Beaufort Linear Park Master Plan

DRAFT Concept Design

October 2023

Pyrenees Shire Council

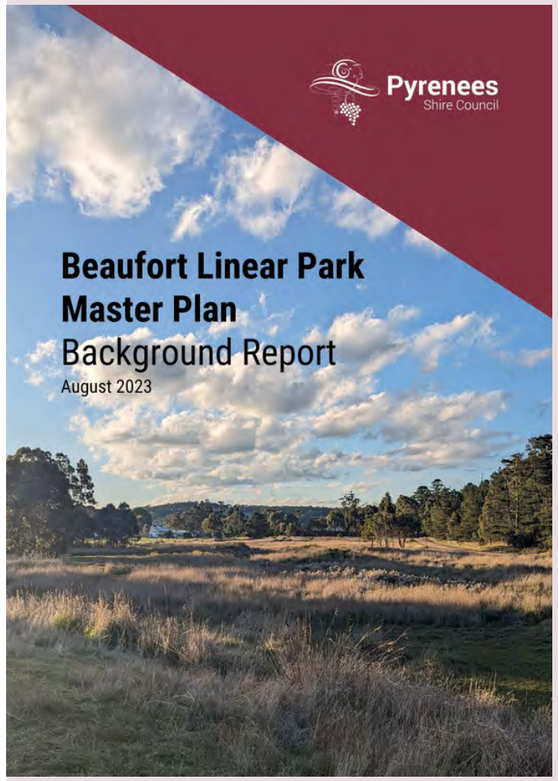
The Pyrenees Shire is located on the traditional lands of the Wadawurrung, Dja Dja Wurrung, Wotjobaluk and Eastern Maar Peoples. Beaufort is located on Wadawurrung country which stretches from the Great Dividing Range of Ballarat, to the coast from the Werribee River to Mangowak (aireys Inlet), including Djilang (Geelong).

We pay our respects to the customs, traditions and stewardship of the land by the Elders past and present and emerging leaders, and the people of these tribes.

Pyrenees Shire Council

emerge ASSOCIATES

Contents



Background Report

This masterplan should be read in conjunction with the Background Report.

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Skipton Rd
Skipton
Major road
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Site extent
Creekline
Railway line

Executive Summary

The Project

Develop a Master Plan for a new linear park along the Garibaldi Creek which runs north-south from Beaufort Lake in the south to the railway line in the north.

The project has been initiated by Pyrenees Shire to improve the township and natural environment of Beaufort and provide opportunities for the local community and tourists to walk, cycle, learn and gather along the restored waterway.

The location of the creek and open space corridor provides an exciting opportunity to draw visitors into the regenerated environment, celebrate the waterway and connect to other destinations including the town centre and Camp Hill.

Partnering with the Community

The project has been designed along site the community and there have been multiple opportunities for stakeholders to provide their ideas for for the site. These opportunities included -

- online surveys
- pop ups at the playground and the local supermarket
- walking tour
- community workshop
- discussions with traditional owners
- meetings with local businesses, schools and service clubs
- informal drop in conversations in the town centre

This is detailed in the Background Report

What we heard

Key Themes

Keep a natural feel and improve the environment

Flooding is a concern for the area

Walking and cycling trails are very important and can also connect to surrounding destinations

Make sure it is safe and well maintained

We need good signs to direct residents and visitors

We need somewhere for dogs off leash (although some feedback opposed a designated area)

We like to see art in the landscape and to draw people to a destination

What about other recreation activities like a pump track, disc golf or an obstacle course

We'd like to see mostly native vegetation

Attract visitors to appreciate and learn about the environment

Objectives

Vision

To create an ecological and recreational corridor along the course of the Garibaldi Creek to connect Beaufort, improve water quality, biodiversity, community health and wellbeing.

Principles

Four principles have been identified as key values that apply across all directions, objectives and actions.

