1 What Do People Do?

The *2007 Exercise, Recreation and Sport Survey* reports on the propensity of Australians to participate in trail-related activities at a general level:

o 33% of survey respondents across Australia participated in walking, making it the most popular form of activity. This figure marks an increase of 24% since the first survey in 2001.

o 9.7% of survey respondents across Australia participated in cycling, making it the fourth most popular form of activity. This figure marks an increase of 11% since the first survey in 2001.

o 5.7% of survey respondents across Australia participated in bushwalking, making it the seventh most popular form of activity. This figure marks an increase of 17% since the first survey in 2001.

o Regular participation in non-organised physical activities (such as walking, bushwalking and cycling) was highest among people with university degrees (39.4%) or diplomas (37.8%).

The difference between 'walking' and 'bushwalking' is interesting. Trails are now seen to be a resource for the larger group (walkers), as much or more than they are for the smaller, more traditional bushwalkers (ie. those who would traditionally used a map and compass to navigate their way in the bush).

People using trails who would not have considered themselves 'bushwalkers' drive much of today's trail development across Australia.

In *Walk WA: A Walking Strategy for Western Australia 2007 – 2020*, the propensity of Western Australians to walk and undertake physical activity is analysed. The strategy quotes from the *Physical Activity of Western Australian Adults Survey 2002*, where walking for recreation was the most popular activity recorded, regardless of gender. Walking for recreation was found more popular among females (70%) than males (55%) and tended to increase with age, peaking in the 45-59 years age group (68%). Walking for recreation was most popular in the 60+ years age group for men (65%) and the 45-59 years age group for women (75%). In children, walking for exercise and walking the dog were among the most prevalent activities classified as 'active play'.

Among the major settings for physical activity, the streetscape is the most popular setting (56%), with 17% using public parks, 14% using cycle and walk paths and 12% using the beach. The 'streetscape' and 'public parks and ovals' are particularly popular with younger adults.

Walking as a form of recreation is growing in popularity, as it is versatile, does not require club membership, payment of facility fees or a long-term commitment, in order to participate. Walking is low impact, can be performed individually, in a social group or with family members or the family dog. Just like their owners, dogs get health benefits from physical activity. Walking can become a more popular physical activity option for those who see time, age, family commitments or poor health as barriers to increasing physical activity levels.

It is worth noting that cycling (on and off-road) is also a popular and growing recreational activity.

The (Draft) *Western Australian State Mountain Bike Strategy* provides the following key facts:

- o   Participation in cycling has increased by 45% between 2001 and 2010.
- o   There are an estimated 65,000 to 96,000 people participating in mountain biking in WA. This is higher than participation levels for netball, football and soccer.
- o   Langford Park trail network recorded an increase in visitation from 23, 000 to 42,000 in just one year.
- o   One trail in the Kalamunda network recorded 25,000 riders in just 6 months.
- o   Visits to the Goat Farm in Greenmount, on the outskirts of Perth, increased by 33% from 2011 to 2012.
- o   Marinup and Turner Hill in Dwellingup have recorded a 44% and 27% increase in riders over the last year.
- o   70% of bicycles sold in Australia in 2005 were mountain bikes.
- o   There are approximately 75,000 – 96 000 mountain bikes being purchased in WA each year.

At a general level, bikes have outsold cars over the last nine years. Last year, bikes outsold cars by a healthy 38 per cent (this margin has increased every year since 2001). Most households own a bike. Over 1.2 million bikes were sold in 2005; most of these were hybrid and mountain bikes (*Australian Bicycle Council*).

Both walking and cycling have a core of participants who engage in their activity very frequently, that is, at least once or more per week.

Horse riding is an activity enjoyed by a relatively small number of participants (around 3% of respondents to surveys undertaken by Transplan Pty Ltd). Horse riding demand can also be highly localised – certain localities attract residents who are horse riders. The lack of designated places to ride horses is often an issue raised in public consultation.

1.9.2 What are tourists looking for?

It is also critical to consider the needs of visitors as they provide much of the economic benefits associated with trail development. Recreation trails provide an important piece of tourism infrastructure and provide experiences in the ecotourism market. Visitors are interested in what is local and authentic. Successful tourism destinations are built on factors that give a place its own distinctive character. These factors are lifestyle, heritage, cultural activities, landscape, flora and fauna; characteristics of the basic tourism product of most destinations. Recreational trails provide opportunities to highlight many of these characteristics.

1.9.3 How long do people spend on trails?

A Victorian study (prepared for the Victorian Trails Strategy 2005 - 2010) found that there is a clear preference for shorter walks (up to 6 kilometres and taking between 30 minutes and 2 hours to walk), on both metropolitan and 'remote' trails. The Market Equity study in South Australia supports this conclusion with 76% of walkers using trails for less than 2 hours. A study in Geelong found that the average duration of a walk is 50 minutes (with the highest numbers walking between 21-30 minutes and 51-60 minutes). (*Source: City of Greater Geelong 2003*).

SECTION 2: CONSULTATION

The following notes summarise discussions held with major stakeholders during the course of the preparation of this Trails Master Plan. A full record of these meetings and discussions in contained in Appendix 1.

Consultation with Shire of Roebourne Staff

- Murujuga National Park is not part of the area of responsibility of this brief.

- Need to be realistic about what the Shire can achieve. If the recommended set of proposals is too big, the Shire won't roll it out.

- Keen on tracks and trails for local people to use. Creating "liveable cities" is more important to the Shire than the tourism benefits of trails.

- There is a need for linkages from the proposed Mulataga residential development through the hills to the Yaburara Heritage Trail.

- There is also a need to provide options for tourists to experience the environment of the region.

- Keen for trails / pathways that fulfil several purposes including commuting, cultural, historical.

- Cross shire opportunities should be investigated (that Shire of Roebourne could develop in partnership with adjoining local governments).

- Indicated that development of paths/trails along the coastal dunes (and mangroves) along Searipple Road and Mystery Road would be the responsibility of the developers of the Mulataga area.

Consultation with Karratha Visitors Centre

- The Yaburara Heritage Trail has a number of issues including lack of promotion and maintenance.

- The Warlu Way drive trail is regarded as a white elephant.

- Visitors want a Pilbara experience. Looking for low cost things to do.

- There are few Aboriginal cultural experiences available in the region.

- Suggested the following priority projects:

    - Walk trail at Searipple Rd, involving a lookout, an upgraded car park etc.
    - Upgrading of the Yaburara Heritage Trail.
    - Upgrading of the Cossack Heritage Trail – and Cossack in general.
    - Walk trails at Hearsons Cove and into Deep Gorge.

Consultation with Burrup Mountain Bike Club

- Club has numerous race/riding tracks, but none are yet officially recognised.

- Seeks a piece of land where they can legitimately carry out various mountain biking activities.

- Is wanting to develop a MTB "park" where several types of mountain biking disciplines can occur, for example cross country, skills courses, jumps and downhill.

- Major focus of club is getting an area of land south of BMX for its various MTB activities. It also wants to legitimise their existing trails on the south side of the Karratha hills.
- Approximately 16km of MTB tracks exist on the south side of the Karratha Hills.
- Club is considering development of a cycling connection to Millstream National Park via Harding Dam, Cooya Pooya Station, Spring Station and Hicks Gap. It could become an epic "Pilbara Trail Ride".

Consultation with Ngarluma and Yindjibarndi Foundation Ltd (NYFL)

- An Aboriginal Cultural Centre is proposed on the east side of the main road. An amphitheatre has already been developed. Part of the proposal associated with the Cultural Centre is a walk trail along the Harding River.
- NYFL is proposing to operate tours out of the Cultural Centre, to places such as the Burrup Peninsula, Balla Balla, 'mini Deep Gorge'.
- The development of Aboriginal tourism businesses is high on their list of priories. This would include employment of local guides.
- The Cultural Centre will become a retail point for all tours / trails.

Consultation with Ngarluma Aboriginal Corporation (NAC)

- Enthusiastic about a bush tucker trail.
- Anecdotal information from travellers is that there isn't much information about Aboriginal people in the region.
- Keen on interpretive signage on trails in Roebourne and elsewhere in the region.
- Stated that stories of Aboriginal involvement in pearling at Cossack need to be heard.
- There are issues with people going to culturally inappropriate areas within the Murujuga National Park.
- NAC is looking at Indigenous tourism. They have plans to purchase a vessel capable of accommodating 14 or 15 people. Possible islands tour to add to the suite of existing and planned tours
- NAC has developed a web site that shows Aboriginal sites throughout the region. Stories have been collected from Elders and these have been progressively added to the website.

Consultation with Roebourne Visitor Centre

- Very supportive of a new Heritage Trail for Roebourne. Is interested in better interpretation in town and at the historic buildings.
- More information is needed at Harding Dam. It is a very popular area, and the pool attracts numerous birds.
- Advised that Port Samson Heritage Trail brochure supersedes the earlier information on 4 walks prepared by the Point Samson Community Association.
- Very interested in Geocaching as a means of attracting visitors to Roebourne and the Visitor Centre, and in keeping them longer in town.

- Supportive of trail around the pool in Harding River. Should be a self-guided trail, but also lends itself to guided Aboriginal tours.
- Stated that many visitors enjoy walking and would walk around town following an in-town heritage trail.
- Visitors take brochures, but are very reluctant to pay for any.
- Is enthusiastic towards geocaches. Believes it could bring additional visitors to the Visitor Centre.
- Confirmed that most visitors still enjoy reading interpretive signs, but also sees a future for digital information. We are currently in a transition stage.

Consultation with Juluwarlu Aboriginal Corporation

- General / widespread support for walk trail around the pool in town. A proposal for a walk trail along the Harding River has been around for about 10 years.
- Easily damaged and fading signs have been an issue for the Shire. Longer life anodised signs are preferred.
- There needs to be a booklet prepared on the various trails that are available for local people and visitors. The Shire has funds available for preparation and printing of a booklet.
- Is keen on the development of apps for smart phones.
- Very supportive of rusty steel interpretation for an in-town heritage trail.

Consultation with Murujuga Aboriginal Corporation and Department for Environment and Conservation

- Although the Murujuga National Park Management Plan is now finalised, nothing is 'set in stone'. The Management Plan indicates a range of possible outcomes.
- The Murujuga Aboriginal Corporation wants to communicate the broader values of the area to the wider community. There is a need to educate visitors about various facets of visiting the National Park, including the dangers, the cultural values of the area and the need to respect the land.
- There is support for water-based trails around the islands, although the MAC is keen for guided tours to and through the islands, as it would generate jobs and income.
- There are already vehicular tracks that may provide opportunities for access through the National Park.
- Murujuga Park Council will undertake future consideration of visitor access and where this may occur and will make decisions on opening up or closing off areas of the National Park.

Consultation with Karratha & King Bay Horse & Pony Club (and Karratha Agistment Centre)

- Currently there are few restrictions on where horse riders go riding. However, hard rocky ground is difficult for horses and riders and dictates where horses can be ridden.
- In favour of a designated trail (with signage etc) as new people with horses do not know where they can ride. A designated and marked trail around the perimeter of the Agistment Centre would be very useful for young and inexperienced riders.

- Would like to continue accessing the beaches, but fear they may in the future be prevented from doing this in the future.

- Tracks throughout hills are too rough and rocky for horse riding. Riders use tracks to south of Agistment Centre, including through the arboretum.

- The club is about to receive the parcel of land from the Shire that used to be the rubbish tip. It will be rehabilitated and developed into additional agistment yards and an activities area.

- Currently there is a waiting list for yards within the Agistment Centre, indicating a growth in the number of people owning and using horses in the Karratha area.

SECTION 3: BACKGROUND INFORMATION

The Shire of Roebourne has developed a number of documents and plans that have been considered when making recommendations on the future development of trails in the Shire.

Many documents have been reviewed in the preparation of this Trails Master Plan. Not all are listed below. The documents of greatest interest are:

- o Yaburara Heritage Trail Management and Interpretation Plan (2010)
- o Yaburara Heritage Trail – Trail Upgrading Plan (April 2013)
- o Karratha City of the North Plan (June 2010)
- o Shire of Roebourne Municipal Heritage Inventory (April 1996)
- o Local Government Municipal Heritage Inventory Shire of Roebourne (2013)
- o Murujuga National Park Management Plan (2013)

3.1 Yaburara Heritage Trail Management and Interpretation Plan (National Trust of Australia (WA) – 2010)

This report made the following observations/comments:

- o The Yaburara Trail is a unique and rare opportunity to showcase the Pilbara's vast array of cultural heritage values and at the same time be utilised as both a major recreational site and a sustainable cultural tourism and educational facility.
- o The plan recommends five trail routes incorporating major sections of the existing trails; solutions for trail markers and directional signage; walkways and viewing platforms; interpretation opportunities supported by a dedicated website; and management strategies.
- o The plan indicates the ways in which the safety of trail users should be improved and the heritage values protected.
- o The plan contains recommendations for minimising impact on flora, fauna, archaeology and the wider landscape of the trail area. It proposes new routes to allow some access to people of limited mobility who may not have been able to access the trail in the past.
- o The plan provides guidance for the Shire of Roebourne and the community to develop, manage and interpret this important heritage asset into the future.
- o The plan sets out 17 recommendations relating to various aspects of progressing the redevelopment, maintenance and governance of the trail.

3.2 Yaburara Heritage Trail – Trail Upgrading Plan (Transplan Pty Ltd April 2013)

This report made the following observations and recommendations:

- o The existing trails(s) are in a seriously poor condition and in desperate need of upgrading.
- o Upgrading of the trail network would involve the installation of numerous rock steps (to make the trail route safer on steep slopes) and rock water bars (to control stormwater runoff).
- o Filling of badly eroded trail surfaces.

- o Installation of trail directional markers.
- o Installation of seating and improved interpretation.
- o Development of a series of loop trails, with a 'nest' of 5 trails to be created using the existing tracks throughout the Karratha Hills.

3.3 Karratha City of the North Plan (Landcorp June 2010)

This report made the following observations/comments:

- o The Karratha City of the North Plan states it is a 'roadmap' for the transformation of Karratha from a resource town into a regional city of the north. It proposes the economic, social and spatial strategies required to make Karratha a place of choice to work, visit, grow up, raise families and age gracefully.
- o Amongst other matters it views as important the acknowledgement of cultural heritage through built form, public art, community art and community activities.
- o It proposes a "Nickol Bay lookout" and cultural centre incorporating the water tanks and indigenous heritage trails.
- o It also sets out a proposed action for the development of a *"landscape sanctuary at base of Karratha Hills with start to Jaburara Heritage Trail"*.

3.4 Municipal Heritage Inventory for the Shire of Roebourne (O'Brien Planning Consultants – April 1996)

This document provides a history of the Aboriginal and European history of the region, and details the most important historic sites within the Shire of Roebourne.

The MHI is currently being updated and revised (see below).

3.5 Local Government Municipal Heritage Inventory Shire of Roebourne (Draft) (Kate Gregory & Alistair Paterson – 2013)

This document provides a brief history of the Aboriginal and European history of the region, and provides a set of sites for inclusion in the inventory.

The sites/themes listed within the document can be used as a guide to the most important places for inclusion in any trails network and whether they be accessed by motor vehicle or other means of transport.

3.6 Murujuga National Park Management Plan (2013)

The recently published Murujuga National Park Management Plan proposed several trails including a long distance (overnight) walk around the north-eastern peninsula, a walk into the 'Withnell Bay valleys' and hardened pathways suitable for wheelchairs.

Final approval of walking tracks in the National Park will rest with the Murujuga Park Council. If/when they are developed, trails in the Murujuga National Park will be the stand out attraction of the region.

SECTION 4: TRAIL SUPPLY ANALYSIS

4.1 Overview

The Shire of Roebourne already has several walk trails such as the Yaburara Heritage Trail, the Cossack Heritage Trail, the Point Samson Heritage Trail and the Dampier Walking and Fitness Trails.

In total there are 12 existing trails in the Shire of Roebourne.

The existing trails are located throughout the Shire (some in clusters), with promotion of them occurring mainly by brochures or simple leaflets being distributed at each of the Visitor Centres. Some information about trail opportunities is also available online.

Anecdotal evidence indicates that local residents also walk, cycle and ride horses in natural areas throughout the Shire, though these 'informal' trails are not recognised in the table below.

Only recognised trails are included in this table. 'Recognised' means that the trail has some or all of the following characteristics:

- Recognised by the land manager (eg. Shire of Roebourne or Department of Environment and Conservation);
- Signposting (trail directional markers; trailhead signage; interpretive signage);
- A brochure or leaflet describing an area to walk or cycle or ride; and
- Mapping (such as a map contained within a trail brochure).

The attributes of each of the existing trails are summarised in the table in the following pages. These attributes were compiled when each trail was assessed.

4.2 Condition of Existing Trails

Trails vary in condition, depending on the amount of use they get, the level of maintenance they receive, the environment in which they are located, the prevailing climatic conditions and other local factors.

Some of the trails of the Shire of Roebourne were constructed many years ago and are showing signs of deterioration (for example, the Yaburara Heritage Trail). On the other hand, some are relatively new and enjoying considerable usage, particularly by local people (such as the Dampier Walking and Fitness Trails). Regardless of their age and use, all trails require maintenance and continual upgrading to keep them safe and make them more appealing.

Cossack is featured in three trail brochures. Signage is duplicated throughout the town. This Plan recommends a complete revamp of the existing trail and the establishment of two loop trails.

Directional signage that conforms to Australian Standards is commonly lacking on trails. The new Australian Walking Track Grading System also needs to be considered when signing a trail.

Trailhead signage (with mapping of the trail route) would benefit all trail users. Key information to include on this signage includes length of trail, duration (at a moderate

pace), difficulty level, points of interest along the trail route, local access points and connections to nearby residential areas, a 'code of conduct' for user groups and safety information. Interpretive signage, which enriches the users experience, is often missing from trails.

Attention to trail surfaces, structures (including steps and water bars to prevent erosion) and trailside furniture should be an integral component of an upgrading program. Removal of overhanging and side vegetation (and weeds) should also be regularly undertaken.

Finally, all trails should have information readily available and a trail brochure is an easy and cheap means of providing it.

4.2.1 Trail Audits

An assessment of all existing trails was undertaken during the preparation of this Trails Master Plan. The "Trails Audit" for each trail is included at Appendix 3 to this report. The assessment covered a range of matters including:

- **Trail Characteristics:** surface (gravel; concrete; asphalt); Length and width condition? Erosion? Weeds / grass invasion?

- **Promotion:** maps, guidebooks and track notes; web site? Promo brochure?

- **User groups:** single user group or multiple user groups?

- **Signage to trailhead:** from local/regional road system

- **Trailhead facilities:** (parking areas; trailhead signage; trail map; trail information; picnic facilities – table, seats, shelter / shade, barbecue); bins; water; bike parking; toilets; emergency phone; lighting; bollards; fencing; gates

- **Nearby facilities:** shops, public transport

- **Directional / distance signage:** along trail

- **Other signage:** (location; promotional; warning; information; advisory; fire safety; code of conduct)

- **Drainage:** (culverts – clear?); rolling dips; water bars; drainage channels; rock steps.

- **Interpretation:** type; number; topics; need? Cultural/indigenous?

- **On-trail furniture and structures:** (bench seats; tables; viewing platforms; water fountains; boardwalks; bird hides; bird call boxes; tunnels; underpasses; bridges; boardwalks)

- **Road crossings:** (sight lines; signage; other safety matters; vehicle exclusion barriers and emergency access gates)

- **Safety:** for users; conflicts between user groups; fire, etc

- **Vegetation:** (overhead; side). Need for clearing; invasive species and weeds; re-vegetation needs.

- **Trail type:** (out and back; loop; one way?)

- **Grade of trail:** (easy; to very difficult; AS class?)

- **Management and maintenance:** Management plan? Friends of group? Community support. Who manages?

- **General comments:** quality of experience; point of difference; accessibility

4.2.2 Warlu Way (drive trail)

The Warlu Way is a 2,500km drive trail starting at Exmouth, passing through Tom Price and Karratha, and ending in Broome. It takes visitors to the iconic natural areas of the

Pilbara notably the Ningaloo Marine Park, Karijini National Park, Millstream Chichester National Park and the Burrup Peninsula.

The drive trail is signposted and interpretive signage is located at various sites along the route. A guidebook is also available.

4.2.3 Yaburara Heritage Trail

The Yaburara Heritage Trail is a 3.5km walk trail in the hills behind Karratha. It extends from the Karratha Visitor Centre in the east to the Karratha Library in the west. Since its development in the late 1980s the walk trail has deteriorated significantly.

A recently prepared trail upgrading plan sets out a range of improvements to the trail to make it safer for users. The trail, when upgraded, will be one of the premier trail experiences in the Pilbara.

The upgrading plan recently prepared for the Yaburara Heritage Trail found that the steep rocky slopes, loose stones and slippery surfaces on the trail (above left and right) need attention to ensure the trail is safe for users.

4.2.4 Emma Withnell Heritage Trail

This trail is one of over 170 heritage trails developed in the late 1980s to commemorate Australia's Bicentenary. The trail is essentially a drive trail, connecting Roebourne with Point Samson, via Cossack and Wickham.

The trail also features walk/cycle loops in Roebourne, Cossack and Point Samson. Interpretive plaques are located at various sites along the trail, and a guidebook is also available.

4.2.5 A Guide to Roebourne's Significant Buildings

Seventeen heritage buildings around Roebourne have been identified. The sites and buildings identified in the pamphlet can be walked, cycled or driven.

The brochure contains a photo and a brief description of each site, although no particular route to get from one site to another is described.

4.2.6 Cossack Heritage Trail

The Cossack Heritage Trail takes visitors to Cossack to 28 historic sites in the town. Each site has an interpretive panel and a trailhead map suggests the route a trail user should follow between each site.

Trail users can drive, cycle or walk to each site. A brochure has been prepared for the trail which also contains a map that sets out the recommended route and the location of each of the 28 interpreted sites.

4.2.7 Cossack Historic Walk

This trail almost duplicates the information that is contained in the Cossack Heritage Trail and thus is an unnecessary trail/walk to retain. Each of the 20 sites has a numbered sign, and the trail leaflet has a brief description for each site.

As with the Cossack Heritage Trail, the route can be followed in a car, by foot or on a bike.

4.2.8 Dampier Walking and Fitness Trails

The Dampier Walking and Fitness Trails are part of a collection of circuit walks identified by the Shire and promoted as routes to be used for fitness and general recreation. For the purposes of this Trails Master Plan they are included because of their potential for interpretation of surrounding sites and land uses in Dampier.

The other fitness circuits (Pegs Creek, Millars Well and Bulgarra) have not been included in this inventory of existing trails as they are located in urban areas (neighbourhoods of Karratha), follow existing paths and have minimal or no potential for interpretation.

4.2.9 Point Samson Heritage Trail

The Point Samson Heritage Trail is a 3.5km route around the streets of Point Samson, generally following concrete paths past some of the town's most notable sites.

The route is not signposted and few interpretive signs exist, although the brochure contains a map and some information about each of the 8 identified sites. The trail has significant potential for improvement, as identified elsewhere in this Trails Master Plan.

4.2.10 Pope's Nose Bridge Walk Trail (Point Samson)

The walk is one of 4 identified in a leaflet available in Point Samson and at the Roebourne Visitor Centre. Each of the 4 walks (see other three below) follow gravel roads and/or sandy tracks. None of the walks have directional signposting nor have any interpretive signage.

The primary purpose of these four walks appears to be to encourage visitors to walk around parts of Point Samson for general recreation and exercise.

Although the four walks are in generally attractive landscapes, it may be possible to combine them (and the Point Samson heritage Trail) into one upgraded and better signposted trail.

4.2.11 Johns Creek Harbour Walk Trail (Point Samson)

See above.

4.2.12 Sams Creek Walk Trail (Point Samson)

See above.

4.2.13 Tank Hill Walk Trail (Point Samson)

See above.

4.3 Inventory of Existing (Recognised) Trails

The list of existing trails is based on information from a number of sources:

- ❖ Information supplied by various stakeholders;
- ❖ Information brochures, trail maps and books;
- ❖ Trails observed during field work;
- ❖ Information provided by members of the community; and
- ❖ Input from Shire of Roebourne staff.

Table 4.3.1 – Existing Trails – Shire of Roebourne

	Trail Name	Location	User group	Land tenure	Trail Manager	Comments (brochure, interpretation, etc)	Condition (standard of construction, level of maintenance)	Length	Difficulty (grades, etc)
1	Warlu Way	Exmouth – Tom Price – Karratha – Broome	Motorists	Public roads and some mining company roads	Australia's Northwest Tourism	Guide book exists. Interpretation at some (not all) sites along trail.	Drive trail follows local roads, regional roads and highways. Mix of asphalt and gravel.	2,500km approx.	Easy (drive trail)
2	Yaburara Heritage Trail	Karratha	Walkers	UCL	Shire of Roebourne	Old 1988 brochure exists. Old interpretive panels exist along trail.	Trail is badly deteriorated and in need of major upgrading.	3.5km approx.	Moderately difficult in some sections.
3	Emma Withnell Heritage Trail	Roebourne, Cossack, Wickham and Point Samson	Motorists (mainly). Some sections can be walked and cycled.	Public roads.	Heritage Council	Old 1988 brochure exists. Old interpretive panels (brass plaques) exist at sites along trail.	Drive trail follows local roads, regional roads and highways. Mix of asphalt and gravel.	52km	Easy (drive trail)
4	A Guide to Roebourne's Significant Buildings	Roebourne	Motorists (mainly). Can also be walked and cycled.	Mostly accessed by public roads and footpaths.	Shire of Roebourne and Roebourne Visitors Centre	Leaflet exists with photo and short description of each building. Few interpretive signs exist at sites.	Path network is in good condition, and being extended.	2.5km approx.	Easy
5	Cossack Heritage Trail	Cossack	Motorists (mainly). Can also be walked and cycled.	Public roads.	Shire of Roebourne and Heritage Council	Brochure exists. Interpretive panels exist along trail.	Trail follows bitumen and gravel roads. No separate trail exists. Signage showing some deterioration.	6.0km approx.	Easy

	Trail Name	Location	User group	Land tenure	Trail Manager	Comments (brochure, interpretation, etc)	Condition (standard of construction, level of maintenance)	Length	Difficulty (grades, etc)
6	Cossack Historic Walk	Cossack	Walkers (could also be cycled and driven)	Public roads.	Heritage Council	Brochure exists. Numbered signs exist along trail.	Trail follows bitumen and gravel roads. No separate trail exists.	2.5km approx.	Easy
7	Dampier Walking and Fitness Trails	Dampier	Walkers	Public footpaths.	Shire of Roebourne	Brochure exists with map of circuits. Interpretation at only one location (lookout).	Both circuits follow existing footpath network, which is in good condition and being extended.	2.5km and 4.7km	Easy to moderate.
8	Point Samson Heritage Trail	Point Samson	Walkers	Footpaths and gravel verges of public roads.	Point Samson Community Association and CoastCare.	Brochure exists with map of trail. Interpretation at several locations. No trail directional markers.	Trail follows concrete paths and road verges.	3.5km	Easy to moderate.
9	Pope's Nose Bridge (Point Samson)	Point Samson	Walkers	Generally along former Point Samson – Roebourne Tramway formation.	Point Samson Community Association and CoastCare.	Information exists in leaflet available at various accommodations in Point Samson. Leaflet indicates various locations for walking in Point Samson. No interpretation of directional signage.	Trail follows former Point Samson – Roebourne Tramway formation – a raised gravel embankment. Rough surface and some missing bridges/culverts.	1.8km (one way)	Easy
10	Johns Creek Harbour (Point Samson)	Point Samson	Walkers	Public roads.	Point Samson Community Association and CoastCare.	Information exists in leaflet available at various accommodations in Point Samson. Leaflet indicates various locations for walking in Point Samson. No interpretation or directional signage.	Trail uses concrete footpaths and gravel verges of public roads.	1.5km	Easy

	Trail Name	Location	User group	Land tenure	Trail Manager	Comments (brochure, interpretation, etc)	Condition (standard of construction, level of maintenance)	Length	Difficulty (grades, etc)
11	Sams Creek (Point Samson)	Point Samson	Walkers	Gravel roads and sandy 4WD tracks	Point Samson Community Association and CoastCare.	Information exists in leaflet available at various accommodations in Point Samson. Leaflet indicates various locations for walking in Point Samson. No interpretation or directional signage.	Trail follows bitumen road as well as gravel roads and sandy 4WD tracks.	4.5 – 5.0 km circuit	Moderate.
12	Tank Hill (Point Samson)	Point Samson	Walkers	Gravel roads and sandy 4WD tracks	Point Samson Community Association and CoastCare.	Information exists in leaflet available at various accommodations in Point Samson. Leaflet indicates various locations for walking in Point Samson. No interpretation or directional signage.	Trail follows gravel roads and sandy 4WD tracks.	Approx. 990m each way.	Moderate

4.4 Trails Network Strengths and Opportunities

From the information obtained and the list of trails currently existing in the Shire of Roebourne, some conclusions can be drawn:

❖ The Shire of Roebourne has a wide range of trails already available, including heritage trails in the Karratha Hills, at Roebourne, at Cossack and at Point Samson. In addition to these existing trails, it has several outstanding opportunities for the development of new trails.

❖ The (upgraded) Yaburara Heritage Trail(s) will add significantly to the suite of walking opportunities available close to Karratha;

❖ There is a wide array of heritage buildings and heritage sites, particularly within the towns of Roebourne and Cossack and throughout the Shire. The presence of numerous heritage buildings, sites of significance and places where various events and interesting activities occurred all tend to support the development of heritage walk trails in each of these two towns.

❖ The region has a rich Aboriginal history which visitors to the region are keen to discover.

❖ The Shire has a rich exploration, settlement, pearling, pastoral and mining history.

❖ Numerous historic sites still exist which highlight these stories and would be of interest to local people and visitors. This history of these sites is already well documented in the Shire's Municipal Heritage Inventory (which is currently being updated).

Above: the old Roebourne gaol is one of numerous buildings and sites to be included on the proposed Roebourne Heritage Trail and the probable trailhead.

❖ No formal mountain biking trails exist, though mountain bike riding occurs on tracks throughout the Shire, including on the Karratha Hills.

❖ No formal horse riding trails exist (though horse riding does occur throughout the area).

❖ Some information about the existing trails is available in an assortment of brochures, though the quality of the information varies markedly. The trail brochures that currently exist vary in style and lack design quality and consistency.

❖ For some of the trails there is little or no information about their condition or their degree of difficulty – indicating a lack of ownership from a land manager. Signposting on some of the trails is inadequate and often absent.

❖ The availability of interpretation on the trails varies. The Yaburara Heritage Trail has numerous interpretive panels – but they are old, faded and difficult to read. The trails at Cossack suffer from too many signs and duplication of information. The Emma Withnell Heritage Trail has old brass plaques at most sites, although the interpretation could be updated, modernised and supplemented with additional information. Most of the trails at Point Samson have little or no interpretation.

❖ The Ngarluma Aboriginal Corporation is intending to prepare a *Ngarluma Country Trails Plan* which will involve lengthy discussions with Ngarluma Elders to determine appropriate locations for trails focussing on Aboriginal culture and history.

4.5 Horse Riding in the Shire of Roebourne

Horse riding occurs throughout the shire, with the majority of informal riding taking place in the areas around the agistment areas along Robins Road.

Currently horse riders have no designated and marked trail anywhere in the Shire. Although there appears large tracts of land upon for riding, works to expand the Water Corporation's water treatment plant has limited current opportunities. The rough rocky ground characteristic of the region also limits where horses can be ridden.

At present horse riders can ride from the agistment centre to the beaches. Further residential development in the Mulataga area in coming years may preclude riders from accessing the beach. The upgrading of Millstream Road will add another barrier to the beach, unless the road is constructed with a suitably designed underpass.

One of the highest priority projects for the Karratha and King Bay Horse and Pony Club is to establish a marked circuit in the vicinity of the agistment centre, catering for young and inexperienced riders.

4.6 Mountain Biking Opportunities in the Shire of Roebourne

During the consultation associated with the preparation of this Trails Master Plan there have been strong suggestions that mountain biking trails are needed.

Input received from the Burrup Mountain Bike Club in particular reveals a significant and growing mountain biking community in Karratha and the other towns of the Shire of Roebourne. The Club's spokesmen indicated that a variety of mountain biking trails were required – not just circuit trails.

The Tasmanian Mountain Bike Plan (prepared in 2009) presents the most recent snap-shot of mountain biking usage and trends in mountain biking in Australia.

The Tasmanian Mountain Bike Plan summarises the situation as follows:

Mountain biking is booming worldwide, and is becoming more popular in Karratha. Dedicated and formalised areas for this activity are required.

"*Mountain biking is a popular physical activity on an international scale, with participation rates continuing to increase. It is likely that the participation rate for both general cycling and mountain biking in Tasmania has increased significantly since 2000. Anecdotal evidence suggests that there is an increase in the number of commuter cyclists, the increase in nationwide bike sales, an increasing demand for mountain bike accessible and/or specific trails, and the continued construction of illegal MTB trails across the state. Local bike shops indicated that the most popular type of bikes sold are mountain bikes in the $500 range, followed by mountain bikes in the $1,000 range, supporting research presented in the Australian Bicycle Industry Report 2006*".

The (draft) WA Mountain Bike Strategy summarises the profile of Western Australian mountain bike riders:

- o   Majority (85%) of mountain bikers are men

- o   Most common age group is between 26 and 50 with high percentage in mid 30's

- o   Most preferred type of trail is single track

- o   Two thirds consider themselves to be of an intermediate standard

- o   Majority of riders ride regularly with 35% riding 2-3 times per week

- o   Majority ride for 2-3 hours and cover a distance of between 20 and 30 kilometres

- o   Generally access information via the internet or word of mouth

- o   Generally have tertiary level education and have higher than average incomes

The Tasmanian Mountain Bike Plan (prepared in 2009) also presents a recent snap-shot of mountain biking usage and trends in mountain biking in Australia. The Plan (page 8)

National and state trends

- o   *General cycling was rated as the fourth most popular physical activity in Australia in 2008, with an estimated 1.9 million participants - an increase of 34 per cent over the period 2001-20087.*

- o   *1.2 million bikes were sold in Australia in 2008, outselling motor vehicles for the ninth consecutive year.*

- o   *Approximately 70 per cent of the bikes sold in Australia throughout 2005 were mountain bikes.*

- o   *A survey conducted by the Australian Bureau of Statistics in 2000 indicated that 4.2 per cent of Tasmanians participated in off-road cycling or mountain biking. Mountain bike riding participation trends suggest that these figures will have significantly increased over the last nine years.*

International trends

- o   *Approximately 11.8 million people in the United Kingdom (UK) own a mountain bike, with an estimated 1.3 million regularly biking off road.*

- o   *Regular participation in the United States (US) ranged between four to six per cent of the population (approximately 14 million riders) between 1994 and 2003.*

- o   *Approximately 3.5 million German residents are mountain bikers (out of 7.2 million recreational cyclists).*

- o   *Mountain biking was the tenth most popular physical activity for New Zealand adult males in 2001 (10 per cent - 128 200 people).*

- o   *Mountain biking was also rated the tenth most popular physical activity for New Zealand adults aged between 25-34 years in 2001.*

Source: Tasmanian Mountain Bike Plan (2009)

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reports the following trends:

As indicated earlier, there are many types of mountain biking trails catering for the wide range in the skills and experience of bike riders in off-road situations.

One of the most successful techniques for providing for the range of MTB disciplines is to create a Mountain Bike Park incorporating a cluster of mountain biking trails.

The advantage of a cluster trails is that inexperienced mountain bikers can start on the easiest trails and graduate to more and more difficult trails as their skills and confidence improves. IMBA (the International Mountain Bicycling Association) states that trail systems must serve the needs of multiple user groups and take environmental and geographic factors into account, as well as creating good experiences for diverse visitors.

It should be noted that mountain biking facilities need to cater for a range of skills and fitness levels. Not all who ride mountain bikes are competitive, nor skilled (or interested) in serious mountain biking (such as downhill courses). The best mountain bike parks in the world provide a range of opportunities for all, including easy cross-country circuits.

The Forrest Mountain Bike Park in the Otway Ranges in Victoria features 15 mountain bike trails – ranging from "Easy" to "Very Difficult" thereby catering for the diverse range of skills and experience of cyclists who desire an off-road experience.

The Burrup MTB Club has established a number of trails on the southern slopes of the Karratha Hills, although the existence of these trails has not been officially recognised.

