



# IRONBARK GULLY TRAIL CONCEPT PLAN

*Multi-purpose recreation track and linear reserve*

*December 2016*

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## Table of Contents

SECTION 1: INTRODUCTION	1
1.1 BACKGROUND	1
1.2 PURPOSE	1
1.3 METHOD	2
1.4 PROJECT MANAGEMENT	2
SECTION 2: VALUES & SIGNIFICANCE	5
2.1 NATURAL VALUES	5
2.2 CULTURAL VALUES	6
2.3 USE VALUES	9
2.4 SIGNIFICANCE OF IRONBARK GULLY	10
SECTION 3: PLANNING CONTEXT	11
3.1 LAND STATUS & ZONING	11
3.2 EXISTING POLICIES & PLANS	11
3.3 STAKEHOLDERS	14
SECTION 4: VISION & STRATEGIC GOALS	17
4.1 VISION STATEMENT	17
4.2 STRATEGIC GOALS AND DIRECTIONS	17
SECTION 5: THE CONCEPT PLAN	21
5.1 PATH ROUTE	31
5.2 SURFACE FINISHES	31
5.3 RESERVE SIGNAGE	31
5.4 WAYFINDING & DIRECTIONAL SIGNAGE	32
5.5 FURTHER AREAS OF INVESTIGATION	33
5.6 IMPLEMENTATION	34

## SECTION 1: INTRODUCTION

### 1.1 BACKGROUND

The Ironbark Gully precinct extends from Eaglehawk Road in the south-west to Nolan Street and the Swan Hill railway line in the north passing through the suburbs of Ironbark, Long Gully, North Bendigo and the western section of Bendigo.

The Dja Dja Wurrung People are the Traditional Owner Group for this country, a position formalised in the Recognition Statement and Settlement Agreement developed between the State Government of Victoria and the Dja Dja Wurrung Clans Aboriginal Corporation. This agreement “*binds the State of Victoria and the Dja Dja Wurrung People to a meaningful partnership founded on mutual respect.*”<sup>1</sup>

The area is an important site in the European history of Bendigo being one of the most significant areas developed for mining. Evidence of these activities is still visible in many areas along Ironbark Gully.

The engagement of RM Consulting Group (RMCG) to undertake this plan was jointly funded by the City of Greater Bendigo (CoGB) and Project RENEW with support from the Helen Macpherson Smith Trust. Sentient Design, as a sub-consultant, was tasked with the development of a concept plan for the trail. As well as proposing the landscape treatment of the corridor, the concept plan uses a place making approach to encourage the further development of the trail as a community space.

### 1.2 PURPOSE

The project brief states that “*The Ironbark Gully Trail will provide an important shared path link in the Bendigo walking and cycling network and create opportunities for physical activity and health benefits as well as community development, place making, engagement and ownership within the corridor.*”<sup>2</sup>

The purpose of this document is to detail a plan for the short-medium term development and management of the open space by the City and other stakeholders, while also allowing for projects that may be initiated by the local community or CoGB in the future. This plan delineates the precise route of the new shared path and connections to it. It also proposes landscape treatments along the corridor, as well as areas for further investigation and community engagement.

1 Source: <http://www.djadjawurrung.com.au/home/recognition-statement/> Accessed June 2016

2 “Ironbark Gully Creek Trail” Project Brief V3, City of Greater Bendigo May 2016

### 1.3 METHOD

The project commenced with a review of existing and relevant documents relating to the project area. These strategies, reports, communications, plans and GIS data have been sourced from CoGB, DELWP, the Ironbark Gully Friends and other credible sources.

Stakeholders were then interviewed in person to establish their knowledge of the site, concerns and preferences for future development.

The gathered information was incorporated into a 'working drawing'; a single 1 to 1000 scale plan. As well as nominating the proposed shared path alignment, this drawing also presented proposals for land sale and acquisition, tree planting and vegetation removal, signage, furniture and interpretation.

This 'working drawing' was presented to both an internal CoGB Shared Path Coordination team, as well as the Ironbark Gully Friends. After incorporating feedback, the plan was then consolidated into this report.

### 1.4 PROJECT MANAGEMENT

The project is being managed by the Active & Healthy Communities operational unit of CoGB.



*The Eaglehawk Road end of Ironbark Gully*



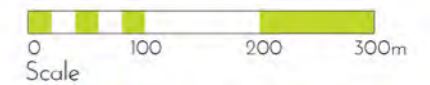
*Looking over Ashley St to Garden Gully Reserve*



*The bluestone and brick V-drain in the upper gully*



*A variety of municipal guard rails line the drain*



Client:  
City of Greater Bendigo

Project:  
Ironbark Creek Trail

Date:  
30 December 2016

Drawing Title & Version:



Environment | Water | Agriculture  
Policy | Economics | Communities



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# Trail Section Framework

## SECTION 2: VALUES & SIGNIFICANCE

### 2.1 NATURAL VALUES

#### GEOLOGY

This section of Bendigo is characterised by the presence of Ordovician sandstones and mudstones arranged in anti-clinal folds at approximately 340° to North. These folds incorporate several significant gold producing reefs crossing through the project area. The gully itself comprises alluvial sediments from the Quaternary period.<sup>1</sup>

#### HYDROLOGY

The Ironbark Gully was once a natural waterway within the Bendigo landscape. This waterway would have provided ephemeral water sources, and been a significant movement corridor and habitat for many animal species.

With the current highly urbanised catchment and the necessity to mitigate flooding, the water is now largely managed by a constructed V-drain at the top of the catchment and underground pipes in the lower part of the catchment. Storm water flow is discharged into the Long Gully Creek catchment after being channeled under the railway line. The gully still has a drainage function as an overland flow path, and there is on site evidence that peak flow rates exceed the capacity of the lower sections of pipe.

While the gully is currently used to channel and remove storm water from the catchment, there is a small amount of natural recharge (temporary storage before re-absorption into soils). Small depressions can be observed in the Nolan Street end of the gully.