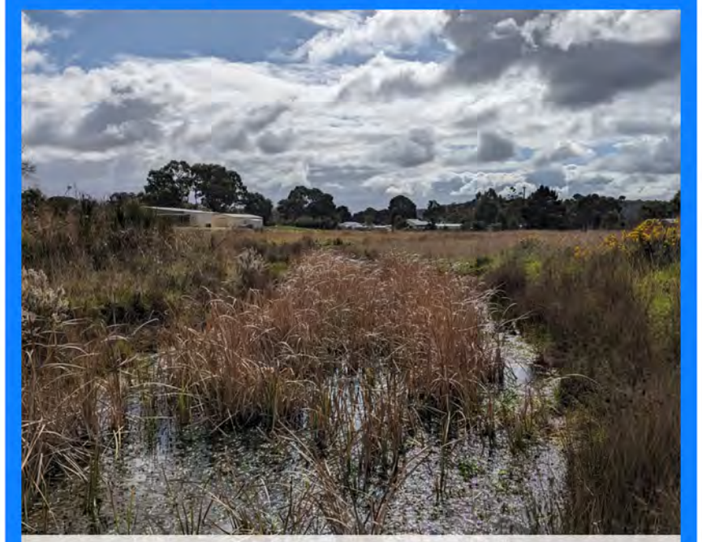
- Community health and wellbeing
- Collaboration with Traditional Owners
- Community parnerships
- Sustainability

Directions

Improved connectivity and movement

Enhanced landscapes

Healthy and valued waterways



Objectives

- Clear wayfinding and sense of arrival
- Strong walking and cycling connections
- Improved access and safety

- Sustainable management
- Strengthen local environment & sense of place
- Encourage social and nature connection

- Celebrate the Garibaldi Creek and its catchment
- Improve biodiversity and water quality
- Mitigate and adapt to flooding

Masterplan Concept Design

Pyrenees Shire Council

Masterplan Overview

The Beaufort Linear Project is a unique opportunity for Beaufort to engage with Integrated Water Management (IWM) practices and work towards a more sustainable and climate-resilient future.

The master plan unites the community's needs for connectivity and improved well-being with the environment's needs to enhance water quality and improve wildlife habitat. In the past, we saw urban waterways as drains and wastelands; the Beaufort Linear Project embraces the waterway as a valued part of the community, a place to play, relax, and ride, while connecting with the cycles of nature. The design expands on the path network and leisure activities of the Goldfields Reserve and builds a direct link to the playground and skate park.