Ideally, in selecting a location for a Mountain Bike Park with a range of differently graded trails, the club would prefer to keep all its existing trails and not re-create trails in a new location.

4.7 Mapping Existing & Future Trails

The accompanying plans (see Appendix 4) illustrate the range of existing and proposed non-motorised trails:

Plan 1: Location of Existing Trails

Plan 2: Location of Proposed Trails

Plans 3 – 13: Detailed plans of each proposed trail project

SECTION 5: INTERPRETATION

5.1 Interpretation

Trails tell stories. They educate and entertain, and offer exercise and reflection. Interpretation is a key to their success. As a partner in the development of this Trails Master Plan, the National Trust of Australia (WA) is committed to conservation and interpretation and see trails as a key way of achieving these goals.

Interpretation reveals the meanings and relationships of our cultural and natural heritage, through first hand experiences with objects, artefacts, landscapes, and sites. Every aspect of our heritage, past activities and land uses, its people, animals and plants, is a story waiting to be told. Good interpretation helps people engage with our heritage.

While there is still demand for physical signs, hard copy maps and brochures, the advances in digital technology - hardware, software and communication systems such as the NBN (National Broadband Network) – means the opportunities for interpretation are growing rapidly

This Trails Master Plan recommends a mix of tradition interpretation - typically panels erected along the trail routes, maps and brochures - and digital technology. This new technology enables a range of media (text, audio and vision) to be accessed through visitors' own mobile digital devices (phones and tablets).

5.2 Trail Themes

The themes and stories that underpin interpretation on the trails are based on those identified in the current Municipal Heritage Inventory and Heritage Council themes.

- **Pre-colonisation, early contact with the Northwest (pre 1860s)**
  - o Perspectives on Aboriginal life.
  - o European maritime exploration
- **Encounters, frontier contact (1860s-1870s)**
  - o Colonisation; frontier violence; early pastoralism; early migration; unfree labour.
- **Diverse communities (1880s-1920s)**
  - o Cultural influences and exchange; two Laws and Aboriginal resistance; degradation; environmental adaptation and innovation.
- **Social histories, past voices (1930s-1960)**
  - o 1946 Pilbara Strike; exile from traditional lands; social histories revealed through oral histories.
- **Social change, a future in resources (1960s-1980s)**
  - o Shift from pastoralism to industrialisation; Karratha Station to Karratha town; iron ore, salt, oil and gas exploration; influx of workers; new towns; impact on Roebourne; death of John Pat and Royal Commission into Deaths in Custody.
- **Contested landscapes, tensions in a nationally significant region (1990s-2000s)**
  - o Impact of native title; heritage frameworks; environmental impacts; diverse values.
- **The Natural World (all periods)**
  - o Flora, fauna and geology of the region; cyclones and floods – life giving rains and town breaking storms.

5.3 Signage on Trails

On-trail interpretation is a key feature of trails. When well done, interpretive signage can add significantly to the richness and depth of the user's experience. It can also be expensive, and can be subject to ongoing vandalism, particularly in rural and remote areas. Care will be needed in choosing a style of signage that can withstand vandalism. For example etched anodised aluminium may be a good option, as it is sturdy and enables easy graffiti removal.

The varied flora, fauna and landscape of the Shire of Roebourne, its Aboriginal history, its history of exploration and settlement, historic and contemporary pastoral enterprises, pearling, mining and personalities both past and present are some of the themes that could be developed along the trails.

The quality of on-trail interpretation is often the key to the success of trail projects. While some trails can rely upon the natural beauty for attracting visitors, most successful trails rely on strong and engaging interpretation.

Of fundamental importance to the proposal for interpretive panels is ensuring that the stories to be told are well written, informative, accurate,

The use of rusty steel pedestals, and interpretive panels cut to special shapes, is considered 'state of the art' in presenting information along trails. This example is from the Joshua Lake Trail near Boyanup, in the south-west.

enriching and entertaining. The writing of interpretive panels so that they are interesting and captivating is a special skill – and not a task left in the hands of someone who simply has a good knowledge of local history. There is often a great desire to write too much. A clever mix of information is required that does not overload the reader. A level of information that encourages the users to read on is most important.

5.4 Digital Information Technology on Trails

While tradition signage requires the visitor to be on the trail, digital 'signage' can go out to the visitor through their mobile devices and draw them to the trail. The use of digital media will help to engage a more diverse audience and can reach out around the world through the internet to help visitors plan their trips from home – or learn more about the region's heritage if it is not possible for them to visit. Digital media takes many forms and is developing so fast that the cutting edge technology available to the Shire when elements of this Trails Master Plan are eventually introduced is most likely still to be developed.

Rusty steel pedestals, similar to those installed in Menzies, with etched anodised aluminium panels may be appropriate for situations in the Shire of Roebourne where traditional in-situ interpretive signage is considered appropriate.

Digital media includes web sites, phone apps, mp3 downloads and CDs and each should be considered in terms of cost and suitability for the particular interpretation required.

This Trails Master Plan recommends the development of a Shire of Roebourne smart phone app, or a series of apps, that can be downloaded prior to visiting a trail(s). The app should contain key elements of the trails, be interactive and readily accessible on site. The content should be a mix of text, oral histories, still and moving images and music – particularly from local sources.

The development of digital apps is expensive but the ability to be interactive, change content and update information, be free of degradation from the elements and vandals, and have the capability of incorporating tasteful commercial messages, make the app a vital interpretation tool in this fast-changing media landscape.

The *Pilbara Rocks GeoTour - Discovering the Stories of an Ancient Land* and the *Roaming with Red Dog* experiences offer excellent opportunities for corporate sponsorship which would be required to offset the design, development and production costs of an app (around $100k+). Another advantage of a fully developed Shire of Roebourne Trails app supporting *Pilbara Rocks GeoTour* and *Roaming with Red Dog* is that the initial software architecture can be used as a platform for building specific content for other trails such as the Yaburara Heritage Trail.

One of the key attractions of smart phone apps is the opportunity they offer for local oral histories. Digital storytelling is evolving from the simple narrated audio and video to forms that are interactive. These include websites and online videos created to promote causes, entertain, educate, and inform audiences. Digital storytelling workshops can be established to guide community members through the creative process.

5.4.1 Geolocational Trails - Geocaching

The word *geolocation* refers to the latitude and longitude coordinates of a particular location. Modern smart phones have the ability to accurately place the user in the environment using GPS (Global Positioning Signals from a series of satellites)

Geocaching is a geolocational experience, which is part of a free worldwide treasure hunt.

The official Groundspeak website which publishes geocache locations worldwide welcomes the involvement of organisations such as tourism groups and Chambers of Commerce.

"In addition to all of the great caches hidden by individuals, several cities, parks and other locations have created special programs to introduce geocachers to their area. This is a great way for them to attract more tourists who benefit from the well-thought-out geocaches".

A key part of the Groundspeak philosophy is to bring people to interesting places all over the world. Groundspeak, the company that runs geocaching.com is committed to building location-based tools that inspire real world discovery and enhance outdoor experiences.

The great advantage of a roaming geocache trail in the Shire of Roebourne is the link to a highly publicised and well-marketed worldwide phenomenon celebrating, among other things, our inquisitive nature. Currently there are over 2 million active geocaches and more than 5 million people searching for them worldwide. Every month around the world close to 4 million 'discoveries' are logged on the geocaching.com web site. It is a particularly popular pastime in Europe and America and increasingly so in Australia especially amongst 'grey nomads' and families.

Currently there are 64 geocaches within 84 km of the Visitors Centre in Karratha ranging out in all directions including two on separate islands off Dampier. More can be found as you move into adjoining shires. This Trails Master Plan recommends adding extra caches

highlighting locations identified as interesting and relevant to Shire of Roebourne stories (see Roaming with *Red Dog Family Trail* section 10.3.1).

Monitoring visitor use

The geocaching.com web site offers ways of monitoring all visitor contact with caches. Specific caches can be put on a *Watch List* so that whenever visitors find them, the person who selected the Watch List option is alerted to the discovery. This could be a Visitor Centre, a Shire officer or a member of the local community. When finds are logged it is also possible to discover information about the person that found them, (such as their nationality, travel plans etc). The Watch List option also lets people know if the cache has disappeared or has been damaged in some way so it can be replaced and repaired.

Current Geocaching activity in the Roebourne Shire

A full list of caches can be found on the Geocache web site www.geocache.com On the home page select PLAY on the drop down menu, then Hide or Seek a cache. Type Karratha WA into the first section SEEK A CACHE… and a complete list of caches in the Shire of Roebourne will be revealed. Each one can be accessed and detailed information, photographs, a list of finders and their comments can be examined. Details about a popular Shire cache follow.

Welcome to Karratha (Traditional Cache)

This cache is located near the Karratha Visitor Centre and has been logged over 70 times since it was first placed in September 2012. By scrolling through the details of the cache, particularly the comments from finders, you get a valuable snap shot of visitor profiles. Some of their comments are listed below

Geocache Description: (This can be accessed on your phone through the geocache app when you begin searching for the cache)

Karratha is a town adjoining the port of Dampier in the Pilbara region of Western Australia which was developed from the 1960s to accommodate the processing and exportation workforce of the Hamersley Iron mining company and, in the 1980s, the petroleum and liquefied natural gas operations of the North West Shelf Venture and Woodside's most recent Pluto LNG Park.

The town's name comes from the cattle station from which land was reclaimed for the development. Karratha in the local Aboriginal language means 'God's country' or 'Sacred Earth'. The town is the seat of government of the Shire of Roebourne.

You are at the place where all visitors come to for information.

You are looking for a small magnetic key box so its BYO pencil or pen.

Additional Hints (Decrypt)   Haqre Fnz'f Vfynaq

Finders' comments:

06/15/2013

Arrived into Dampier yesterday & this is our 1st day of caching in the area.   This is the 1st place most tourists visit its an ideal spot to have a cache.   Lots of cars parked here & a caravan collecting water.

07/16/2013

Quick grab after talking to the super helpful, friendly staff in the centre.

04/24/2013

Found during a work trip, looking for new gas construction sites in Australia. During the evening I went geocaching with some colleagues, this was one of them. Thanks to all the layers.

03/06/2013

3rd Karratha Scouts, Tigers and Redbacks Patrols found it !!!! Redbacks say easy find if you decrypt the clue. Tigers Patrol said that it was a bit more challenging for them. Once again Matt the Scouts had a lot of fun with this and look forward to trying to find more. Thank you :)

09/08/2012

Danke für unseren 34. Cache. Gefunden am 8. September 2012 11:30.   fotosocke & Co

08/30/2012

Quick find while in the area. No problems locating the cache.   Jeez it's warm up here!

07/24/2012

We are here in Karratha to visit family after 18 years. She showed us the visitor centre. And for us is it real nice to find a cache in this part of Australia.   Thanks from de bende van elf.   The Netherlands

07/08/2012

Our very first caching experience!!   Thankyou, i think we could really get into this.

05/23/2012

Thought I would try for a couple of caches during a quick blow-in to Karratha for work. After having gotten most of the work stuff out of the way about 45 mins before airport check-in time, I dragged a bewildered muggle co-worker with me to look for this and another cache. Needless to say the walk out to the caches was spent waxing lyrical about geocaching and how much fun it is!

5.4.2 Digital Devices (Smartphone and Tablet) apps

Smartphone and tablet Apps are becoming powerful tools in the development and delivery of digital interpretation. They are particularly suitable for use on trails.

Apps can be divided into two types:
  o Geolocational ones that use specific locations and devices to trigger information downloads via GPS link to a website. Geocaching through www.geocache.com is an example of this type of app
  o Apps down loaded onto a phone or mobile device, which can be accessed in the field at relevant points of interest. These apps are particularly useful in remote areas where there is no mobile coverage.

Geolocational Apps

Digital Devices using QR (quick response) technology

Where there is mobile phone coverage QR technology can be used to pass detailed information to trail users in many forms – such as still and moving images, text and audio – from dedicated internet sites.

QR technology is a technique to link the virtual and physical world by bringing relevant information from the Internet to a person in the field via a mobile phone. This is done using a mobile phone to photograph a QR tag positioned close to an area of interest. The taking of the photograph is the trigger that links the user with a website containing information about that specific location. In a good reception area the connection to the internet takes only a few seconds particularly if a dedicated mini web site has been set up with the sole purpose of passing on specific information about the point of interest. When information is buried under layers in a more comprehensive website the user can quickly become lost and frustrated.

Above: the original trail brochure for 60 Great Short Walks in Tasmania, and the more recent iPhone app.

The QR tag is like a barcode. The mobile phone user can download a free code reader (they are available from Telstra and other sites) so the phone can link via the camera with the website information. This enables layers of detailed information – including text, photographs and videos – to be accessed out on the trail.

This interpretation would require the placing of QR tags along various trails and setting up a website or a number of websites which relate to the chosen points of interest. While this technology is currently popular and widely used, the situation may change where cheaper more efficient devices become available. It is important not to lock into technology that is inflexible and cannot incorporate change in the rapidly developing landscape of digital technology.

EveryTrail

This is a website (and Smart phone app) used to share experiences about trips with people around the world. The application can track trails and paths or routes and keep others informed on the progress of the trip. Users can log into the application and keep track of travel paths or see how travellers are doing or progressing on their trip. Users can also tag photos automatically using GPS information. This makes it easier for the EveryTrail community to access trips, look at photos and decide whether or not they think it's worth doing. EveryTrail is also becoming popular with those who want to plan every aspect of their next trip.

EveryTrail is also a potent marketing tool. When each trail has been upgraded and/or developed, the Shire of Roebourne should ensure that someone with a smartphone and with the EveryTrail app downloaded on their phone walks the trails and takes photographs of features for uploading onto the EveryTrail website as a way of encouraging visitors to do the trail themselves. (See http://www.everytrail.com/)

Apps not requiring a geolocational connection.

iBeacons

This is an example of a new generation of apps using downloaded information on a mobile device triggered by a low powered Bluetooth 'puck' placed close to a point of interest. Apple California is developing this technology, which will be released in late 2013. The puck requires little power and this can be obtained from a button battery or preferably a small solar panel.

The visitor downloads the app before going out on the trail and the blue tooth device –a small unit the size of an ice hockey puck – will automatically alert the visitor when they are within 50 metres of a point of interest. The visitor then has options within his Trails app to access information about the site. This can be in various forms such as of text, photographs and video.

This system would be particularly useful for remote trails where mobile coverage is limited or non-existent.
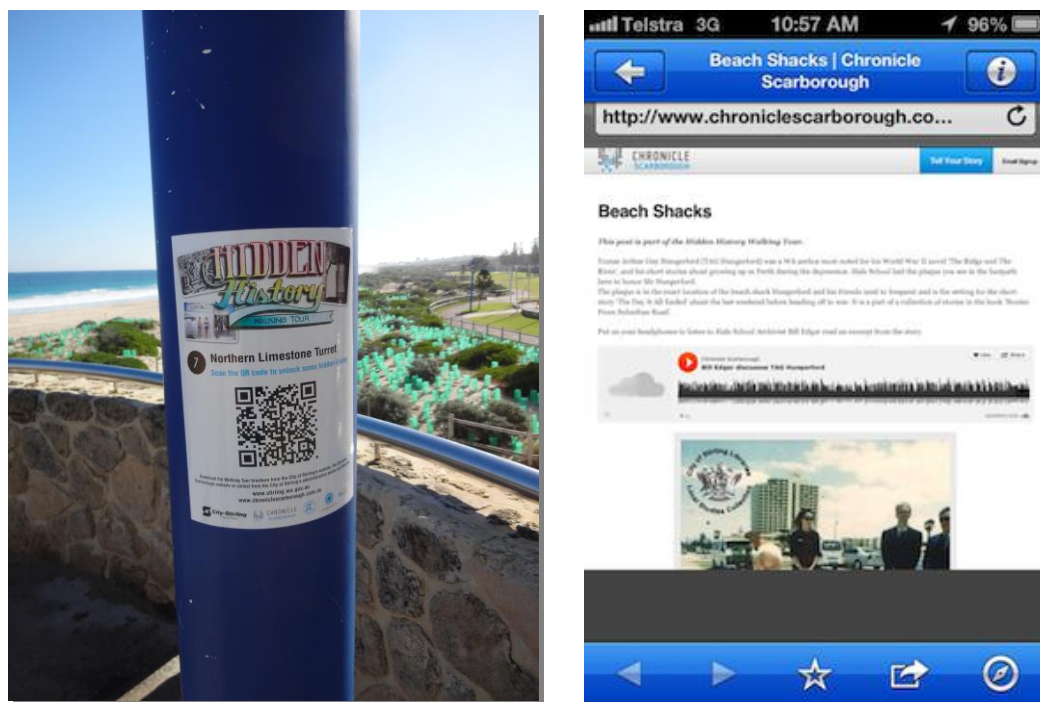
Above left: A QR (Quick Response) code on a post at Scarborough Beach. Scanning the QR code with an app on a smartphone will trigger a website to open on the browser on the smartphone. Above right: the smartphone displaying a story with photos, and an audio file that can be listened to on the phone.

5.5 Roaming with Red Dog – a family Drive and Walk Trail

In the Executive Summary and Recommendations twelve trails projects are identified. Two of these – the Roaming with Red Dog Trail and the Pilbara Rocks GeoTour - are more conceptual in nature, rather than providing specific trail paths to follow. Roaming with Red Dog in particular uses elements of all the interpretation strategies outlined in this section and is included here as an example of how various traditional and cutting edge technologies can be combined to encourage locals and visitors to discover the secrets and surprises of the Shire of Roebourne. Details of costs are included in Project 1, Section 7.6.

Background:

The current drive experience in the Roebourne/Cossack region is the Emma Withnell Trail. It dates from 1988 and the trail brochure is badly in need of updating and modernising.

One of the challenges with the trail is the name, which relates to the first European woman in the region and the stories that flow from her cultural perspective. While she was a very admirable person with great perseverance and faith, the stories are very Eurocentric with little room for other voices.

The Warlu Way Trail, which also crosses the region, has more scope for different cultural voices but it is no longer promoted and has not gained traction with visitors.

The Master Plan's recommendation for a Pilbara drive trail experience is to encourage visitors to 'cherry pick' their route from a wide range of sites covering important Pilbara themes and stories. This experience is detailed in the Pilbara Rocks GeoTour – Discovering the Secrets of an Ancient land. (Sections 6 and 7.6)

The Roaming with Red Dog is a mixture of driving and walking. It is more specific than Pilbara Rocks and directed towards shared family experiences. There is a 'Quest' element overlaying the trail that is aimed at engaging and entertaining younger family members using geolocational games and a range of other activities and interpretation techniques. Participants are invited to see the world through the eyes of Red Dog and also 'sniff out' clues to solve mysteries along the way.

Why Red Dog?

Red Dog is a powerful and popular image in the region. Through the books and the film it has also reached a wider audience in Australia and overseas.

- The name has a more inclusive feel and can reach across cultures more easily than a European or an Aboriginal name. Dogs work in the here and now and are motivated by the universal essentials of life; food, shelter and companionship.
- Red Dog crosses generations and is popular with kids and adults alike.
- The use of Red Dog gives the suite of Roebourne Shire experiences a focus and energy. The various trails and sites form a roaming narrative rather than a linear one, which is the way Red Dog spent his life.
- The Red Dog statue at the entrance to Dampier stands as a testament to his popularity in the Pilbara.
- There are various books written about Red Dog - firstly by Nancy Gillespie, and Beverley Duckett and then Louis de Bernieres. De Bernieres who achieved international success with books such as *Captain Corelli's Mandolin* brought the story to a world-wide market and his book was a major inspiration behind the film.
- The film *Red Dog* has achieved remarkable success at the box office:

  It is currently the eighth-highest grossing Australian film of all time. Eleven days after opening, *Red Dog* became the highest grossing Australian film of 2011.

  It won Best Film and the Australian Film Institute (AFI) Member's Choice Award at the 2011 Australian Academy of Cinema and Television Arts (AACTA) Awards.
- The Karratha Visitor's Centre has invested heavily in Red Dog merchandising. The Roebourne Visitor's Centre also stocks a range of Red Dog memorabilia. They would have strong commercial reasons to promote the Roaming with Red Dog experience.
- The story has considerable ownership amongst local communities and reflects a time before the Fly In-Fly Out phenomenon changed the social dynamics of the shire.
- The stories encompassed by the Emma Withnell Trail and the Warlu Way can fit under the umbrella of Roaming with Red Dog either as stand alone trails or be absorbed into the new roaming experience.
- The driving experience which Roaming with Red Dog incorporates, can touch on a wide variety of sites in the region that cover stories ranging from the Aboriginal Dreamtime to current points of interest and issues in the mining industry.

- The term 'roaming' has a natural feel to it as the way an animal explores and discovers. It also has an appeal to the younger social media savvy set that understand 'international roaming' as a way you can stay connected overseas.
- The current tourism campaign advertising Western Australia's Pilbara as a place to see 'nothing' celebrates the vast open spaces that was Red Dog's territory.

Roaming with Red Dog

Introduction:

Red Dog was famous for his travelling. He ranged all over Western Australia and some believe even overseas. To get around he would often chose a lift by sitting in the middle of the road to stop a vehicle coming his way. While this technique is not supported (it would fail a number of risk management criteria!) the rambling and roaming nature of his approach fits in well with the Roebourne Shire Region and its suite of varied and interesting sites.

It also has a strong sense of the spiritual connection to the land, which is such an important element of Aboriginal Dreamtime stories.

It is recommended that the Roaming with Red Dog experience can be entered at any point although it is recommended the two major trailheads be at the Karratha and Roebourne Visitor Centres.

Key Sites to include:

Dampier Red Dog statue, Burrup Road to Hearson's Cove and Deep Gorge, Dampier highway to Karratha and the Visitors Centre, Yaburara trail, Karratha Road to the North west Coastal Highway, Wickham, Point Samson and Johns Creek Boat Harbour, Cossack town trails, Roebourne town trail and Visitor Centre.

Rubbings of images of historic buildings, birds, fauna and other animals can be an activity associated with some of the proposed trails.

The specific points of interest have been chosen to appeal to families and touch on many of the themes identified in the current Municipal Inventory.

The two key family-based activities are the variety of games and learning experiences contained in the Roaming with Red Dog Activity Booklet (and interactive app) and searching for geocaches, both existing ones and those specifically created for this trail.

Roaming with Red Dog Activity Book and Smartphone App

The book, initially a hard copy book, should feature a wide range of activities and offer great bonding experiences for the family. The possibility of offering the book as an interactive smartphone app should also be investigated, as it is a medium that would have direct appeal to children. Most of the activities should feature 'computer down time' encouraging children to take their eyes off the screen and into the world around them.

The book and/or app should also include an ongoing mystery Quest to solve by gathering clues about Red Dog along the way. These clues could be part of interpretive signs, observations about buildings (such as dates), spying Red Dog territorial markings and be part of the special Red Dog geocache trail.

Visitors should be encouraged to upload photographs and comments on the Shire Trails website and claim their prize if they solve the Red Dog mysteries. Interaction with visitors doing the trail is an excellent way of improving the product and collecting statistics about visitor numbers.

List of possible activities:

Activities to do while on walking trails:

- Rubbings of images of historic buildings, birds, fauna and other animals (hard copy book) or photographed in the interactive smartphone app.
- Questions about people, places and events you visit along the way
- Geocaches to discover
- Special Red Dog geocaches with clues to help solve the mysteries along the way.
- Birds and animals to see and identify - log them in the Activity Book or on the interactive app
- Mystery objects (close-up photos of various objects and building to discover)
- Find and record Red Dog Territorial markers.

Activities to do when on the Road: children can be encouraged to:

- Find and record Red Dog Territorial markers
- Be alerted to turn on their electronic devices to begin the search for nearby geocaches.
- Identify birds and animals – log them in their Activity Book or on the interactive app.
- Take part in Travel Games: a variety of travel games such as:

The 'Ta Ta' lizard. The proper name is the Gilbert's dragon but is referred to as Ta Ta's because they wave their front leg before running away.

    'Car Cricket' a special Pilbara version of Car Cricket can take advantage of passing road trains with multiple trailers and large ore trains with many carriages that can score maximum points.

    Eye Spy – a traditional favourite and no batteries required.

Activities to do when not travelling:

- Sketching
- Solving riddles
- Crosswords and word sleuths
- Mapping the journey each day.
- Write a diary
- Viewing selected clips from the film *Red Dog* that highlight places such as the Holy Trinity Anglican church in Roebourne – a geocache site and key part of the trail. [Note: Permission would be required from the film's producers]

The book can be sold at the two Visitors Centres, the shire office and other places such as petrol stations and local shops. The app could be downloaded from the Visitor Centres or from the Trails website.

Red Dog Geocaching Trail

Currently there are 64 geocaches within 84 km of the Visitors Centre in Karratha ranging out in all directions. More can be found as you move in to neighbouring shires.

The most popular cache is Red Dog in the lay-by just before you enter the town of Dampier.

There is an opportunity to add a layer of Roaming with Red Dog caches to join the existing ones. By choosing locations identified as interesting and relevant to Shire of Roebourne stories, extra caches with information featuring a range of media such as text, audio and visual images can give visitors more insights to the area as well as offering the rewards of search and discovery. These caches can be linked as a separate discovery trail and can feature swappable items such as Red Dog pins and objects relating to the Shire area highlighting Cossack, Roebourne, Wickham, Karratha and Dampier. A special Red Dog geocache pin should be made exclusive to the trail and will over time become a collector's item. Once the word of mouth gets out about the rare nature of the pins there will be an extra incentive within the world–wide geocaching community to go searching for them.

Trackables

A Travel Bug is a trackable that moves from place to place, picking up stories along the way. Here you can add your own story, or live vicariously through each Bug's adventures. It is attached to an item, which allows you to track your item on Geocaching.com. The item becomes a hitchhiker that is carried from cache to cache (or person to person) in the real world and you can follow its progress online.

During his lifetime Red Dog was a great traveller and it would be wonderful to get him on the road again. By attaching a Travel Bug to a small image of Red Dog and placing it in a local cache with the stated wish of 'going on the road again', Red Dog will soon be off. A geocacher who finds the trackable can be encouraged to take Red Dog with them on their travels and then place him in another cache for someone else to find. The instructions could be that Red Dog would like to travel the world and eventually come back to the Pilbara.

Travel Bug found on the Yaburara Trail in May 2013 and taken to a cache in Albany. It has since been moved on to another cache in Queensland.

Each Travel Bug has its own unique tracking number stamped on it. This tracking number is used as proof by the user that they found the item. It also doubles as a way for the user to locate the personal web page for the Travel Bug. The Travel Bug 'Find Dorie' (pictured above, #555398) has moved 139 times since beginning its adventures in Germany in 2006. It has travelled around Germany, Spain, Hungary, many states in USA and the south island of New Zealand before crossing the Tasman to Australia. Karratha in WA was the sixth Australian state visited on its long journey.

Travel Bugs are tracked with the help of users who go online and 'grab' them from caches, or receive them from users. The idea is by picking up and dropping off Travel Bug trackables on the web site you are mirroring the Bug's real world adventures. Each one has its own 'diary' that follows its movements.

The set of Red Dog caches could also be part of the QUEST experience with clues to pick up at each location and mysteries to solve.

Other Interpretive aids

Maps:

Using a hard copy map is the way most people like to begin trail adventures. The map can also be digital, as part of the Red Dog Activity book app or a separate app. The digital map can come with layers of stories highlighting sites along the route. Participants can use geolocational technology in good reception areas or iBeacons technology (Section 5.4) in remote areas to be alerted to sites of interest.

Red Dog Territory Markers**:**

These can be of various sizes and attached to fixtures such as power poles, buildings, walls and fences to indicate an area of interest along the Roaming with Red Dog trail for families to discover.

Red Dog Image: cut out of corten steel using the statue at Dampier as a model. These markers will not indicate directions to travel because the roaming idea is people will approach from all directions. More information can be found on the hard copy or electronic map.

Red Dog statue at the entrance to the town of Dampier.

Territorial markings: could be in the form of urination splashes on structures such as power poles indicating a place where Red Dog marked his territory.

Note: The objects for these markings must be chosen carefully so they don't upset any cultural sensitivities.

Collecting statistics and monitoring visitor use:

The geocaching.com web site offers ways of monitoring all visitor contact with caches. Caches can be put on a 'watch list' so that whenever visitors find them, anyone selecting the 'watch list' option is alerted to the discovery. When finds are logged it is also possible to discover information about the person that found them, (such as their nationality, interests and travel plans). The watch list option also lets people know if the cache has disappeared or has been damaged in some way so it can be replaced and repaired.

If the Red Dog pin is included in the special caches it will be necessary to monitor the visitor access and to top up with supplies of pins from time to time. Geocachers tend to be trustworthy and responsible people reflected in the philosophy of 'cache in trash out' so they will care for the caches and indicate on line if the cache is damaged in some way or requiring servicing.

The geocache trail could be set up and managed by a shire organisation such as the Visitors Centres, a volunteer organisation such as a scout group or by individual volunteers. Another option would be for local families to adopt some that would involve setting up, monitoring through their home computer and maintaining when necessary. This model would make the trail a real community asset with ownership shared among the local community of Karratha, Roebourne, Dampier and Point Samson.

The local scout group, 3ʳᵈ Karratha troop, are already active geocachers and may be interested in becoming involved.

Above left: The general location of Emma's Sanctuary cache in Roebourne. Above right: the geocache.

This cache was set up in July 2012 and by August 2013 over 50 visitors have registered their finds on the official Geocache web site.

As you search for the cache the following information is provided on your phone:

This cache is located next to an historic building on the Emma Withnell trail. It was constructed in 1895 on the site of an earlier similar building, constructed in 1885 but destroyed by a cyclone in 1894. This building also featured in a scene of the movie "Red Dog"!

Take time while in Roebourne to drive to the top of Mt Welcome and enjoy the views. There's also aboriginal paintings to view by the local, world-famous artists. The tour through the local historic jail is also worth doing.

Here are some of the comments of geocachers who have so far found Emma's Sanctuary

8/12/2012 I remember seeing the church in Red Dog.   Small cache that was easy to find.

10/9/2012 Interesting revisit to Roebourne, thank you.   ... And a touch of Red Dog !!

A full list of finders can be found on the Geocache web site www.geocache.com On the home page select the PLAY heading on the drop down menu, then Hide or Seek a cache, and under Other Search Options type the cache name in to the first box.

For other caches in the Shire, type Karratha into the first section SEEK A CACHE… A list of Caches will come up and they can be examined in a similar way.

SECTION 6: LINKS BETWEEN TRAILS

6.1 Pilbara Rocks GeoTour: Discovering the Secrets of an Ancient Land

The research and investigations carried out in the preparation of this Trails Master Plan reveal that there are numerous natural, Aboriginal and European heritage locations in towns and throughout the Shire of Roebourne that would capture the interest of visitors and local people alike.

The west Pilbara region has a colourful and at times conflicted history, with a rich Aboriginal heritage, and significant stories associated with the pearling, pastoral and mining industries of Western Australia. The development of additional attractions in the Shire of Roebourne will serve to promote the area, encourage tourists to stay longer and be of particular interest to local people (including FIFOs) who may not be familiar with the region's rich history.

Rather than recommending a series of 'mini drive trails' throughout the region, this Trails Master Plan has concluded that the spread of natural, Aboriginal and European heritage sites can be best-promoted and visited through mapping and electronic media. People intending to visit a series of sites can create their own tailor-made trail to suit their interests rather than being directed from one site to another via a series of signs.

A GeoTour is a series of geocaches with a common topic or theme and defined locations.

Miaree Pool on the Maitland River has natural, Aboriginal and European significance and would most likely be a site selected for inclusion on the Pilbara Rocks GeoTour.

The geocaching governing body, Groundspeak, has recognised the growing tendency for organisations to set up a series of geocaches with a common theme, or in a geographical area, and has launched a new "GeoTours" initiative to capitalise on the fact that geocachers increasingly plan days out, weekend breaks and even annual holidays around 'cache rich' environments.

The proposed Pilbara Rocks GeoTour will build on this growing worldwide phenomenon by setting up a series of geocaches at selected sites to complement the caches already in place.

Apart from the finding of the geocache at sites along the GeoTour, the experience at each of the designated sites will be enriched by a range of specially designed interpretation. The existing and proposed non-motorised trails (such as the Yaburara Heritage Trail and the proposed Roebourne Heritage Trail) will be included in the suite of sites to be promoted.

When completed, this program will encourage local people and visitors to the Shire of Roebourne to discover the extraordinary breadth of natural and human history in their own way and at their own speed.

Pilbara Rocks GeoTour is the perfect vehicle for uncovering the many stories about life and industry in the region – from the current developments such as the use of remotely controlled trucks on mine sites to the ancient rock carvings on the Burrup Peninsula.

Each of the recommended sites could have an interpretive panel, and all panels should include information relevant to, and consistent with, an overall theme. An option would be to provide downloadable mp3 files and maps (via the suggested Shire trails web site – see Section 9.5), as is occasionally available for drive trails in other locations in Australia.

There are numerous European heritage sites throughout the Shire. They include former mining areas, historic station homesteads, stock route wells, communication links such as the remnants of the Overland telegraph, historic coastal and river landings, townsites, and river pools. There are also and numerous sites associated with the Aboriginal occupation of the area over many thousands of years.

Of particular importance in developing the GeoTour will the selection of locations with great views. The region has many high points, including Mt Welcome in Roebourne, Dampier Lookout, Tank Hill in Wickham, Tank Hill in Karratha (near the Visitor Centre), Rotary Lookout on the Yaburara Heritage Trail, Mt Regal, Reader Head Lookout in Cossack, Nanny Goat Hill in Cossack and the lookouts at Harding Dam). People interested in seeing the 'high points' of the region could select this set of sites from all those on offer.

The task ahead will be to highlight a number of sites within the shire so visitors can create their own trails. Visitors can also be encouraged to share their trail routes and experiences on the shire's website. This could be done through the EveryTrail smartphone app. (See Section 5.3.2 for details).

Plan 13 depicts some of the potential sites that could be included. This selection is by no means complete or final. The recommended *Pilbara Rocks GeoTour* project will investigate and evaluate as many as 50 or 60 potential sites, the objective being to determine the most accessible, most appropriate and optimum number of sites (covering the natural, Aboriginal and European heritage of the region).

Project 8 contains further details about the proposed *Pilbara Rocks GeoTour*.

SECTION 7: PROPOSED TRAIL PROJECTS AND COSTS

7.1 Review of Key Outcomes

The Brief for this Trails Master Plan sought a number of outcomes, including:

➢ An inventory and audit of existing trails;

➢ Identification of future key trails;

➢ Identification of current and future marketing and promotional opportunities;

➢ Recommendations on governance, native title, Aboriginal sites and insurance issues on existing tracks/trails; and

➢ An estimate of probable costs for existing and proposed future trails.

7.2 Assessment Criteria

The key elements considered in the determination of trail opportunities were:

o **Trail demand** – the majority of users are seeking short trail experiences. Though they are very difficult to quantify, the health benefits gained by exercise on trails should not be underestimated.

o **Stakeholder input and community support**, including information from key user groups (such as mountain bikers and horse riders).

o **Gaps in the provision of trails** (such as MTB trails and bridle trails).

o **Ability to inform and highlight and interact with heritage values of the region.**

o **Value for money** Trail projects should look to provide value and a good return on investment. Several high quality, well built, well maintained and well promoted trails highlighting the best features of the Shire of Roebourne are preferable to a large number of poor quality trails badly constructed and not maintained.

o **Benefits to local people (and visitors).** Trails projects, which are located in proximity to local populations and readily accessible, are favoured over possible trails in remote locations. Trails capable of attracting both local people and visitors are rated highly.

o **Projects already well advanced.** Trails that already exist (and require upgrading) and projects that are already commenced are favoured.

o **Opportunity for linkages** with other trails, tourism and cultural precincts, and heritage sites within the Shire.

o **Practicalities of trail development** – costs, land tenure and access, environmental issues, cultural issues, funding possibilities, possible (on-going) community support and the safety of users.

o **User experience**. Trails have to provide a high quality experience or people will not use them or will not return – word of mouth is a much stronger advocacy tool than marketing strategies.

o **Key background documents** and already adopted strategies of the Shire of Roebourne.

A broad assessment of each of the potential trails was done against all these criteria, rather than assessing each trail against each individual criteria. Combined with the field assessment, consideration of these elements helped to determine the recommended trail projects.