#### VEGETATION

Mapping shows the gully south-west (upstream) of Ironbark Road to be Ecological Vegetation Class (EVC) 61 Box Ironbark Forest. Patchy remnants remain locally (official status is Depleted), and none on the trail itself. The gully north-east (downstream) of Ironbark Road was originally EVC 81 Alluvial Terraces Herb-rich Woodland/Creekline Grassy Woodland Mosaic with a small amount of remnant at the lower section of the site linking to additional remnants along the Long Gully Creek. This EVC is listed as Vulnerable<sup>2</sup>

As is common in much of central Bendigo, the almost total removal of the indigenous over and under story has been associated with the post-

1 Source: Geological Survey of Victoria, Department of Manufacturing and Industry Development 1992

2 Source: Biodiversity Interactive Map v3.2, DELWP Accessed June 2016

European settlements activities of mining and urbanisation. Some limited revegetation has been previously done in the gully, mostly at the Nolan Street end.

Most recently, further revegetation activities have included constructing planted ripelines of mixed canopy species in many areas from Garden Gully down through to Nolan Street. As the future management regime and likely establishment for these plantings is unknown, they have not been considered a constraint to the preferred path alignment for this project.

There is a clear opportunity to use new indigenous plantings to support the re-establishment of vegetation mosaic that support wildlife movement and habitat across the city.

Trees of significant size in the corridor include *Eucalyptus*, *Fraxinus*, *Corymbia* and *Schinus* species. A dense copse of *Schinus* (Peppercorn) trees are found to the west (upstream) of Wattle Street. A mature line of *Eucalyptus tricarpa* (Mugga Ironbark) exists south-west of Kalianna school. These are not the local indigenous Ironbark species. The floor of the gully is mostly dominated by introduced species, including couch and kikuyu grasses.

#### FAUNA

There is no recent survey evidence of the presence of particular faunal species to consider for this specific site. The significant fragmentation of appropriate habitat, makes it likely that there is little of the original variety of native birds, reptiles and mammals present.

Given the adjacent housing it is certain that cats are present within the gully, along with other introduced species.

## 2.2 CULTURAL VALUES

### ABORIGINAL CULTURAL HERITAGE

*“Prior to European colonisation, all natural places within Dja Dja Wurrung country were well known, had a name and song and were celebrated as a part of country and culture.”<sup>3</sup>*

While the physical landscape has been heavily modified by European settlement and mining activities, the gully would once have been a known place for the Dja Dja Wurrung people as a cultural landscape interconnected with themselves, their cultural traditions and spiritual ancestors.

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3 Source: <http://www.djadjawurrung.com.au/home/recognition-statement/> Accessed June 2016

## EUROPEAN CULTURAL HERITAGE

The recent history of Ironbark Gully and Long Gully were shaped by their identity as renowned gold mining sites in the 19th century. The influx of migrants, particularly from Cornwall and Germany shaped these communities in terms of language, architecture and customs. Long Gully and Ironbark were the location of some of the earliest blacksmiths and foundries in Bendigo.

*“The particular flora and fauna, physical geography and geology led to a different type of mining development, settlement pattern, mining immigrants and historic labour relations. The history of the area has left an abundance of local toponyms that is place names of local features, which record the tangible and intangible cultural heritage of the area. These popular names are a rich source of imagery but are in danger of becoming lost.”<sup>4</sup>*

The Ironbark Heritage Study 2010 defines particular themes that can be used to analyse places of historic significance. The two that most relate to the project area are

- *“The Natural Landscape: learning about geology for the benefit of improved mining returns. Environmental impact on the natural landscape, “ and*
- *“Transnational Migration: International migration - a global society crossing boundaries, dispossession, intergenerational change.”<sup>5</sup>*



*This section of V-drain is flanked by a stand of peppercorn trees at the Garden Gully Reserve. Tree roots are causing damage to sections of the drain.*

4 Ironbark Heritage Study 2010 City of Greater Bendigo

5 Ironbark Heritage Study 2010 City of Greater Bendigo

The most significant European heritage feature of the gully is the deep bluestone and brick V-drain that drains the upper section. It provides a direct link to the establishment of settlements and associated flood protection measures.

#### LANDSCAPE CHARACTER

The Ironbark Gully Trail site is linear in nature, and composed of many different land parcels, each with their own history of development and management. This characteristic has meant that there is a variety of landscape character values along its length, with a reasonable proportion of the length having little character at all.

These different character types are a legacy of the surrounding land use. Most of the adjacent residential housing has solid rear fences facing the reserve. Little purposeful planting has been undertaken in the gully, with the mixed grass surface the result of a slashing regime.

Only the Nolan Street end of the reserve has any definitive character, with established native planting.

Having different landscape character types along the trail is an asset in the sense that it links pedestrians and cyclists to the immediate area they are passing through and provides differentiation of experience to users as they move down the trail.

There are some significant views along the trail, including the view up Wattle Street to the Cathedral, and up the gully to Victoria Hill. These views should be highlighted along the trail to provide historic and cultural interest and spatial context.



*The new medium density development at Holmes Road overlooks a section of the gully just east of North Bendigo Recreation Reserve, an ideal site for increased amenity development. Currently a significant piece of this land is not owned by the City of Greater Bendigo and is recommended for purchase.*

## 2.3 USE VALUES

### SOCIAL

The Bendigo Active Living Census 2014 (ALC) published findings on why people use open space. In the Long Gully/West Bendigo/Ironbark area, 72.4% people had used open space for social gatherings in the past 12 months. Open space is used for small and large gatherings, with some parks attracting considerable demand and operating a booking system for facilities.

Anecdotally, open space also attracts smaller scale social users, who use the facilities in small groups or pairs, such as parents with children.

Currently the relatively undeveloped Ironbark Gully is likely to have only moderate usage by social groups, largely due to the lack of infrastructure. The Trail does pass through the Garden Gully and North Bendigo Recreation Reserves; facilities that have both significant infrastructure and usage.

### RECREATION

The Ironbark Gully Trail is envisaged as “a *multi-purpose recreation track and linear reserve*”<sup>6</sup>. Some sections of the trail already provide sealed or unsealed paths to users, and there is clear evidence of regular casual use of particular tracks across grassed areas also.