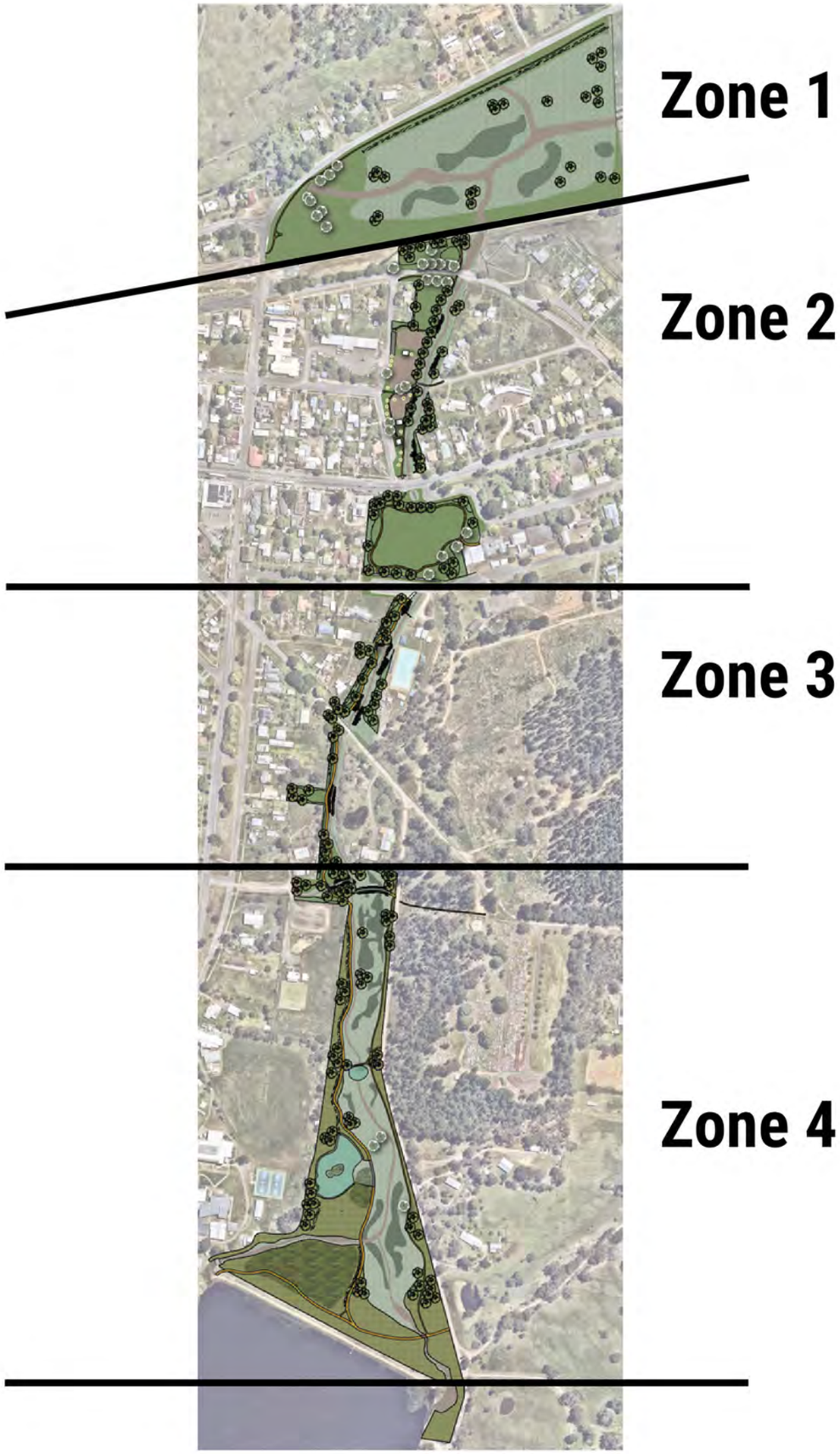
The master plan is divided into four design zones:

Zone 1
Regeneration of the Yam Holes Creek and flood plain creating a welcoming entrance to the town from Albert Street.

Zone 2
Activity hub with improved play and skate facilities

Zone 3
Habitat link and pedestrian/cycle corridor (linking north with south).

Zone 4
Regeneration of the Garibaldi Creek and connection to the Goldfield Recreation Reserve



Zone 1

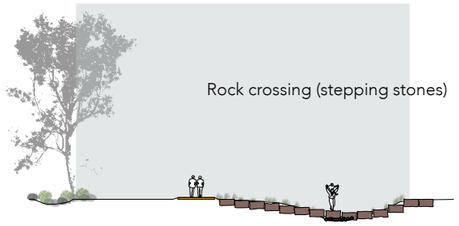

Small picnic grounds
Albert Street
Boardwalk
Rail line
Connection to town / Camp Hill
Swale
Gravel Paths (Shared Path 3m/ Pedestrian Path 1.5m)
Low Flow (creek centre line)
Waterway
Wetlands (low depressions)
Rough Mown (native grass)
Road crossing to be considered in detail design (traffic engineer)
Existing Tree
Local Indigenous Tree
Exotic Tree
0 10 20 30 40 50 M

Zone 2

- Swale
- Proposed Play Space
- Gravel Paths (Shared Path 3m/ Pedestrian Path 1.5m)
- Concrete path (link to existing path network)
- Low Flow (creek centre line)
- Waterway
- Mix Shrub Planting
- Rough Mown (native grass)
- Concrete Crossovers (high flow water coverage)
- Mudstone embankment stabilisation
- Road crossing to be considered in detail design (traffic engineer)
- Existing Tree
- Recent Tree Planting
- Local Indigenous Tree
- Exotic Tree

0 10 20 30 40 50 M

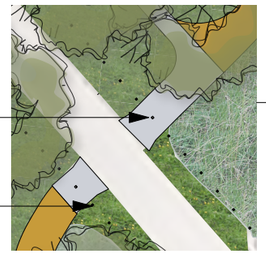
Zone 3



Rock crossing (stepping stones)