7.3 Potential Areas for Trails

As part of the preparation of this Trails Master Plan, a wide range of possible / potential trail projects were evaluated. The process included a review of:

➢ Existing trails in the Shire of Roebourne area. As noted elsewhere, there are already numerous short trails in the Shire.

➢ Existing trails elsewhere in the region – including those in neighbouring local government areas. For example, there are several trails in the Chichester Millstream National Park, which are all well marked and well promoted through a park brochure. The Town of Port Hedland is currently preparing a Trails Master Plan that may result in the development of new trails in that town.

➢ Visitor expectations and local needs (ie. demand for trails). Local demand was partly established through meetings with the managers of the Karratha and the Roebourne Visitor Centres, and through comment provided by various stakeholders interviewed during the preparation of the plan.

➢ Population characteristics, trends and projections.

➢ Proposals contained within the Murujuga National Park Management Plan.

➢ Successful trail projects elsewhere in Western Australia, Australia and the rest of the world.

➢ 'Gaps' in the provision of trails, in terms of location, user groups, themes and related opportunities.

In the course of investigating potential trails in the Shire of Roebourne an inspection was made of the potential for trails in the following locations:

➢ in-town heritage walk trails.

➢ trails along Nickol Bay, including the coastal dunes and mangroves along Searipple Road/Mystery Road.

➢ coastal recreation areas of the Shire such as at Cleaverville.

➢ trails along parts of the Harding River.

➢ additional trails in and around the Karratha Hills .

➢ trails along disused tramways (ie. Whim Creek-Balla Balla and Roebourne-Cossack). (These two possibilities were ruled out because of the huge difficulty in re-building bridges and culverts across the numerous watercourses and also because the actual formation of the tramways has been eroded of all fine material, leaving large rocks along the majority of the former embankments).

➢ a mountain bike trail between Karratha and Dampier. (This possible trail was eliminated from consideration as the gas pipeline owners, managers and operators – where the proposed trail would be routed – would not allow development over the top of the buried pipeline).

The expressed view of Shire representatives - that the proposals for new trails must be such that the Shire can afford them - also strongly influenced the range of trail opportunities presented in this Trails Master Plan.

7.3.1 A "Water" Trail in the Dampier Archipelago?

The islands of the Dampier Archipelago are rich in Aboriginal, European and natural history. It would be possible to designate a number of interpretive sites scattered amongst the islands that local people (and visitors) could access with various watercraft. The Murujuga Aboriginal Corporation is interested in providing guided tours and their own interpretation of Aboriginal sites on the islands.

7.3.2 Trails on the Burrup Peninsula

The 'Jewel in the Crown' of visitor and trail experiences in the Shire of Roebourne is without doubt the Burrup Peninsula. Murujuga Aboriginal Elders, in conjunction with the Department of Environment and Conservation, will in the coming years give consideration to the development and promotion of walk trails in some areas of the National Park.

Where these proposed future trails will be located, and what form they will take, cannot be predicted at this point in time.

Final approval of walking tracks in the National Park will rest with the Murujuga Park Council. If and when they are developed, trails in the Murujuga National Park will be the star attraction of the region. The eventual development of trails on the Burrup Peninsula will add enormously to the visitor experience of Aboriginal culture and history and complement those already existing (such as the Yaburara Heritage Trail in Karratha), and proposed trails elsewhere in the Shire.

7.4 The Recommended Trails

Following a review of all existing trails and potential trail projects in the Shire of Roebourne, the following list summarises those being proposed in this Trails Master Plan:

- o Roaming with Red Dog family trail.
- o Ieramugadu Bush Tucker Trail.
- o Roebourne Heritage Trail.
- o Cossack Heritage Trail redevelopment.
- o Mountain Bike Park.
- o Mulataga Trail (in Karratha Hills East).
- o Yaburara Heritage Trails upgrade.
- o *Pilbara Rocks GeoTour – discovering the secrets of an Ancient Land* focussing on the region's Aboriginal history, sites and culture, its outstanding natural attributes and its European history.
- o Karratha Bridle Trail.
- o Dampier Heritage and Fitness Trail upgrade.
- o Point Samson Heritage Trail upgrade.
- o Wickham Tank Hill Trail.

In addition to these projects, another significant trail-related project recommended is a "trails marketing program".

7.5 Trail Construction Cost Estimates

This report provides a basis for determining the extent of work required to upgrade existing trails and the works and costs required for designing and constructing the proposed trails.

For the purposes of this Trails Master Plan, the per unit construction/fabrication rates (for the main items) set out below have been used:

- o Fabrication of 100mm x 100mm (x 1.5m) rusty steel trail directional marker posts: $150ea

- o Installation of trail directional marker posts (ie. holes drilled in rocky surface): $100ea (assumes holes can be dug by skid-steer mounted auger or petrol driven hand-held auger)

- o Fabrication of steel SHS (square hollow section) bollards at trailhead parking area: $150ea

- o Installation of SHS steel bollards in concrete footing at trailhead parking area: $200ea (assumes holes dug by skid-steer mounted auger)

- o Fabrication of trail marker plates/arrows: $35ea

- o Attachment of trail marker plates/arrows to steel trail marker posts: $30ea

- o Clearing of trail route: $20 - $50 per lineal metre (varies depending on extent of clearing required and difficulty of terrain).

- o Surfacing of trail route: $20 - $40 per square metre (varies depending on trail width, difficulty of terrain and access/distance to suitable surfacing material).

- o Boardwalks and bridges: varies between $1,000 - $2,000 per lineal metre (depending on width and user group).

- o Construction of rock steps: $250/step (assumes locally sourced rocks).

- o Construction of rock water bars: $200/water bar (assumes locally sourced rocks)

- o Fabrication of bench seat: $800ea

- o Installation of bench seat (set in concrete footings): $500ea

- o Interpretive panels: research, writing, sourcing of images, graphic design, manufacture and supply (allow for 450mm x 300mm 'etched anodised aluminium panel on rusty steel pedestal): $2,200ea

- o Trailhead panel: research, writing, sourcing of images, graphic design, mapping, manufacture and supply (allow for 800mm x 1200mm 'etched anodised aluminium panel on rusty steel pedestal): $4,500

The cost estimates set out below are based on recent relevant construction costs from other trail projects in WA and elsewhere in Australia. Real-life costs will depend on a number of factors, including the state of the economy, the extent of advertising of construction tenders, the availability and competitiveness of contractors, the rise and fall in materials costs, the choice of materials used in construction and final design details. Tenders submitted by construction contractors may vary significantly from the estimated costs in the tables contained within this report.

The costs in the tables that follow are necessarily high to account for a range of unique factors including trail development in harsh and often rocky terrain, the need for Aboriginal heritage surveys in some cases and the need for consultation with a range of stakeholders, not the least of which is consultation with people from the various Aboriginal Corporations (including Elders).

An allowance of 65% has been added to the cost estimate tables to account for the so-called "Pilbara Premium" (the added cost of working in remote areas).

Use of local contractors, prison crews and volunteers will affect the actual costs for some of the components of this trail program, but have not been factored in.

Estimated costs are as at June 2013. An additional 3.5% should be added to each individual total per year compounded.

The tables in Section 7.6 indicate the works required.

7.6 The Trail Projects

A number of projects match the outcomes sought by the Shire and make the most of available opportunities. These projects build on known success-stories (well-packaged short walks), seize heritage opportunities, respond to 'gaps' in the suite of available trails and offer positive outcomes for both locals and visitors to the region.

The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only. The costs for development of the trail (clearing, trail construction, etc) are based on conditions likely to be encountered during construction. As the route of each proposed trail has not been examined in detail, and accurate measurements have not been made, it is not possible to be precise in quantifying costs. It is only after a detailed trail development plan is prepared (including a full traverse of each proposed trail) that more definite quantities and costs can be made.

The prioritisation of the trails will be determined each year by staff and will be dependent on available resources, funding opportunities and how they link with other shire projects such as townscape strategies. It should be noted that it would be possible to develop more than one trail at any given point in time, given that different organisations may be responsible for developing some of these projects.

Project 1: Roaming with Red Dog family trail (Design and Development)

Location:

Various locations throughout Shire of Roebourne

Concept:

This trail is a mixture of driving and walking and directed towards shared family experiences. There is a Quest element overlaying the trail inviting participants to 'sniff out' clues and solve a mystery. The Quest is aimed at engaging and entertaining younger family members using geolocational games and a range of other activities.

The specific points of interest have been chosen to appeal to families and engage with many of the themes identified in the current Municipal Inventory often through the eyes of Red Dog.

The two key family-based activities are the variety of games and learning experiences contained in the Roaming with Red Dog Activity Booklet (and/or interactive Smart phone app) and searching for geocaches, both existing ones and those specifically created for this trail.

Rationale for development:

The *Red Dog* statue at the entrance to Dampier stands as a testament to his popularity. The name is readily recognised throughout the Pilbara and beyond, particularly following the success of the books and the film. Red Dog is inclusive. It is a name that can reach across cultures and is popular with kids and adults. The use of Red Dog as a focus gives the suite of Roebourne Shire experiences a focus and energy. The various walking trails and sites form a roaming narrative rather than a linear one, which is exactly the way Red Dog spent his life.

Primary user groups:

Families – local and visitors to the region.

Description of project:

The *Roaming with Red Dog* Trail is the key element of the informal learning experience in the Trails Master Plan and described in more detail earlier in this report. The trail ranges from Dampier in the west to Roebourne in the east and can be entered at any point along the way although the Trail Heads at the Karratha and Roebourne Visitor Centres are primary points of entry. It is not necessary to complete the whole trail – it can be done in a number of stages or just a small section can be experienced if time is short.

The focus of the journey is an Activity Booklet that could also be reproduced as an interactive smartphone app. In the booklet are a number of activities to complete on the journey between different sites and a dedicated geocache trail that tells the stories of the Pilbara through the eyes of Red Dog. The Quest element is made up of a number of clues and puzzles to solve during the journey.

Consultations required:

- Local Aboriginal Corporations
- Shire of Roebourne
- Roebourne and Karratha Visitor Centres

Interpretation:

- Interpretive signage with key buildings and landmarks featured as stainless steel rubbings done in the Red Dog Roaming activity book or photographed in the interactive smartphone app.
- Activity Booklet that could also be reproduced as an interactive smartphone app.
- Red Dog trail markers to discover in a variety of locations as part of the Quest to uncover Red Dog's secrets.
- Reproductions of local art depicting Aboriginal on-country stories.

Thematic Connections:

- Perspectives on Aboriginal life before European settlement
- Colonisation; frontier violence; early pastoralism; pearling; early migration; unfree labour.
- Cultural influences and exchange.
- Red Dog as a representation of life in the Pilbara in the 1970s.
- Communication and transport networks from pre European settlement to the present day.
- Two Laws and Aboriginal resistance; resource exploitation (mining, pastoralism); growing settlements; environmental degradation; environmental adaptation and innovation.
- Cyclones – life giving rains and town breaking storms.
- Social histories revealed through oral histories.
- Shift from pastoralism to industrialisation; Karratha Station to Karratha town; iron ore, salt, oil and gas exploration; influx of workers; new towns; impact on Roebourne.
- Impact of native title; heritage frameworks; contested resources in a globalised world.
- Fly-in fly-out workforce; environmental impacts; diverse values; international networks; Australia's economic powerhouse.
- Geology of the region.
- Flora and fauna of the region.

The cost estimates that follow are broad estimates only and are subject to confirmation, following the preparation of a detailed trail development plan for the proposed trail. They are provided here as indicative costs only.

Cost Estimates for Project 1: Roaming with Red Dog family trail (Design and Development)

Tasks	Costs (excl GST)
1. Consultation (with Shire staff, local aboriginal groups and Corporations, other stakeholders; etc) (2 days @ $1200/day)	$2,400
2. Fieldwork to confirm preferred trail route; interpretive sites; location of signs (5 days @ $1200/day)	$6,000
3. Preparation of Trail Development Plan (including mapping; sign plans; interpretive topics/sites)	$6,000
4. Allowance for Aboriginal consultation (6 person days @ $800/day)	$4,800
5. A5 *Red Dog Activity Book* (write, design and supply), with map (5000 copies) [Aim to be cost–neutral, including sales commission of 30%, after 3000 sold. Selling at $7.50 each] Note: examine the possibilities of the book being an interactive smartphone app as well.	$15,000
6. Production of Red Dog Territory markers - sourcing of images, graphic design, manufacture and supply (allowance for 30 small Red Dog images and 15 urine splashes)	$3,500
7. Production of trailhead panels - research, writing, sourcing of images, graphic design, mapping, manufacture and supply (allowance for 2 panels – one at each Visitor Centre)	$8,500
8. Allowance for travel and accommodation costs; report printing; miscellaneous expenses, etc	$3,000
9. Set up 10 special Red Dog geocaches (supply and place)	$5,500
10. Investigate the development of an interactive smartphone app of the Red Dog Activity Book. The initial cost of design and development can be high but there are great long-term benefits to be gained. The app should be offered as a sponsorship opportunity to large local corporations such as Rio, Woodside and Fortescue Metals.	Cost to be covered through sponsorship
Sub-Total	*$54,700*
+ 10% Project management	5,470
+ 10% Contingency	5,470
Total (not including GST)	***$65,640***

Project 2 – Ieramugadu Bush Tucker Trail (Design and Development Project)

Location:

Ieramugadu Pool on Harding River, Roebourne (see plan 5)

Concept:

This proposed trail is a self-guided walk around the pool (Ieramugadu Pool) on the Harding River in Roebourne. The walk would be approximately 1800 metres, utilising some existing tracks and the old road bridge (now a footbridge) to cross the Harding River at the southernmost end of the proposed trail. Some new trail construction and trail directional markers would be required.

The idea of having walk trails alongside the Harding River, starting from the proposed Cultural Centre, is already being considered by the Aboriginal community of Roebourne, and is mentioned on the Cultural Centre plans.

The trail would feature interpretive signage depicting and describing (in dual languages) bush tucker and bush medicines as well as other matters of significance to the Aboriginal community. The close proximity to the town of Roebourne and mobile phone coverage means this trail also lends itself to Smartphone technology (see Section 5.3). A range of stories, photographs and other information can be accessed by trail users via their phones.

Guided tours, conducted by Aboriginal people, featuring stories about local Aboriginal culture and heritage could also be a feature of the trail.

Rationale for development:

Interest in Aboriginal history and culture is high amongst tourists to Australia and visitors passing through the Pilbara. The opportunity exists to showcase some of this culture and history. Aboriginal groups in Roebourne are very interested in developing trails, and plans for the proposed Cultural Centre already show proposed routes for walk trails in the vicinity of the Harding River.

Primary user groups:

Walkers; local people; visitors to Roebourne.

Description of project:

The proposed project involves working with the Aboriginal groups in Roebourne, including the Aboriginal Corporations, to determine the optimum route for a walk trail (or trails) around the pool on the Harding River. The fieldwork will determine the best route(s) to take so that the bush tucker and bush medicine stories can he highlighted along the trail. The fieldwork will also determine where existing paths/tracks exist along the river and where new trail construction is required, and establish accurate cost estimates for the proposed trail.

The expected elements of the proposed trail's construction include signage (trailhead, directional, interpretive, warning), clearing and surfacing of trail route and the provision of hard infrastructure such as steps and possibly short boardwalks.

Given the location of the proposed trail is within the floodplain of the river (and given the extent of flooding that regularly occurs along the Harding River), trail surfacing will be minimised (as it would wash away in times of flooding). The trail, when developed, is likely to comprise, *securely fixed* trail directional markers and interpretive panels, with trail users walking upon the rocky areas along the river.

Trails of approximately 1800m and 2800m are possible, starting from the proposed Cultural Centre.

Consultations required:

- Local Aboriginal Corporations
- Shire of Roebourne
- Roebourne Visitor Centre

Interpretation:

- Interpretive signage with important fauna and flora featured as stainless steel rubbings that can be done in the Red Dog Roaming Activity Book (see Section 10.3.1). Note: Position of signage needs to take historic flood levels into account.
- Signage in English and appropriate Aboriginal languages.
- Reproductions of local art depicting key elements of the trail.
- Smart phone app (images, audio and text) including bird calls of local species (possibly developed by Ngarluma Aboriginal Corporation).
- Explore the use of technology not requiring internet connection such as iBeacons to cover areas out of mobile range.
- Map of the trail.
- Trail markers including dates of major flood/cyclones, river levels marked with stories and images.
- Regular seasonal guided tours by Aboriginal Elders from each language group (training program required).

Thematic Connections:

- Perspectives on Aboriginal life before European settlement.
- Colonisation; frontier violence; early pastoralism; early migration; unfree labour.
- Cultural influences and exchange; two Laws and Aboriginal resistance; degradation; environmental adaptation and innovation.
- Flora, fauna and geology of the region; cyclones and floods – life giving rains and town breaking storms.

The cost estimates that follow are broad estimates only and are subject to confirmation, following the preparation of a detailed trail development plan for the proposed trail. They are provided here as indicative costs only.

Cost Estimates for Project 2: Ieramugadu Bush Tucker Trail (Design and Development Project)

Tasks	Costs (excl GST)
1. Consultation (with Shire staff, local aboriginal groups and Corporations, other stakeholders; etc) (3 days @ $1200/day)	$3,600
2. Fieldwork to confirm preferred trail routes; interpretive sites; location of signs (3 days @ $1200/day)	$3,600
3. Background research (bush tucker/medicine plants) (4 days @ $1200/day)	$4,800
4. Preparation of Trail Development Plan (including mapping; sign plans; sign designs; interpretive topics/sites)	$8,000
5. Allowance for construction of 1800m trail: • Clearing and surfacing; rock steps; boardwalks, etc • Fabrication and installation of directional signage • Installation of trailhead signage • Installation of interpretation	$40,000
6. Allowance for Aboriginal consultation (10 person days @ $800/day) – includes advice on plants/animals etc and provision of translations. Also includes review and approval of interpretive information)	$8,000
7. A4 trail brochure (write, design and supply), with map (5000 copies, folded to DL)	$5,000
8. Production of interpretive panels - research, writing, sourcing of images, graphic design, manufacture and supply (allowance for 15 panels)	$33,000
9. Production of trailhead panel - research, writing, sourcing of images, graphic design, mapping, manufacture and supply (allowance for 1 panel)	$4,500
10. Development and production of a smartphone app for downloading from Visitor Centres or through the Shire's trails web page	$10,000
11. Allowance for travel and accommodation costs; report printing; miscellaneous expenses, etc	$5,000
Sub-Total	*$125,500*
+ 10% Project management	$12,550
+ 10% Contingency	$12,550
Total (not including GST)	***$150,600***

Project 3: Roebourne Heritage Trail (Design and Development Project)

Location:

Roebourne townsite (see plan 4)

Concept:

The proposal is for two self-guided walks around parts of the Roebourne townsite. The longer walk would be approximately 2,050 metres, and the shorter loop 1,150 metres. These trails would encompass Roebourne's most significant heritage buildings and sites including the Gaol, Warders Cottages, Courthouse, Mt Welcome Station, Augustus Roe's House, Hospital, Old School, Holy Trinity Church, Old Post Office, Watson's Tee Store, Victoria Hotel, Freddie Ye Palk's Store and Bakery, Union Bank (Shire of Roebourne office), Post Office, Police Station and lockup.

The existing "Guide to Significant Buildings in the Roebourne Town-site" will provide a basis for the development of the proposed new Roebourne Heritage Trails. The heritage trails could also include sites associated with significant people of the town and the region as well as significant events that have helped shape the town and region and former buildings and infrastructure (such as the Roebourne to Cossack Tramway). The sites included on Plan 4 indicate the possible future heritage trail routes.

The trails could feature interpretive signage on pedestals depicting images of the region and the town. These trails also lend themselves to Smartphone technology (see Section 5.3.2) delivering oral histories, stories and descriptions, photographs and video

Trail directional markers would be required to guide trail users along the routes.

Rationale for development:

In-town heritage trails provide a signposted and interpreted route highlighting the history and heritage of the town with links to significant sites, stories of significant people and important events

The intention is to have two clearly marked routes using existing footpaths and/or wide gravel verges. Trail directional markers would be installed at all changes of direction (possibly at ground level). Interpretive panels, utilising rusty steel sculptures as pedestals, could also be installed at all sites of interest (sites/stories/events to be determined). In addition to in-situ interpretation, smartphone apps would also be prepared for use on the trail (eg. EveryTrail).

It is important to offer a range of interpretive devices including in-situ signage, maps brochures and digital media such as smartphone technology to cater for a wide variety of visitors.

Primary user groups:

Walkers; local people; visitors to Roebourne.

Description of project:

This project involves developing two new in-town heritage trails in Roebourne. The proposed heritage trails would commence from the Roebourne Visitor Centre, and use existing footpaths where available.

The Municipal Heritage Inventory (currently being updated) lists numerous sites of heritage value in the Roebourne townsite. This Trails Master Plan sees the potential for numerous other sites around the town of Roebourne to be included, as well as interpretation of sites included in the Municipal Heritage Inventory.

The project will include the following elements:

- Fieldwork, to determine the optimum trail routes for the proposed heritage trails and possible interpretive sites.
- Research of historical records, the local history collection, the Battye library, books, desk top research and the Municipal Heritage Inventory.

- Consultation with local people and business owners to determine the most appropriate trail routes and the suitability of each site.
- Installation of directional signage.
- Installation of new interpretive signage and trailhead signage.

The existing brochure "A Guide to Significant Buildings in the Roebourne Town-site" would be withdrawn and a new trail map/brochure prepared.

Consultations required:

The history associated with the settlement of Roebourne and the history of the town since white settlers arrived in the region is a major story. Considerable consultation will be required prior to the development of this proposed trail.

Further consultation with the community is required to arrive at an agreed number of sites, interpretive panels and the proposed topic for each and the preferred method of providing interpretive information.

- Shire of Roebourne
- Roebourne Visitor Centre
- Aboriginal Corporations and Aboriginal groups
- Local people and business owners

Interpretation:

- Interpretive signage with key buildings featured as stainless steel rubbings that can be done in the Red Dog Roaming Activity Book (see Section 10.3.1).
- Links between official names (eg streets, buildings) and history of the region.
- Red Dog territory markers as part of the *Roaming with Red Dog* trail.
- Signage in English and appropriate Aboriginal languages.
- Reproductions of local art depicting key town stories.
- Smart phone app (images, audio and text) including oral histories of all relevant language groups and local music (possibly developed by Ngarluma Aboriginal Corporation).
- Details of John Pat's story outside the Victoria Hotel and the Police Lock-up and links to the Deaths in Custody Royal Commission (Smart phone app and signage).
- Explore the use of technology not requiring Internet connection such as iBeacons to cover areas out of mobile range.
- Map of the trail and trail markers.
- Regular seasonal guided tours by Aboriginal Elders from each language group (training program required).

Thematic Connections:

- Perspectives on Aboriginal life before European settlement.
- Colonisation; frontier violence; early pastoralism; early migration; unfree labour.
- Communication and transport networks such as the Cossack–Roebourne Tramway.
- Two Laws and Aboriginal resistance; resource exploitation (mining, pastoralism); growing settlements; environmental degradation; environmental adaptation and innovation.
- Economic decline; 1946 Pilbara Strike; exile from traditional lands; social histories revealed through oral histories.
- Shift from pastoralism to industrialisation; Karratha Station to Karratha town; iron ore, salt, oil and gas exploration; influx of workers; new towns; impact on Roebourne.

- Death of John Pat and Royal Commission into Deaths in Custody.
- Impact of native title; heritage frameworks; contested resources in a globalised world.
- Fly-in fly-out workforce; diverse values.

The cost estimates that follow are broad estimates only and are subject to confirmation, following the preparation of a detailed trail development plan for the proposed trail. They are provided here as indicative costs only.

Cost Estimate for Project 3: Roebourne Heritage Trail (Design and Development Project)

Tasks	Costs (excl GST)
1. Consultation (with Shire staff, Roebourne Visitor Centre, local aboriginal groups and Corporations, local people and business owners; etc) (3 days @ $1200/day)	$3,600
2. Fieldwork to confirm preferred trail routes; interpretive sites; location of signs (2 days @ $1200/day)	$2,400
3. Background research (to confirm stories and therefore sites/routes to be used for trail) (5 days @ $1200/day)	$6,000
4. Preparation of Trail Development Plan (including mapping; sign plans; sign designs; interpretive topics/sites)	$6,000
5. Allowance for construction of trail: • Clearing and surfacing of trail route where required • Fabrication and installation of directional signage • Installation of trailhead signage • Installation of interpretation • Red Dog territory markers	$30,000
6. Allowance for Aboriginal consultation (10 person days @ $800/day) – includes provision of translations. Also includes review and approval of interpretive information	$8,000
7. A4 trail brochure (write, design and supply), with map (5000 copies, folded to DL)	$5,000
8. Production of interpretive panels - research, writing, sourcing of images, graphic design, manufacture and supply (allowance for 25 panels)	$55,000
9. Production of trailhead panel - research, writing, sourcing of images, design, mapping, manufacture and supply (allowance for 1 panel)	$4,500
10. Development and production of a smartphone app for downloading from Visitor Centres or through the Shire's trails web page	$10,000
11. Allowance for application and installation of iBeacons technology	$20,000
12. Allowance for travel and accommodation costs; report printing; miscellaneous expenses, etc	$5,000
Sub-Total	*$155,500*
+ 10% Project management	$15,550
+ 10% Contingency	$15,550
Total (not including GST)	***$186,600***

Project 4: Cossack Heritage Trail Redevelopment (Design and Development Project)

Location:

Cossack (see plan 6)

Concept:

The history and buildings (and remains of buildings) at Cossack are currently featured in three trails: the Emma Withnell Heritage Trail, the Cossack Heritage Trail and the Cossack Historic Walk.

The existing trails are confusing and not designed for ease of use by walkers. The creation of more coherent circuits, of achievable lengths for most visitors, with better directional signposting and more creative and innovative interpretation will provide a much better experience for visitors.

Two loops of approximately 1,800m are suggested, one utilising parts of the former tramlines from Roebourne and the other following the road and a return leg via the beach.

Rationale for development:

Existing signage along the existing trails are old, sometimes faded and the information is duplicated in the brochures. Having almost identical information in several brochures is confusing, and there is an unnecessary amount of signage at some sites.

Various documents and archaeological reports prepared for the Cossack townsite describe numerous sites of heritage value, events and people associated with the Cossack townsite. However, the existing interpretation is now dated and uninspiring.

Primary user groups:

Walkers; cyclists; visitors to Roebourne.

Description of project:

The intention is to completely revamp and consolidate the information and signage on the three existing heritage trails by:

a) providing two stand-alone loop trails – a western loop of approximately 1800 metres (which follows the original alignments of the Cossack-Roebourne Tramway; and an eastern loop (which follows the road out towards the cemetery and returns via the beach. This eastern loop is also approximately 1800 metres (route to be assessed and confirmed). All major landmarks of Cossack would be included on one or other of these circuit trails;

b) Removal of all existing heritage trail signage and their replacement with more 'cutting edge' interpretation (both in-situ signage - utilising rusty steel sculptures as pedestals - and digital interpretation); and

c) Removal from circulation of all remaining Emma Withnell Heritage Trail brochures and the two walk trail brochures specifically dealing with Cossack, and preparation of a new guide and map.

The project will include the following elements:

- Fieldwork, to determine the optimum trail routes for the proposed revamped heritage trail and possible interpretive sites.

- Research of historical records, the Battye library, books and the Municipal Heritage Inventory.

- Consultation with local people and key stakeholders (including the Shire of Roebourne, National Trust and the Ngarluma Aboriginal Corporation) to determine suitability of each site.
- Installation of directional signage.
- New interpretive signage and trailhead signage.

Consultations required:

- Local Aboriginal Corporations
- Shire of Roebourne
- Roebourne Visitor Centre
- Local Museum

Interpretation:

- Interpretive signage with key buildings featured as stainless steel rubbings that can be done in the Red Dog Roaming activity book (see Section 10.3.1).
- Red Dog territory markers as part of the *Roaming with Red Dog* trail.
- Links between official names (eg streets, buildings) and history of the region.
- Signage in English and Aboriginal languages where appropriate.
- Reproductions of local art depicting key town stories, local landscapes. Link to the annual Cossack Art Prize.
- Smart phone app with images, audio and text including oral histories of the pearling industry (possibly developed by Ngarluma Corporation).
- Digital information about mangroves on the second loop walk along the beach. Signage is not appropriate here because of the steep tide range.
- iBeacons digital devices or current 'cutting edge' digital device (not requiring internet download) with images, audio and text.
- Stories to include and information about the tramway, the dark side of the pearling industry, new WA Museum research about shipwrecks and strandings in the inlet
- Map of the trail.
- Trail markers.
- Regular seasonal guided tours by Aboriginal Elders from each language group (training programs required).

Thematic Connections:

- Perspectives on Aboriginal life before European settlement.
- Colonisation; frontier violence; early pastoralism.
- Pearling, including European and Aboriginal perspectives and other cultural influences such as Japanese.
- Communication and transport networks including local (Cossack-Roebourne Tramway), intrastate and overseas (Cossack as an international port).
- Two Laws and Aboriginal resistance; resource exploitation (pearling, pastoralism); growing settlements; environmental degradation; environmental adaptation and innovation.
- Social histories of various cultures revealed through oral histories.
- Shift from pastoralism to industrialisation; iron ore, salt, oil and gas exploration; influx of workers; new towns.

- Impact of native title; heritage frameworks; contested resources in a globalised world; fly-in fly-out workforce; environmental impacts; diverse values.
- Flora, fauna, and geology of the region.
- Mangroves and tidal zone habitats.
- Cyclones – their devastating effect on Cossack.

The cost estimates that follow are broad estimates only and are subject to confirmation, following the preparation of a detailed trail development plan for the proposed trail. They are provided here as indicative costs only.

Cost Estimate for Project 4: Cossack Heritage Trail Redevelopment (Design and Development Project)

Tasks	Costs (excl GST)
1. Consultation (with Shire staff, Roebourne Visitor Centre, local aboriginal groups and Corporations, local people and business owners; etc) (3 days @ $1200/day)	$3,600
2. Fieldwork to confirm preferred trail routes; interpretive sites; location of signs (2 days @ $1200/day)	$2,400
3. Background research (to confirm stories and therefore sites/routes to be used for trail) (5 days @ $1200/day)	$6,000
4. Preparation of Trail Development Plan (including mapping; sign plans; sign designs; interpretive topics/sites)	$6,000

5. Allowance for construction of trail:
  • Clearing and surfacing of trail route where required
  • Installation of trailhead signage
  • Installation of interpretation
  • Installation of trailhead signage
  • Red Dog territory markers
	$30,000

6. Allowance for Aboriginal consultation (6 person days @ $800/day)	$4,800
7. A4 trail brochure (write, design and supply), with map (5000 copies, folded to DL)	$5,000
8. Production of interpretive panels - research, writing, sourcing of images, graphic design, manufacture and supply (allowance for 30 panels)	$66,000
9. Production of trailhead panel - research, writing, sourcing of images, graphic design, mapping, manufacture and supply (allowance for 1 panel)	$4,500
10. Development and production of a smartphone app for downloading from Visitor Centres or through the Shire's trails web page	$10,000
11. Allowance for application and installation of iBeacons technology	$20,000
12. Allowance for travel and accommodation costs; report printing; miscellaneous expenses, etc	$5,000
Sub-Total	*$163,300*
+ 10% Project management	$16,330
+ 10% Contingency	$16,330
Total (not including GST)	***$195,960***

Project 5 – Mountain Bike Park (Design and Development Project)

Location:

South of Karratha Hills, Karratha (see plan 9)

Concept:

Mountain biking can be broken up into a number of disciplines including downhill, cross country, skills courses, dirt jumps, four cross and pump tracks.

The Burrup Mountain Bike (MTB) Club has established a number of trails on the southern slopes of the Karratha Hills, although the existence of these trails has not been formally recognised.

The proposal is to assess areas of the Karratha region to identify suitable sites (or, preferably, one site) where these different types of mountain biking can be accommodated. It is common to cluster the various mountain biking activities into one consolidated area known as a Mountain Bike Park. This park is an area of land where a variety of mountain biking disciplines can be undertaken including cross country, All Mountain, downhill, four cross and dual slalom, freeride and dirt jumping.

Rationale for development:

Mountain biking is undoubtedly a popular activity in the Shire of Roebourne, particularly in Karratha, and the popularity is increasing.

At present mountain bikers have no formal trails or areas where mountain biking is accepted as a legitimate activity. Consequently, mountain biking occurs indiscriminately on the hills of Karratha and at sites on the Burrup Peninsula – often without the consent of the Shire, industry or any government department

Ideally, in selecting a location for a Mountain Bike Park (with a range of differently graded trails) the club would prefer to keep all its existing trails without the need to re-create new trails in another location.

Given the trends in mountain bike use, and the demand for, and interest in, mountain bike riding in the Shire of Roebourne (see Section 4.9) it is proposed that a more comprehensive study be undertaken to review all possible sites within the Karratha area. The preference is for a site of sufficient size and topography to accommodate a Mountain Bike Park.

Primary user groups:

Mountain bikers.

Description of project:

The proposed project involves assessing various locations close to Karratha where a combination of suitable terrain, steepness of slopes and size of available areas will enable mountain bike riders to carry out their various activities. It is likely that an Aboriginal Heritage Survey will be required.

IMBA (the International Mountain Bicycling Association) sets out the key steps for building a mountain bike park:

- Get permission and build a partnership with local land managers;
- Form a team and seek input from a diversity of local riders;
- Select a central, well-placed location with access to trails and water;
- Design a visually appealing facility that can win the support of the community;
- Develop a Risk Management Plan to deal with safety and liability issues;
- Develop an effective signage system;

- Acquire insurance;
- Develop a scheduled inspection and maintenance program;
- Design the jumps and features so they are fun, minimise risk and are easy to maintain;
- Include jumps and obstacles for all abilities;
- Develop a construction plan;
- Consider hiring a professional builder;
- Grade the site for drainage;
- Encourage stewardship and volunteerism among local riders; and
- Plan to incorporate changes to the park and consider future expansion.

Should an appropriate site be found and approvals obtained, the Burrup MTB Club (and the land manager) would then need to coordinate the detailed design of the proposed trails and facilities by an expert designer skilled in MTB trail design and construction.

This list of steps can be considered the basics of an action plan.

Assuming an appropriate area of land can be secured, funding will be required to set up the MTB Park including the following:

- Fees for MTB Park designer and builder
- Trailhead development (parking area gravelling and grading etc)
- Trailhead signage
- Trail directional signage for each trail
- Machine hiring (for constructing trail, jumps, clearing, skills course etc)
- Materials (for skills course and parts of the trails)

It is assumed that volunteers from the Burrup MTB Club will be available for at least some of the labour required during the trails development stage. Volunteer labour from club members can be used for a variety of activities including trail clearing and construction, jump and obstacles construction, installation of signage, etc. If volunteer labour is available it can reduce considerably the amount of funding required for actual construction of the MTB Park.

Consultations required:

- Burrup Mountain Bike Club
- Department of Regional Development
- Shire of Roebourne
- Local Aboriginal Corporations

Interpretation:

- Signage in English and appropriate Aboriginal languages.
- Source or develop a smart phone app including maps and trail information, personal route details including distance covered, speeds (average and maximum), heart rate, calories used etc. Allow information to be uploaded to a club website.
- iBeacons digital devices or current 'cutting edge' digital device (not requiring internet download) with background information on the trails.
- Map of the trails network.
- Trail markers.

Thematic Connections:

- Health, sport and recreation.

- Tacit learning – developing and improving bike riding skills.
- Flora, fauna and geology of the region.
- Cyclones – the effects on the landscape.

The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.