The existing surfacing of long grass, uneven surfacing and lack of way finding is a current barrier to further participation at many points along the identified route.

More generally in the Long Gully/West Bendigo/Ironbark area, the availability and use of recreation facilities and shared paths is lower than the Bendigo average.

### WATER

While the gully is currently used to channel and remove storm water from the catchment, there is a small amount of natural recharge (temporary storage before re-absorption into soils). Small depressions can be observed in the Nolan Street end of the gully.

There is an opportunity to enhance this function; thereby increasing local recharge into soils, and also reducing the burden on the piped drainage network and provide habitat for frogs, birds and the like.

## 2.4 SIGNIFICANCE OF IRONBARK GULLY

Like many of the gullies that cross the anti-clinal folds of Bendigo, there is little visual relationship to the ephemeral waterway with a rich under and overstory of indigenous plants that the local indigenous people would have once known.

Treated as a source of fuel and a drain, the developing mining settlement activities that brought so much prosperity to the broader city left the gully denuded of trees and later colonised with exotic grasses. The development of residential fabric around the gully turned it's back on the gully, lining much of the length with solid fences.

It is this pattern of urbanisation that has left the Ironbark and Long Gully areas of Bendigo with little functional open space, and little of good quality. This clearly inequitable distribution is also reflected in open space usage and health and wellbeing metrics for the local population.

While there is some social and recreational use of the gully currently, participation could be greatly enhanced by investment in the development of quality infrastructure that services the needs of the community.

As open space is relatively rare in this part of Bendigo, a quality environment will encourage the community to initiate further place-making projects within the gully; proposing new activities, functions and infrastructure to service their needs.



*The landscape character changes throughout the length of the gully. Here looking north at Norfolk Street, the open space broadens into a grassed reserve.*

## SECTION 3: PLANNING CONTEXT

### 3.1 LAND STATUS & ZONING

#### LAND STATUS

Much of the land proposed for the Ironbark Gully Trail is unreserved Crown land that is managed by DELWP. Some of the parcels, including the recreation reserves have CoGB as Committee of Management. If the whole trail is to be managed as a park and recreational area, then there are many parcels for which delegation of responsibility needs to be formalised between DELWP and CoGB.

#### ZONING

The development of the multi-purpose recreation track should prompt consideration of the land zoning to ensure it reflects the change in use and management. While most of the corridor is already zoned as Public Park and Recreation Zone (PPRZ), there are some parcels zoned as Public Use (PUZ) and Special Use (SUZ)<sup>1</sup> that should be investigated.

#### PLANNING OVERLAYS

A significant portion of the land between Eaglehawk Road and Ironbark Road is covered by heritage overlays. An Environmental Significance Overlay (ESO) exists over the gully between Arnold Street and Nolan Street.

There is currently no Land Subject to Inundation Overlay (LSIO) over the project area, although one is proposed for the lower end.

### 3.2 EXISTING POLICIES & PLANS

The City of Greater Bendigo has obligations under Federal and State legislation to provide equitable access and manage native vegetation. CoGB produced policies and plans relevant to the project have been reviewed as follows;

#### CoGB COUNCIL PLAN 2016-17

This top level planning document includes a number of desired liveability outcomes, and success indicators for these. The following are particularly relevant to this project:<sup>2</sup>

<sup>1</sup> Source: Planning Maps Online, DELWP Accessed June 2016

<sup>2</sup> Council Plan 2016-17, City of Greater Bendigo

Outcome	Indicator
A much healthier city	The number of people who walk or cycle 5 times per week for more than 30 minutes
A planned city	Fairer access to parks and open spaces closer to where people live.
A more productive, innovative, adaptive, City	Improve community satisfaction with community consultation and engagement

#### ACTIVE LIVING CENSUS 2014

This census is based on a population survey to measure current physical activity, recreation and health behaviours and trends within the CoGB. It concluded that 66.1% of residents used local off-road walking and cycling tracks.<sup>3</sup> In the Long Gully/West Bendigo/Ironbark area participation is only 54.5%. Walking for exercise was the most commonly participated in activity with 32.2% of the population. Like walking, activities that require few resources (running, cycling, BMX) had highest reported usage in the participant's local suburb.

The ALC 2014 also revealed that recreational participation in this area of Bendigo is relatively low, Shared path development is one method of increasing participation in walking and cycling, which support the objective of improving the health and wellbeing of the community.

#### OPEN SPACE STRATEGY 2005

This strategy (due to be superseded by the Public Space Plan in 2017) identifies the "*recognition of the links between recreation and health and a continuing growth in the demand for trail based activities such as walking, jogging and cycling*" as a developing trend<sup>4</sup>. It also states as conclusions:

- The need for management plans for the ongoing and coordinated management of major urban open space sites.
- The need to develop a shared management model for open space with Parks Victoria and Department of Sustainability and Environment.
- There is a lack of coordination across Council units in terms of acquisition, disposal, development and ongoing management of open spaces.

<sup>3</sup> Active Living Census 2014, City of Greater Bendigo

<sup>4</sup> Open Space Plan 2005, City of Greater Bendigo

The Ironbark Gully Trail shared path was specifically referenced in the “Continued development and upgrading of recreation trails” Priority Recommendation.

#### GREATER BENDIGO PUBLIC SPACE PLAN - STRATEGIC CONTEXT & ISSUES REPORT

This report, released in September 2016 is the first stage of the Greater Bendigo Public Space Plan, which will be completed in 2017. A high level document, it talks about “a network of creeks and gullies [being the] backbone to a public space network”<sup>5</sup>.

The report also aspires to “taking global vision and objectives, and expressing it through locally tailored and responsive ideas”.

In terms of the Ironbark/Long Gully area, the report reveals an inequity in the provision of quality open space.

The Public Space report promotes a more inclusive approach to the conceptualisation of public space, as well as storm water management, commuting routes and public art.

The report also discusses the economic argument for the development of quality open space, not only from increased rates revenue to the City, but also through direct use values, improved health and wellbeing, social cohesion and stormwater management.

Whilst not formally adopted as yet, this draft document provides a significant visionary framework for the development of the Ironbark Gully Trail.