Pedestrian bridge

Concrete path (link to existing path network)



Removable bollard for maintenance access

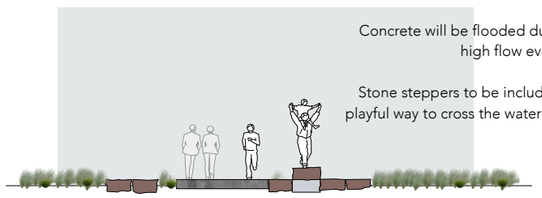
Timber bollards

Pocket park - care to be taken to endure passive surveillance including sight lines and lighting

Pedestrian bridge

Concrete will be flooded during high flow events.

Stone steppers to be included a playful way to cross the water way.



- Swale
- Gravel Paths (Shared Path 3m/ Pedestrian Path 1.5m)
- Concrete path (link to existing path network)
- Low Flow (creek centre line)
- Waterway
- Mix Shrub Planting
- Rough Mown (native grass)
- Concrete Crossovers (high flow water coverage)
- Mudstone embankment stabilisation
- Road crossing to be considered in detail design (traffic engineer)
- Local Indigenous Tree

0 10 20 30 40 50 M

Zone 4

Rock seating / gathering place

- Water Body
- Swale
- Gravel Paths (Shared Path 3m/ Pedestrian Path 1.5m)
- Concrete path (link to existing path network)
- Low Flow (creek centre line)
- Waterway
- Wetlands (low depressions)
- Woodland
- Mix Shrub Planting
- Rough Mown (native grass)
- Existing Tree Planting
- Concrete Crossovers (high flow water coverage)
- Mudstone embankment stabilisation
- Road crossing to be considered in detail design (traffic engineer)
- Existing Tree
- Local Indigenous Tree