Cost Estimate for Project 5: Mountain Bike Park (Design and Development Project)

Tasks	Costs (excl GST)
1. Consultation (with Shire staff, Department of Regional Development, other stakeholders; etc) (2 days @ $1200/day)	$2,400
2. Fieldwork to confirm preferred site for MTB Park and assessment of options (5 days @ $1200/day)	$6,000
3. Hiring of MTB Park designer	$17,000*
4. Hiring of MTB Park builder	$25,000*
5. Allowance for materials	$20,000*
6. Allowance for barriers/gates to minimise intrusion by unauthorised motor vehicles	$20,000
7. Allowance for trailhead and trail directional markers (posts, logos, arrows, grading symbols)	$10,000
8. Allowance for Aboriginal consultation (6 person days @ $800/day)	$4,800
9. Allowance for Aboriginal Heritage Survey along the recommended trail routes	$20,000
10. Production of trailhead panels – research, writing, sourcing of images, graphic design, mapping, manufacture and supply (allowance for 2 panels)	$6,300
11. Production of interpretive panels - research, writing, sourcing of images, graphic design, manufacture and supply (allowance for 8 panels)	$17,600
12. Development and production of a smartphone app for downloading from Visitor Centres or through the Shire's trails web page	$10,000
13. Allowance for application and installation of iBeacons technology	$20,000
14. A4 trail brochure (write, design and supply), with map (5000 copies, folded to DL)	$5,000
15. Allowance for travel and accommodation costs; miscellaneous expenses, etc	$7,000
Sub-Total	*$191,100*
+ 10% Project management	$19,110
+ 10% Contingency	$19,110
Total (not including GST)	***$229,320***

* Note: Construction costs can be minimised if the Karratha MTB Club is permitted to continue using many of the informal trails it currently uses on the south side of the Karratha Hills. The majority of the above costs assume a new MTB Park is to be created.

Project 6 – Mulataga Trail (Design and Development Project)

Location:

Karratha (see plan 7)

Concept:

The hills to the west and south-west of the proposed Mulataga development area appear to have significant potential for the development of trails – similar to the Yaburara Heritage Trail in the hills south of Dampier Highway.

This proposed 3km+ walk trail will connect the newly developing Mulataga residential area with the existing Yaburara Heritage Trail, at the Visitor Centre, via the hills to the west of Karratha Road (and south side of Millstream Road).

There are already a number of vehicle tracks and single tracks through these hills, opening up the possibility of developing walk trails without the need for substantial amounts of clearing.

This project will examine the potential for a point-to-point trail connecting the Mulataga area and the Karratha Visitor Centre, as well as the possibility of a series of trail circuits in this hilly region.

Rationale for development:

The existing Yaburara Heritage Trail network is already popular with local people (albeit in need of significant upgrading) and its popularity is aided by proximity to existing urban areas.

The proposed new Mulataga development will be somewhat remote from the Yaburara Heritage Trail network and the need for development of trails close to these new urban areas is evident.

Primary user groups:

Walkers, particularly local people and visitors to Roebourne.

Description of project:

It is expected that considerable aboriginal consultation will be required and it is highly likely that an Aboriginal Heritage Survey will need to be undertaken to ensure Aboriginal sites are appropriately interpreted or avoided and remain undisturbed.

Aboriginal heritage surveys will need to be undertaken before any future development of new trails occurs.

Already several tracks exist throughout these hills, however some new trail may need to be constructed to link existing tracks.

It is proposed that a circuit walk trail be developed around and through these hills (subject to Aboriginal Heritage approvals) with a connection across Karratha Road to the Visitor Centre and hence to the existing Yaburara Heritage Trails network.

The expected elements of the proposed trail's construction include signage (trailhead, directional, interpretive, warning), clearing and surfacing of trail route and the provision of hard infrastructure such as steps.

Methods to prevent intrusion by unauthorised motor vehicles will also be required (such as gates, rock barriers, etc).

The project will involve a considerable amount of fieldwork to establish the location and suitability of existing tracks throughout these hills, the locations where new trails may need to be constructed and the connection across Karratha Road to the Visitor Centre.

Consultations required:

- Local Aboriginal Corporations
- Shire of Roebourne
- Roebourne Visitor Centre

Interpretation:

- Red Dog territory markers as part of the *Roaming with Red Dog* trail.
- Signage in English and appropriate Aboriginal languages.
- Smart phone app including oral histories of all relevant language groups.
- iBeacons digital devices or current 'cutting edge' digital device (not requiring internet download) with images, audio and text
- Map of the trail.
- Trail markers.
- Regular seasonal guided tours by Aboriginal Elders from each language group (training program required).

Thematic Connections:

- Perspectives on Aboriginal life before European settlement with a particular focus on petroglyphs.
- Flora and fauna of the region.
- Geology of the region, particularly the comparison between Karratha hills and the Karratha town site.
- Colonisation; frontier violence; early pastoralism.
- Two Laws and Aboriginal resistance; resource exploitation (mining, pastoralism); growing settlements.
- Environmental adaptation and innovation. Environmental degradation. Effect of cyclones on the region– life giving rains and town breaking storms.
- Exile from traditional lands; stories revealed through oral histories.
- Shift from pastoralism to industrialisation; Karratha Station to Karratha town; iron ore, salt, oil and gas exploration; influx of workers; new towns.
- Impact of native title; heritage frameworks.
- Fly-in fly-out workforce; environmental impacts; diverse values; international networks; Australia's economic powerhouse.

The cost estimates that follow are broad estimates only and are subject to confirmation, following the preparation of a detailed trail development plan for the proposed trail. They are provided here as indicative costs only.

Cost Estimates for Project 6: Mulataga Trail (Design and Development Project)

Tasks	Costs (excl GST)
1. Consultation (with Shire staff, local aboriginal groups and Corporations, other stakeholders; etc) (5 days @ $1200/day)	$6,000
2. Fieldwork to confirm optimum trail route (10 days @ $1200/day)	$12,000
3. Preparation of Trail Development Plan (including mapping; sign plans; sign designs; interpretive topics/sites)	$10,000
4. Allowance for construction of 3100m trail: • Clearing and surfacing; rock steps etc • Fabrication and installation of directional signage • Installation of trailhead signage • Installation of interpretation • Red Dog territory markers	$300,000
5. Allowance for Aboriginal consultation (10 person days @ $800/day)	$8,000
6. Allowance for Aboriginal Heritage Survey along the recommended trail routes	$30,000
7. A4 trail brochure (write, design and supply), with map (5000 copies, folded to DL)	$5,000
8. Production of interpretive panels – research, writing, sourcing of images, graphic design, manufacture and supply (allowance for 10 panels)	$22,000
9. Production of trailhead panels – research, writing, sourcing of images, graphic design, mapping, manufacture and supply (allowance for 3 panel)	$13,500
10. Development and production of a smartphone app for downloading from Visitor Centres or through the Shire's trails web page	$10,000
11. Allowance for application and installation of iBeacons technology	$20,000
12. Allowance for travel and accommodation costs; report printing; miscellaneous expenses, etc	$3,000
Sub-Total	*$439,500*
+ 10% Project management	$43,950
+ 10% Contingency	$43,950
Total (not including GST)	***$527,400***

Project 7 – Yaburara Heritage Trails upgrade project

Location:

Karratha Hills, Karratha (see plan 3)

Concept:

The Yaburara Heritage Trail has been established since the late 1980's.

The recently prepared Yaburara Heritage Trail Upgrading Plan has already determined the range of improvements required to make the trail safer and more enjoyable.

The trail upgrading plan recommends the development of 5 stand-alone trails in the Karratha Hills, from the network of tracks that already exist throughout the Hills that form part of the current (and past) Yaburara Heritage Trail alignment.

When upgraded and promoted, these 5 trails will provide local people and visitors to the region with a range of walk trail experiences due to their differing lengths and level of difficulty.

A summary of the trail upgrading costs are presented in the table below.

Rationale for redevelopment:

The trail is already popular with local people and visitors to Karratha and the range of recommended improvements will make the trail network a more popular and safer recreational facility.

The original concept for establishment of the trail in the late 1980s was to focus on the Aboriginal history and heritage evident throughout the Karratha hills. Interest in Aboriginal history and culture is high amongst overseas tourists and visitors passing through the Pilbara. The opportunity exists to showcase some of this culture and history by making the trails network safer. New and improved interpretation will benefit all trail users.

The fact that these trails already exist determines how many other similar trails need be developed in the Karratha area. It also determines the need for connecting existing and newly developing residential areas (such as Mulataga) to this existing network.

Primary user groups:

Walkers, particularly local people and visitors to Roebourne.

Description of project:

The proposed upgrading plan has already been prepared and cost estimates already established. Funding is now required to implement the recommended improvement works.

Consultations required:

Consultation has already occurred during preparation of Yaburara Heritage Trail Upgrading Plan.

Interpretation:

- Liaise with NAC to determine the scope of interpretation of petroglyths, middens etc with regard to cultural sensitivities.
- Red Dog territory markers as part of the *Roaming with Red Dog* trail.
- Interpretive signage with important fauna and flora featured as stainless steel rubbings that can be done in the Red Dog Roaming Activity Book.
- Signage in English and appropriate Aboriginal languages.
- Smart phone app including oral histories of all relevant language groups.

- iBeacons digital devices or current 'cutting edge' digital device (not requiring internet download) with images, audio and text.
- Map of the trails network.
- Trail markers.
- Regular seasonal guided tours by Aboriginal Elders from each language group (training program required).

Thematic Connections:

- Perspectives on Aboriginal life before European settlement with a particular focus on petroglyphs.
- Flora and fauna of the region.
- Geology of the region, particularly the comparison between Karratha hills and the Karratha town site.
- Colonisation; frontier violence; early pastoralism.
- Two Laws and Aboriginal resistance; resource exploitation (mining, pastoralism); growing settlements.
- Environmental adaptation and innovation. Environmental degradation. Effect of cyclones on the region– life giving rains and town breaking storms.
- Exile from traditional lands; stories revealed through oral histories.
- Shift from pastoralism to industrialisation; Karratha Station to Karratha town; iron ore, salt, oil and gas exploration; influx of workers; new towns.
- Impact of native title; heritage frameworks.
- Fly-in fly-out workforce; environmental impacts; diverse values; international networks; Australia's economic powerhouse.

Cost Estimates for Project 7: Yaburara Heritage Trails upgrade project

Tasks	Costs (excl GST)
1. Upgrading of trail (as set out in Yaburara Heritage Trail – Trail Upgrading Plan by Transplan Pty Ltd)	$399,640
2. Production of interpretive panels - research, writing, sourcing of images, graphic design, manufacture and supply (allowance for 15 panels)	$33,000
3. Production of trailhead panels - research, writing, sourcing of images, graphic design, mapping, manufacture and supply (allowance for 3 panels)	$13,500
4. Allowance for application and installation of iBeacons technology	$20,000
5. Fabrication and installation of Red Dog territory markers	$4,000
6. A4 trail brochure (write, design and supply), with map (5000 copies, folded to DL)	$5,000
Sub-Total	*$475,140*
+ 0% Project management (already included in Yaburara Heritage Trail upgrade project estimates)	$0
+ 0% Contingency (already included in Yaburara Heritage Trail upgrade project estimates)	$0
Total (not including GST)	***$475,140***

Project 8: Pilbara Rocks GeoTour - Discovering the Stories of an Ancient Land (Design and Development)

Location:

Various locations throughout Shire of Roebourne (see plan 13)

Concept:

This proposed project focuses on the natural, Aboriginal and European heritage locations in towns and sites spread throughout the Shire of Roebourne.

Recognising the widespread nature of the attractions of any Shire, this Trails Master Plan proposes a project to promote the broad range of attractions throughout the Shire of Roebourne. In particular, this project aims to link the existing and proposed (non-motorised) trails of the Shire as well as the numerous heritage and historic sites.

Rather than following a designated drive trail, where users are guided from one site to another by means of directional signage along a defined route, people will be able to choose the number and location of sites they visit and the route they follow from one site to another. They can select sites according to their particular interests, as it is intended that each site will be colour coded on the mapping, with each colour representing either an Aboriginal heritage site, a natural history site or a European history site. Some sites will have more than one colour coding.

In addition to traditional interpretive signage, each site will incorporate a Geocache (see Sections 6.0 and 5.3.1 for further detail on GeoTours and Geocaching).

Rationale for development:

The west Pilbara area has a rich and colourful history, with fascinating Aboriginal heritage, and significant sites and stories associated with the pearling, pastoral and mining industries of Western Australia.

Interest in Aboriginal history and culture is high amongst overseas tourists and visitors passing through the Pilbara. The opportunity exists to showcase some of this culture and history at a number of sites throughout the region.

The rationale for recommending a series of sites featuring Aboriginal history/culture is based on the following:

- ❖ The widely held notion that tourists can't get enough of Aboriginal history (pre and post settlement) when they visit Australia;
- ❖ The claim that there are very few Aboriginal cultural sites in the Pilbara that can be easily visited;
- ❖ The understanding that Aboriginal people want to tell their stories;
- ❖ Interest from Aboriginal groups in trails; and
- ❖ The knowledge that Aboriginal oral histories are available from several different sources (the use of which lends itself to production of CDs, MP3 files and other digital interpretation in additional to in-situ interpretation).

With permission from Aboriginal groups the proposed project aims to feature stories such as the Flying Foam Massacre on the Burrup Peninsula, "Blackbirding" and use of Aboriginal people in pearling, flooding of sacred sites during the construction of the Harding Dam, the 1946 Pilbara station strike, the Aboriginal Reserve in Roebourne (where Aborigines disposed of their land settled), the meanings of petroglyphs and various stories and songlines across the Pilbara. It is most appropriate that Aboriginal groups determine the content and design of this part of the project.

This project will also feature European history such as early maritime exploration along the Pilbara coast, early encounters with Aboriginal people, the development of the

pastoral stations, the development of the Mullewa – De Grey Stock Route and the various stock wells, the construction of the overland telegraph, early gold discoveries and asbestos mining, and more recent iron ore, oil and gas and railway developments.

Additional attractions in the Shire of Roebourne will serve to attract and keep tourists longer – and be of interest to local people (including FIFOs) who may not be familiar with the region's fascinating history.

Primary user groups:

Motorists including local people and visitors to the Shire of Roebourne.

Description of project:

The proposed project involves determining a range of natural, Aboriginal and European heritage locations in towns and sites spread throughout the Shire of Roebourne.

It is anticipated that as many as 50 or more potential sites will be evaluated for their possible inclusion in the *Pilbara Rocks GeoTour* project, with possibly 20 - 30 sites to be selected.

The major cost components of this project are the writing and installation of interpretive signage and other interpretive elements (such as digital interpretation through smart phone apps), site signage and a map and guidebook. The final cost of the project will not be known until after the preparation of the development plan. It is during the preparation of that plan that the number and location of the recommended sites will be determined, and decisions made on the number and style of interpretive panels and other forms of interpretation. The detailed plan will also determine the amount of construction required (eg. parking areas, picnic tables, etc) at each site.

The expected elements of the proposed development at each site will include signage (trailhead, directional, interpretive, warning), clearing and surfacing of parking areas, installation of picnic tables and viewing platforms. Not all sites will require development activity as some sites are already well developed.

Consultations required:

- Local Aboriginal Corporations
- Shire of Roebourne
- Roebourne and Karratha Visitor Centres

Interpretation:

- Interpretive signage with key buildings and landmarks featured as stainless steel rubbings done in the Red Dog Roaming activity book.
- Address contested history areas - such as Harding dam region - with all points of view and interpreted by a range of media - signage and digital.
- Red Dog motifs as part of the *Roaming with Red Dog* trail.
- Signage in English and appropriate Aboriginal languages.
- Reproductions of local art depicting Aboriginal on-country stories.
- Smart phone app including oral histories of all relevant language groups and local music (possibly developed by Ngarluma Corporation).
- Explore the use of technology not requiring Internet connection such as iBeacons to cover areas out of mobile range.
- Map of the trail options.
- Trail markers.

Thematic Connections:

- Perspectives on Aboriginal life before European settlement.
- Maritime exploration; global trade networks; whaling.
- Colonisation; frontier violence; early pastoralism; pearling; early migration; unfree labour.
- Cultural influences and exchange.
- Communication and transport networks from pre European settlement to the present day.
- Two Laws and Aboriginal resistance; resource exploitation (mining, pastoralism); growing settlements; environmental degradation; environmental adaptation and innovation.
- Cyclones – life giving rains and town breaking storms.
- Economic decline; 1946 Pilbara Strike; exile from traditional lands; impact of World Wars; British nuclear testing; social histories revealed through oral histories.
- Shift from pastoralism to industrialisation; Karratha Station to Karratha town; iron ore, salt, oil and gas exploration; influx of workers; new towns; impact on Roebourne; death of John Pat and Royal Commission into Deaths in Custody.
- Impact of native title; heritage frameworks; contested resources in a globalised world.
- Fly-in fly-out workforce; environmental impacts; diverse values; international networks; Australia's economic powerhouse.
- Geology of the region.
- Flora and fauna of the region.

The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only. Costs will vary depending on number of sites selected, degree of infrastructure already at site and level of upgrading works required.

Cost Estimates for Project 8: The Pilbara Rocks GeoTour Project (Design and Development)

Tasks	Costs (excl GST)
1. Consultation (with Shire staff, local Aboriginal groups and Corporations, other stakeholders; etc) (4 days @ $1200/day)	$4,800
2. Fieldwork to evaluate a range of potential sites and to select recommended sites; determine location of signage; preparation of site development plans etc (10 days @ $1200/day)	$12,000
3. Preparation of Development Plan (including mapping; site plans; interpretive topics/sites) (10 days @ $1200/day)	$12,000
4. Allowance for various signage (site signage, warning signage, etc)	$10,000
5. Allowance for gravelling and grading of access tracks and at each site location.	$50,000
6. Allowance for site infrastructure (tables, etc) at each site. (Allowance of $3,000 per site, and 30 sites)	$90,000
7. Allowance for Aboriginal consultation (10 person days @ $800/day)	$8,000
8. Allowance for preparation of Guide Book with mapping (write, design and supply)	$30,000
9. Production of interpretive panels - research, writing, sourcing of images, graphic design, manufacture and supply (allowance for 40 panels)	$88,000
10. Production of trailhead panels - research, writing, sourcing of images, graphic design, mapping, manufacture and supply (allowance for 3 panels)	$13,500
11. Development of a *Pilbara Rocks GeoTour* smart phone app that can be downloaded at Visitor Centres or through the Shire's trails web page.	$10,000
12. Allowance for application and installation of iBeacons technology	$40,000
13. Allowance for travel and accommodation costs; report printing; miscellaneous expenses, etc	$10,000
Sub-Total	*$378,300*
+ 10% Project management	$37,830
+ 10% Contingency	$37,830
Total (not including GST)	***$453,960***

Project 9 – Karratha Bridle Trail (Design and Development)

Location:

Robins Road, Karratha (see plan 10)

Concept:

This project involves fieldwork to ascertain the most suitable location for a bridle trail circuit in the vicinity of the Agistment Centre along Robins Road, Karratha.

Horse riding is popular in Karratha, despite the heat, and the number of members of the club is constantly rising. There is a waiting list for yards at the Agistment Centre.

Horse riders already use myriad of tracks throughout the area to the south of the Karratha Hills East. A designated trail with directional markers is sought, as well as continued access north to the beach.

The recent enlargement of the Water Corporation's treatment plan at the end of Robins Road has curtailed use of some of current horse riding areas. The majority of the hills area immediately north of the Agistment Centre is too rocky for horse riding. Fieldwork is required to ascertain the most suitable sites/soils for horse riding in the area.

Rationale for development:

Currently horse riders have no designated trail route to follow and there is a need for a marked trail that young and/or inexperienced riders can follow in close proximity to the Agistment Centre yards.

Primary user groups:

Horse riders.

Description of project:

The proposed project involves consultation with horse riders and fieldwork to assess potential areas for a short, marked bridle trail.

It is likely that a 3.5km circuit roughly following the boundaries of the Agistment area (and the old rubbish tip site that is being handed over to the Karratha & King Bay Horse & Pony Club) will provide a suitable trail route and suitable surfaces.

The actual construction of the bridle trail is likely to involve some clearing of vegetation, creation of a suitable riding surface (by physical removal of loose rocks ands stones, and perhaps by the addition of imported sand) and the possible relocation of some fences to facilitate a continuous circuit. Installation of small jumps may be an added feature.

Consultations required:

- Karratha & King Bay Horse & Pony Club
- Shire of Roebourne
- Water Corporation

Interpretation:

- Signage in English and appropriate Aboriginal languages.
- Explore the use of technology not requiring Internet connection such as iBeacons to cover areas out of mobile range.
- Source or develop a smart phone app including maps and trail information, route recordings, health and safety information etc.
- Map of the trail.
- Trail markers.

Thematic Connections:

- Health and recreation
- Tacit learning – developing and improving horse riding skills
- Flora, fauna and geology of the region.
- Cyclones – their effects on the landscape.

The cost estimates that follow are broad estimates only and are subject to confirmation, following the preparation of a detailed trail development plan for the proposed trail. They are provided here as indicative costs only.

Cost Estimates for Project 9: Karratha Bridle Trail (Design and Development)

Tasks	Costs (excl GST)
1. Consultation (with Shire staff, Karratha & King Bay Horse & Pony Club members, Water Corporation, other stakeholders; etc) (2 days @ $1200/day)	$2,400
2. Fieldwork to evaluate potential trail routes; location of signage (3 days @ $1200/day)	$3,600
3. Preparation of Trail Development Plan (including mapping; sign plan)	$6,000
4. Allowance for construction of 3,500m trail: • Clearing and surfacing (with imported sand where necessary) • Relocation of fences; installation of gates • Fabrication and installation of directional signage • Installation of trailhead signage (with mapping) • Installation of interpretation	$30,000
5. Allowance for Aboriginal consultation (1 person day @ $800/day)	$800
6. A4 trail brochure (write, design and supply), with map (500 copies, folded to DL)	$3,500
7. Production of interpretive panels - research, writing, sourcing of images, graphic design, manufacture and supply (allowance for 5 panels)	$11,000
8. Production of trailhead panel - research, writing, sourcing of images, graphic design, mapping, manufacture and supply (allowance for 1 panel)	$4,500
9. Allowance for application and installation of iBeacons technology	$5,000
10. Allowance for travel and accommodation costs; report printing; miscellaneous expenses, etc	$3,000
Sub-Total	*$69,800*
+ 10% Project management	$6,980
+ 10% Contingency	$6,980
Total (not including GST)	***$83,760***

Project 10 – Dampier Heritage and Fitness Trail upgrade project

Location:

Dampier (see plan 12)

Concept:

The Dampier Heritage and Fitness Trail circuits already exist. Given the emphasis of this trails project is to cater for local people it is considered important to ensure that local trails are attractive and well used.

It is intended that improvements to these local trail circuits will increase usage among local people as well as providing information and greater connectivity throughout the town.

Rationale for development:

Providing local trails within easy reach of residential areas is one of the best ways of encouraging people to use trails.

Making improvements and adding components to the existing network will increase the usability of the trail.

Primary user groups:

Walkers, particularly local people and visitors to Dampier.

Description of project:

The proposed project involves determining improvements to the existing fitness circuits (concrete footpaths). Fieldwork would be required to examine possible additions to the network, and any interpretation that could be installed to enhance the experience.

Consultation with local people will help ensure improvements that local people want are included in the upgrading of the trails.

Some of the possible improvements would include the installation of interpretation at selected locations, improved directional signposting and additions to the path network.

In addition to the physical improvements to the existing circuits, the current trail brochure will need to be revised and updated. According to the Dampier Community Association this brochure contains numerous errors.

Consultations required:

- Dampier Community Association
- Shire of Roebourne
- Local Aboriginal groups. Investigate if an Aboriginal Heritage Survey will be required.

Interpretation:

- Interpretive signage with key parts of the Red Dog story featured as stainless steel rubbing that can be done with a crayon in the Roaming with Red Dog activity book.
- Consider Including in-ground signage such as distance markers, trail gradients etc. to promote the fitness aspects of the trail.
- Red Dog territory markers as part of the *Roaming with Red Dog* trail.
- Source or develop a smart phone app including maps and trail information, health and safety messages, personal route details including distance covered, speeds

(average and maximum), heart rate, calories used etc. Allow information to be uploaded to the users personal website.

- Investigate a simple, cheap GPS tracking bracelet that can record aspects of a walk on the trail and act as a safety device. These can be branded with a Dampier Heritage and Fitness Trail logo.
- Map of the trail.
- Trail markers.

Thematic Connections:

- Perspectives on Aboriginal life before European settlement.
- Maritime exploration; global trade networks; whaling.
- Communication and transport networks including local (iron ore trains), and overseas (Dampier as an international port).
- Red Dog as a representation of life in the Pilbara in the 1970s.
- Two Laws and Aboriginal resistance; resource exploitation (pearling, pastoralism); growing settlements; environmental degradation; environmental adaptation and innovation.
- Social histories of various cultures revealed through oral histories.
- Shift from pastoralism to industrialisation; iron ore, salt, oil and gas exploration; influx of workers; new towns.
- Impact of native title; heritage frameworks; contested resources in a globalised world.
- Fly-in fly-out workforce; environmental impacts; diverse values; importance of maintaining a healthy lifestyle as a FIFO worker.
- Flora, fauna, and geology of the region.
- Cyclones – their effect on Dampier.

The cost estimates that follow are broad estimates only and are subject to confirmation, following the preparation of a detailed trail development plan for the proposed trail. They are provided here as indicative costs only.

Cost Estimates for Project 10: Dampier Heritage and Fitness Trail upgrade project

Tasks	Costs (excl GST)
1. Consultation (with Shire staff, Dampier Community Association, other stakeholders; etc) (1 day @ $1200/day)	$1,200
2. Fieldwork to confirm proposed improvements (1 day @ $1200/day)	$1,200
3. Preparation of simple Trail Upgrading Plan (including mapping; sign plan; interpretive topics/sites)	$3,000

4. Allowance for construction of 1400m concrete path:
   • Construction of concrete paths
   • Fabrication and installation of directional signage
   • Installation of trailhead signage (with mapping)
   • Installation of interpretation
	$220,000

5. Revisions to, and updating of, trail brochure	$5,000
6. Production of interpretive panels - research, writing, sourcing of images, graphic design, manufacture and supply (allowance for 5 panels)	$11,000
7. Allowance for travel and accommodation costs; report printing; miscellaneous expenses, etc	$1,500
Sub-Total	*$242,900*
+ 10% Project management	$24,290
+ 10% Contingency	$24,290
Total (not including GST)	***$291,480***

Project 11 – Point Samson Heritage Trail upgrade project

Location:

Point Samson (see plan 11)

Concept:

The Point Samson Heritage Trail requires upgrading. At present 5 separate trails are promoted in the Point Samson area. These include a Heritage Trail that utilises roads and concrete paths around the Point Samson, and 4 others that use gravel roads and sandy tracks, including one that follows the former Roebourne – Point Samson tramway as far as Pope's Nose Bridge.

The existing Point Samson Heritage Trail relies mainly on photos and a brief narrative in a recently prepared brochure, and a few old style interpretive panels or plaques. The other four 'walks' have no interpretation along the suggested routes.

The newly developed Point Samson Centenary Park with its sculptures, seating and interpretive panels is a highlight, which needs to be incorporated into the wider visitor experience and be a focal point of this proposed trail upgrade.

The proposed project is to completely revamp the trail route to provide logical start and end points (ie. trailheads), and to determine where improvements are required, such as additional sections of path, directional signage and interpretation.

Rationale for development:

Currently the trail route is somewhat incoherent, with no defined starting and end point, and no clearly defined circuit but with several spurs that makes navigation of the trail difficult and confusing. The interpretation that does exist at defined nodes is basic, inconsistent or missing.

Point Samson is a heavily visited area. It is an area with significant history and it is located on a picturesque section of coastline. The opportunity exists for redevelopment of the existing trail to capitalise on the town's unique history, its coastal setting and the operations of the modern port.

The recommended improvements to the trail will add significantly to its appeal.

Primary user groups:

Walkers and cyclists; local people and visitors to Point Samson.

Description of project:

This project will revamp the Point Samson Heritage Trail by devising a loop or circuit trail (or a point to point trail - as mapped in this Trails Master Plan) with trail directional markers and more comprehensive interpretation (including in-situ interpretation, information in brochures and possibly audio/digital interpretation).

The proposed project involves working with the Point Samson Community Association to determine the optimum route for the revamped Heritage Trail. The fieldwork will establish where new sections of concrete pathway are needed to complement the existing network of paths.

The fieldwork will also determine improvements required to the interpretation that already exists, and the need for and location of directional and trailhead signage along the proposed trail route.

The expected elements of the proposed trail's upgrading would include signage (trailhead, directional, interpretive, warning), new paths at selected locations and the provision of safe road crossings where required.

The possible 'point to point' trail (as mapped – see Plan 11) is approximately 3.0km long. It would be possible to add a return loop, thereby creating a circuit trail – although this has not been investigated.

Consultations required:

- Local Aboriginal Corporations
- Point Samson Community Association
- Shire of Roebourne
- Roebourne Visitor Centre
- Department of Transport and Harbour Master

Interpretation:

- Interpretive signage with key buildings featured as stainless steel rubbings that can be done in the Red Dog Roaming activity book.
- Red Dog territory markers as part of the *Roaming with Red Dog* trail.
- Smart phone app including health messages and exercise techniques with historical information.
- Investigate a simple, cheap GPS tracking bracelet that can record aspects of a walk on the trail and act as a safety device. These can be branded with a Point Samson Walk Trail logo.
- Explore the use of technology not requiring Internet connection such as iBeacons to cover areas out of mobile range.
- Map of the trail.
- Trail markers.
- Regular seasonal guided tours by Aboriginal Elders from each language group (training program required).

Thematic Connections:

- Perspectives on Aboriginal life before European settlement.
- Colonisation; frontier violence; early pastoralism – links to Roebourne.
- Pearling, including European and Aboriginal perspectives and other cultural influences such as Japanese.
- Communication and transport networks including local (Pt Samson - Roebourne Tramway), intrastate shipping and overseas (Pt Samson and Cape Lambert as international ports). Links as the port for Wittenoom asbestos.
- Two Laws and Aboriginal resistance; resource exploitation (pearling, pastoralism); growing settlements; environmental degradation; environmental adaptation and innovation.
- Social histories of various cultures revealed through oral histories.
- Shift from pastoralism to industrialisation; iron ore, salt, oil and gas exploration; influx of workers; new towns.
- Impact of native title; heritage frameworks; contested resources in a globalised world.
- Fy-in fly-out workforce; environmental impacts; diverse values.
- Flora, fauna, and geology of the region
- Mangroves and tidal zone habitats.
- Cyclones – their devastating effect on Pt Samson.

The cost estimates that follow are broad estimates only and are subject to confirmation, following the preparation of a detailed trail development plan for the proposed trail. They are provided here as indicative costs only.

Cost Estimates for Project 11: Point Samson Heritage Trail upgrade project

Tasks	Costs (excl GST)
1. Consultation (with Shire staff, local aboriginal groups, Point Samson Community Association, Department of Transport; Harbour Master, other stakeholders; etc) (2 days @ $1200/day)	$2,400
2. Fieldwork to confirm preferred trail route(s); interpretive sites; location of signs (3 days @ $1200/day)	$3,600
3. Preparation of Trail Development Plan (including mapping; sign plans; interpretive topics/sites)	$6,000
4. Allowance for construction of approx. 550m concrete path: • Construction of concrete paths • Fabrication and installation of directional signage • Installation of trailhead signage (with mapping) • Installation of interpretation • Red Dog territory markers	$100,000
5. Allowance for Aboriginal consultation (6 person days @ $800/day)	$4,800
6. A4 trail brochure (write, design and supply), with map (5000 copies, folded to DL)	$5,000
8. Production of interpretive panels - research, writing, sourcing of images, graphic design, manufacture and supply (allowance for 10 panels)	$22,000
9. Production of trailhead panels - research, writing, sourcing of images, graphic design, mapping, manufacture and supply (allowance for 2 panels)	$9,000
10. Development and production of a smartphone app for downloading from Visitor Centres or through the Shire's trails web page	$10,000
11. Allowance for application and installation of iBeacons technology	$10,000
12. Allowance for travel and accommodation costs; report printing; miscellaneous expenses, etc	$3,000
Sub-Total	*$175,800*
+ 10% Project management	$17,580
+ 10% Contingency	$17,580
Total (not including GST)	***$210,960***

Project 12 – Wickham Tank Hill Trail (Design and Development)

Location:

Tank Hill, Wickham (see plan 8)

Concept:

Given the emphasis of this trails project is to cater for people living and working in the shire it is important to ensure trails are established to cater for local demand.

It is intended that a circuit trail be established around Tank Hill, with easy access to the trail from the nearby residential area. The hill on which the Tank and existing lookout are situated, and the landscape surrounding Tank Hill, lends itself to a circuit walk around the hillside, from which users will be able to stop and read interpretive panels about the history of the town, the railways and the port, the view in front of them or the natural landscape. Seating and shelter would be incorporated into the trail design.

This proposed trail is intended to be a self-guided walk around the hill, either at a higher level (just below the summit) or at a lower level generally following tracks that already exist. Fieldwork will determine the most appropriate location and length of the proposed trail.

Rationale for development:

Tank Hill lookout at Wickham provides outstanding views in all directions. Visitors can enjoy 360° vistas over the town and the surrounding natural and built landscape. The lookout is currently promoted as a stopping place along the Emma Withnell Heritage Trail.

The proposed 1000 – 1800m trail would be attractive to visitors, as well as a place where local people could exercise. The route of the proposed trail has not been determined, but would follow ridgelines, creek valleys and existing tracks and pass rock outcrops and a variety of vegetation types.

Currently there is no recognised trail in Wickham.

Primary user groups:

Walkers including local people and visitors to Wickham.

Description of project:

The project involves determining the optimum route for a circuit walk trail around Tank Hill. The fieldwork will determine the best route to take following existing tracks and pads to minimise clearing and construction.

The fieldwork will determine where new trail construction is required, as well as construction details, and establish accurate cost estimates.

The expected elements of the proposed trail's construction include signage (trailhead, directional, interpretive, warning), clearing and surfacing of trail route and the provision of hard infrastructure such as steps and possibly short bridges over watercourses.

A trail of approximately 1800m is suggested, although fieldwork will enable a more accurate estimate of length.

Consultations required:

- Local Aboriginal Corporations
- Shire of Roebourne
- Roebourne and Karratha Visitor Centres

Interpretation:

- Signage on Tank Hill in English and appropriate Aboriginal languages.
- Explore the use of technology not requiring Internet connection such as iBeacons to cover areas out of mobile range.
- Smart phone app including health messages, exercise techniques and historical information including old photos of the view from the hill top.
- Map of the trail.
- Trail markers.
- Regular seasonal guided tours by Aboriginal Elders from each language group (training program required).

Thematic Connections:

- Perspectives on Aboriginal life before European settlement.
- Colonisation; frontier violence; early pastoralism – links to Roebourne.
- Communication and transport networks including iron ore rail links between mines and Cape Lambert.
- Two Laws and Aboriginal resistance; resource exploitation (pearling, pastoralism); growing settlements; environmental degradation; environmental adaptation and innovation.
- Social histories of various cultures revealed through oral histories.
- Shift from pastoralism to industrialisation; iron ore and oil and gas exploration; influx of workers; new towns.
- Impact of native title; heritage frameworks; contested resources in a globalised world.
- Fly-in fly-out workforce; environmental impacts; diverse values.
- Flora, fauna, and geology of the region.
- Cyclones – their effects on the landscape.

The cost estimates that follow are broad estimates only and are subject to confirmation, following the preparation of a detailed trail development plan for the proposed trail. They are provided here as indicative costs only.

Cost Estimates for Project 12: Wickham Tank Hill Trail (Design and Development)

Tasks	Costs (excl GST)
1. Consultation (with Shire staff, local aboriginal groups and Corporations, other stakeholders; etc) (2 days @ $1200/day)	$2,400
2. Fieldwork to confirm preferred trail route; interpretive sites; location of signs (5 days @ $1200/day)	$6,000
3. Preparation of Trail Development Plan (including mapping; sign plans; interpretive topics/sites)	$6,000
4. Allowance for construction of 1800m trail: • Clearing and surfacing; rock steps; short bridges, etc • Fabrication and installation of directional signage • Installation of trailhead signage • Installation of interpretation • Red Dog territory markers	$80,000
5. Allowance for Aboriginal consultation (6 person days @ $800/day)	$4,800
6. A4 trail brochure (write, design and supply), with map (5000 copies, folded to DL)	$5,000
7. Production of interpretive panels - research, writing, sourcing of images, graphic design, manufacture and supply (allowance for 10 panels)	$22,000
8. Production of trailhead panel - research, writing, sourcing of images, graphic design, mapping, manufacture and supply (allowance for 1 panel)	$4,500
9. Development and production of a smartphone app for downloading from Visitor Centres or through the Shire's trails web page	$10,000
10. Allowance for application and installation of iBeacons technology	$10,000
11. Aboriginal heritage survey	$20,000
12. Allowance for travel and accommodation costs; report printing; miscellaneous expenses, etc	$3,000
Sub-Total	*$173,700*
+ 10% Project management	$17,370
+ 10% Contingency	$17,370
Total (not including GST)	***$208,440***

7.5 Summary of Project Costs

In considering all of the cost estimates provided in this Section it must be recognised that these have been provided on the basis that the whole of each job is undertaken.