*Mugga Ironbarks near Kalianna school adjacent to the Prouses Road vacant land.*



*The shared path needs to pass between the soccer and football fields of the North Bendigo Recreation Reserve. Fences and a narrow gap between the sports grounds present the main constraints.*

### IRONBARK HERITAGE STUDY 2010

This heritage study was commissioned in recognition of the significant values of the area and to identify and assess sites of significance, and to make recommendations for their future conservation and management.

The study identified that the following factors distinguish this area from other mining gullies of Bendigo<sup>6</sup>:

- Long Gully and Ironbark areas were the location of some of the earliest blacksmiths and foundries and also the biggest in Bendigo.
- The history of Long Gully and Ironbark is dominated by the impact of international migration of people to the area.
- There were a very high number of Cornish miners employed in this area in comparison to other areas of Bendigo.
- The spatial barriers created by large areas of mining and contaminated wastelands separated the small pockets of scattered mining settlements from the rest of Bendigo further stigmatising the area as a working class suburb for most of the twentieth century

The study also defines themes as discussed earlier in this document in Section 2.2 European Cultural Values

### HOSPITAL PRECINCT STRUCTURE PLAN

This plan identifies that “Cycling is an important aspect of diversifying mobility options in the [Hospital] Precinct to improve accessibility, support liveability and encourage community wellbeing.”<sup>7</sup> The report supports an ‘exercise loop’ route around the hospital precinct. This includes a section of the Ironbark Gully trail between Anderson Street and Bayne Street.

Other policies, legislation, standards and research have been considered where required.

## 3.3 STAKEHOLDERS

Face to face interviews were held with many stakeholders connected with the project. These included representatives from several CoGB operational units, the Ironbark Gully Friends, Project RENEW, DELWP and Sport & Recreation Victoria. The opportunity was provided to raise issues of concern, identify important background documents and discuss their preferences for how the project area might be developed.

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6 Ironbark Heritage Study 2010, City of Greater Bendigo

7 Hospital Precinct Structure Plan, City of Greater Bendigo 2014

## PROJECT RENEW

Ken Beasley from Project RENEW, with the support of the Helen McPherson Smith Trust, provided critical input into the scope and development of the project and provided practical and financial assistance and contribution throughout the entire project period.

Project RENEW was also a key stimulant for the 2016 Revegetation Works along the gully in association with the City of Greater Bendigo. Works included weed control, ripping and site preparation, National Tree Day activities (200 Volunteers participated) and the planting of 14,000 native indigenous seedlings in the area extending from Victoria Street to Nolan Street.

## THE IRONBARK GULLY FRIENDS

This group of volunteers gathered in 2013 to promote the development of the Ironbark Gully for community and recreational activities. They are an Action Group of the Bendigo Sustainability Group.

The group was originally interested in the development of a Community Forest Garden, based on ideas of community connectedness, healthy lifestyle and environmental education.

Their most recent formal proposal was a submission to the CoGB 2015-16 mid-year Budget. This detailed proposal outlines the following priorities<sup>8</sup>:

- Construction of a shared path from Eaglehawk Road to Nolan Street
- Provide linkages to other open space, facilities, roads and community nodes
- Repairs to historic artefacts (the V-drain)
- Weed management and significant revegetation

This proposal shows significant continuity with the Group's early values in their desire to see the Trail develop as a community space.

Interviews with representatives of the group also revealed the following:

- Community gathering spaces very important, ideally within the Garden Gully Reserve at Victoria St, and between Bayne and Nolan Streets
- The group are supportive of not only indigenous revegetation, but also of planting to support amenity, food production and developing landscape character (specimen trees).

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Ironbark Gully Track & Linear Urban Park, Ironbark Gully Friends submission to the CoGB mid-year budget 2015-16

- They would like to see linking elements along the corridor, such as interpretation panels or perhaps a parkour trail or scavenger hunt.
- They see the vacant lot on Prouses Road (adjacent to Kalianna) as a critical site that has great potential as a community/health/education facility, potentially integrated with community gardening site.
- They believe that the development of the shared path by CoGB in the short term will activate the space and therefore act as a catalyst for further community driven projects in the future.

The Friends group, with the pro-bono assistance of RMCG conducted consultation (prior to this project) with the broader community through a web survey and public meeting. See [www.facebook.com/ironbarkgullyfriends](http://www.facebook.com/ironbarkgullyfriends)

It is anticipated that the development of the Shared Path Concept Design and the Ironbark Gully Concept Plan will be the basis for future consultation activities managed by the City of Greater Bendigo.

#### SPORT & RECREATION VICTORIA

Sport and Recreation Victoria play an important role in funding municipal and subregional facilities across the state. While not necessarily a funding source for construction of the Ironbark Gully Trail, SRV has a useful set of design guidelines and may be able to provide other support useful for the development of the trail.

- The “Universal Design: Design for Everyone” guidelines (<http://sport.vic.gov.au/design-for-everyone-guide>) sets out principles for shared path design that can be incorporated into the Ironbark Gully and other path networks throughout the City.
- Through the planning category of the Community Sport Infrastructure Fund there may be support available for a review of the City’s bicycle network strategy.

## SECTION 4: VISION & STRATEGIC GOALS

This section of the report sets the way forward for the planning, development and management of the Ironbark Gully Trail.

A Vision Statement is proposed that sets a defined path for the future of the Ironbark Gully Trail. This is supported by a series of Strategic Goals and Directions that establish a framework for future decision making.

### 4.1 VISION STATEMENT

The Vision Statement has been developed as a result of the investigation and consultation processes conducted. It considers individual factors, issues and preferences, and synthesises them into a wholistic objective for the Gully.