Key Directions

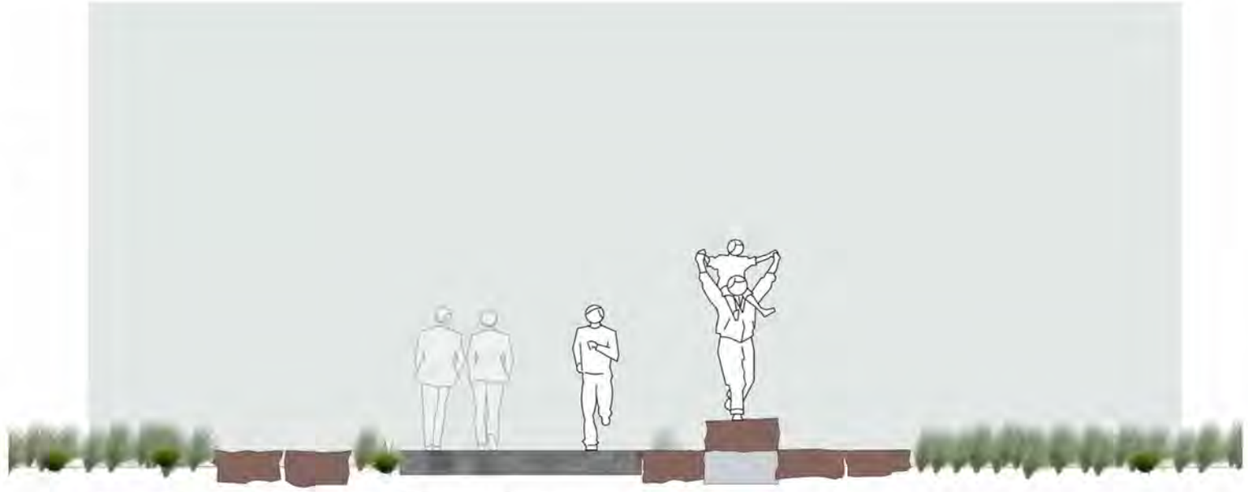
Pyrenees
Shire Council

Improved connectivity and movement

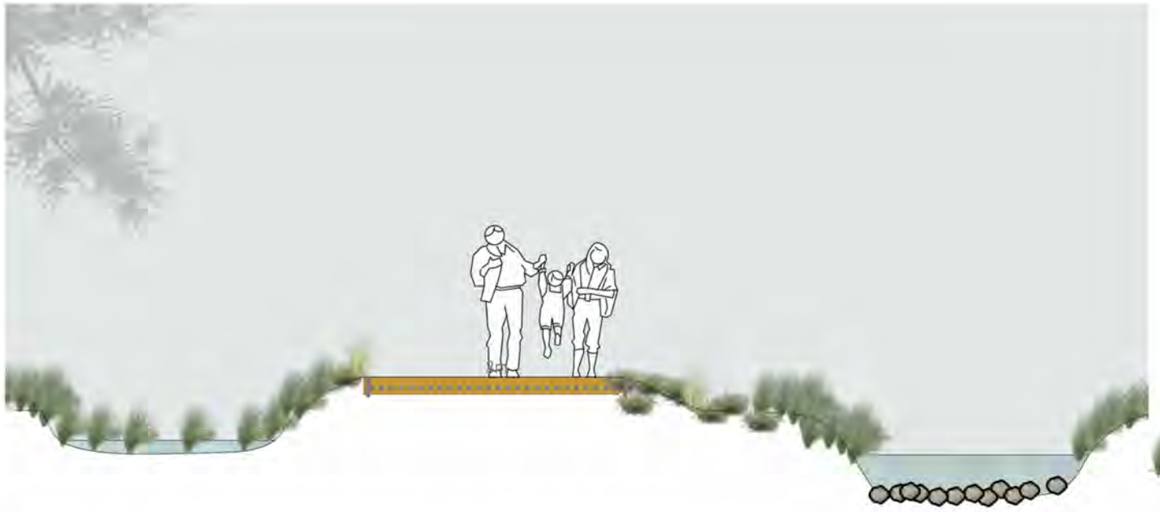
Improved access and safety

Currently the site has no path access, is poorly maintained and feels unloved and potentially unsafe for visitors.

The master plan recommends landscaping and trails that respond to the characteristics of the site. The proposed trails have been designed to ensure there is a clear line of site with appropriate adjacent vegetation including mown zones and absence of bushy shrubs where appropriate. Transitioning the overgrown drainage line, that lies at the back of properties, into a popular walking/cycling destination will bring activity, surveillance and safety for the community.



Concrete is used to cross areas of frequent flooding
Stepping stones provides a playful way to cross the waterways



The width of the shared paths within isolated sections of the project maintain clear sight-lines, improving safety and surveillance.

Extra wide shared paths allow for safe use and movement for multiple users including cycling, mobility scooters, jogging and pedestrians. The width also provides access to service and maintenance vehicles to ensure ease of site maintenance.

Strong walking and cycling connections

The master plan aims to provide a clear walking and cycling connection not only through the subject site but also to other trails further afield including the existing trails around the reservoir, Camp Hill trails, Beaufort town centre and Trawalla State Forest. There are some significant barriers that the master plan proposes to address, to improve connectivity such as intersection of the highway through the park, the railway line and highway to the north of the site.