The cost estimates that follow are broad estimates only and are subject to confirmation. They are provided here as indicative costs only.

The figures have been calculated at expected consultancy and contractors' rates, with no allowances made for volunteer input.

Project	Project Description	Cost[1]
1	Roaming with Red Dog Family Trail	$65,640[2]
2	Ieramugadu Bush Tucker Trail	$150,600
3	Roebourne Heritage Trail	$186,600
4	Cossack Heritage Trail redevelopment	$195,960
5	Karratha Mountain Bike Park	$229,320
6	Mulataga Trail	$527,400
7	Yaburara Heritage Trails upgrade project	$475,140
8	The *Pilbara Rocks GeoTour* Project	$453,960
9	Karratha Bridle Trail	$83,760
10	Dampier Heritage and Fitness Trail upgrade project	$291,480
11	Point Samson Heritage Trail upgrade project	$210,960
12	Wickham Tank Hill Trail	$208,440
	Total Cost (not including GST)	**$3,079,260**

1. *Note: Estimated costs are as at June 2013. An additional 3.5% should be added to each individual total per year compounded.*

2. *Assuming a smartphone app is not included or if it is, the cost is covered by sponsorship.*

SECTION 8: IMPLEMENTATION PROGRAM

8.1 Timeframe for Implementation

While an effort has been made to keep this Trails Master Plan relatively simple there are many worthwhile and deserving projects to be considered. Too many Trails Master Plans are overloaded with 'actions' and projects, and can be daunting for those agencies charged with delivering on the outcomes proposed.

This Trails Master Plan is project-focussed, as this targeted approach appears the most likely to deliver outcomes 'on the ground'. A range of substantial benefits could be achieved by proceeding with a select number of projects that fit current budgets and grant opportunities. They are all simple, stand-alone projects that would deliver tangible benefits to the Shire of Roebourne – particularly to local people.

As noted, there are some existing trails in the Shire. The focus of this Trails Master Plan therefore has been on developing a trails action plan that will maximise the benefits to local people and the Shire of Roebourne using a mix of upgraded existing trails and new projects. The intention is to provide a suite of trails that benefit the greatest number of potential users and deliver the greatest number of benefits to the community.

It is recommended that the Council proceed with implementation of all trail projects in a timely manner and a proposed 10-year implementation program is set out below.

With sufficient funding, all these projects could be delivered in a shorter timeframe, providing skilled and experienced project management and funding is available.

Key stakeholders other than the Shire of Roebourne could accomplish some of the proposed projects – and get them implemented sooner. For example, the Ngarluma Aboriginal Corporation (NAC) could assume control of the upgrading of the Yaburara Heritage Trail; the Ngarluma and Yindjibarndi Foundation Ltd (NYFL) could take ownership of the proposed Ieramugadu Bush Tucker Trail; the Burrup Mountain Bike Club could take control of the proposed Karratha MTB Park project; and the Karratha & King Bay Horse & Pony Club could take ownership of the project to develop the Karratha Bridle Trail. These organisations could seek funding from some of the major corporate entities operating in the region and use those funds/sponsorship when applying to Lotterywest or any of the other funding programs outlined in this Trails Master Plan.

The suggested implementation program is a guide only and could be varied to fit current resources, new funding programs and community interest. It should be noted that the recommendations for upgrading of existing trails can be done at anytime in conjunction with the development of the proposed new trails, works programs and in-house compilation of brochures. The interest and effort of key stakeholders - such as Aboriginal Corporations, mining companies and local community and progress associations - will impact upon the implementation schedule, and bring some projects higher up the priority order.

The good news is that there is an ever-increasing desire for State and Federal government departments to provide funding for non-motorised transport, tourism and Aboriginal projects. Funding programs such as the Regional Development Australia Fund, Royalties for Regions and the TQUAL Funding Program, may provide additional sources of funding for trails not normally available.

Consequently, the total project costs that are included within this Trails Master Plan should not be considered overwhelming. There is funding available. However, it will take a concerted effort by the Shire of Roebourne and/or other key stakeholders to apply for, and secure, this funding.

Shire of Roebourne Trails Master Plan 10-Year Implementation Schedule

Project	Project Costs (not including GST)									
	Year 1	Year 2	Year 3	Year 4	Year 5	Year 6	Year 7	Year 8	Year 9	Year 10
Project 1 - Roaming with Red Dog Family Trail		$65,640								
Project 7 – Yaburara Heritage Trails upgrade project	$475,140									
Project 3 – Roebourne Heritage Trail		$186,600								
Project 2 – Ieramugadu Bush Tucker Trail			$150,600							
Project 5 – Karratha Mountain Bike Park				$229,320						
Project 4 – Cossack Heritage Trail redevelopment					$195,960					
Project 8 – The Pilbara Rocks GeoTour Project						$453,960				
Project 12 – Wickham Tank Hill Trail							$208,440			
Project 9 – Karratha Bridle Trail							$83,760			
Project 6 – Mulataga Trail								$527,400		
Project 11 – Point Samson Heritage Trail upgrade project									$210,960	
Project 10 – Dampier Heritage and Fitness Trail project										$291,480
Totals (not including GST):	**$475,140**	**$252,240**	**$150,600**	**$229,320**	**$195,960**	**$453,960**	**$292,200**	**$527,400**	**$210,960**	**$291,480**

Note 1: Depending on the success of attracting funding for the Trails Program, this development program could be extended over a longer timeframe – or a shorter timeframe.

Note 2: Estimated costs are as at June 2013. An additional 3.5% should be added to each individual total per year compounded.

9.0 TRAILS MARKETING AND PROMOTION

9.1 Promoting the Shire's Trails

One of the best mechanisms for ensuring sustainability of the trails is to have lots of people using them. A number of key steps need to be taken:

1. Undertake the trail development program outlined in this report, to promote the trails as high-quality experiences.
2. Use high quality, well maintained interpretive material.
3. Prepare clear, concise and informative written material, including easy-to-read maps.
4. Inform potential users of existing trails, and future developments.
5. Host events on the developed trails.

An important task for this project is to create a series of trails that showcase the Shire of Roebourne's natural and built assets and will be of lasting benefit to the community.

These trails should give locals and visitors a community-based interactive experience. They should provide opportunities to learn more about the region and provide an economic and social base for regional tourism development.

In order to maximise visits to the Shire of Roebourne Trails Network it is vital a creative and well-targeted marketing campaign is developed. The Shire's 'Communications' team could be assigned the task of promoting the trails, or it could be a relevant staff person.

The purpose of the marketing campaign is to create awareness of the attractions of the Shire, and the means of accessing them via the trails. It will generate local support and enthusiasm for the project, as well as generating promotional coverage of the project through local and state media and the formation of partnership opportunities through networking.

Several components are included within the Marketing Plan.

Develop logo and design standards – Develop a comprehensive brief, select designers, produce a style guide and colour and mono output versions of a trail logo. (It is noted that the Shire already a style guide, though it is heavily slanted to urban paths and parks rather than trails in natural areas. Trail-specific sign styles have been included in this Trails Master Plan).

Market Planning and Target Marketing – Engage marketing consultants to provide phone linked and social media mentoring assistance (40 hrs @ $100 hr). Engage a marketing consultant to work with a local implementation group and tourism operators to review existing tourism products and market test trails concepts (20 hrs @ $150 hr). Develop a 12-month (or longer) program to promote trails and other facilities, including targeted advertising to niche and mainstream media and a social media strategy using websites, Facebook, Twitter, and other appropriate channels of communication.

Membership Fees – Establish links with visitor centres and WA Tourism Network through payment of appropriate memberships. This will bring benefits such as inclusion of pertinent information in the region's Holiday Planner magazine.

Industry Familiarisation Program – Develop familiarisation programs (of the trails network) for the tourism industry network including local visitor centres, other regional visitor centres, WATC, RAC and tourism focussed print, radio, TV and social media.

Postcard Promotion – design, print and distribute postcards promoting the trails (and iconic landscapes/images) to local residents targeting visiting friends and relatives market. Although the electronic media has reduced the demand for postcards there is still a limited market particularly among older visitors such as 'Grey Nomads'.

Brochure Distribution – contract specialist brochure distribution firm/s for targeted brochure delivery to key information outlets throughout WA.

Cost Estimates for Marketing and Promotion Plan

Tasks	Costs
Develop logo and design standards	$6,000

Market Planning and Target Marketing
    o Marketing consultants – phone mentoring and social media assistance
    o Marketing consultants – review existing products; market test trails
    o Promotional program
	$4,000
	$3,000
	
	$12,000

Membership Fees	$3,000
Industry Familiarisation Program	$5,000
Postcard Promotion	$3,000
Brochure / Trail Guide Distribution	$5,000
Trails Guide Book: research, write and design; cartography; preparation (DL size; 20 pages including fold out map and cover pages)	$6,000
Printing of Guide Book	$8,000
Sub-Total	*$55,000*
10% GST	*$5,500*
Total (including GST)	**$60,500**

9.2 Information Brochure / Booklet

All trail users require information to safely access and enjoy the trails.

Ideally all trails should have a brochure (or trail guide) which contains an accurate and informative map, clearly showing the various routes, access points, appropriate trail behaviour information and interpretive material. In addition the brochure should show distances between points, and provide basic 'trail notes' where appropriate.

Information must be clear, concise, accurate and interesting. Good design can help produce a visually pleasing and educational product, which will still fulfils its primary role of providing essential route-related information.

Brochures should be professionally prepared and designed, be pleasing to the eye and simple to read. They should have the following features:

o A clear concise map, with distances, scale bar, north point and other annotations;
o Trail notes, describing key points along the way and relating them to distances and directions;
o Background information about the history of the Shire of Roebourne, other features of the region, and the trails themselves;
o Educational information about trail usage, safety and etiquette;
o Some interpretive information about culture, history, geography and environmental matters;
o Information about management and maintenance, including phone numbers for reporting any trail related matters;
o Emergency contact details and directions;
o Clear indication of routes to and from the trail head and appropriate parking areas.

In summary, the brochures MUST be professional. They should be engaging, easy to follow, informative, educational and should inspire confidence in being able to follow each

trail route. It is the primary point of contact with trail users and should be at least as good as the trail itself. There is no more certain way of condemning the trail to an uncertain future than by producing a sub-standard brochure.

Consideration should be given to distributing brochures from a variety of locations in the region such as the Council offices, the Shire's libraries, the Visitor Centres in Karratha and Roebourne, café's and other shops, DEC's office, tourist and visitor centres in the region (especially in Port Hedland, Karijini, Tom Price) and, possibly, from dispensers at the trailheads.

When trails are upgraded and/or constructed, new brochures following a consistent theme should be prepared – such as is the case for the Otways Trails in Victoria. Walk, cycle and drive trails are marketed in the same manner.

Several other mechanisms exist for wider distribution and awareness raising of the brochures and trails. These include stories in local, intra state and inter state media, social media such as Facebook and Twitter, tourist bureaux and equipment suppliers.

When all trails are developed and available for use, it is recommended that an information package – such as a booklet - is produced which contains maps and other details about the complete set of Shire of Roebourne trails. This has been done successfully in numerous other local governments throughout Australia.

There are many fine examples of trails booklets available, and one prepared for the suite of trails to be developed in the Shire of Roebourne should be modelled on the best of those available.

9.3 Availability of Trail Information and Promotion

Access to information about existing trails is surprisingly hard to find in many places in Australia. In most locations, the multitude of organisations, (including government, local government, and community groups) that manage the natural areas and parks make the accessibility of information difficult.

For most people, land management boundaries are meaningless and irrelevant. One area of open space appears much the same (from a user perspective) as the next. The community does not discern any difference between management agencies. Therefore, when attempting to find information, the community would assume that whatever trails information is available would be readily accessible at many outlets. This is not always the case.

It was noted that the trail brochures for existing trails within the Shire of Roebourne were inconsistent in style, and few promotional signs existed for the trails.

A priority action would be to establish a centralised location for the distribution and dissemination of trail information for the Shire of Roebourne. All trails related brochures and promotional material should be made available at least in one location – preferably more. The two Visitor Centres (Karratha and Roebourne) are obvious places where the trail brochures should be located. They could also be available at the Shire offices.

In addition, trail mapping/signage should be installed at the parking bay outside the Karratha Visitor Centre in Karratha, outside the Visitor Centre in Roebourne and in the Red Dog Information Bay in Dampier.

9.4 *Mapping of Trails*

An essential requirement of any trail is appropriate and adequate mapping – for use both on trailhead signs and promotional material (including brochures and web sites).

Maps provide a quick visual representation of the trail route – indicating the route of the trail, the destination, and the layout - whether it is out and back, or a loop.

Good mapping will contain an array of information, including:

- access roads from nearby towns (and distances)
- north point and scale bar
- trailhead location
- trailhead facilities (eg. parking, picnic tables, toilets, barbecues, etc)
- difficulty level (easy; moderate; difficult; disabled). Walk trails should have a difficulty grading according to the *Australian Walking Track Grading System* (see Section 11.2.4). Mountain bike trails should also have a classification signage (see Section 11.2.5).
- length and duration (and direction of travel if one-way loop)

Excellent mapping and information is a key feature of the developing trails network in Mullewa.

- points of interest along the trail, including geographical features
- symbols indicating location of interpretive panels (if any)
- other relevant information, such as crossroads, cross tracks, trailside furniture (seats, shelters, lookouts), viewpoints, emergency (fire) escape routes, etc.

## 9.5 *Website Development*

Additionally, the same basic information contained within the trail brochure should be available on the Council's web site. Websites are now a well-established mechanism for promoting trails. Each trail brochure should be available as a PDF from the trails website.

It is important that the website give ample information about accessing each trail. It should encourage local people to use the trail network and potential visitors to visit, but also give those who may not be able to visit a worthwhile experience.

The actual format of the website needs to be developed in conjunction with specialist website designers but should cover the following:

- Description of each trail (location and access details, characteristics, length, duration, classification, highlights and points of interest, etc);
- Images (photographs and / or sketches) of some of the notable sites along the trail – contemporary and historic;
- Cultural, historic and geological information of the region;
- Flora and fauna to be seen along the trail;
- Location map (to guide access to the trail);
- Information about the various activities and facilities available at the trailhead;
- Links to other relevant sites; and
- Downloadable education materials (including PDF of the trail brochure and map).

In addition, digital interpretation could be made available via the website, either as on-line videos, downloadable mp3 files or other innovative means.
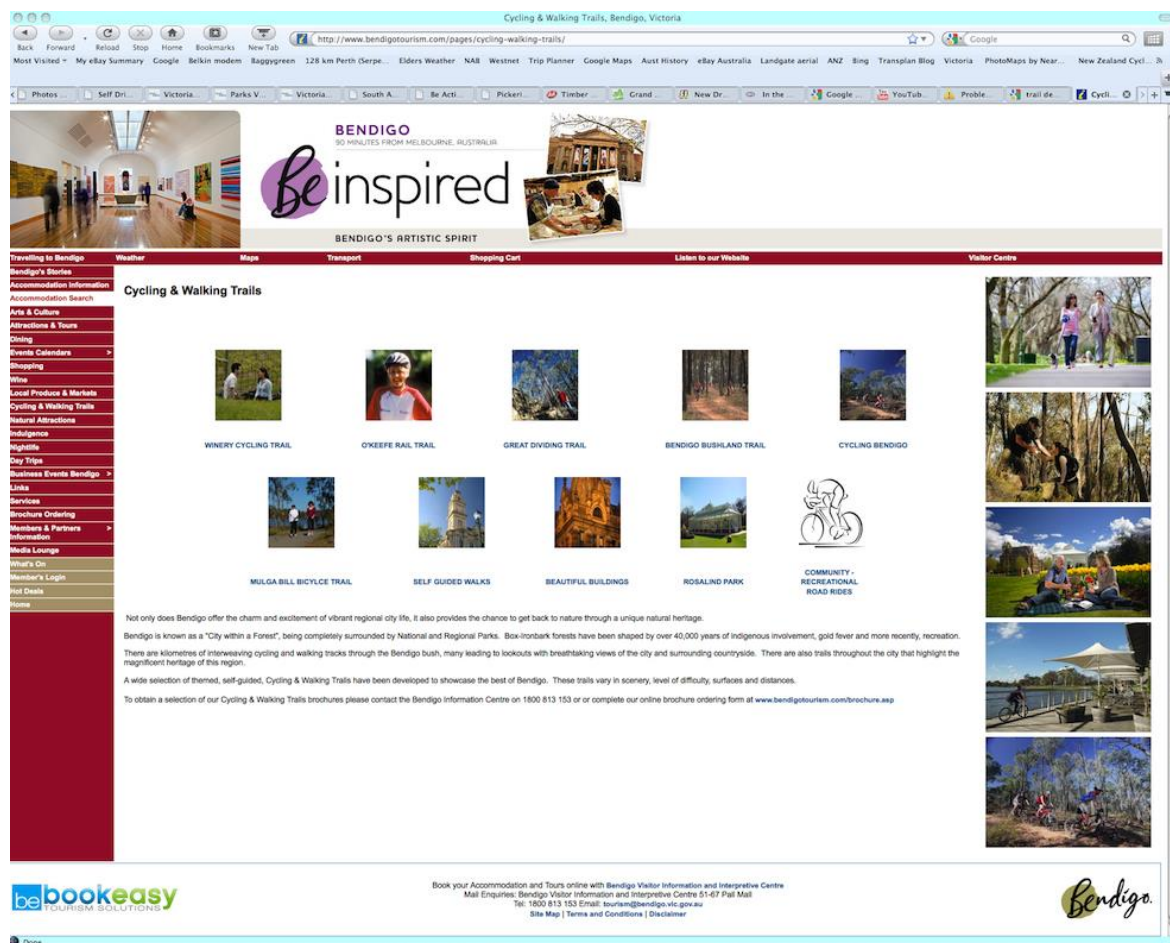
Above: The City of Bendigo (Victoria) has an excellent example of a website dedicated to the range of trails (walk, cycle, horse ride and drive) within its region.

9.6 TopTrails WA

50 of WAs best trails are (currently) listed on the TopTrails website; from world-class long distance wilderness trails to jaw-dropping gorge walks; forest mountain bike adventures and outback 4WD routes.

This website is currently being upgraded with funding from the State government and will be the main portal for trails promotion in WA. It will eventually include information pertaining to approximately 400 of Western Australia's trails.

When each existing trail has been upgraded (or new ones developed), the Shire of Roebourne should actively seek to have the trail included on the website. (See http://www.toptrails.com.au/)

SECTION 10: EDUCATION AND LIFE LONG LEARNING

10.1 Introduction

Formal education is institutionalised and curriculum driven. It is typically carried out in schools, colleges and universities and formally recognized with grades, diplomas or certificates. Formal education can be supported by in-situ learning such as fieldtrips and excursions.

Informal education is learning outside the formal education system and tends to be short-term, voluntary, and have few if any prerequisites. This type of learning can be self-directed, incidental or tacit. Self-directed learning, for example, is intentional and conscious.

Incidental learning is often an accidental by-product of doing something else. It is unintentional but after the experience the person becomes aware that some learning has taken place.

Tacit learning can be neither intentional nor conscious (although we can become aware later of learning taking place). An example of tacit learning is riding a bicycle, which can only be achieved through personal experimentation.

The Trails offer many opportunities for all forms of learning, which will bring many benefits to local and wider communities.

10.2 Formal Learning

The Australian Curriculum, Assessment and Reporting Authority (ACARA) is responsible for the development of the Australian curriculum. It consists of eight learning areas - English, Mathematics, Science, Humanities and Social Sciences, the Arts, Languages, Health and Technology. The Australian Curriculum is 'designed to develop successful learners, confident and creative individuals and active and informed citizens'. (Melbourne Declaration of Educational Goals for Young Australians – December 2008).

10.2.1 Australian Curriculum History; Years 1 – 9 [ACARA V5.1 May 2013]

History is a discrete subject within the Australian Curriculum's learning area of Humanities and Social Sciences and it is the discipline with most relevance to a formal study of trails themes and stories.

The introduction of the Australian curriculum history offers challenges to schools particularly during the initial period of implementation. Awareness of history is an essential characteristic of any society. It promotes the understanding of movements and events that have shaped our world from ancient times. It also presents great opportunities for communities to explore their local stories as the curriculum asks for more engagement in local history. The trails are great vehicles for engaging with local history and provide practical and robust opportunities for student engagement. Many of the key inquiry questions in the Australian curriculum history have strong links to the themes and stories of the trails identified in this Master Plan. Exploring these provides active learning opportunities to develop skills such as the ability to ask relevant questions about the past, identifying and interpreting sources, respecting and explaining different perspectives and communicating effectively.

For example:

Year 1: Present and Past family life

- How has family life changed or remained the same over time?
- How can we show that the present is different or similar to the past?
- How do we describe the sequence of time?

Year 2: The Past in the Present

- What aspects of the past can you see today? What do they tell us?
- What remains of the past are important to the local community? Why?
- How have changes in Technology shaped our daily life?

Year 3: Community and Remembrance

- Who lived here first and how do we know?
- How has our community changed? What features have been lost and what features have been retained?
- What is the nature of the contribution made by different groups and individuals to the community?
- How and why do people choose to remember significant events of the past?

Year 4: First Contacts

- Why did the great journeys of exploration occur?
- What was life like for Aboriginal and/or Torres Strait Islander Peoples before the arrival of Europeans?
- Why did Europeans settle in Australia?
- What was the nature and consequence of contact between Aboriginal and/or Torres Strait Islander Peoples and early traders, explorers and settlers?

Year 5: The Australian Colonies

- What do we know about the lives of people in Australia's colonial past and how do we know?
- How did an Australian colony develop over time and why?
- How did colonial settlement change the environment?
- What were the significant events and who were the significant people that shaped Australian colonies?

Year 6: Australia as a Nation

- Why and how did Australia become a nation?
- How did Australian society change throughout the twentieth century?
- Who were the people who came to Australia? Why did they come?
- What contribution have significant individuals and groups made to the development of Australian society?

Year 7: The Ancient World

- How do we know about the ancient past?
- Why and where did the earliest societies develop?
- What emerged as the defining characteristics of ancient societies?
- What have been the legacies of ancient societies?

Years 9 & 10: Depths Studies relevant to trail themes

Year 9: Movements of Peoples (1750 – 1901)

Changes in the way of life of a group(s) of people who moved to Australia in this period, such as free settlers on the frontier in Australia (ACD SEH084). Describe the impact of this group on the Aboriginal peoples of the region.

The experiences of non-Europeans in Australia prior to the 1900s (such as the Japanese, Chinese, South Sea Islanders, Afghans) (ACDSEH089)

Year 10: The environmental movement (1960s – present)

The intensification of environmental effects in the twentieth century as a result of population increase, urbanization, increasing industrial production and trade (ACDSEH125)

10.2.2 Programs developed by the National Trust of Australia (WA)

Investigating the Ancient Past: Programs developed by the National Trust of Australia (WA)

The National Trust of Australia (WA) has developed two programs, at year 7 and year 11 level, that highlight the significance of the rock art on the Burrup peninsula and the changing landscape.

Year 7

THE ANCIENT WORLD   ANCIENT AUSTRALIA: Lake Mungo, Rock Art and Cave Painting, the Burrup Peninsula

This course is written to suit the guidelines of the Australian Curriculum: History. It uses Inquiry based learning to teach Historical Skills, through Knowledge and Understandings.

Through a study of the region, students will develop historical understanding of evidence, continuity and change, cause and effect, perspectives, empathy, significance and contestability. Students will explore the national heritage values.

The course can be downloaded from the National Trust Website:

http://www.valuingheritage.com.au/Year_7_Burrup_Peninsula.html

YEAR 11

STAGE 1A/2A MODERN HISTORY   THE BURRUP AND BEYOND – 40,000 years of Local History

The Burrup Peninsula in the north west of Western Australia (the Pilbara) is a unique landscape in terms of its geology, its significance to the Aboriginal groups of the region, its Rock Art and its changing landscape due to mining.

The course has been recognised by WA Curriculum Council for Year 11, Stage 1A/2A Modern History - People, Place and Time.   The course relates specifically to the region around the Burrup Peninsula and is supported with reference materials.

The course can be downloaded from the National Trust Website:

http://www.valuingheritage.com.au/images/PDF%20Burrup%20and%20Beyond%20FINAL.pdf

10.2.1 National Trust Photo, Multimedia and Story Competition

This competition offers strong cross curriculum opportunities for History, English, the Arts and Technology & Enterprise.

Students use their narrative writing and photography skills to show that they understand the significance of their local history and heritage. They write about a place in their local environment, not necessarily one that is heritage listed, and illustrate their story with original photography. The place can be natural heritage or built heritage. Creative interpretation of research through literary and photographic skills is
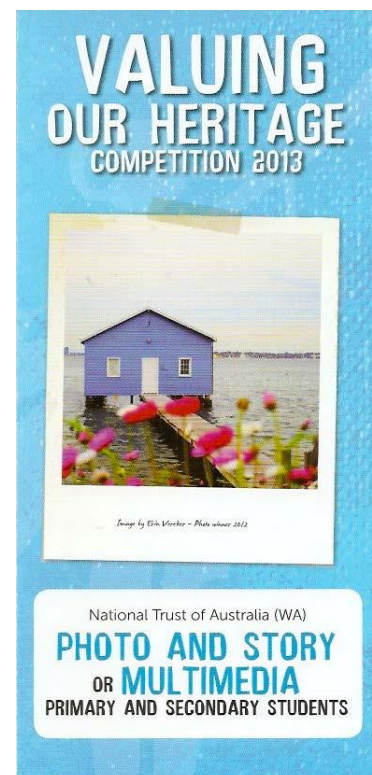
encouraged. This is a statewide annual event, which closes on the last day of term 3 each year.

10.2.2 An Outline for a Year 3 Course

Interest has already been expressed in the development of a year three local history course. The following is a template for a year 3 course of study. Two existing trails have been chosen as a focus for this program but the template could equally be used to examine other trails and other aspects of the year three theme - Community and Remembrance - in the region.

YEAR 3: Community and Remembrance

OVERVIEW OF PROGRAM

Students will practice historical skills by exploring two existing trails in the Roebourne Shire. Students will recognise and appreciate the history of their local area by examining remains of the past and considering why they should be preserved.

The content provides opportunities to develop historical understanding through key concepts including continuity and change, cause and effect, perspectives, empathy and significance.

These concepts will be investigated within the historical context of the Yaburara trail in Karratha, the town trails in Cossack and local cemeteries in Roebourne and Cossack. A study of these sites will provide a focus for developing historical skills.

The two strands of Historical Skills and Historical Knowledge and Understanding are interrelated and will be taught in an integrated way.

Students will use the following KEY INQUIRY QUESTIONS to discover:

- Who lived here first and how do we know?
- How has our community changed? What features have been lost and what features have been retained?
- What is the nature of the contribution made by different groups and individuals to the community?

This program allows students to develop historical skills through key concepts appropriate to their age and ability.

Historical Skills:
Sequence familiar objects and events
Distinguish between the past, present and future
Pose questions about the past using sources provided
Explore a range of sources about the past
Identify and compare features of objects from the past and present

Key Concepts:
Continuity and change
Cause and effect
Perspectives
Empathy
Significance

Historical Knowledge and Understanding Source: ACARA Version 5.1 May 2013	Local Context *What do the Yaburara Trail and local Roebourne cemeteries reveal about the Aboriginal peoples who belonged to the local area.*	Student Activities	General Capabilities (GC) **Cross Curricula Priorities (CCP)** **Other Learning Areas (OLA)**	Research and Resources *For pre and post visit activities. Please note: This section is designed for teachers and the research material discovered will need to be modified for year 3 students.*
The importance of Country and Place to Aboriginal People who belong to a local area. (ACHHK060)	What does the rock art on the Yaburara trail reveal about the lives of the Aboriginal peoples of the region? What do cemeteries reveal about past lives?	***Student Activities:*** Walk section of the Yaburara Trail and identify petroglyphs. Listen to Aboriginal elders tell stories about the land they belong to. Visit the local cemeteries. Create art works. Pose questions about sustainability on field trips. ***Student research and Post Visit Activities:*** Pose questions relating to the trail. Make an illustrated vocabulary of words relating to the trail. For example: • Artefacts • Petroglyphs/rock art • Archaeologists • Middens • igneous rocks	**GC:** Literacy; Numeracy: ICT competence, Intercultural understanding. **CCP:** Aboriginal histories and cultures; sustainability. **OLA:** English; Maths; Science; Geography.	Search the internet for suitable research material to assist students with their research. Visit the local history section of the library for guidance and advice on suitable material linking with the Yaburara trail and local Roebourne cemeteries. Arrange visits from local Aboriginal Elders. Walk the Yaburara trail and identify a suitable section for a class field trip with examples of geological features, local fauna and flora and examples of petroglyphs. Discuss issues about photographing petroglyphs.

Historical Knowledge and Understanding Source: ACARA Version 5.1 May 2013	Local Context *What does the town of Cossack reveal about early European settlement*	Student Activities	General Capabilities (GC) **Cross Curricula Priorities (CCP)** **Other Learning Areas (OLA)**	Research and Resources *For pre and post visit activities. Please note: This section is designed for teachers and the research material discovered will need to be modified for year 3 students.*
One important of change and one example of continuity over time in the local community. (ACHHK061)	How has Cossack changed? What features have been lost and what have survived? What do cemeteries reveal about past lives?	***Student Activities:*** *Visit Cossack.* *Take photographs to compare with images from the past.* Walk sections of the town trail. Visit the museums. Visit the cemetery. Students listen to Aboriginal elders tell stories about Aboriginal involvement in the pearl diving industry. ***Student research and Post Visit Activities:*** Find out about Cossack. Where did the name come from? Why was it developed? Compare photographs, newspapers etc from the past and present to identify the key similarities or differences.	**GC:** Literacy; Numeracy: ICT competence, Intercultural understanding. **CCP:** Aboriginal histories and cultures; Sustainability. **OLA:** English; Maths; Science, Geography. The Arts.	Search the internet for suitable material to assist students with research. Visit the local history section of the library for guidance and advice on suitable material about the town of Cossack and the local cemeteries. Arrange visits from local Aboriginal Elders. Walk the Cossack trails and identify suitable sections for a class field trip. Visit the Cossack museums and prepare focus questions for the field trip linking to elaborations of historical knowledge and understanding.

Historical Knowledge and Understanding Source: ACARA Version 5.1 May 2013	Local Context *Who were the important people in the local community*	Student Activities	General Capabilities (GC) **Cross Curricula Priorities (CCP)** **Other Learning Areas (OLA)**	Research and Resources *For pre and post visit activities. Please note: This section is designed for teachers and the research material discovered will need to be modified for year 3 students.*
The role that people of diverse backgrounds have played in the development and character of the local community. (ACHHK062)	Identify some of the important people or groups in the community. Here's some to choose from: Ngarluma peoples Yindjibarndi peoples Other Aboriginal language groups Emma Withnell Walter Padbury Francis Gregory George Temple Poole Japanese pearl divers Aboriginal pearl divers Michael Samson Mr & Mrs Mumarat Captain Jarman Red Dog	***Student Activities:*** *Visit Cossack.* *Visit Roebourne.* *Visit Point Samson.* *Visit to the Local History section of the Karratha Library.* *Visit to the Karratha and/or Roebourne Visitor Centres.* Listen to Aboriginal elders tell stories about the land they belong to. ***Student research and Post Visit Activities:*** In groups choose a person or group of people and find out about their contribution to the local community.	**GC:** Literacy; Numeracy: ICT competence, Intercultural understanding. **CCP:** Aboriginal histories and cultures; Sustainability. **OLA:** English; Maths; Science, Geography.	Search the internet for suitable material to assist students with research. Visit the local history section of the library for guidance and advice on suitable material linking to the student research. Arrange visits from local Aboriginal Elders. Visit Cossack, Roebourne and Point Samson and identify suitable areas for a class field trip. Visit the Cossack museums and prepare focus questions for the field trip linking to elaborations of historical knowledge and understanding.

10.2.3 Secondary and Tertiary Opportunities

The trails offer opportunities in a range of areas for post primary formal learning including TAFE colleges:

- Tourism training for trail guides. This would be particularly appropriate for Aboriginal students.
- Computer training. The use of cutting edge interpretation techniques such as web based information linked to trail users by mobile phone, tablets (such as iPads) and personal computers opens opportunities for computer training and software development.
- Public art opportunities can be linked with a range of art and craft programs and skills such as metal fabrication
- Construction of trail furniture and interpretation can also be linked with skills such as metal fabrication.
- Environmental courses can have a practical link to trail maintenance programs and tour guiding. The *Leave No Trace* courses would be particularly appropriate here http://www.LNT.org.au
- Induction courses for new employees (particularly the *Fly in Fly out* workers) using the Yaburara trail, Ieramugadu Bush Tucker Trail and Roebourne Town trails can introduce a range of themes in a practical way. This can cover Aboriginal cultures, environmental issues (*Leave No Trace* principles), local geography and geology, the pastoral story and health and safety issues connected to the harsh climate of the Pilbara. These courses can also introduce the trails as focal points for recreation in the community.

10.3 Informal Learning

Informal learning occurs outside the formal education system. In can take the form of self-directed, incidental or tacit learning.

Trails experiences often involve incidental learning. A person may begin to walk a trail for exercise but on completion of their walk they become aware that learning has taken place through engagement with interpretation along the way. Similarly the *Roaming with Red Dog Trail* and the *Pilbara Rocks GeoTour*, which offer a mixture of drive and walk trails will provide a number of opportunities for informal learning experiences.

Tacit learning can also be an important part of trails experiences. For example the tacit learning involved in riding a bicycle or riding a horse can only be achieved through personal experimentation, and the extra incentive for a novice rider to complete a designated trail can help them to rapidly develop their skills. The proposed Mountain Bike Park with a series of graded trails and the Karratha Bridle trail are two projects where tacit learning experiences will be key outcomes.

10.4 Public Programs

Public programs associated with the trails could include a range of events such as public lectures with specialists, workshops, guided tours and special arts events (dance, music, community art projects, performance, theatre) that aim to appeal to broad audiences and enrich public appreciation of the trails. Public tours and talks could be led by keen volunteers or be part of a separate funding program, particularly one linked to a major event such as Naidoc Week or the FeNaClNG Festival.

Various groups such as the Burrup Mountain Bike Club, the Karratha & King Bay Horse & Pony Club, the Ngarluma Aboriginal Corporation and Ngarluma and Yindjibarndi Aboriginal Corporation should be encouraged and assisted to seek funding for events that would highlight their activities and promote their specific trails.

There are many opportunities for dovetailing public programs with the trails:

- Using the trails for specific recreational events such as fun runs, personal training programs and walking groups.

- The initiative of the Chevron City to Surf for Activ rolling out their event through regional WA this year (with Karratha as one of the 4 cities selected) is a great model for future events in the shire. These could include Trail Running on parts of the Yaburara Trail. The web site adventureracing.com.au has more information on this off road sport that is gaining momentum across Australia.

- Adventure Racing also publicise multi sports events such as mountain biking, rogaining and kayaking. A well-sponsored annual event at the proposed Mountain Burrup Mountain Bike Park would have great commercial and community benefits for the shire.

- Public talks and trail tours with specialists in environmental science, health and recreation and Aboriginal Culture.

- Public lectures and guided tours about trails' flora, fauna and geology with specialists to connect with rehabilitation of the natural environment of the trails.

- Public open days associated with a weed control program to encourage the community to participate in caring for their local environment and help to create trail guardians.

- Planting days that involve the community as part of the rehabilitation of local flora and under the guidance of a botanist with local expertise.

- Guided tours with Traditional Owners highlighting the ethno-botanical uses of plants and stories about the landforms along the trails have widespread appeal and create greater awareness and cultural sensitivity.

- An annual public program of events associated with the trails attracts people to the trails repeatedly, encourages community involvement and stimulates and supports lifelong learning within the community. These programs could be associated with special days already established in the shire's annual list of community events.