*The Ironbark Gully Trail will be a high quality piece of open space that results in greater community use, ownership and wellbeing. The linear reserve will be a space where:*




- *there are opportunities to participate in active recreation using an accessible and well connected shared path.*
- *quality open space and well located and maintained amenities.*
- *local community participation and place-making activities using suitable access, amenity and maintenance.*
- *ecosystems thrive, stormwater is reused, local species are planted and weeds are managed.*

### 4.2 STRATEGIC GOALS AND DIRECTIONS











The Strategic Goals for the Ironbark Gully Trail are to:

1. Increase use through improved accessibility
2. Develop community ownership and connection to the space
3. Improve ecosystem function and habitat provision

### Key to Directions

-  Short Term
-  Medium Term
-  Ongoing

### Goal 1: Increase use through improved accessibility

-  Install an accessible multi-purpose path to the length of the Trail, ensuring connections to other shared paths. *Rationale: Strongly supported by the Friends group, this would lead to an immediate increase in use, leading to greater perceived safety and awareness of the space*
-  Develop plan for future southern end connections and northern continuation of Trail. *Rationale: Linking the new path into the existing network provides greater recreational opportunities and better usage*
-  Install shared path priority crossing to nominated roads throughout the Gully. *Rationale: Improved experience and safety for shared path users*
-  Undertake further consultation and research into developing Ironbark Road into a trail friendly street. *Rationale: Providing a safe and legible link for shared path users needs to be balanced with the needs of nearby residents.*
-  Provide amenity through provision of deciduous tree planting, seating, and directional signage. *Rationale: Quality public space that allows users to feel comfortable and safe attracts more users*
-  Improve the quality of the reserve surface generally through re-grading, aeration, weed management and oversowing. *Rationale: A better quality surface will encourage greater passive recreation use*
-  Develop and manage the gully to meet Crime Prevention through Environmental Design (CPTED) and Australian Standards. *Rationale: Achieving these standards will improve access and safety*
-  Consider strategic sale of land. *Rationale: As well as potentially providing funds for development, additional passive surveillance over the space will increase the perception of safety*
-  Develop a network of secondary paths. *Rationale: Increase connections into and within the reserve space, allow for 'slow users' and the development of a fitness circuit at Bayne Street.*
-  Develop higher intensity use amenity areas as needed *Rationale: Increased use by the local community will be enhanced with higher service provision such as BBQs, shelters, picnic settings and play equipment.*

## Goal 2: Develop community ownership and connection to the space

- Review the land ownership and management of the land parcels comprising the Trail. *Rationale: Ensuring that the City of Greater Bendigo has appropriate statutory controls and autonomy to manage the entire corridor will lead to efficient decision making and service delivery*
- Consider acquisition of land parcels. *Rationale: Strategic acquisition of particular land parcels will allow greater flexibility, continuity and management control of the Trail corridor.*
- Install directional signage throughout the Trail and new guard rails. *Rationale: This will provide immediate identification of the Trail as a unique destination and the City of Greater Bendigo as the land manager. The installation of guard rails of a specific "Ironbark Gully" design reinforces the notion of a unique place.*
- Clean, repair and maintain V-drain. *Rationale: Protection of heritage assets is a high priority for the Friends group.*
- Determine a specific CoGB liaison mechanism for community engagement in relation to the trail. *Rationale: This will enable more efficient communication between CoGB and the community and encourage responsiveness and accountability.*
- Pro-actively engage with defined stakeholders, local communities and the broader community in relation to developments and decisions relating to the Trail. *Rationale: Done well, this will build community awareness, ownership, capacity and trust*
- Encourage and support community initiatives that align with the strategic goals for the space. *Rationale: Allowing the community to understand the goals for the Trail, develop and implement initiatives will build community capacity*
- Develop signage for the Trail that interprets the site in terms of its role in biodiversity and water management, and its indigenous and European cultural history. *Rationale: The process of involving the community in researching the history of the Ironbark Gully, and developing the signage will build community ownership and pride in their community landscape.*

### Goal 3: Improve ecosystem function and habitat provision

- Plant indigenous trees. *Rationale: Increased tree canopy can aid in the habitat provision for arboreal fauna, as well as providing shade for establishing indigenous understory planting.*
- Construct frog ponds planted with indigenous understory plants. *Rationale: These small depressions allow for some retention of storm water flow, which creates fauna habitat, and reduces storm water flow to pipes.*
- Establish partnerships with local stakeholders for environmental projects. *Rationale: Targeted environmental projects are a good vehicle for building relationships between the City, community and larger stakeholder groups*

## SECTION 5: THE CONCEPT PLAN

The individual directions detailed above have been brought together in a series of drawings that illustrate the potential development of the Ironbark Gully Trail.

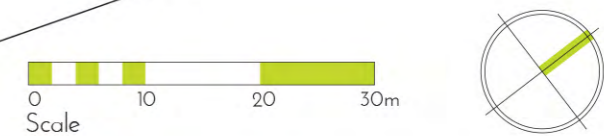
The development is shown at level anticipated four years into the project. This includes the complete implementation of all short term directions, and the near completion of the medium term directions.

After this point, it is intended that further development of the reserve will be actively shaped by community planning processes, and supported by the City of Greater Bendigo.

The maps are organised by trail section. Each section includes a map showing GIS base information, Land Management and finally the Ironbark Gully Trail Concept Plan.



- Legend**
- Shared path concrete 2.5m width
  - Secondary path
  - Grass
  - Organic mulch
  - Asphalt
  - Existing brick and stone channel
  - Existing tree canopy
  - Proposed reserve tree area
  - Proposed street tree
  - Proposed wayfinding element
  - Proposed interpretation element
  - Proposed seat
  - Proposed guard rail
  - Mine shaft



Client:  
City of Greater Bendigo

Project:  
Ironbark Creek Trail

Date:  
30 December 2016

Drawing Title & Version:

Client:  
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# Concept Design Section 1

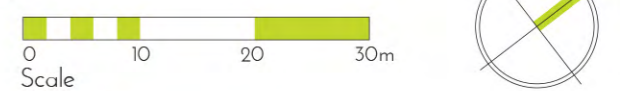




← SECTION 2

SECTION 3b →

- Legend**
- Shared path concrete 2.5m width
  - Secondary path
  - Grass
  - Organic mulch
  - Asphalt
  - Existing brick and stone channel
  - Existing tree canopy
  - Proposed reserve tree area
  - Proposed street tree
  - Proposed wayfinding element
  - Proposed interpretation element
  - Proposed seat
  - Proposed guard rail
  - Mine shaft
  - Tree to be removed