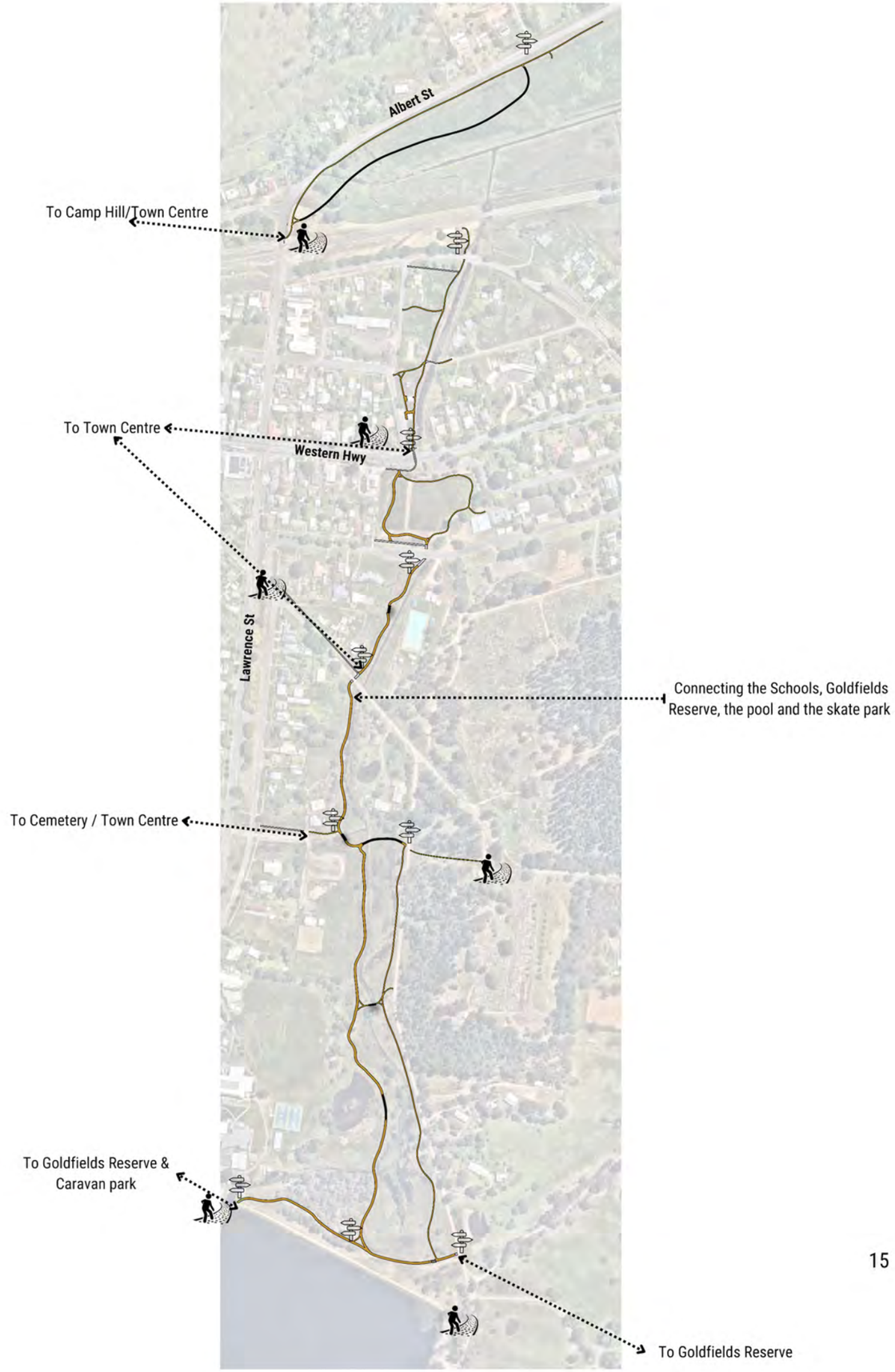
The proposed trails have been designed to respond to the sensitivities of the site with wider trails where increased activity is predicted and narrower trails where alternatives routes for cycling are available.

Clear wayfinding and sense of arrival

The master plan guides opportunities to articulate the location of the linear park, the activities available and the broader connections. The design concept highlights the arrival points to the linear park.

Way finding information to include but not limited to

- Directions and distance to key attractions
- Interpretive signage - on plants and wildlife
- Interpretive single on history and heritage
- Alternative routes



Enhanced landscapes

Sustainable Management

The master plan acknowledges the challenges of numerous land owners and management models along the subject site. The structure of the masterplan, with identified landscape types, provides an opportunity for all land owners and managers to work together to revitalise this valuable site, improve the environment and bring the community together.

All recommended actions are underpinned by environmentally sustainable design principles and reflect policy directions already identified via existing Council strategies. The design is "light touch" and has not recommended new infrastructure where it is not important. Materials, species and approaches selected have low ongoing maintenance requirements. Regenerative approaches to landscape management, in landscape types 1 and 2, are designed to minimise weed incursion, and will be largely self sustaining after establishment.

Collaborative management is vital to the park's ongoing success. A collaborative management team; including Council staff, the local community, bush regeneration practitioners, and Traditional Owners is critical.

Encourage Social and Nature Connection

The proposed design will create spaces for the community to play, experience nature, for social get togethers, celebrations, and for exercise such as walking or cycling.