10.4.1 Public Art

The shire should also look closely at funding opportunities such as the Percent for Art Scheme and Royalties for Regions to develop a program of Public Art associated with trails as a way of promoting them to the wider community. Places such as the Rotary lookout on the Yaburara Heritage Trail, Cossack townsite and Wickham's Tank Hill would be interesting sites for Public Art installations relating to the history of the surrounding area. On the Yaburara Heritage Trail the ancient landscape could be highlighted, the dark
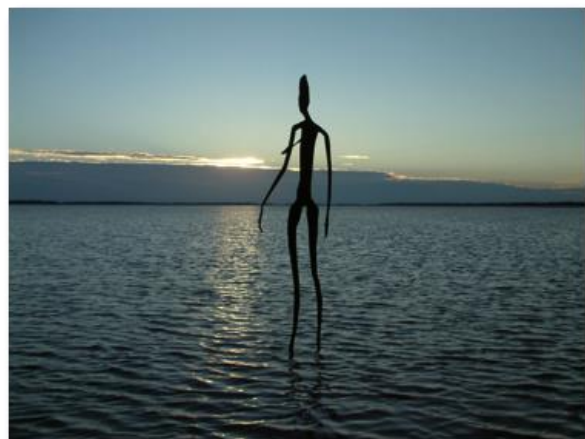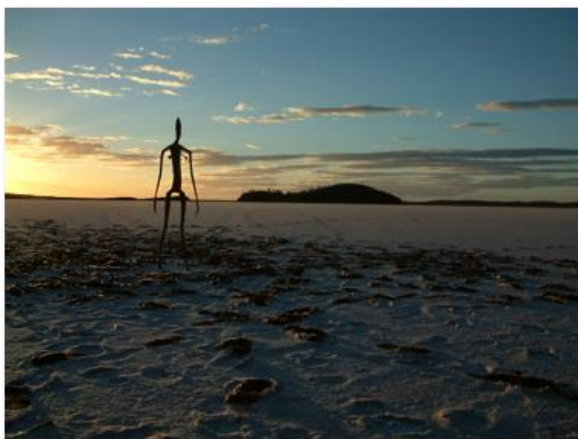
The Gormley statues at Lake Ballard are known around the world.

side of Aboriginal involvement in pearling could be the theme at Cossack and the iron ore story on the hill overlooking Wickham.

Public Art has the ability to capture the imagination and focus attention on a region in dramatic and lasting ways. Any artwork on the trail should enhance the heritage values of the area and be linked to the trail interpretation. There are examples around Australia and around the world that reach out to a far wider audience than simply the passing traffic of visitors.

An excellent example in Western Australia is the sculptures at Lake Ballard. Antony Gormley was commissioned to create the Lake Ballard art installation to mark the 50th anniversary celebrations of the Perth International Arts Festival in 2003. Apart from 2 or 3 passers-by, the 51 sculptures are derived from laser scans of the people from the nearby town of Menzies.

SECTION 11: TRAIL DEVELOPMENT CONSIDERATIONS

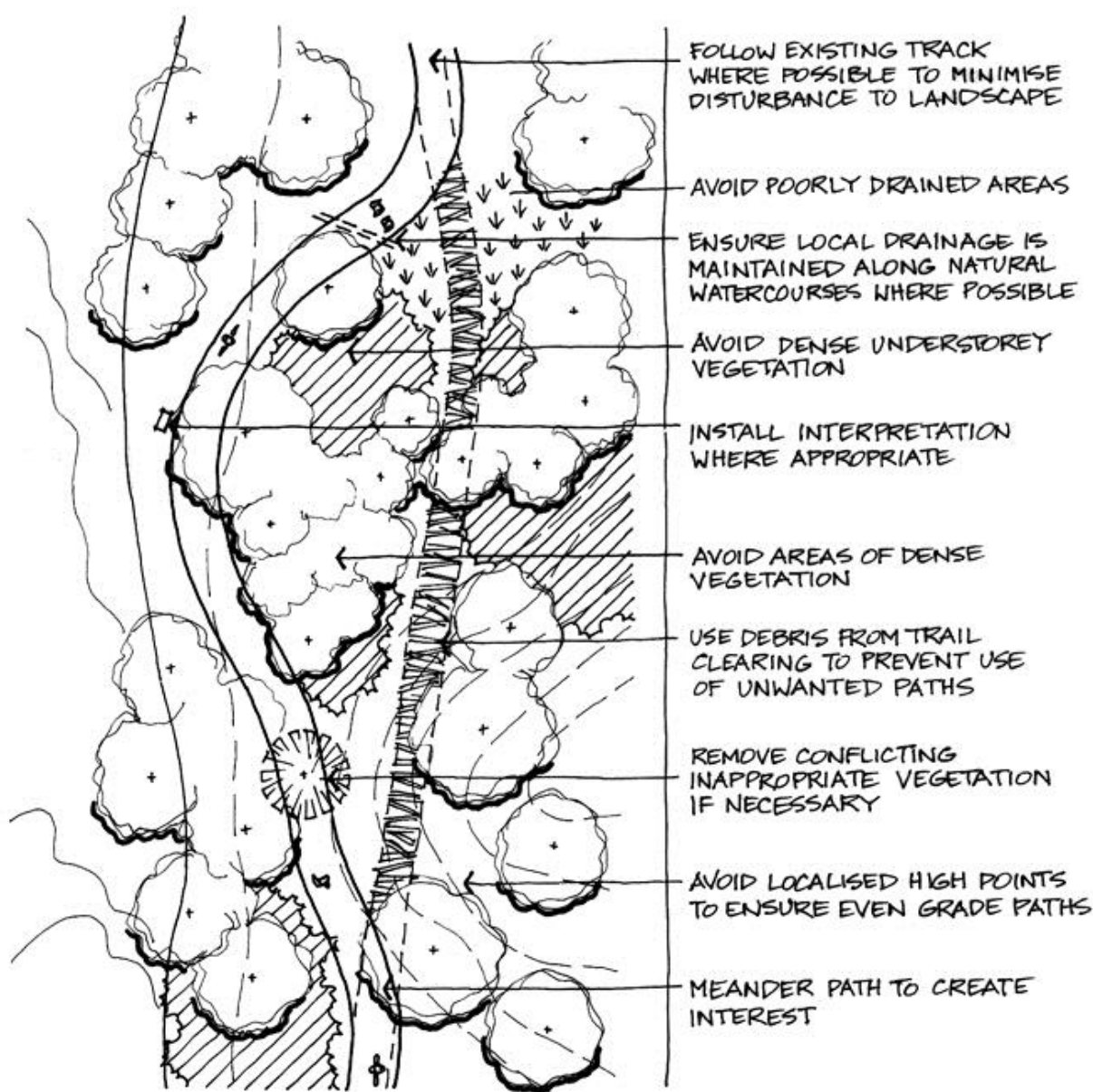## *11.1 General Considerations*

The following general trail construction and upgrading information is provided as a guide for the trails construction described in this Trails Master Plan.

11.1.1 General Considerations for Sustainable Trails

The following general design and location considerations should be taken into account before and during construction of any trail or path:

- ❖ Follow existing tracks/trails where possible to minimise disturbance to the landscape and to minimise clearing requirements.
- ❖ Avoid poorly drained areas.
- ❖ Ensure local drainage is maintained along natural watercourses where possible.
- ❖ Avoid dense understorey where possible.
- ❖ Avoid areas of dense vegetation that may require heavy clearing.
- ❖ Avoid environmentally sensitive areas (eg. areas of endangered flora).
- ❖ Use debris from trail clearing to prevent use of unwanted paths.
- ❖ Remove conflicting inappropriate vegetation if necessary and as approved.
- ❖ Avoid Aboriginal heritage sites (unless particular attention is approved and desirable).
- ❖ Avoid localised high points to ensure even path grades.
- ❖ Avoid long straight sections with long steady grades. Trail should meander to take advantage of natural and man made features and to create interest.
- ❖ Avoid areas with high erosion potential.
- ❖ Locate trail/path near to points of interest.
- ❖ Take note of safety hazards and avoid where possible.

Drainage and control of erosion are fundamental issues when developing or upgrading trails – especially in hilly terrain as found in parts of the Shire of Roebourne where some trails exist or are recommended. Effective drainage will be essential along the each of the existing and proposed trails, especially given the torrential rain that can occur during cyclones.

FOLLOW EXISTING TRACK WHERE POSSIBLE TO MINIMISE DISTURBANCE TO LANDSCAPE

AVOID POORLY DRAINED AREAS

ENSURE LOCAL DRAINAGE IS MAINTAINED ALONG NATURAL WATERCOURSES WHERE POSSIBLE

AVOID DENSE UNDERSTOREY VEGETATION

INSTALL INTERPRETATION WHERE APPROPRIATE

AVOID AREAS OF DENSE VEGETATION

USE DEBRIS FROM TRAIL CLEARING TO PREVENT USE OF UNWANTED PATHS

REMOVE CONFLICTING INAPPROPRIATE VEGETATION IF NECESSARY

AVOID LOCALISED HIGH POINTS TO ENSURE EVEN GRADE PATHS

MEANDER PATH TO CREATE INTEREST

TRAIL ALIGNMENT GUIDELINES

11.1.2 Trail Width and Height

Walk trails in the locations proposed should have a maximum trail width of 1.5 metre on those sections where purpose-built trail is required. In some sections however, the surface will be wider, as it will follow existing vehicle tracks.

On some sections of new purpose-built walk trail, there is an opportunity to provide a more intimate experience by reducing the trail width to around 1.0 to 1.2 metres. The expected lower usage levels will mean fewer opportunities for congestion to occur.

On walk trails (where horse riding pland mountain biking are to be excluded) height clearance should be around 2.5 metres. Pruning of overhanging branches should occur where necessary to enable safe passage without the need for stooping under branches.

To function effectively, shared-use trails should have a minimum trail width of 2.5 metres – this is the recommended minimum width for shared use paths as set out in Austroads' *Guide to Traffic Engineering Practice – Part 14 – Bicycles*.

Maintaining consistency of width is important – particularly when cyclists are likely to be the main user group.

Where possible and appropriate it is important to ensure that the entire trail is available for a wide range of users (including people with disabilities, parents with prams, etc) rather than having the trail solely for able-bodied walkers.

People in wheelchairs, and cyclists, need ample space to pass each other without having to divert off the trail.
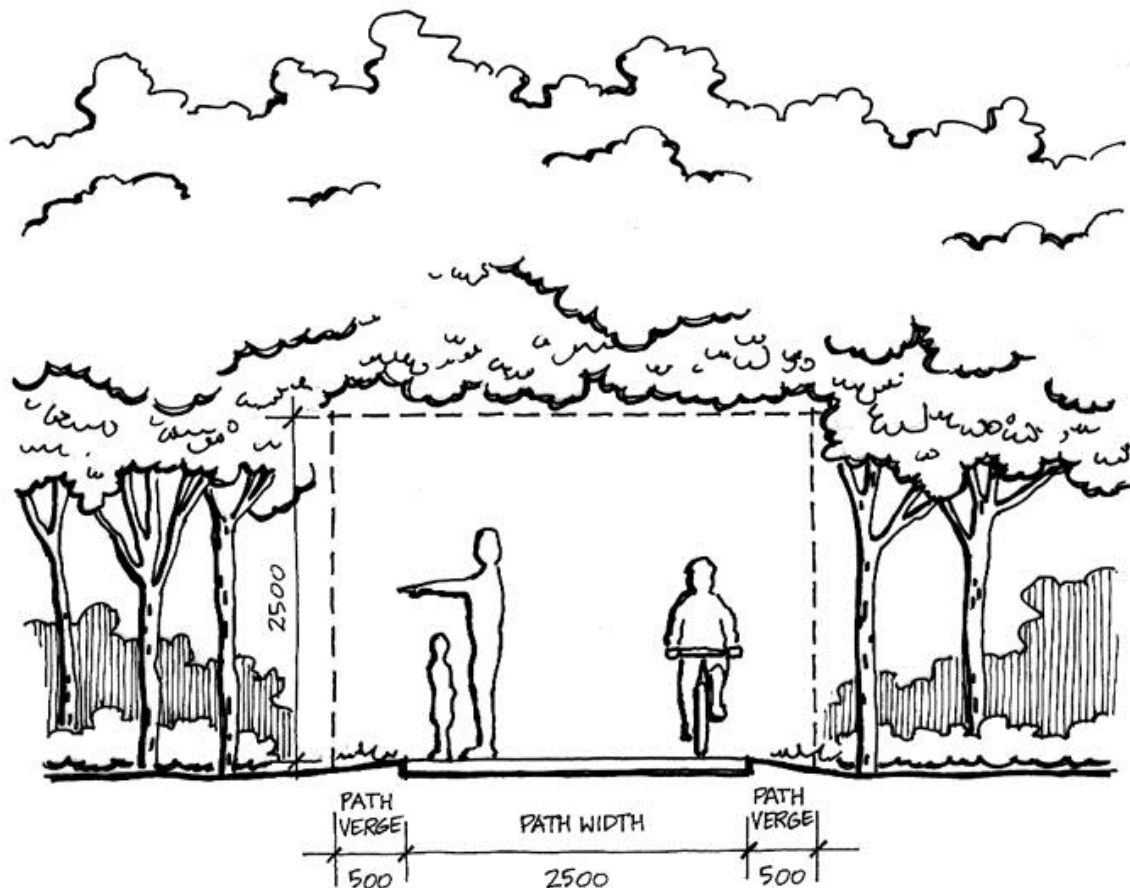
11.1.3 Trail Surface Material

A smooth natural earth surface is most appropriate for the proposed walk trails in the Shire of Roebourne, with the exception of the in-town heritage trails which generally utilise existing footpaths or gravel verges. The existing earth surface should be firm enough in most locations to provide pleasant walking conditions, and be pleasing to the eye.

A smooth compacted surface is most appropriate for a shared-use trails. The surface should be firm enough to provide cyclists with a relatively smooth ride, and free of potholes and undulations.

In those sections of the proposed trails that pass through stony areas, clearing the loose stones from the trail surface should create a safer and more comfortable trail route. This would simply involve raking any loose rocks clear or hand picking loose rocks.

When using existing (but eroded) tracks, replenishment of material from locally sourced gravel and dirt is environmentally appropriate and will help create a smoother, flatter surface and thereby resist further erosion. Care will need to be taken to ensure that the soil material used is clean and its use does not inadvertently spread weeds.

Local material can provide the fill that is required to restore a trail surface to appropriate levels and maintain a 'natural' look.

A simple (but time-consuming) process of surface remediation is required:

   o   Rake loose rocks larger than about 30-50 mm diameter off the trail surface (scatter to the downhill side);

   o   Rake back berms (raised areas on the edge of the trail) on both sides, but especially on the down-slope side, to allow water to shed off the trail surface (see drawing). It may be necessary to rake this material back into the centre of the trail (apart from larger loose rocks) in order to fill worn or eroded sections of trail (such as gullies);

   o   Bring in fill as and when required, only to raise the trail surface sufficiently to create either a cross-flow or a crowned surface;

   o   Compact if possible, using a small plate compactor (or whatever equipment can be readily brought to the site). Note that compaction may be unnecessary where the natural trail surface remains relatively undisturbed; and

   o   Ensure that the final trail surface will shed water off the route via cross-flow, crowning or use of water-bars (or some combination of these three).

The use of prison crews, 'work-for-the-dole' employment schemes and volunteers are ideal methods by which much of the trail upgrading work can be achieved at low cost.

Construction of rock water bars and rock steps will also assist in controlling stormwater runoff and thereby preventing gullying. Directing water off the trail surface before it has developed velocity is one of the surest ways of ensuring minimal erosion is caused by torrential rainfall events (such as cyclones).

Improving the ascent/descent in some steep sections of the proposed trails will need to be made through the creation of flights of rock steps.

11.1.4 Rock Steps

Steps and stairways are used on a trail to gain or lose a lot of elevation in a short distance.

Due to the rough nature of much of the terrain where some trails are proposed (eg. hills south of Mulataga, and Tank Hill at Wickham), the construction of rock steps will most likely be required to ensure the safety and comfort of all trail users.

Construction of rock steps is labour intensive, but they will look far more in keeping with the

Above: rock steps need to be constructed to look as natural as possible while fulfilling their intended function which is to make steep ascents/descents as safe as possible and providing a firm stable footing.

natural Pilbara terrain than concrete or timber steps. Rock steps can be constructed to fit in with their surroundings and still perform the intended function. Other materials not natural to the area may grate on the eye, and detract from the experience.

Care will need to be taken, if sourcing suitable rocks locally, to ensure no environmental damage is done in their removal.

Constructing the rock steps will require skilled supervision and some thought and planning in order to get the rise and tread dimensions correct for each section of the proposed trails. Even though it makes good sense to utilise in-experienced crews to provide labour, it may be necessary to contract in experienced supervisory skills.

Construction of rock steps is costly if using contractors due to the labour intensive nature of the work. It is recommended therefore, that work crews from the Roebourne Regional Prison be used under skilled supervision.

11.1.5 Rock Water Bars

For some of the proposed walk trails (to be constructed on steep, rocky ground), the primary erosion control works required will be the installation of drainage devices such as rock water bars.

By directing water off the trail(s) at strategic locations, rock water bars provide the single best way to minimise the effects of erosion. Although the ideal trail wouldn't need such structures - because it would be designed with a gentle grade, have dips naturally integrated into its original layout, and be hardened (e.g. with stone steps) where necessary -most trails are far from ideal and benefit from retrofitting with water bars. The ideal water bar looks natural and inconspicuous, creates no obstacle for walkers going either direction, remains reasonably clear of leaves and debris, and prevents serious erosion downhill from it.

Like rock steps, the construction of rock water bars is a labour-intensive project, and should be the subject of a partnership with the crews from the Roebourne Prison, with renovation and repairs being undertaken by inmates under the direction of a skilled supervisor. Suitable rocks are freely available along the trail for water-bar construction, so little is required in the way of materials other than cement in places to assist in creating a strong and solid structure.

11.1.4 Water Crossings

Where the proposed trails cross watercourses, short bridges will be required. There are many "off the shelf" bridge designs available. Alternatively, bridges could be built locally.

11.2 Signage

Signage is another important aspect of the Shire of Roebourne trails network. During fieldwork it was noted on some trails that few directional markers exist along trails, and trail-head signage was basic – if present at all.

Several kinds of signage are required on trails including distance, directional, warning, promotional, etiquette and interpretive signs. Trail signage should be standardised across the Shire of Roebourne, regardless of management agency. It should accord with relevant local or Australian Standards or practices.

It is recommended that trails in the Shire of Roebourne have a consistent colour scheme and consistent and uniform suite of logos (with a logo unique to each trail). The use of distinctive trail markers and colour scheme is important to engender a sense of uniqueness. A Style Guide has already been developed for the Yaburara Heritage Trail which can be used as a model.

11.2.1 Directional Signage

Directional signage enables inexperienced trail users to feel confident and comfortable. The extent of directional signage will depend on the target market – the more 'rugged'

the trail, the less need for trail markers. More important it is to have clear information at the trail-head (advising of trail conditions, length, duration, etc).

Trail markers need to be placed at regular intervals along each route – and particularly at corners and junctions. The spacing and location of these markers will depend on local factors such as swales and hollows in the landform, rocky outcrops and sight distances. The intended user groups also need to be considered. The trail markers should have a distinguishing symbol or logo and an easily identifiable colour scheme
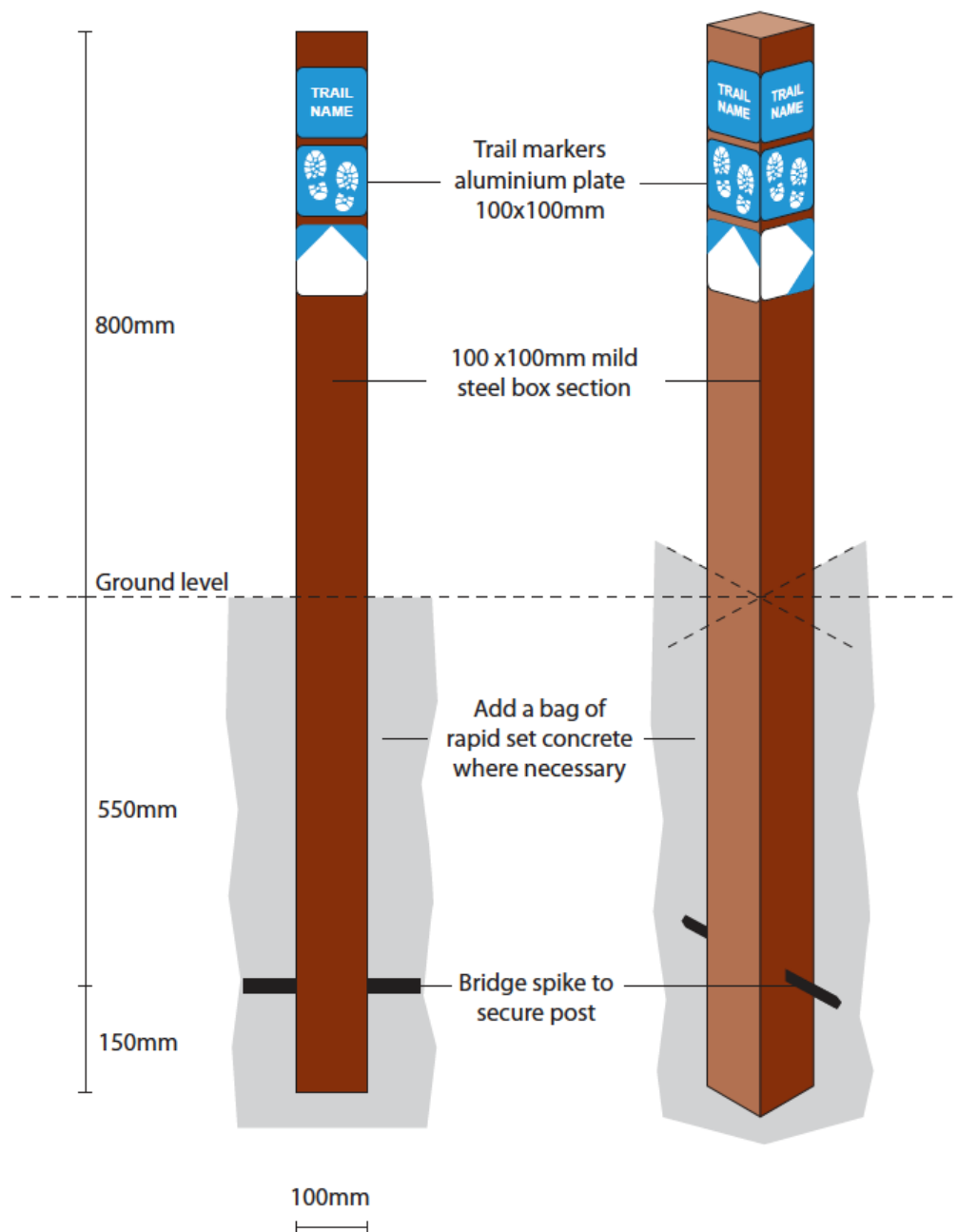
Above: trail directional marker post for installation in soft ground. Hole can be dug to accommodate post and rapid set concrete is then poured into hole.

Directional signage along the in-town heritage trails is strongly recommended, and will enable visitors without trail maps to easily find their way.

The best and most effective means of fixing trails markers in rocky, hard ground areas found around the Shire of Roebourne is by drilling. Holes dug by a skid-steer mounted auger (or petrol driven hand-held auger) is recommended.
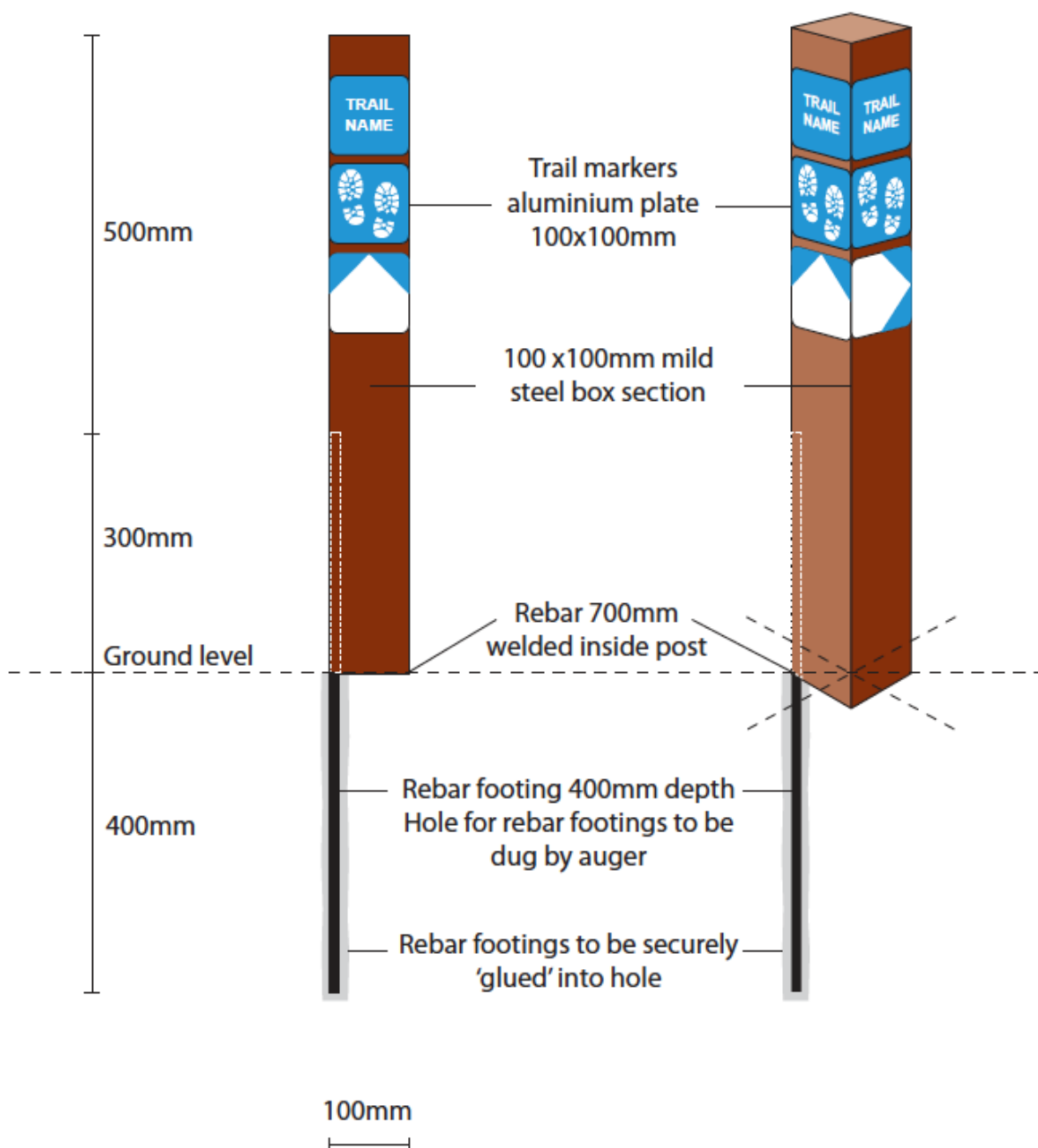
Above: trail directional marker post for installation in hard ground. Holes will need to be drilled with auger to accommodate rebar footings.

Depending on various factors such as vegetation density, and number of intersecting tracks, trail markers can be installed every 50 – 100 metres or, on long straight sections of trail without intersections, as much as 800 – 1000 metres apart. It is recommended that directional markers be placed on square-section rusty steel posts every 300 - 400 metres. However, on some trails there will be instances where posts will need to be installed as close as 25-30 metres apart, particularly where the trail route may be obscured by vegetation or terrain or is not distinct.

A higher number of directional trail markers is required where there are potentially confusing and difficult situations. Additional trail markers will result in even the most inexperienced of users feeling confident that they can remain on track.

Aluminium plates (with directional arrows) can be attached to the recommended square steel posts (see photo).

Trail directional marker plates and arrows should be glued and securely screwed to the steel marker posts to avoid removal. They should be clearly visible in the near distance and minimise confusion and uncertainty.

The trail directional marker posts recommended for use on trails throughout the Shire are 100mm x 100mm square section rusty steel tubing, generally standing 800mm out of the ground. They would need to be installed in a hole drilled into the ground surface to a depth of 700mm, with a bridge spike inserted through the tubing (to prevent the post from being pulled out of its concrete footing). The concrete footing should be 300mm x 300mm x 400mm deep. Two to three bags of rapid set concrete would be ideal.

A new set of trail signage designs will need to be added to the Shire's Corporate Style Guide.

An alternate fix (where ground conditions do not allow 700mm hole to be dug, and holes need to be drilled into rocky surfaces) is to weld a 350mm length of rebar to the base of an 800mm long Square Hollow Section (SHS), and insert the rebar into a 400mm hole drilled into the ground. The rebar should be securely glued (silastic or similar) or concreted into the hole.

As described above, trail directional marker logo plates and arrows, of coordinated colours, are fixed to the flat surface of one side of the square section tubing (facing oncoming walkers/cyclists/riders). Where one or more trails are sharing a common section of trail (such as the proposed loops at Roebourne and at Cossack), the logo plates and arrows will be on the same face of the post. In other situations, where two or more trails approach the trail junction from different directions, the marker plates and arrows will be fixed to different faces of the steel post.

11.2.2 Promotional Signage

Though the locations of some of the existing trails are likely to be familiar to local people or frequent visitors to the area, it is recommended that promotional signs be erected on nearby roads to give prominence to each trail. These would take the form of "Advance

Promotional/directional signage will increase the awareness of the location of trails for local people as well as visitors. These new signs will need to be added to the Shire's Corporate Style Guide as well.

Warning" signs and typical tourist information 'chevrons'.

11.2.3 Interpretive Signage

Interpretation is the key to the success of many trails. Trails tell stories, they entertain and engage. Trails without interpretation do not fulfil their potential and often leave users wondering why they bothered.

Depending on the locations selected for the interpretive panels, holes (or trenches) may need to be drilled into the hard rocky ground to install the proposed panel pedestals. An

Above: suggested interpretive panel design. Design is similar to that recommended for use on the upgraded Yaburara Heritage Trail. Panel is fabricated from etched anodised aluminium. (See Yaburara Heritage Trail Upgrading Plan – by Transplan Pty Ltd for the NTWA and Shire of Roebourne – for details)

alternative may be to weld steel 'feet' (such as reinforcing rod) that protrude from the base of the pedestal, and holes dug into the rocky ground of sufficient width and depth so as to anchor the structure into a suitable sized concrete footing for each 'feet'.

A wide range of materials are used for interpretive panels across Australia. These vary substantially in terms of longevity and price. Put simply, the cheaper the panel the more prone it is to vandalism and the shorter the period that it will retain its full original colour and aesthetic appeal. Experience in many locations has shown that a combination of vandals and the weather impact on the life of interpretive panels, and can quickly erode the investment made by the host organisation.

If interpretive panels are to remain in good condition for 5 – 10 years, they will necessarily be made from the more expensive materials, particularly in a harsh environment like the Pilbara.

One particular panel material and manufacturing process is recommended for locations such as the Shire of Roebourne that are at a high risk from vandalism because of the remote nature of some of the existing and proposed trails.

Architectural-grade etched anodised aluminium panels retain their high-quality aesthetics into the 10 year (and beyond) time-frame – regardless of weather. Further, this material has the greatest resistance to vandalism (paint, ink, pen, felt pens, scratching, impact damage etc) of any known option on the Australian market.
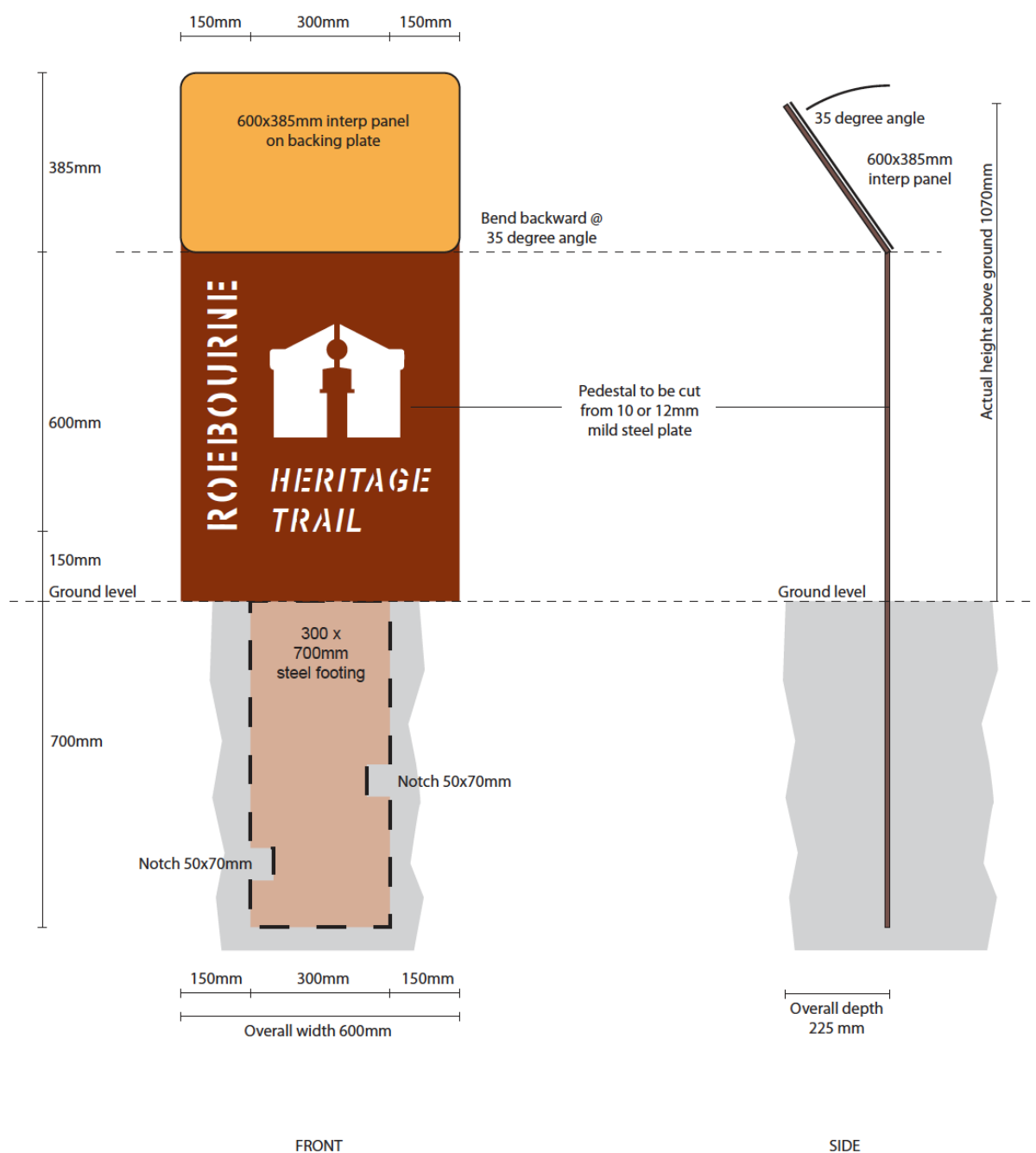
Above: recommended design for interpretive panel pedestal for installation in soft ground. Hole can be dug to accommodate steel footing and rapid set concrete is then poured into hole.
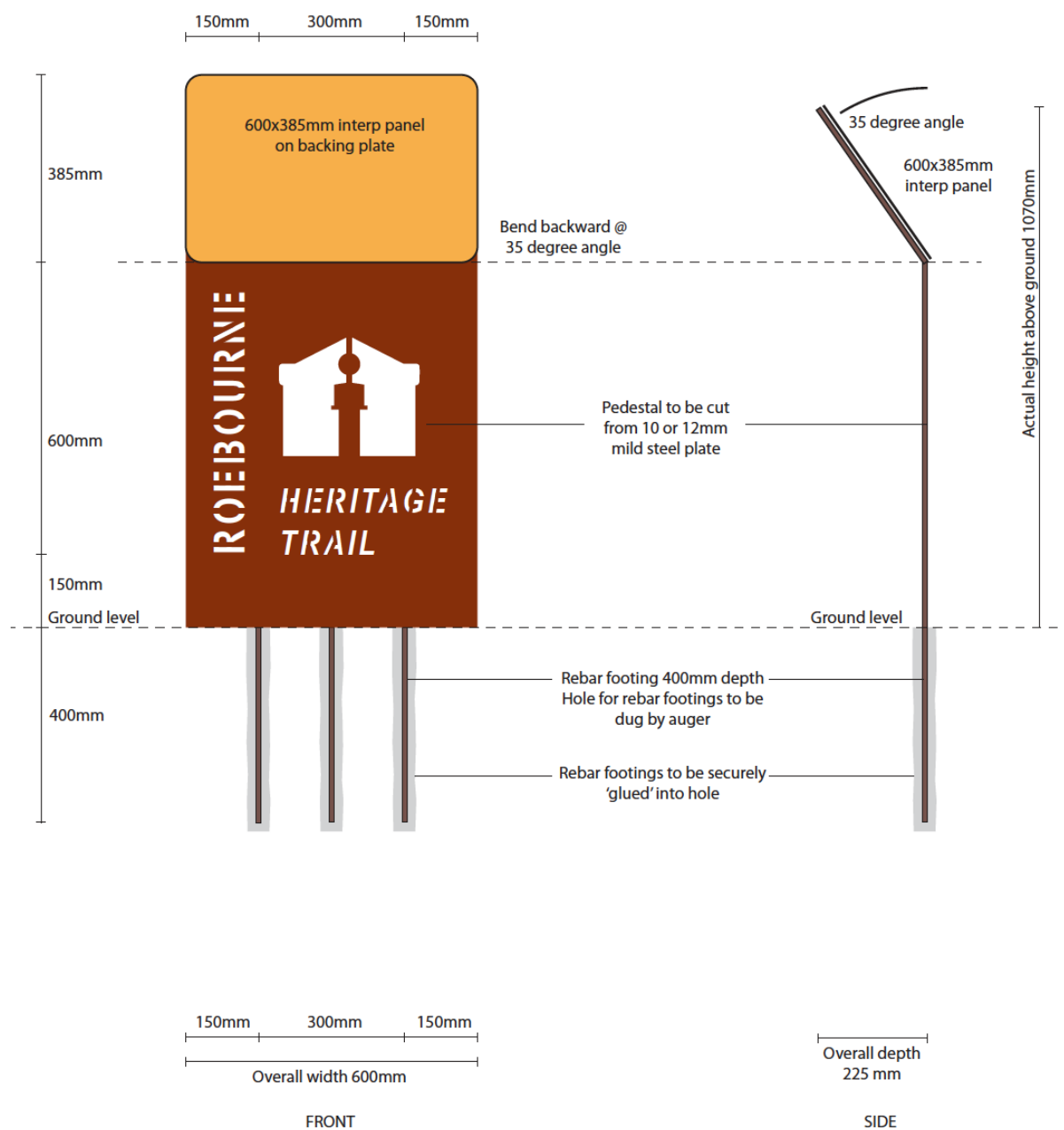
Above: recommended design for interpretive panel pedestal for installation in hard ground. Holes will need to be drilled with auger to accommodate rebar footings.