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# Concept Design Section 3a



**Legend**

- Shared path concrete 2.5m width
- Secondary path
- Grass
- Organic mulch
- Asphalt
- Existing brick and stone channel
- Existing tree canopy
- Proposed reserve tree area
- Proposed street tree
- Proposed wayfinding element
- Proposed interpretation element
- Proposed seat
- Proposed guard rail
- Mine shaft
- Tree to be removed



Client:  
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Ironbark Creek Trail

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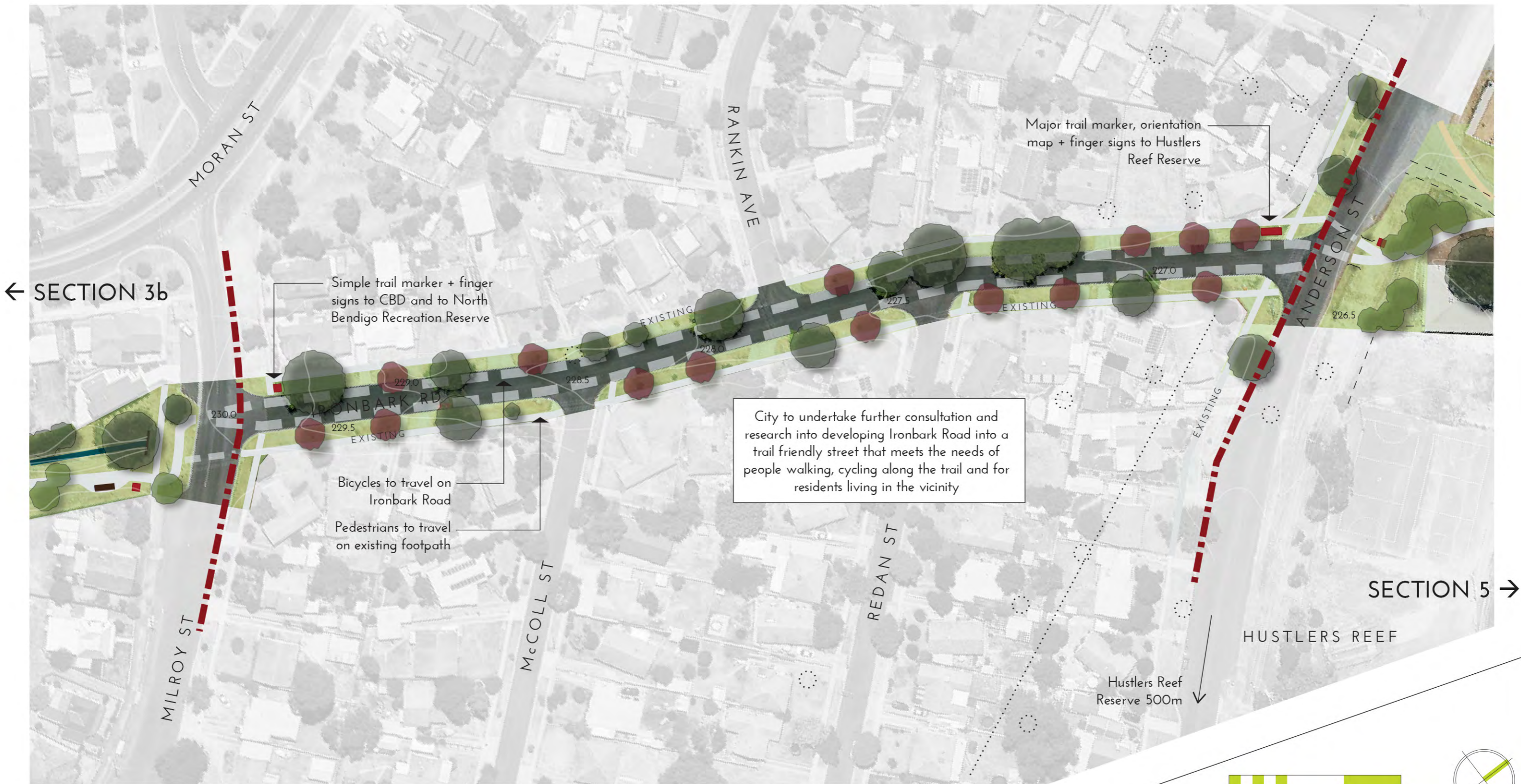
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**Concept Design Section 3b**



**Legend**

- |  |                                  |  |                                 |
|--|----------------------------------|--|---------------------------------|
|  | Shared path concrete 2.5m width  |  | Proposed wayfinding element     |
|  | Secondary path                   |  | Proposed interpretation element |
|  | Grass                            |  | Proposed seat                   |
|  | Organic mulch                    |  | Proposed guard rail             |
|  | Asphalt                          |  | Mine shaft                      |
|  | Existing brick and stone channel |  | Tree to be removed              |
|  | Existing tree canopy             |  |                                 |
|  | Proposed reserve tree area       |  |                                 |
|  | Proposed street tree             |  |                                 |



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Project:  
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Date:  
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Drawing Title & Version:

Client:

Project:

Date:

Drawing Title & Version:



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**Concept Design Section 4**



**Legend**

- Shared path concrete 2.5m width
- Secondary path
- Grass
- Organic mulch
- Asphalt
- Existing brick and stone channel
- Existing tree canopy
- Proposed reserve tree area
- Proposed street tree
- Proposed wayfinding element
- Proposed interpretation element
- Proposed seat
- Proposed guard rail
- Mine shaft
- Tree to be removed
- B Bus stop



Client:  
City of Greater Bendigo

Project:  
Ironbark Creek Trail

Date:  
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Drawing Title & Version:

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**Concept Design Section 5**



← SECTION 5

SECTION 7 →

Prince of Wales Showgrounds 700m

Indigenous planting and frogpond, allowing some natural recharge of rainfall over the 4500m<sup>2</sup> grassed catchment into the soil

Path priority crossing at Bayne Street. Reduce the width of crossing and encourage slower traffic speed by amending kerbs

Boardwalk over swale and indigenous planting and recharge area

Interpretive signage. Theme: Storm water management, drainage and engineering practices over time