In the areas identified as landscape type 3, the master plan proposes improved play opportunities including an expanded skate park, new junior pump track, and eventually, a refurbished playground. These expanded facilities will be supported by social seating and comfortable gathering spaces.

The natural areas throughout the site will be welcoming to the communtiy to explore and connect with nature. The landscape type 4 area, in particular, focuses on bringing people into the landscape and restored waterway.

The special use areas (landscape type 5) have been identified specifically to create opportunities for collaborative placemaking. These spaces offer flexibility for the community to use they space as they need, and collaborate to determine their use on an ongoing basis. The plan proposes consideration of an area for off-leash dogs, and a space for events, as examples of potential uses. This approach seeks to create a sense of ownership of the space and connection within the community.

Strengthen Local Environment and Sense of Place

The master plan proposes a uniquely Beaufort approach to revitalise the site, which is currently underutilised and in poor condition. The waterway, a regionally significant connector, also runs through the middle of the town connecting the lake the town centre.

Species, materials and designs proposed in the master plan are uniquely Beaufort and reflect the history and landscape of the surrounding area. This approach, when established, will make a significant positive contribution to the town of Beaufort. A lush, green, natural landscape will be woven through the town in a way which invites people into to explore, move and enjoy.

Landscape Types

To create a uniquely Beaufort landscape and to clearly identify the approach, design and ongoing requirements of the different spaces within the site, five different landscape types have been identified.

Each landscape type is described on the following pages.

Legend

- ***Landscape Type 1***
  Regeneration - Damp Sand - Herb rich woodland
- ***Landscape Type 2***
  Regeneration - Lower Slopes/Hills Woodlands (grassy)
- ***Landscape Type 3***
  Recreation Activity Area
- ***Landscape Type 4***
  Natural recreational waterway
- ***Landscape Type 5***
  Special Use

Landscape Type 1

Regeneration Damp Sand - Herb rich woodland

Overview

Within the natural flood plains of Beaufort, the pre-colonial vegetation type was a Herb Rich Woodland with riparian vegetation growing adjacent to the waterways (Garibaldi Creek).

The vegetation is typified by the open woodland canopy of Manna and Swamp Gum, a shrub layer and a rich ground layer of herbs, grasses, and orchids. Remnant examples of this vegetation type can be found within the adjacent Goldfield Recreation Reserve.

Rationale

The Garibaldi Creek receives increased stormwater runoff from the hard surfaces of Beaufort (roads, paths, and roofs). The excess water increased the flow of the creek, and the surrounding soil remained wet for longer. In areas where the soil remines moist for extended periods riparian vegetation is most appropriate, and will thrive in the changed conditions.

Strengthen Local Environment and Sense of Place

The intention for the landscape type 1 is to regenerate the landscape to resemble a pre-colonial condition and if practical propagate from local plants preserving genetic makeup of local populations.

Encourage Social and Nature Connection

The regeneration areas provide the community and visitors with an opportunity to engaged with nature, though walking and cycling, places to sit, as well as take part in the activity of bush regeneration. Regenerating and healing the landscape is an ongoing commitment that requires the community to work with council, Landcare groups and Traditional Custodians to develop a sense of stewardship of the water way.

Sustainable Management

The regeneration process includes two main phase; initiation and perpetual.

Initial phase 2-5 years

- Control of existing invasive plant species – with minimal disturbance to soil and native vegetation
- Revegetation of local indigenous species – if practical genetic stock to be selected local to the Beaufort region

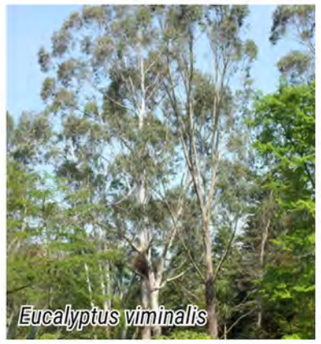
Perpetual phase

- Control of new invasive species as required (expected to be minimal)
- Custodianship activities that may include:
  - Cool burning (patchwork)
  - Slashing (patchwork)
  - Repair / revegetation after significant disturbance events

Species


Herb Rich Grassy Understory


Acacia verticillata


Eucalyptus viminalis


Pultenaea gunnii


Brunonia australis


Thelymitra macrophylla


Pimelea humilis


Juncus pallidua

Materials

Landscape Type 2

Regeneration - Hills Woodlands (grassy)

Overview

The vegetation in landscape type 2 is similar to the grassy woodland of Camp Hill and characterised by a sparse shrub layer and a rich ground layer of herbs, grasses, and orchids.