11.2.4 Australian Walking Track Grading System Symbols

Although uncommon in Western Australia to date, it would be appropriate to install a Track Grading symbol at the commencement of each of the existing and proposed trails.

11.2.5 IMBA Trail Classifications

The International Mountain Bicycling Association has developed a series of difficulty classification symbols for mountain bike trails. These are now commonly used on MTB

trails throughout Australia. It would be appropriate for all MTB trails throughout the Shire of Roebourne to use these now easily recognised symbols.

Above: the 5 Australian Walking Track Grading System symbols. Difficulty rises from left to right.
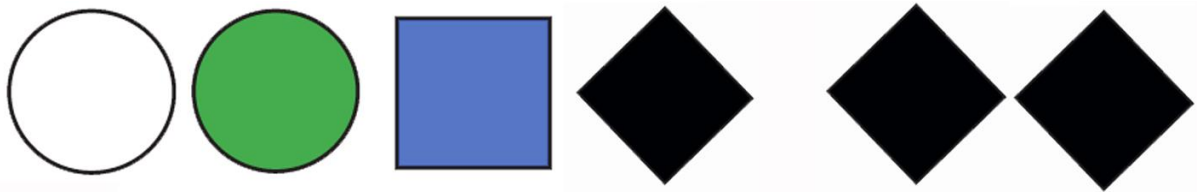
Above: the internationally recognised IMBA symbols. From left: White Circle = Easiest; Green Circle = Easy; Blue Square = More Difficult; Black Diamond = Very Difficult; Double Black Diamond = Extremely Difficult

11.2.6 Trail Logo

It is recommended that an overall logo be devised for use on all trail signs through the Shire of Roebourne, and on trail promotional material and trailhead signage. The use of a logo unique to the Shire of Roebourne trail network will provide greater prominence and recognition of the Shire's trails, and an identifiable branding.

A trail logo, used in conjunction with arrow plates and a unique colour scheme, will be effective in alerting users to the route of their chosen trail particularly when there are trail junctions and overlapping sections of trail.

11.3 Trailheads and Parking

A trailhead is usually defined by the existence of a car parking area, often with picnic facilities, interpretive signage and a map panel of the trail network and features of interest. They should have ample places for parking of cars and caravans.

Usually in a trail development project it is valuable to have a specific Trailhead from which all directions and distances are taken, and to which users, particularly visitors to the region, can be directed.

11.3.1 Trailhead (Map) Panel

An essential requirement of any trail is appropriate and adequate mapping – for use both on trailhead signs and promotional material including brochures and web sites.

A map panel – installed at the very beginning of the trail network (and occasionally at specific locations along a trail where intersecting trails exist) provides a quick visual representation – indicating the route of the trail, the destination, whether it is out and back, or a loop.

Good trailhead mapping will contain an array of information, including:

o   a stylised map with trail routes and key features;

o   access roads from the town (and distances);

- o north point and scale bar;

- o trailhead location(s);

- o trailhead facilities (eg. parking, picnic tables, toilets, barbecues, etc);

- o difficulty level (easy; moderate; difficult; disabled);

- o length and duration (and direction of travel if one-way loop);

- o points of interest along the trail, including geographical or geological features;

- o symbols indicating location of interpretive panels; and

- o other relevant and appropriate information, such as crossroads, cross tracks, trailside furniture (seats, shelters, lookouts), viewpoints, emergency (fire) escape routes, etc.

11.4 Trail Furniture

All trails, especially walk trails, should include places where users can sit and rest and relax and enjoy the view.

The Trail Development Plan proposed for some of the projects included in this Trails Master Plan will determine appropriate locations for the placement of seats and shelters.

180mm

80mm

440mm

Overall height above ground 2200mm

900mm

600mm

100mm

500mm

200mm

70mm spacer
at 100mm centre

Map Panel
(Full colour polycure)
1060x1400mm

ROEBOURNE
HERITAGE
TRAIL

8mm mild steel,
acid sprayed to
induce rusting

Ground level

16mm mild steel,
tack welded at
150 c/s

Plate supports and main
panel painted with
bituminous paint below
ground level

Welded T-piece
150x50mm

60mm 150mm 650mm 150mm 180mm

Overall width 1190mm

8mm mild steel,
acid sprayed to
induce rusting

70mm
spacers

12mm mild
steel, tack
welded at
150 c/s

60mm 180mm 60mm

Overall width 455mm

Above: suggested trailhead panel design. Design is similar to that recommended for use on the upgraded Yaburara Heritage Trail. The trailhead sign features rusty steel supporting structure and full colour polycure map/information panel (See Yaburara Heritage Trail Upgrading Plan – by Transplan Pty Ltd for the NTWA and Shire of Roebourne – for details)

SECTION 12: TRAIL MANAGEMENT AND MAINTENANCE

12.1 Trail Management Group

The trail development program set out in this Trails Master Plan is reasonably substantial, and the ongoing implementation may be somewhat complex. There are many stakeholders, both private and public, all with a strong interest in this project. Some are already involved while others will need to be involved in the future. Various funding programs exist for much of the design, construction, promotion and interpretation associated with this trail development program.

To ensure a smooth trails development program, it is recommended that Council establish a Trails Management Group to oversee the implementation of this Plan. This group could be formed from the Yaburara Heritage Trail Steering Committee which was set up to focus specifically on the upgrading of that trail.

At a general level, useful skill sets for the group members include:

- o   Leadership skills – critical to hold the committee/s together, to inspire and motivate, to advocate to a wider audience and to maintain focus on a long term vision.
- o   Community skills – the skills to motivate community and volunteer efforts.
- o   Business skills – skills to understand and tap into businesses, particularly those that are locally based, and the capacity to communicate to businesses in ways that garner their support.
- o   Entrepreneurial skills – a business-like approach to running a trail (or trails network) is critical as are ideas 'outside the box' that can help in the fund raising and promotion.
- o   Administrative skills – expertise and knowledge of government grants, and how to apply for them. General administration skills are also critical.
- o   Environmental/scientific skills – understanding of native flora and fauna and wider environmental issues. The ability to communicate these to a wider audience is important.
- o   Engineering skills – the capacity to understand design and construction of all manner of trail infrastructure.
- o   Governmental skills – the ability to liaise with and understand Government departments and politicians.
- o   Users – it is essential that the committee/s understand the needs and requirements of various targeted user groups.
- o   Cultural awareness – it is vital to have ongoing representation and input from local Aboriginal groups.

These 'selection criteria' needs to be considered in selecting members.

The group should ideally comprise a representative from each of the following:

- o   The Council.
- o   The Shire of Roebourne staff.
- o   The Department of Environment and Conservation.
- o   A local environmental group.
- o   The business community.
- o   The community.

- o Aboriginal Corporations
- o Others, as deemed appropriate.

The roles of the group would include the following tasks:

- o Oversee the implementation of this Trails Master Plan.
- o Preparation of funding applications to external funding sources.
- o Actively managing the trails network.
- o Co-ordinating regular maintenance of the trails.
- o Co-ordinating community involvement in the development of the trails, trails usage and events on the trails.
- o Marketing and promotion of the Roebourne Trails Network (through such activities as developing maps, newsletters and other publications).
- o Preparing trail management plans, which would include tasks such as:
  - Clarification of management roles and responsibilities for the various trail sections;
  - Risk management policy;
  - Group and commercial usage policy and guidelines;
  - Provision of essential services for trail users, such as water points, toilets, rubbish bin, lighting and other desirable trail furniture;
  - Identification of any outstanding access works for the trail, including disability works;
  - Fire management and emergency evacuation procedures;
  - Preparation of a promotional and interpretation management sub-plans, including specifications for signage and suggestions for interpretation along the trail between the townsites;
  - Mapping and brochures – guiding principles;
  - Timetable for reviewing and updating the Management Plan;
  - Trail construction standards;
  - Long-term control of weeds;
  - Revegetation policies;
  - Vermin and feral animal control;
  - Target user groups and user experiences;
  - Marketing policies;
  - Ongoing enhancements;
  - Trail maintenance plan;
  - Hazard inspection timetable;
  - Monitoring programs;
  - Water catchment areas guidelines (if appropriate); and
  - Clarification of responsibilities for complaints and communication.

12.2 Preparation of Trail Maintenance Plans

Ongoing trail maintenance is a crucial component of an effective management program – yet it is often neglected until too late. Countless quality trails have literally disappeared because no one planned a maintenance program and no one wanted to fund even essential ongoing repairs. The degraded condition of the Yaburara Heritage Trail is a prime example. Since its development 25 years ago minimal maintenance has occurred,

despite ongoing deterioration caused by illegal use (trail bikes, mountain bikes, horses and 4WDs), and erosion caused by stormwater runoff. Directional and interpretive signage along the trail is now extremely poor or non-existent.

It is therefore essential that funds be set aside in yearly budgets for maintenance of these trails - to ensure user safety and enjoyment, and to minimise liability risks for land managers. Depending on a swathe of conditions – weather, soil types, construction standards, usage patterns and more – trail maintenance can cost up to 10% of total construction costs every year.

In all trail proposals, the opportunity exists to minimise future maintenance demands through careful planning and construction. Too often initial costs are cut in the belief that all trails require maintenance anyway, and something not done properly today can be fixed in the future. Building good trails in the first place is the very best way of minimising future problems and costs. As a second line of defence, a clear and concise Management Plan with a regular maintenance program written into it will aid significantly in managing ongoing resource demands.

The goals of a Trail Maintenance Plan are to:

- o Ensure that trail users continue to experience safe and enjoyable conditions;

- o Guard against the deterioration of trail infrastructure, thereby maintaining the investment made on behalf of the community;

- o Minimise the trail manager's exposure to potential public liability claims arising from incidents which may occur along the trails; and

- o Set in place a management process to cover most foreseeable risks.

Erosion (caused by weather and unauthorised users), regrowth of vegetation and damage to signage are likely to be the greatest maintenance activities on the trails. The plan needs to include not only the replacement of damaged and worn out facilities but also preventative maintenance. Providing these issues are attended to at an early stage, they are largely labour intensive rather than capital expensive. Calamitous events such as fire or flood will naturally generate significant rebuilding activity and costs. These events are generally unmanageable, and should simply be accepted as part of the longer-term reality of a trails program.

Resourcing a maintenance program is crucial, and funds will be required on an ongoing basis to enable this essential maintenance. This matter should be addressed in the preparation of the maintenance plan. It would be short sighted to go ahead and build a trails network and then baulk at the demands of managing and maintaining it.

It should be ensured that whoever is charged with ongoing responsibility for managing the trails has genuine and specific trail knowledge. It is not sufficient to be a skilled gardener, conservationist or environmental scientist. If training is required to bring staff knowledge levels up to a high standard, this should be seen as a priority to be undertaken early in the construction process. Trail skills are better learned over a longer time, with hands-on practice, than in short briefing sessions.

12.2.1 Trail Maintenance Activities

The discussion that follows provides general guidance for the development of maintenance plans for each trail. It is not a substitute for specific maintenance plans for each of the trails.

Maintenance on all trails will be divided between regular inspections and simple repairs and quarterly programs undertaking larger jobs such as significant signage repairs or weed / vegetation control. A range of basic machinery, tools and equipment will be required for this work.

Clear records of each activity/inspection will be kept by the agency with responsibility for maintenance. A pro-forma sheet (from the Kep Track Trail Management Plan) is attached for information (see Appendix 2). Such pro-formas serve to maximise user safety and minimise liability risks. It will also provide a valuable record of works undertaken and make for efficient use of maintenance resources over time.

The activities set out in this document could be built in to other maintenance activities of the Roebourne Shire Council – such as regular monitoring and maintenance program for a range of other recreational facilities.

In general, Maintenance Plans are based around regular inspections, at which time simple maintenance activities should take place concurrently. More time-consuming maintenance activities should take place every six months, while detailed Hazard Inspections should occur annually. Further, the capacity to respond immediately to random incoming reports of hazards or major infrastructure failures should be built into the Plans. The following table gives a suggested schedule for general maintenance activities to achieve acceptable maintenance levels. Explanatory notes pertaining to each Activity follow the table below, and should be read prior to undertaking the activity.

Table: General Maintenance Activities

Activity	Site	Frequency
Undertake full inspections of all trails	Entire trail	Every second month
Check, repair or replace all trail signage, esp. road-crossings and directional markers	Entire trail	Every second month- at each Trail Inspection
Check and cut-back overhanging or intruding vegetation (not trail surface)	Entire trail	Every six months, unless obviously requiring attention at regular inspections.
Sweep or rake debris from trail surfaces, especially at road crossing points	Various sites along entire trail	Every six months
Check condition of trail surface for erosion (or other) damage and arrange repairs if necessary; trim off regrowth vegetation	Entire trail	Check for erosion at each inspection. Arrange repairs immediately if acute, or schedule maintenance for six monthly work sessions if not; rake-hoe regrowth vegetation each inspection
Check structural stability of built structures such as bird hides, viewing platforms, boardwalks, interpretive signage, interpretive shelters	Various locations	Every six months
Undertake Hazard Inspection and prepare Hazard Inspection Report	Entire trail	Annually

(It should be noted that this schedule does not allow for repair works above and beyond 'normal' minor activities. For example, if a section is subject to heavy rain, and erosion control fails, additional repair works will need to be undertaken).

Trail signage (Activity 1)

The majority of signs will occur at trailheads. Each trailhead should be carefully checked to ensure that all signage is present, and that all signs are clearly visible and legible. An inventory of locations needs to be prepared to assist in regular maintenance.

Vegetation (Activity 2)

Undergrowth vegetation grows quickly, and over time will continue to intrude into the trail corridor. Such intruding vegetation will be cut back to provide clear and safe passage - a minimum clear space 1.5 metres wide and 2.5 metres high (on walk trails), and 2.5 m wide by 3.5 m high (on shared use trails) should be provided at all times. Care will be taken to ensure that sharp ends are not left protruding into the trail as these can harm trail users. It should be noted that trailside vegetation hangs lower when wet, and allowances should be made for this when assessing whether or not to prune. "Blow-downs" - trees or limbs which have fallen across the trail - will be cleared as a part of this process. Sight lines must be kept clear either side of road crossings as a part of this process, to ensure that users can clearly see a safe distance either way at road crossings.

Trail surfaces (Activity 3 and 4)

Many of the trail sections will require regular surface maintenance. Primary focus will be on erosion damage caused by water flowing down or across the trail and by illegal motor vehicle use. This must be repaired as soon as it is noted, or it will get worse, quickly.

Interpretive signage (Activity 5)

Once interpretive panels have been installed along the trails, these should be checked for vandalism and cleaned if necessary. If damage is too great, replacement is essential. An inventory of locations needs to be prepared to assist in regular maintenance.

SECTION 13: GOVERNANCE

13.1 Introduction

The Shire of Roebourne has taken a leadership role in commissioning the development of this Trails Master Plan which provides a wide variety of recreational opportunities for locals and visitors as well as strategies to actively promote and sustain the conservation and interpretation of the natural, Aboriginal and historic heritage values of the district. This report has been built on broad consultation with relevant government officers, community groups, Aboriginal groups and agencies and concerned individuals. It takes into account the tourism as well as cultural needs of the shire, the health and planning opportunities and the spiritual and economic benefits that trails bring. In its leadership role, the shire has the opportunity to continue to work with these various stakeholders to ensure the rich program of projects articulated here is not only pursued but is well promoted and maintained to provide a lasting legacy to the people of the Pilbara. Key to this is the establishment of good governance.

The twelve trails projects proposed cover a variety of different land use options – either on reserves already vested in the Shire or a community group, on Unallocated Crown Land (UCL) or are a mix of both. There are also projects that are more conceptual in nature (*Roaming with Red Dog*) rather than providing a specific trail path. These 'trails' generally take people to locations on Shire reserves.

Governance associated with trails is an often-neglected business. When things are going well this is fine, but this head in the sand approach to trails leaves users, the shire and communities at risk. A lack of management and control means it is difficult to argue for ongoing funds to promote and maintain trails, to control access to the land and to exploit the trails for maximum environmental, economic and social benefits to the community.

As part of the development of appropriate governance programs, it is vital to ensure appropriate diligence is taken with regards risk management on the trails particularly when holding events. It is also important to ensure the Commonwealth Native Title Act (1993), the Western Australian Aboriginal Heritage Act (10972) and other relevant heritage and planning legislation is followed.

13.2 Management of Land

A detailed investigation into the status of all land parcels associated with the projects identified in this plan has not been undertaken. This work will form part of the brief for the next stage of planning and implementation for each of these trails. Instead a general approach to governance is offered. It is strongly recommended issues of governance are dealt with in the early stages of any planning for trails projects. This will not only improve the standing of the project for funding bodies, but will legitimise the project for the group who takes on its management.

Early attendance to issues of governance ensures

- o certainty in the management of the trail and the curtilage around it;
- o liability, tenure and risk management issues are covered from the outset during the negotiations of the vesting and ensure long term viability;
- o appropriate structure to ensure the long term success and safety of the trail for users;
- o those who are paying for the trails maintenance and promotion are also those who manage it; and
- o there is clear authority around issues associated with the trail, particularly for events and the like.

The Department of Regional Development and Lands manages UCL for the state government. The department's advice for the most appropriate model for the long term governance for trails which are targeted for an area which is currently UCL is for a management order to be issued through the creation of a reserve with a relevant body – local government authority, Aboriginal Corporation or local community group. As many of the proposed trails have a strong focus on the conservation and interpretation of heritage values, the purpose of the reserve, when appropriate, should include conservation outcomes.

It is possible for such orders to be jointly assigned ie a joint vesting between a local government authority and a community group. It should be noted that the process of vesting land will also trigger the interests of other Departments that may have an interest in the land and may see the proposed use of the Reserve as detrimental to their future aspirations. The process of vesting the land would also trigger investigations into the need or not for Native Title clearance.

While it is possible for a trail to be built and operated on UCL, it is recommended such decisions be approved by the Department of Regional Development and Land. The Department would be interested in the nature and extent of the proposed trail and / or its upgrade and may require other actions such as the vesting of a reserve. Strategies such as licences are not appropriate for trail use.

In some instances, such as the Yaburara Trail in the hills to the south of Karratha, other organisations may also have management over reserves associated with the trail location (in this instance, Water Corporation and the Department of Training and Workplace Development). In these situations a formal approach would need to be made to negotiate permission to traverse a section of their reserve.

A 'Short Form Access Agreement', or similar, is recommended for an arrangement such as this. The length of time for these can be negotiated but a long-term agreement, ie 10 years +, is suggested. To begin, details of the nature of the proposed use within the reserve need to be prepared. This may range from the trail route crossing the reserve through to access roads, parking and trailhead facilities. Once agreed, a licence agreement should be prepared (most likely by the State Solicitor's Office) with conditions negotiated between both parties and the Licensee indemnifying the Licensor from all claims, costs, expenses, deaths and injuries, as well as environmental indemnities such as pollution, contamination and environment harm.

There would be a cost to the Licensee for the preparation of the agreement and there may be an ongoing licence cost should the licence be for a commercial return.

13.3 Use by Others

Trails provide a great opportunity for the staging of a range of events by the trail manager, community groups and groups with specialist interests (eg marathon runners). Advice from the Department of Regional Development and Land identifies the need for land managers to ensure appropriate contracts are in place to protect the land manager from possible risk and insurance claims which should be the responsibility of the event organiser. These contracts should include evidence of certificates of currency with appropriate public liability insurance, a detailed risk management plan and an MOU at the very least. Discussions should also be held with the land manager's insurance group for further advice.

If the trail is on UCL, the event organiser will need to seek permission from the Department of Regional Development and Lands regarding the use of trails for an event. This comes under section 91 of their act.

13.4 Aboriginal Heritage Significance

As already noted, any development of trails will need to include an investigation of both the Commonwealth Native Title Act and the Western Australian Aboriginal Heritage Act.

Commonwealth: Native Title Act (1993)

> Native title recognises that Aboriginal people have rights and interests in their lands and waters through their traditional laws and customs; native title recognises that Indigenous people have traditional rights to speak for country; but native title does not provide Indigenous people with ownership of the land or stop development like land rights under the Aboriginal Land Rights Act does.

> These rights and interests under native title are called 'common law' Indigenous property rights and were recognised by the High Court in the Mabo judgment (3 June 1992) and made into legislation in 1993.
> [file://localhost/(http/::www.clc.org.au:articles:info:what-is-the-native-title:, 07.12.2012)](file://localhost/(http/::www.clc.org.au:articles:info:what-is-the-native-title:,%2007.12.2012))

Native title gives people the right to protect sites, to have access to land and to have a say over the management or development of the land, amongst other things. Native title owners have a right to be consulted about future development on the land. Under the Act the Prescribed Body Corporate (PBC) is the organisation that manages the title. The PBC is responsible for many decisions that will affect the native title rights and must talk to native title holders to get approval.
[file://localhost/(http/::www.clc.org.au:files:pdf:CLC_native_title_brochure.pdf , 07.12.2012)](file://localhost/(http/::www.clc.org.au:files:pdf:CLC_native_title_brochure.pdf%20,%2007.12.2012))

In May 2005, native title to most of the land in the Shire of Roebourne was granted to the Ngarluma and Yindjibarndi people. The Ngarluma Aboriginal Corporation (NAC) was established in June 2005 and is the PBC for Ngarluma. The NAC is the governing body for native title over land the Ngarluma people are the traditional owners of.

As some of the proposed trails will be on Unallocated Crown Land, native title and future acts issues arise. It is anticipated the main concerns will be whether or not the proposed activity will provide substantial profits and if so, the native title owners have the right to compensation.

State: Native Title (Department of Premier and Cabinet)

This usually deals with large scale, strategic state projects. Trails projects generally fall outside of this.

State: The Western Australian Aboriginal Heritage Act (1972) and the Department of Indigenous Affairs (DIA)

Investigations in to the location of any Aboriginal sites will need to be undertaken with land associated with the development of new trails. The DIA Due Diligence document provides some guidance for appropriate actions with relation to areas where sites are located although land users should always obtain independent advice on issues related to the Aboriginal Heritage Act. ([http://www.dia.wa.gov.au/Documents/HeritageCulture/Heritage management/AHA_Due_Diligence_Guidelines.pdf?epslanguage=en](http://www.dia.wa.gov.au/Documents/HeritageCulture/Heritagemanagement/AHA_Due_Diligence_Guidelines.pdf?epslanguage=en)). The Due Diligence document lays out an Aboriginal heritage risk assessment matrix which analyses the level of disturbance (negligible through to major) against the previous land use (from the built/urban environment through to unaltered pristine environment). This then prescribes a category (low risk through to major development) and necessary actions for each category.

An example of an application of the risk assessment matrix (for the Yaburara Trail) is offered below:

Level of Land or water activity
Moderate - Medium impact; ground disturbing activity and/or regular public traffic / activity or ground disturbance.
Category of activity
Minor - Maintenance of existing tracks. Tourism and visitation activities on an area where such activities are already taking place, Erosion control activities around existing roads, infrastructure or facilities, Erecting signage and barriers using hand and mechanical augers
Likelihood of Aboriginal Heritage Impact
Likely - Likely Aboriginal heritage site. Site has been lodged for assessment with DIA.
Matrix category
Moderate - Reference to AHIS and if an Aboriginal Site is identified consultation with DIA recommended.

Consultation with the Ngarluma Aboriginal Corporation would then be necessary to determine whether a Section 18 application (see below) will need to be made. In some instances it may be possible for the proposed works to be approved through a Section 10 process (see below).

Under the Act it does not matter who the land is vested in (Ngarluma, the shire or other community group); whoever is the manager of the land will be the one to lodge the Section 18 application if necessary.

Section 18 - Landowners must make an application to the Aboriginal Cultural Materials Committee (ACMC) who will consider the proposed land use in areas where Aboriginal sites and objects are located. The ACAMC will then make a recommendation to the Minister for Indigenous Affairs on whether consent for use should be granted or not. The Minister considers this advice in the context of general community interest and will resolve to give (which may include conditions) or decline consent.

Regulation 10 of the *Aboriginal Heritage Regulations 1974* (WA) is authorisation for land use granted by the Registrar or Minister.

SCHEDULE 2 – THE ABORIGINAL HERITAGE RISK MATRIX

LAND ACTIVITIES – CATEGORIES 1-5		1. Negligible disturbance	2. Minimal disturbance	3. Moderate disturbance	4. Significant disturbance	5. Major disturbance
Previous Land Use	Built Environment - e.g. urban environment, towns, metropolitan region.	Low	Low	Low	Low	Medium
	Significantly Altered Environment - e.g. cultivated and cleared land.	Low	Low	Low	Medium	High
	Moderately Altered Environment - e.g. partially cleared lands, re-vegetated landscape.	Low	Low	Medium	Medium	High
	Minimally Altered Environment - e.g. urban bush land, regrowth areas	Low	Medium	Medium	High	High
	Unaltered Environment - e.g. protected areas or pristine environment.	Low	Medium	High	High	High

Risk Assessment	Actions
Low Risk (Review)	Review the landscape and proposed activity (see sections 2.4 - 2.8 - assessing the landscape and the activity). Refer to the AHIS.
Medium Risk (Review /Exercise Caution)	Review the landscape and proposed activity (as above). The precautionary principle (see page 2) applies. Refer to the AHIS and contact the DIA. A range of actions may be recommended, including: no action, consultation with the relevant Aboriginal people, an Aboriginal heritage survey or modification of the proposed activity to avoid or minimise site impact.
High Risk (Consult / Survey / Approvals)	Refer to the AHIS. Consult with the DIA and the relevant Aboriginal people. Dependent on consultation outcomes you may need to include: an Aboriginal heritage survey, modification of the proposed activity to avoid or minimise (see sections 2.24 - 2.28) impact to the site and/or other heritage management strategies. The land user may also need to apply for approval or consent (see section 2.26) to the activity.
For major development projects refer to sections 2.10 - 2.12 for further advice.	

These Guidelines and the Aboriginal Heritage Risk Matrix are for general assistance only. Land users should always obtain independent advice on the application of the AHA to their particular circumstances and if doubt exists the land user should contact the DIA.

Department of Indigenous Affairs / Department of Premier and Cabinet, *Aboriginal Heritage Due Diligence Guidelines*, version 3, 30 April 2013, p 15.

SECTION 14: RESOURCES AND FUNDING OPPORTUNITIES

14.1 Introduction

This Section provides a detailed list of potential funding sources – from all level of Government, corporate sponsors, community-government programs such as Green Corps and the use of community volunteers such as Conservation Volunteers Australia.

Resourcing trail construction and promotion programs can be challenging, as can resourcing ongoing maintenance requirements. It must be recognised that a Trails Master Plan such as this, and the individual projects it contains, are an investment in the future. Well planned and built, well interpreted and appropriately promoted, the trail projects will add significantly to the 'liveability' of the towns of the Shire of Roebourne – adding recreational and educational opportunities. The trails will bring tourists into the Shire of Roebourne and keep them longer in the district. The project has the ability to stimulate the local economy, especially if elements of the manufacturing, construction and installation processes can be undertaken locally. It is highly likely local people in the Shire of Roebourne can undertake several aspects of the projects outlined in this Trails Master Plan.

A range of sources of funds and other resources are currently available, and some of the better known are summarised below. This list should NOT be taken to be full and final, as there are no doubt other sources to pursue. Despite the detail set out below regarding the various grants programs, they can and do change from year to year so it is very important for the shire to investigate funding options each year in regards to development of the recommended trails. The shire should contact the granting body to discuss their project to ensure it meets the requirements of the grant.

The Shire of Roebourne could also explore the establishment of a foundation with the National Trust of Australia (WA) which allows for tax deductible donations to identified heritage projects. This program allows for donations of all sizes from $2 to $200 000 or more with 100% of the donations going to the project. The Shire of Roebourne could use this to attract support from individuals and companies looking to support a worthy project while receiving some tax relief. For further details contact the CEO (08 9321 6088).

14.2 Funding Programs

14.2.1 TQUAL (formerly known as the Australian Tourism Development Program)

TQUAL Grants is a competitive merit-based funding program aimed at stimulating sustainable growth in the Australian tourism industry. It will do this by supporting innovative, high-quality tourism products that contribute to the long-term economic development of Australia. Through TQUAL Grants, the Australian Government has redesigned the program formerly known as the Australian Tourism Development Program to better position the Australian tourism industry in a highly competitive market.

There are three categories of funding, each with separate eligibility requirements, evaluation criteria and funding requirements.

Category 1 $5,000 - $100,000

Category 1 grants of between $5,000 and $100,000 for Innovative Tourism Projects. Category 1 projects should aim to stimulate the development of innovative tourism product, service(s) or system(s).

Category 2 $100,000 - $500,000

Category 2 grants of between $100,000 and $500,000 for Integrated Tourism Development Projects. Category 2 projects should aim to enhance the overall tourism appeal of a large area by encouraging inter-regional collaboration to achieve greater tourism benefits. Projects funded under this category will be large scale, collaborative, multi-faceted activities that involve a number of regions.

Category 3 $25,000 -$500,000.

Category 3 grants of between $25,000 and $500,000 for National or Sectoral Tourism Initiatives.

TQUAL Grants will be delivered by AusIndustry in the Department of Innovation, Industry, Science and Research on behalf of the Department of Resources, Energy and Tourism.

Contact details:

www.ret.gov.au/tourism or at www.ausindustry.gov.au/tourism and follow the links to TQUAL Grants. Alternatively, contact the AusIndustry Hotline on 13 28 46

14.2.2 Tourism Industry Regional Development Fund Grants (TIRF)

Round 2 of the Tourism Industry Regional Development Fund (TIRF) Grants Program is currently open.

The competitive merit-based TIRF Grants Program offers grants from $50,000 – $250,000 (GST exclusive) on a matched dollar-for-dollar funding basis, to assist tourism operators increase the quality and range of visitor experiences in regional Australia.

Funding of $9.6 million is available across three streams for eligible projects; to improve or upgrade tourism infrastructure, develop innovative tourism projects or, introduced in this round, increasing tourism labour supply and quality. Around 50 projects are expected to be funded in this round.

The Program encourages industry to best identify its needs and is not prescriptive about the types and styles of projects. Some of the options might include use of new technology to enhance visitor experiences, language translations, adding infrastructure to extend seasons or adding quality staff accommodation to attract and retain labour.

Round 1 of the TIRF Grants program saw a diverse range of quality tourism projects funded across regional Australia – from feasibility studies to building Indigenous content to accommodation upgrades and new attractions that will improve the products and services offered to visitors.

Businesses, local governments and not-for-profit organisations that provide a heritage tourism product can apply for the TIRF Grants.

- Online applications closed at 11.59pm AEST on Wednesday 7 August 2013.
- Outcomes are expected to be advised in October 2013.
- Projects will be able to start from December 2013 and must be completed by 31 March 2016.

For more information:

See the Department of Resources, Energy and Tourism's website www.ret.gov.au/tirfgrants

14.2.3 Your Community Heritage Program

The Federal Department of Sustainability, Environment, Water, Population and Communities announced a new grant program in 2011 called Your Community Heritage Program.

Applications to the 2012-13 Your Community Heritage Program have now closed, and the Department will not be accepting any further applications.

The funding for Your Community Heritage concludes at the end of 2012-13. From 2013-14 onwards, Protecting National Historic Sites will continue to operate. The 2012-13 Your Community Heritage program also included applications for funding to be provided under the 2013-14 Protecting National Historic Sites program.

For more information:

http://www.environment.gov.au/heritage/programs/ych/index.html

14.2.4 Regional Development Australia

Round Five of the Regional Development Australia Fund was announced on Wednesday 19 June 2013.

Round Five will provide $150 million to eligible local governments, according to an allocative model, for capital infrastructure projects. RDAF has been supplemented by an additional $45 million from the Liveable Cities program to fund grants to urban local governments. Eligible local governments are those that received the General Purpose component of the local government Financial Assistance Grants in 2012–13.

Applications for RDAF Round Five open on 21 June 2013 and closde at 5.00 pm local time on 22 July 2013. Applications must be submitted via the department's Grants Management System portal which will be accessible on 1 July 2013. A sample application form will be available on this website on 24 June 2013.

For more information:

http://www.regional.gov.au/regional/programs/rdaf_round_five.aspx

14.2.5 Indigenous Heritage Programme

The Indigenous Heritage Program (IHP) is an ongoing competitive annual grants program which provides $3.645 million to support the identification, conservation, and promotion of heritage places important to Aboriginal and Torres Strait Islander people. Since 2004, the program has provided over $30 million to support more than 500 Indigenous heritage projects across Australia.

The Indigenous Heritage Programme provides Indigenous organisations or not-for-profit bodies with grants for projects up to $100,000 (GST inclusive). Individual Indigenous applicants are generally eligible for funding up to $5,000 (GST inclusive).

To be eligible, a project must relate to one or more of the following five activities:

- Conservation of a place or places of Indigenous heritage significance.
- Identification of Indigenous place(s), and/or the Indigenous heritage values of a place or places, for heritage protection, heritage listing or conservation planning.
- Heritage Planning, including projects which will develop plans to assist with the identification, conservation and/or promotion of the Indigenous heritage values of a place or places.
- Sharing Australia's Indigenous Heritage, including projects that interpret or explain a significant Indigenous heritage place or places, promote the knowledge and understanding of Indigenous heritage, or facilitate the active teaching of traditional knowledge and understanding of customary responsibilities (where appropriate) to future generations.
- Construction of Keeping Places: A maximum of $30,000 may be provided for small-scale keeping places to house remains and objects that require restricted access, where exceptional circumstances can be demonstrated.

Projects funded through the IHP in 2012-13 include conservation of burial sites, conservation management plans, heritage surveys, interpretative signage, pamphlets, books and repair work.