Path priority crossing at Norfolk Street

Boardwalk crossing through wetland  
Remove weed species trees and shrubs

Bendigo Hospital 800m  
Bendigo CBD 2km

**Legend**

- Shared path concrete 2.5m width
- Secondary path
- Grass
- Organic mulch
- Asphalt
- Existing brick and stone channel
- Existing tree canopy
- Proposed reserve tree area
- Proposed street tree
- Proposed wayfinding element
- Proposed interpretation element
- Proposed seat
- Proposed guard rail
- Mine shaft
- Tree to be removed
- Bus stop
- Frog pond



Client:  
City of Greater Bendigo

Project:  
Ironbark Creek Trail

Date:  
30 December 2016

Drawing Title & Version:

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**Concept Design Section 6**

← SECTION 6



Legend

- Shared path concrete 2.5m width
- Secondary path
- Grass
- Organic mulch
- Asphalt
- Existing brick and stone channel
- Existing tree canopy
- Proposed reserve tree area
- Proposed street tree
- Proposed wayfinding element
- Proposed interpretation element
- Proposed seat
- Proposed guard rail
- Mine shaft
- Tree to be removed
- B Bus stop
- Frog pond

Client:  
City of Greater Bendigo

Project:  
Ironbark Creek Trail

Date:  
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Concept Design Section 7a

← SECTION 7a



Council owned land parcel with potential for future community facility such as community garden or orchard. This land parcel also provides direct access between Prouses Rd and the shared path

1km (approx) circular walking track with 100m markers to encourage local neighborhood fitness use

Boardwalk crossing through wetland. Height of boardwalk to be determined after site survey

Indigenous planting and frogpond, allowing some natural recharge of rainfall into the soil along natural gully line

Interpretive signage. Theme: Indigenous history and relationship to the gully (opportunity to collaborate with Dja Dja Wurrung)

Construct cul-de-sac bowl to service Saville Ct to minimise court bowl intrusion into public space.

Interpretive signage focused around naturally occurring wetlands and their role in the local ecosystem

Connection to Showgrounds and Long Gully

Formalise existing walking track

Develop plan for future northern continuation of trail

Mulch under native canopy and manage for ecosystem restoration

Clear shrubs and remove local mounding

Connection to Bendigo Creek Trail

Create safe crossing point across Nolan Street

Major trail orientation board

Bendigo Joss House Temple 1000m  
Lake Weeroona 1500m

Legend

- Shared path concrete 2.5m width
- Secondary path
- Grass
- Organic mulch
- Asphalt
- Existing brick and stone channel
- Existing tree canopy
- Proposed reserve tree area
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Concept Design Section 7b

**5.1 PATH ROUTE**

The shared path alignment has been specified carefully taking into account connections, safe road crossing points, existing infrastructure and vegetation and user experience of the landscape. Final documentation of the path alignment will need to be refined after a feature and level site survey and underground service locations survey have been completed.

A number of crossing locations are identified for path priority. These will need to be reviewed by the City’s Engineering and Public Space unit to ensure safe conditions are achieved

Secondary path alignments are also based upon the above factors, but provide access into additional areas of the reserve and connection to adjacent neighborhoods.

**5.2 SURFACE FINISHES**

The primary shared path is proposed to be a 2.5m width 125mm thickness reinforced concrete slab built to the physical specifications of the IDM and to the accessibility standards documented in the “Design For Everyone: A Guide To Sport And Recreation Settings” document published by Sport and Recreation Victoria.

Secondary paths should be 2m width,

**5.3 RESERVE SIGNAGE**

As discussed in Goal 2 above, the City of Greater Bendigo should formalise its management of all land parcels in the Trail corridor. These should then be signed appropriately with the normal CoGB park signage.



*Bendigo Creek Trail orientation board*

*Examples of Simple bollard style trail markers*

## 5.4 WAYFINDING & DIRECTIONAL SIGNAGE

### TRAIL SIGNAGE

Similar to the Bendigo Creek Trail, it is proposed that the Ironbark Gully Trail be branded with distinctive livery.

At nominated points along the trail there will need to be full orientation boards for users, and at others simple bollard signs will be adequate to ensure users are able to identify the trail route. This is particularly important where the shared path changes to an on road cycle path. Finger signs can indicate connections to points of interest off the trail.

There is also a need to provide markers directing people to the trail from various points outside of the Trail. The location and design of this wayfinding signage should be an area of further investigation.

The surface of the path can be used as a signifier also. As well as the mandatory tactile surface indicators, it is proposed to mark cross roads and features with surface applied text.



*Examples of messages carried on the ground plane*

### GUARDRAILS & BALUSTRADES

As well as branded trail signage, other elements can be used for wayfinding. The guard rails that alert pedestrians and cyclists to the open V-drain are used consistently throughout the upper section of the Gully, and are currently of varying materials and quality of construction.

It is proposed that the guardrails and bridge balustrades of the bridge and boardwalks be built in a consistent style. Recycled Ironbark timber posts with steel panels would provide a link to the history of the site.

## INTERPRETIVE SIGNAGE

Proposed as a medium term priority, the development of interpretive signage will educate both the local community and visiting cyclists about the unique history of Ironbark Gully.

This is proposed as a series of panels that explore the natural environment of the gully, the place as known by the Dja Dja Wurrung, and the post European settlement history, including water management and urbanisation.



*Examples of interpretation panels*

## 5.5 FURTHER AREAS OF INVESTIGATION

This report is not an exhaustive and complete project scoping document. There remains other areas that require further investigation and design.

### CULTURAL HERITAGE

CoBG has obligation under the Cultural Heritage Act 2006, to determine that development of the site does not compromise the integrity of significant sites.

### SITE SURVEY & DETAILED ENGINEERING DESIGN

While the City has a comprehensive GIS database, a site feature and level survey will be required to complete detail engineering planning. This can be complete on a section by section basis as part of a construction workflow.

### DETAILED LANDSCAPE DESIGN

A detailed landscape plan should also be completed for each section of the path to match the construction workflow. Working from the site survey, these plans would detail species selection for planting, the precise layout and specification of furniture, reserve signage, and wayfinding indicators.