The 2012-13 Indigenous Heritage Program (IHP) funding round is now closed. Applicants are encourage to monitor this website for information on the 2013-14 Funding Round.

For more information:
www.environment.gov.au/heritage/programs/ihp
Freecall: 1800 982 280
Email: ihp_grants@environment.gov.au

14.2.6 Lotterywest and Department of Sport and Recreation – Trails Grant Program

The Department of Sport and Recreation (DSR) and Lotterywest have partnered to deliver the Lotterywest Trails Grant Program since 1997.

Grants up to $100,000 will be offered through the Trails Funding Program. Priority will be given to those projects which satisfy the selection criteria and to those organisations which demonstrate there is a matching component. Applications for projects up to the value of $15,000 may be allocated up to 100% of the project cost with local contributions highly regarded.

Organisations applying for a grant in excess of $15,000 are required to provide a matching contribution - on a $1 for $1 basis. This matching component may be:

- o financial (a direct $1 for $1 contribution)
- o in staff time (calculated at an hourly rate) and/or through voluntary contributions (with voluntary labour calculated at $20/hr - and no more than 25% of the total project value)
- o through sponsorship provided by other organisations.

Recipients of grants of less than $15,000 will be provided with 100% of the grant at the commencement of the project (ie. upon completion and submission of Grant Agreement). Recipients of grants of $15,000 and over will only receive 85 - 90% of the grant at the project commencement, the remaining 10 - 15% being retained until satisfactory completion of the project and submission of a final project evaluation report. The application form asks that future trails projects be described on the application form, together with an indication of funds to be sought in future years.

Conditions/Criteria

Trailswest will determine trails projects suitable for grants from the Lotteries Commission according to an assessment based on a range of selection criteria. The selection criteria will generally cover the following broad areas:

- o Project justification
- o Planning process
- o Community input and support
- o Management planning and maintenance commitment
- o Trail access and trail sharing opportunities
- o Design considerations
- o Connections
- o Cultural, heritage and environmental considerations
- o Trail user education
- o Partnerships and volunteers.

Funding may be sought under the following categories only:

- o Trail Construction (generally gravel, crushed limestone or natural earth)
- o Upgrade of existing trails
- o Trail Promotion and Marketing
- o Trail Planning (feasibility, consultant work)

Trail Maintenance is not eligible for funding under this program.

The following examples of trails projects may be considered for grants:

- o Proposals that demonstrate inclusion in local, regional or state trail plans or in a local government recreation plan.
- o The conversion of disused railways into multiuse recreational trails.
- o Trail construction and development for non-motorised uses, such as walking, hiking, mountain biking, canoeing and horse riding.
- o Trails catering for the disabled.
- o Preparation of individual, local and regional plans.
- o Interpretive signposting.
- o Signposting for distances and direction, general information (trailhead signs), trail rules and trail etiquette, traffic safety and road crossings.
- o Publicity brochures, trail guides and maps.
- o Hosting of special trail events (e.g. trail openings) and general promotional activities.
- o Other worthwhile projects.

Grants will not be available for:
- o Construction of trails for motorised uses such as 4WD or ORV uses.
- o Property acquisition.
- o Payment for goods or services purchased prior to a grant being approved.
- o Dual use paths, cycle ways or footpaths in urban areas with bitumen or concrete surfaces. Alternate funding is available from other departments and local government for such projects.

Further Information:

Steve Bennett

Recreation Development Leader

246 Vincent Street, LEEDERVILLE WA 6007

PO Box 329, LEEDERVILLE WA 6903

Telephone (08) 9492 9732

Facsimile (08) 9492 9711

14.2.7 Royalties for Regions – Pilbara Development Commission

Royalties for Regions is a State Government initiative designed to promote long-term development in Western Australia's regions. The Pilbara Regional Grants Scheme is funded through Royalties for Regions and is aimed at improving economic and social infrastructure and services in the Pilbara through funding projects that will assist in attracting investment, increase jobs or assist in improving the quality of life in the region.

Eligible applicants include local governments, volunteer organisations, business groups, education institutions, philanthropic foundations and community organisations that are incorporated or have similar status. The Scheme is not intended to provide support to individuals or individual businesses unless it can be shown that a significant benefit will accrue to the broader community or industry sector.

Funding application Guidelines are available to be view by clicking the link below.

For further information:

Commission's Grants Coordinator

08 9173 8400 or

pdc@pdc.wa.gov.au

14.2.8 Lotterywest - Interpretation of Cultural Heritage

Interpretation of Cultural Heritage grants support projects which assist communities to understand and communicate the significance of their cultural heritage places and objects. It is envisaged that projects will help communities to maintain their sense of identity and heritage.

In providing these grants Lotterywest recognises and acknowledges the importance of the State's diverse communities and their role in the care of Western Australia's cultural heritage for the future. The Program will aim to:

- o   interpret and make clear the cultural heritage significance of objects/places;
- o   encourage organisations of all types to develop initiatives which engage communities in active and creative ways with their cultural heritage;
- o   enhance community identity and sense of place; and
- o   enhance social and economic development of communities.

For the purpose of these grants, 'place' can include a building or other structure, group of buildings or other structures, or a landscaped area.

Examples of the type of project that may be considered for funding include:

- o   the development of interpretation plans;
- o   the creation and installation of interpretive materials;
- o   the improvement of collection management practices;
- o   assistance with the employment of consultants for a project or the contracting of specialist services;
- o   the assessment of significance of moveable heritage objects in accordance with the Heritage Collections Council guidelines ('significance': A Guide to Assessing the Significance of Cultural Heritage Objects and Collections is available on www.amol.org.au/craft/publications);
- o   the development of on-going public education and information programs;
- o   improving the documentation, research and/or display environment(s) of the object(s) or place;
- o   training in relation to interpretative projects;
- o   publication regarding the heritage object(s)/place;
- o   public programs and the use of innovative strategies such as music and theatre; and
- o   interpretative signage which discovers and celebrates the community's heritage.

The current funding round opened on 14 May 2013 and closed on 6 July 2013.

Contact Details:

Lotteries Commission Program Coordinator,
Cultural Heritage - Interpretation
Phone: (08) 9340 5270
Toll Free: 1800 655 270
Fax: (08) 9340 5274
Email: grants@lottery.wa.gov.au
Website: www.lotterywest.wa.gov.au

14.2.9 Regional Bicycle Network Local Government Grants Program

The Program provides funding assistance to local government and community groups to assist in planning, development and promotion of shared-use pathways and cycling facilities in regional Western Australia.

There are three important priorities of the grants program in 2013 – 2014:

3. Bicycle infrastructure connections to schools to encourage students to cycle and reduce school induced congestion.
4. The development of bicycle networks in regional centres, specifically larger projects of strategic importance to the centre.
5. Infrastructure projects and initiatives that encourage cycle tourism in regional Western Australia

Further Information:

Project Officer
Cycling Infrastructure
Department of Transport
GPO Box C102
Perth WA 6839
Ph (08) 6551 6162

14.2.10 Roebourne Shire Council Contributions

Many of the grant programs available for trail projects require matching contributions, and it is recommended that the Roebourne Shire make an annual budget allocation each year for the trail initiatives recommended in this Trails Master Plan.

14.2.11 Corporate Sponsors

Sponsorship is big business – and very competitive. Two main options exist: either negotiate with local corporate entities which have a geographical and social connection with the area, or go after the 'big players' for substantial projects. Many large companies have formalised sponsorship programs.

Funding for trail development has been received from a number of major, minor and local companies. Sums of up to $100,000 or more can be gained, if benefits can be proven. Any company with an operation within the region would appear to be a potential sponsor.

14.2.12 Use of Volunteers and Other Low Cost Labour Sources

Western Australia's two premier trails (the Bibbulmun Track and Munda Biddi Trail) make extensive use of volunteers in their ongoing maintenance. For example, as much as 80% of the 960km long Bibbulmun Track is maintained by volunteers in a well organised Volunteer Maintenance Program.

It may be possible to establish a volunteer program to assist in the maintenance of the trails similar to that used on the Bibbulmun Track, Munda Biddi Trail and Cape to Cape. On these longer trails volunteers adopt a section of the trail and are trained to look after it. Maintenance volunteers may work as a team for the entire trails network or work in groups and adopt one of proposed trails. A 'team' could be a single person or a group of friends, family or work mates. Their role is to ensure the trail remains well-kept and well-loved. Maintenance volunteers often supply their own tools - secateurs, a small saw and a hammer are usually sufficient. Training would need to be provided. Volunteers must agree to undertake the maintenance program at least 4 times a year (ie every 3 months) and complete a report form.

Tasks will involve light maintenance including pruning, clearing debris, removing litter, minor repairs to steps, water bars, management gates and the like and monitoring and reporting on the general condition of the trail. Major maintenance tasks will be carried out by the trail manager.

A similar 'adopt-a-trail' scheme could be introduced for the proposed trails network. This would dramatically reduce the cost of inspections and maintenance activity and help instil a custodianship role in the community.

This may be the type of work the Roebourne Prison could contribute to, adopting a particular trail as part of their programs with a specific prison supervisor to maintain continuity .

Crews of minimum security inmates have worked extensively in trail construction and maintenance in Western Australia in the last fifteen years. This has proven to be a hugely beneficial program - to host agencies, to the Department of Corrective Services and to the inmates themselves. A prison officer and transport is usually provided, but materials, tools, and technical supervision are required.

Supervised instruction for prisoners can have considerable benefits. The prisoners receive skills training, they develop an improved work ethic, they can take pride in being involved in a local project, they can take pride in a job done well and they can gain valuable experience and thereby increase future employment opportunities. It has been demonstrated in other trails projects that these types of programs help reduce recidivism amongst prisoners. They should not and are not considered as simply a free source of labour.

REFERENCES

Australian Bicycle Council *Benefits of Cycling* www.abc.dotars.gov.au/Publications_Resources

Australian Government, Australian Sports Commission and Department of Health and Aging (2007) *Participation in Exercise, Recreation and Sport Annual Report 2007*

Beeton, S. (2006) *Regional Communities and Cycling: the Case of the Murray to the Mountains Rail Trail, Victoria, Australia* La Trobe University, Bendigo

Bibbulmun Track Foundation (2004) "*Survey Results confirm Bibbulmun Track's increasing overseas profile*" Bibbulmun News Issue 35 Autumn 2004

City of Greater Geelong (2003) *Walking More*

Colmar Brunton (2004) *Bibbulmun Track User Short Research Project* Report to the Department of Conservation and Land Management and the Bibbulmun Track Foundation

Department of Natural Resources and Department of Emergency Services – Queensland (1998) *The South East Queensland Outdoor Recreation Demand Study*

Gaye Mackenzie (Centre for Social & Community Research, Murdoch University) *Children & Youth Health & Wellbeing Study (Jan 2005)*

Jessop, M. and Bruce, D. (2001) *Research Summary, Attitudes of Users towards the Mundaring Recreation Trails.* Sport and Recreation WA, Western Australian Government, Perth Western Australia.

Market Equity Pty Ltd (2004) *Trails Research Project* A report for the Office of Sport and Recreation in association with Planning SA, Transport Planning and South Australia Tourism Commission

McCormack G, Milligan R, Giles-Corti B, Clarkson JP*. Physical activity levels of Western Australian adults 2002: Results from the adult physical activity survey and pedometer study.* (Western Australian Government; 2003)

Otago Central Rail-Trail Trust (2005) *The Otago Central Rail-trail means business*

Perrigo, T. (2004) *Interpreting trails – the need for standards* Paper to 3rd National Tracks and Trails Conference, Hahndorf, October 18 – 20, 2004

Premier's Physical Activity Task Force *Walk WA – A Walking Strategy for WA 2007-2020* (Government of Western Australia).

Premier's Physical Activity Task Force *Walk WA – A Walking Strategy for WA 2007-2020 – Appendices* (Government of Western Australia).

Qld Outdoor Recreation Federation (2002) *South East Queensland Outdoor Recreation Demand Study*

Qld Outdoor Recreation Federation (2006) *Active Trails: A Strategy for Regional Trails in South East Queensland*

Qld Government, SEQ Water and Griffith University (2007) *South East Queensland Outdoor Recreation Demand Study*

Shire of Roebourne – Various publications (see Section 3)

South Australian Office of Sport and Recreation (2002) *The Recreational Trails Strategy for South Australia 2002 – 2010*

Victorian Trails Coordinating Committee (2005) *Victorian Trails Strategy (2005-2010)*

Wang, G., Maccera CA, Scudder-Soucie B,Schmid T, Pratt M, and Buchner D (2005) *A cost-benefit analysis of physical activity using bike/pedestrian trails* Health Promot Pract 2005 Apr; 6 (2): 174-79

APPENDIX 1

CONSULTATION NOTES

Consultation with Shire of Roebourne Staff

A meeting was held with Leigh Cover, Darrell Hutchens, Sam King and Tepina Smith on Monday 4th February 2013. The following comments were made:

o   Although the Murujuga National Park is technically outside of the area of responsibility of the Shire of Roebourne (and this Trails Master Plan), any proposals of the Trails Master Plan need to link in with DEC's proposals for the Murujuga National Park. Hearson's Cove is a very small area in the National Park that the Shire has responsibility for. It was confirmed that the National Park is not part of the area of responsibility of this brief.

o   Need to be realistic about what the Shire can achieve. If the recommended set of proposals is too big, the Shire won't roll it out.

o   Need to be realistic in terms of rolling out the proposed trails projects and attracting funds for their development.

o   Keen on tracks and trails for local people to use. Keen to make Karratha a liveable community. Create an enjoyable community for local people.

o   Creating "liveable cities" is more important to the Shire than the tourism benefits of trails.

o   There is a need for linkages from the proposed Mulataga residential development through the hills (east of Karratha Rd) to the Yaburara Heritage Trail.

o   David Pentz (Strategic Planning at Shire) should be consulted with regard to future residential development areas.

o   There is also a need to provide options for tourists to experience the environment of the region. There should be a wide variety of options.

o   Cleaverville and "40 mile" are major camping areas where trail options could be investigated.

o   Pilbara Development Commission is focussed on promoting the "Pilbara Cities" concept and projects that are Pilbara wide. Would likely be interested in conceptual trails that cross LGA boundaries.

o   Keen for trails / pathways that fulfil several purposes including commuting, cultural, historical.

o   Jacob's Ladder idea, leading up to the Yaburara trail from the west, has merit for local recreation.

o   Suggested consulting with Dampier Community Association with regard to trails for Dampier (Jenny Fox, Noelene McCormack).

o   'Skipper Brad' takes people on boat to Tidepole Island / Squid Island. Believes there may be some merit in developing ideas for a water-based trail.

o   Shire is developing an Off Road Area in the area north-east of airport. The intention is to make the area very attractive and users will want to stay all day. Shade, picnic tables and vehicle loading will be provided.

o   Cleaverville is a major camping area along the coast. There is the possibility of developing trails along the coast for people who go there.

o   Cross shire opportunities should be investigated (that Shire of Roebourne could develop in partnership with adjoining local governments).

    o   Branding guide for paths through the suburbs of Karratha has been developed.

A meeting was held with David Pentz (Director Development Services) and Jan Steenkamp (Senior Strategic Planner) on Thursday 23rd May 2013.

    o   Provided detailed information on future growth areas in Karratha and Roebourne.

    o   Indicated that development of paths/trails along the coastal dunes (and mangroves) along Searipple Road and Mystery Road would be the responsibility of the developers of the Mulataga area.

A meeting was held with Eileen Wright (Local History Officer) on Wednesday 22nd May 2013. On-site investigations were held with Eileen Wright on Friday 24th May 2013

    o   Provided suggestions on historic sites that could be included on a possible drive trail.

    o   Suggested that the Stock Route Well No. 52, alongside the original North West Coastal Highway, could be included.

    o   Indicated that local people know where some of the last remaining (original) telegraph poles are located.

    o   Pyramid Station manager is very interested in heritage.

    o   Karratha Station manager should be consulted regarding possible access on to station (now owned by Rio Tinto).

Consultation with Karratha Visitors Centre

A meeting was held with Barry Harris, the Karratha Visitor Centre Manager, on Monday 4th February 2013. The following comments were made:

    o   In regard to the Yaburara Heritage Trail, there are a number of issues:

        -   No one seems to be in control of its promotion/maintenance.

        -   No standards are being set and no one is stipulating rules of use.

        -   There is a need for correct and updated information to be provided.

        -   Until the trail is upgraded, some interim measures are needed – such as an updated/new brochure and map.

        -   Visitor Centre is not actively sending people on to the trail due to its poor condition. Better maintenance is required before they will encourage visitors.

    o   Strategic plan for Burrup tourism seems a long way off still. Deep Gorge is a prime opportunity for Boardwalk Trail. Suggested Yaburara Heritage Trail can fill the void as an easily accessible place to view rock art.

    o   The Warlu Way drive trail is regarded as a white elephant. It appears that no one cares about it. No more money is being put into promotion. Consultants need to consider its future in any revamped drive trail in the region.

    o   34,475 visitors came through the Visitor Centre doors between April and October 2012. 70% are grey nomads, who would stay longer if there were cheaper (accommodation) facilities.

    o   Suggested the sand dunes along Searipple Rd (from parking area as far as boat ramp) would provide a popular attraction. A walk trail along the top of the dunes as far as the boat ramp would be a good feature and could include a flight of

steps like Jacobs Ladder. A boardwalk to and through the mangroves could be developed.

o Visitors want a Pilbara experience. Looking for low cost things to do. Short-term accommodation is the key for longer stays in the region.

o Survey shows international visitors/tourists are willing to pay $200 per night for accommodation but don't want a 'mining camp experience'.

o Cleaverville has over 300 – 400 metres of coastline, with coral and sea life abundant. Is a very popular and attractive camping area.

o Visitors, often from overseas, also come to the Pilbara during December to March (the European winter). They don't mind the heat.

o There are few Aboriginal cultural experiences available in the region.

o Suggested that the Hearsons Cove area has potential for walk trails, involving some coastal caves. However, changing tides create some dangers.

o There is a need for some "hang your hat on" festival. A national mountain biking event might be just that.

o Cossack Heritage Trail includes a lookout, beaches and the cemeteries.

o Millstream is an Oasis and is underutilised. Visitors used to do the loop out to Millstream but accommodation problems mean much less traffic.

o Suggested the following priority projects:
  - Walk trail at Searipple Rd, involving a lookout, an upgraded car park etc. Dampier Lookout is an example of what could be done.
  - Upgrading of the Yaburara Heritage Trail.
  - Upgrading of the Cossack Heritage Trail – and Cossack in general.
  - Walk trails at Hearsons Cove and into Deep Gorge. Also regards the Withnell Bay coves as ideal for trails.

o Not enthusiastic about a "Tinnie Trail", as there is up to 16km open water between mainland and some islands, there are sharks galore, big seas sometimes, flares / EPIRBS would be needed. The idea is fraught with dangers and difficulties.

o Sam's Island is a terrific place, but people need a permit to access the island. The island is underutilised.

o Majority of users observed on the Yaburara Heritage Trail are 35 – 50+, walking singly or in pairs.

o The Pilbara is regarded by many as the "last frontier". The high cost of getting to and staying in Pilbara is a major deterrent to local travel. It is cheaper to travel overseas with favourable exchange rate.

Consultation with Burrup Mountain Bike Club

The following notes summarise a telephone conversation with Damien Muller (President) on Wednesday 30th January 2013.

o Club has 60+ members (and 165 Facebook friends) and represents mountain bikers across all age groups.

o Events arranged by club attract riders from other parts of the state.

- o Interstate cyclists regular use the MTB tracks in the Karratha area.
- o Club has numerous race/riding tracks, but none are yet officially recognised.
- o Seeks a piece of land where they can legitimately carry out various mountain biking activities.
- o Seeks a MOU ("a piece of paper") that gives permission for them to conduct mountain biking.
- o Currently is seeking MOU's with Water Corporation and Western Power for MTB trails on land managed by these organisations.
- o Has GPS tracks for numerous tracks that the club rides.
- o Is keen to signpost tracks with trail markers and trailhead mapping.
- o Is aware of many cyclists who ride off-road tracks between Nickol and Woodside, a distance of 25km.
- o Is wanting to develop a MTB " park" where several types of mountain biking disciplines can occur, for example cross country, skills courses, jumps and downhill.
- o Is also keen to develop a circuit for 5 – 12 year olds, so that their skills and expertise can be fostered and monitored.
- o Has been dealing with Sam King (the Club Development Officer at the Shire of Roebourne) and Kane Benson (Regional Manager at Dept Sport and Recreation) regarding further development of mountain biking facilities in the region. Club has received DSR funding for skills development courses.
- o Is keen to develop a mountain biking link between Karratha Visitor Centre and the BMX facility in Baynton.
- o Has plans/ideas for development of various MTB facilities in the area south of the BMX course.
- o Approximately 16km of MTB tracks exist on the south side of the Karratha Hills.
- o Club has lots of ideas and is wanting to make them happen, but first needs official recognition of places they can ride and funding. Opportunities exist for major Corporate organisations in the region to sponsor the club and its events and activities.

A meeting was held with Damien Muller (President) and Tristan Wood-Hill (Vice President) on Monday 4th February 2013. The following comments were made:

- o Club started looking for area for their various MTB activities in January 2012.
- o There currently is an off-road cycling connection to Dampier, which is only suitable for experienced and competent mountain bikers. For more widespread use it needs improvement, as the current route is very rocky and 'technical'.
- o The club has developed a series of tracks on south side of Karratha Hills.
- o Club is considering development of a cycling connection to Millstream National Park via Harding Dam, Cooya Pooya Station, Spring Station and Hicks Gap. It could become an epic "Pilbara Trail Ride".
- o Major focus of club is getting an area of land south of BMX for its various MTB activities. It also wants to legitimise their existing trails on the south side of the Karratha hills.

o There are currently in excess of 60 members, and usually as many as 40 members at races.

o Riders come from far and wide to ride in their events including Brisbane, Perth and Port Hedland.

o The club proposes to have trailheads at the Visitor Centre and at the BMX track. Facilities at the trailheads would include a map board which would show the various trail circuits, with indications of their various IMBA classifications.

On-site investigations were held with Damien Muller and Tristan Wood-Hill on Wednesday 22nd May 2013:

o The network of existing mountain bike trails were shown.

o An area where a MTB Park could be established, if the club had to relinquish its existing trails network, was investigated.

Consultation with Ngarluma and Yindjibarndi Foundation Ltd

A meeting was held with Evan Maloney (CEO) on Tuesday 5th February 2013. The following comments were made:

o An Aboriginal Cultural Centre is proposed on the east side of the main road. An amphitheatre has already been developed.

o Confirmed that Ieramugadu is an Aboriginal word meaning "prickly edge on native fig tree". Pool on Harding River named after that word.

o Part of the proposal associated with the Cultural Centre is a walk trail along the Harding River.

o NYFL is wanting to create a permanent pool in front of the Cultural Centre.

o Building ruins exist near to the proposed Cultural Centre. The old bakery is to be restored and will house some interpretive signs.

o Tourism is the industry with the most potential but coming from a limited base.

o NYFL is proposing to operate tours out of the Cultural Centre, to places such as the Burrup Peninsula, Balla Balla, 'mini Deep Gorge'.

o The development of Aboriginal tourism businesses is high on their list of priories. This would include employment of local guides.

o The Cultural Centre will become a retail point for all tours / trails.

o Gregory Gorge (between Harding Dam and Millstream) is a particularly significant site.

o Murujuga National Park has much potential for tourism, and the Murujuga Aboriginal Corporation will be exploring possibilities. There already is interest in ecotourism on the islands of the Archipelago.

Consultation with Ngarluma Aboriginal Corporation

A meeting was held with Paul Stenson (CEO) on Tuesday 5th February 2013. The following comments were made:

o Is enthusiastic towards a bush tucker trail as he recently saw interpretive signage about trees etc, and what they were used for, at the McDonnell Ranges.

- o Anecdotal information from travellers is that there isn't much information about Aboriginal people in the region.
- o Keen on interpretive signage on trails in Roebourne and elsewhere in the region.
- o Believes a "Station Trail" has low potential. Station owner/managers are becoming less tolerant of visitors. Some come in and leave gates open, leave rubbish, and some kill cattle.
- o Stated that stories of Aboriginal involvement in pearling at Cossack need to be heard. The glow of the pearls hides a darker story.
- o There are issues with people going to culturally inappropriate areas within the Murujuga National Park, as there are "men only" areas, "women only" areas and "Aboriginal only" areas.
- o Stated that rock art on the Burrup Peninsula has been crowbarred off and sold in Europe.
- o NAC is looking at Indigenous tourism. They have plans to purchase a vessel capable of accommodating 14 or 15 people. Possible islands tour to add to the suite of existing and planned tours
- o Rio Tinto company has cultural awareness training for new employees.
- o A local Aboriginal man, Tyson Mowarin, is developing an iPhone "Welcome to Country" app.
- o Balla Balla was an important for indigenous fishing, crabbing etc.
- o Depuch Island is a taboo area. It was a punishment island for Aboriginals (Aboriginals who had broken tribal lores were taken there by their own people and punished).

A further meeting was held with Paul Stenson on Monday 20th May 2013.

- o NAC has developed a web site that shows Aboriginal sites throughout the region. Stories have been collected from Elders and these have been progressively added to the website. The website uses Google earth as the base, and access to the information could soon be made available.
- o Some information (because of the sensitivity surrounding sacred sites) will not be made available.
- o Web page is about 80% built, and will be available in the weeks ahead.
- o The website will likely contain stories, but can also have photographs and videos.

A meeting was held with Patrick Churnside (Heritage Manager) on Tuesday 22nd May 2013.

- o Demonstrated the soon-to-be-available web site.
- o Indicated that the website would enable hundreds of stories from the Elders to be 'captured'.
- o Stories about each prominent feature of the landscape could be told. For example, Pyramid Hill is particularly sensitive to Aboriginal people and there is a story associated with it and a nearby hill.

Consultation with Roebourne Visitor Centre

A meeting was held with Yohanna Kelly (Assistant Manager) on Wednesday 6th February 2013. The following comments were made:

- o Very supportive of a new Heritage Trail for Roebourne. Is interested in better interpretation in town and at the historic buildings.

- o Visitor Centre has prepared a mud map for walking into Deep Gorge.

- o Visitor Centre has also prepared a mud map for accessing Cooya Pooya Station and other interesting sites to south of Harding Dam.

- o Recalls Harding Dam being a permanent water source and paperbark grove. Aboriginal stories and sites were submerged with the dam. Believes there are opportunities for interpretation (both hard and 'soft').

- o More information is needed at Harding Dam. It is a very popular area, and the pool attracts numerous birds. Bird identification at the pool is needed. Supports the idea of a bird hide at the pool.

- o Advised that Port Samson Heritage Trail brochure supersedes the earlier information on 4 walks prepared by the Point Samson Community Association.

- o Yohanna does Rio tour from the Visitors' Centre – Prison, Roebourne town, Cape Lambert, Cossack (lunch ordered from there). Four-hour duration coaster bus. One tour per day at high season $20 each (lunch extra). Originally free.

- o Very interested in Geocaching as a means of attracting visitors to Roebourne and the Visitor Centre, and in keeping them longer in town.

A further meeting was held with Ruth Ellis (Manager) on Monday 20th May 2013.

- o Very supportive of the proposed in-town heritage trail. Signage is important. Rusty steel feels appropriate for the region.

- o Supportive of trail around the pool in Harding River. Should be a self-guided trail, but also lends itself to guided Aboriginal tours.

- o Stated that many visitors enjoy walking and would walk around town following an in-town heritage trail.

- o Visitors take brochures, but are very reluctant to pay for any.

- o Is enthusiastic towards geocaches. Believes it could bring additional visitors to the Visitor Centre.

- o Confirmed that most visitors still enjoy reading interpretive signs, but also sees a future for digital information. We are currently in a transition stage.

Consultation with Juluwarlu Aboriginal Corporation

A meeting was held with Jo Pritchard on Wednesday 6th February 2013. The following comments were made:

- o Organisation began around 2000 with the Aboriginal Heritage Act coming in.

- o Jarman Island tour is a possibility – bird sanctuary, lighthouse.

- o Juluwarlu produced books on flora and fauna of Gregory Gorge, Harding Dam.

- o Two old telegraph buildings on the east side of the river are interesting, and should be included on any proposed Heritage Trail.

- o Cleaverville was going to be another settlement because of the nearby deep port. There can be over 200 caravans during the peak period.
- o Miaree Pool on the Stock Route is a great place to see birds. It is a popular camping area and is a Shire reserve.
- o 100 people camp at Balla Balla pool during the peak season.
- o Woodbrook Lore Ground is located on the old Andover Station on the road to Harding Dam.
- o Tourists stop in town to see art and artists.
- o General / widespread support for walk trail around the pool in town. A proposal for a walk trail along the Harding River has been around for about 10 years.
- o Easily damaged and fading signs have been an issue for the Shire. Longer life anodised signs are preferred.
- o There needs to be a booklet prepared on the various trails that are available for local people and visitors. The Shire has funds available for preparation and printing of a booklet.
- o Is keen on the development of apps for smart phones.
- o Very supportive of rusty steel interpretation for an in-town heritage trail.

Consultation with Murujuga Aboriginal Corporation and Department of Environment and Conservation

A meeting was held with Ron Critchley (MAC), Brad Rowe (MAC), Alex Bowlay (DEC), Rachel Middlebrook (DEC) and Amber McCallum (DEC) on Friday 8th February 2013. The following comments were made:

- o Although the Management Plan is now finalised, nothing is 'set in stone' in regard to the National Park. The Management Plan indicates a range of possible outcomes. Much more discussion with Elders is required before any firm proposals are agreed.
- o There are considerable community expectations now that the Management Plan and National Park have been announced.
- o The Murujuga Aboriginal Corporation wants to communicate the broader values of the area to the wider community.
- o The MAC is going to prepare a Cultural Management Plan. There also needs to be a risk management plan prepared.
- o Cultural protocols being developed and it is possible the National Park boundaries could change.
- o Within the National Park there are "Women's" places and "Men's" places, and there needs to be care taken about where to direct visitors / locals.
- o There is a need to educate visitors about various facets of visiting the National Park, including the dangers, the cultural values of the area and the need to respect the land.
- o A proposal for a Marine Park covering the islands of the archipelago will result in a change in the tenure around the islands.
- o There are areas of the peninsula that indigenous people won't go.

- o There is support for water-based trails around the islands, although the MAC is keen for guided tours to and through the islands, as it would generate jobs and income. The MAC would not be supportive of Aboriginal stories being part of the range of interpretation that would be provided.

- o There are already vehicular tracks that may provide opportunities for access through the National Park. These will be further investigated in the future by the Murujuga Park Council.

- o It was suggested that the MAC rangers take the consultants to various existing and possible future sites where visitors could be taken.

- o Murujuga Park Council needs to deal with a multitude of issues now that the Management Plan has been released.

- o Murujuga Park Council will undertake future consideration of visitor access and where this may occur.

- o Murujuga Park Council will make decisions on opening up or closing off areas of the National Park.

Consultation with Karratha & King Bay Horse & Pony Club

The following notes summarise a telephone conversation with Kate Redmond (Karratha & King Bay Horse & Pony Club) on Friday 1st March 2013.

- o Approx. 40 – 50 horses are agisted in Karratha, with other horses at Dampier, 7 Mile and Wickham.

- o Aim is to make club bigger and better and attract new members.

- o Most horses are taken to the south west of the State during the hottest months of the (Karratha) year: September to March usually. Horses are away for 4 – 5 months.

- o Currently there are few restrictions on where horse riders go riding. However, hard rocky ground is difficult for horses and riders and dictates where horses can be ridden.

- o Water treatment plant is expanding and this impacts on where horses can be ridden.

- o In favour of a designated trail (with signage etc) as new people with horses do not know where they can ride. A marked circuit would help.

- o Some riders do have concerns with motorbikes in the areas they go riding.

- o Concerned that growth of Karratha may limit where club members can go riding.

- o Would like to continue accessing the beaches, but fear they may in the future be prevented from doing this in the future.

- o Stated that more residential development will mean more roads and greater difficulties getting across roads to access the beaches.

- o Agrees that future road design of Dampier Millstream Rd, where it will be extended to service new residential areas, should include an underpass/culvert so horse riders do not have to cross on the road.

- o Suggested that funding from major corporates in the area may be available for trail development.

A meeting was held on-site at the Agistment Centre area with Kate Redmond on Thursday 23rd May 2013.

- o Discussion of where horse owners currently ride. Tracks throughout hills are too rough and rocky for horse riding. Riders use tracks to south of Agistment Centre, including through the arboretum.

- o The upgrading and extension to the water treatment plant nearby has reduced the amount of areas available for riding.

- o Encounters with trail bikes occur.

- o Club members have imported sand from long distances to provide suitable areas for horses. It is likely that importing sand may be necessary for any circuit trail constructed near the Agistment Centre.

- o The club is about to receive the parcel of land from the Shire that used to be the rubbish tip. It will be rehabilitated and developed into additional agistment yards and an activities area.

- o A designated and marked trail around the perimeter of the Agistment Centre would be very useful for young and inexperienced riders.

- o Currently there is a waiting list for yards within the Agistment Centre, indicating a growth in the number of people owning and using horses in the Karratha area.

APPENDIX 2 – TRAIL MAINTENANCE PLAN PRO-FORMA CHECKLIST

(Checklist shown is taken directly from the Kep Track Trail Management Plan)

MAINTENANCE CHECKLIST EXAMPLE

The checklist that follows is an example prepared for the National Trust for ongoing maintenance of the Kep Track in the Shire of Mundaring. It is reproduced here as an example of a maintenance checklist that could be prepared for trails within the Shire of Roebourne.

KEP TRACK (Mt Helena to Wooroloo) - MAINTENANCE CHECKLIST

Inspection Date (circle a year and tick one box):

Jan 2007/8/9		Feb 2007/8/9		Mar. 2007/8/9		Apr 2007/8/9	
May 2007/8/9		Jun 2007/8/9		July 2007/8/9		Aug 2007/8/9	
Sep 2007/8/9		Oct 2007/8/9		Nov. 2007/8/9		Dec 2007/8/9	

Actual Date: _____

Person undertaking inspection: _____ **Signature:** _____

LOCATION	ACTION REQUIRED	TICK IF OKAY	ACTION TAKEN (if any)
Sawyers Road Crossing in Mt Helena	• Check gate west side • Check directional markers • Check totems and signage • Check promotional signage		
Johnston Street (Mt Helena)	• Check gate west side • Check directional markers • Check totems and signage		
Lion St crossing	• Check gates both sides • Check interpretive sign (north west corner) • Check directional markers • Check totems and signage • Check promotional signage		
Exit from Eastern Hills High School (crossing)	• Check gate east side • Check directional markers • Check totems and signage • Check interpretive sign (opposite Sime Rd)		
Thomas / Elliot road crossing	• Check gates both sides • Check directional markers		

	• Check totems and signage • Check promotional signage • Check interpretive sign (opposite booster station)		
Chidlow Reserve	• Check interpretive signs (at turnoff to Lake Leschenaultia; opposite standpipe; opposite stone building; at old interpretive shelter) • Check condition of new trail through reserve		
Old Northam Rd (Chidlow)	• Check gate east side • Check directional markers • Check totems and signage • Check promotional signage • Check culvert west side • Check ramps • Check interpretive sign (mid point between Old Northam Rd and Ash Rd)		
Ash Rd crossing	• Check gates both sides • Check directional markers • Check totems and signage • Check promotional signage		
Doconing Rd crossing	• Check gates both sides • Check directional markers • Check totems and signage • Check promotional signage • Check interpretive sign (150 metres east of crossing)		
Old Northam Rd crossing	• Check gates both sides • Check directional markers • Check totems and signage • Check promotional signage • Check culverts (both sides) • Check interpretive sign (south west corner)		

Entrance to horse trials paddocks	• Check gates • Check directional markers • Check totems and signage • Check road warning signs		
Government Rd crossing	• Check gates both sides • Check directional markers • Check totems and signage • Check new 40 metre section of trail at road crossing		
Government Road to Green St	• Check interpretive sign (where pipeline crosses trail) • Check interpretive sign (opposite Jason St)		
Green Street	• Check gates both sides • Check directional markers • Check totems and signage		
Any additional work required?			

APPENDIX 3 – TRAIL ASSESSMENT SHEETS

APPENDIX 4 – PLANS

Plan 1: Location of Existing Trails

Plan 2: Location of Proposed Trails

Plans 3 - 13: Detailed plans of existing and proposed trails