## INTERPRETATIVE SIGNAGE

The design of the interpretive signage needs to begin with engagement with the local community, significant stakeholders such as the Friends group and the Dja Dja Wurrung to determine the preferred themes for interpretation. While suggestions have been made in this document, working with the preferences of these groups will build a stronger relationship and ongoing ownership of the space.

When the themes have been decided, a specialist interpretation designer will research the subject matter and design appropriate vehicles to carry the information.

## 5.6 IMPLEMENTATION

### CONSULTATION

The City of Greater Bendigo has a Community Engagement Policy prepared in 2011. This includes a set of guiding principles and commitments to govern community consultation processes. The guiding principles are:

- Sincere intent
- Focus
- Inclusiveness, accessibility and diversity
- Provision of information and feedback
- Timing
- Responsiveness and transparency
- Evaluation
- Resourcing

These principles are important not only in building relationships with individuals and groups within the community but also other land managers, utilities and potential funding bodies.

It is anticipated that the first stage of consultation will be to establish support and consensus for the development vision proposed in this document.

The City of Greater Bendigo should develop a strong working relationship with the Ironbark Gully Friends group to facilitate information dissemination, information gathering, discussion and decision making.

## PLACE MAKING

*“Placemaking refers to a collaborative process by which we can shape our public realm in order to maximize shared value”* Project for Public Places website

Intrinsic within the brief for this project was the idea that the Ironbark Gully Trail be developed with a ‘place making’ approach. To achieve this goal, the City of Greater Bendigo will need to maintain both a leadership role in developing and managing the space, but also ensure that community-based participation is central to way the development is managed.

The Ironbark Gully Friends are a formalised group that represents the interests of the local community, and indeed have been central to the furthering of the project to this point.

While this project has been by necessity coordinated by the City of Greater Bendigo, the concept plan proposes the development of a flexible, safe and comfortable open space that provides many opportunities for the present and future community to place their own stamp on it.

For this reason, indicative images of activities that could be incorporated into the Ironbark Gully Trail have specifically not been included, as it is intended that these ideas be driven by the community.

## LAND DEALINGS

This Concept Plan has identified land along the Trail route where the sale of Crown land or purchase by CoGB would provide strategic benefit, Negotiations for these land dealings should commence immediately.

Acquisition of:

- Land on Eaglehawk Road (commonly known as the Golden City Implements site) to allow appropriate corridor width for path development, and a better connection to the existing traffic intersection.
- Land south of the North Bendigo Bowling Club to provide a continuous route of open space to contain the path.

Sale of:

- Land at the end of Hayes Street in the Garden Gully Reserve for residential development providing protective overlooking to the reserve.
- Land north-east of Bayne Street for residential development providing protective overlooking to an area suitable for more intensive amenity.

## CONSTRUCTION STAGING

Construction of the entire 2.5m width shared path has been included as a short term direction, as the richest potential benefits are gained from the addition of a complete path link.

For practical purposes the path can be broken down to a series of segments that can be constructed one after the other or simultaneously dependent upon other civil projects, available resources and available funding. It may be prudent to advance the detailed engineering and landscape design to be ready for any state or federal funding opportunities.

Along with the 2.5m shared path, tree planting along the corridor is a short term priority. The earlier this process is started, the sooner public perception of the space will start to change. This effect can be reinforced by installing reserve and trail signage.

Installing seating at the proposed points as soon as the path segments become active will aid in drawing out the local community to spend time in the open space. This is an important activator of public space, contributing to safety and community wellbeing.

All other elements shown in the concept plan, including interpretative signage, secondary paths, frog ponds are proposed as medium term priorities for completion within about four years.

## CONSTRUCTION COSTS

CoGB advises that a 2.5m wide reinforced concrete shared path costs approximately \$375 per lineal metre. Other surface types and landscape elements have been costed at assumed unit rates. The total length of the trail (including secondary paths) is 3.9km, and the estimated cost for full development (including landscape elements) is \$3.00M as shown in Table 1

Costs are to support broad project planning, and are not broken down into project stages.

IRONBARK GULLY TRAIL CONCEPT PLAN

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Paths and Civil Construction

Element	Unit	Number	Rate	Total
Concrete path 2.5m	Lin. M.	2596	375	\$973,500
Secondary path 2m	Lin. M.	1730	300	\$519,000
Boardwalk	Lin. M.	39	5000	\$195,000
Bridge	Lin. M.	27	5000	\$135,000
Culvert	No.	12	500	\$6,000
On-road path	Lin. M.	627	100	\$62,700
Rail crossing	Lin. M.	22		
Road crossing (car priority)	Lin. M.	78	5000	\$390,000
Road crossing (path priority)	Lin. M.	83	5000	\$415,000
<b>TOTAL</b>				<b>\$2,796,200</b>

Landscape Elements

Trees	Number	553	80	\$44,240
Seats in gravel	Number	14	4000	\$56,000
Wayfinding signage	Number	13	800	\$10,400
Interpretive signage	Number	8	2000	\$16,000
Frog pond planted	Number	14	5000	\$70,000
<b>TOTAL</b>				<b>\$196,640</b>

## OPERATIONAL IMPLICATIONS

As the path and associated civil and landscape elements are installed, the path corridor will require a commensurate increase in maintenance to protect new assets and minimise risk to the increased number of users. More regular maintenance will also allow the development of a more attractive environment which will encourage additional use.

Currently most of the corridor is classed as Category D: "Assetless" Public Space. This land is serviced in a minimal manner to manage weed and fire risk. It is anticipated that as path and landscape elements are installed, management of the public space will move to Category C. This maintenance of this category of public land includes:

- Regular and documented inspections
- Mowing
- Weed control
- Revegetation and habitat restoration works
- Support of community activities
- Collection of rubbish
- Minor repairs

There are some areas within the corridor that have been nominated as potential sites for more intensive amenity areas such as shelter, BBQ and play spaces. It is anticipated that these would be developed only in response to community demand. These areas would then be managed as Category B public spaces.

The Parks and Natural Reserves Unit of CoGB keeps accurate costs of rates for public space maintenance.