Rationale

The areas adjacent to the water way will remain slightly dryer, the plants of the Hills Woodlands are adapted to short periods of inundation and long periods of drought. By using plant species that respond to the location climate resilience is built into the landscape.

Strengthen Local Environment and Sense of Place

The intention for the Landscape Type 2 is to regenerate the landscape to resemble a pre-colonial condition and if practical propagate from local plants preserving genetic makeup of local populations.

Encourage Social and Nature Connection

The regeneration areas provide the community and visitors with an opportunity to engaged with nature, though walking and cycling, places to sit, as well as take part in the activity of bush regeneration. Regenerating and healing the landscape is an ongoing commitment that requires the community to work with council, Landcare groups and Traditional Custodians to develop a sense of stewardship of the water way.

Sustainable Management

The regeneration process includes two main phases; initiation and perpetual.

Initial phase 2-5 years

- Control of existing invasive plant species – with minimal disturbance to soil and native vegetation
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Perpetual phase

- Control of new invasive species as required (expected to be minimal)
- Custodianship activities that may include:
  - Cool burning (patchwork)
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  - Repair / revegetation after significant disturbance events

Species


Pultenaea pedunculata


Acacia melanoxylon


Melaleuca


Pimelea humilis


Ozothamnus obcordatus


Leptospermum continentale


Eucalyptus rubida


Drosera Whittakeri

Materials

Landscape Type 3

Recreation Activity Area

Overview

Landscape type 3 is a traditional active recreation park area. There is an existing fenced playground with an adjacent picnic area/shelter and public toilets. Further north there is a skate park and play equipment for older children.

Rationale

The master plan builds on the existing character and proposes upgrades to the play and skate infrastructure as well as the addition of a junior pump track. The design and layout of the additional infrastructure will ensure that there are flexible open spaces for picnics or informal lawn games along with the connecting trails.

Strengthen Local Environment and Sense of Place

Species have been selected to compliment the park and play style landscape with a mixture of exotic and native species that provide shade and amenity while ensuring passive surveillance sight lines.

Sustainable Management

This area will continue to be managed by Council as part of the standard park, playground, skate and public toilet maintenance regime including regular audits and inspections. Lawn areas will be mown and trees pruned in line with standard park landscape maintenance.

The proposed additional pump track and expanded skate park are low maintenance, hard surface amenities which are not anticipated to increase the maintenance burden substantially.

Encourage Social and Nature Connection

This area will continue to attract families and children of all ages to gather, play and participate in challenging activities such as skate boarding or biking. This area will have something for everyone and will continue to attract groups for parties or neighbourhood get togethers. The connecting trails will allow families to walk or ride to this active recreation node.

Species


Eucalyptus sp


Ozothamnus obcordatus


Eucalyptus sp


Eucalyptus sp

Community Use

Materials

Landscape Type 4

Natural Recreational Waterway

Overview

The waterway will be 'naturalised' from it's current state as an open drain. The edges of the channel will be softened with riparian vegetation and constructed rocky outcrops, sections will be widened to allow for temporary pooling during storm events. The adjacent path network will wind its way along the creek to activate and provide access to the waterway with pause points to sit and enjoy the landscape.

Rationale

Naturalising the channelised waterway will improve water quality though vegetation and aeration, and water flow rates are slowed to increase soil absorption and mitigate flash flooding. A reconstructed Garibaldi Creek provides opportunities for improved habitat and ecology, providing visitors and the Beaufort community with an opportunity to connect with nature.

Strengthen Local Environment and Sense of Place

The intention for the landscape type 4 is to regenerate the landscape to resemble a pre-colonial condition and, if practical, propagate from local plants preserving the genetic makeup of local populations.

Encourage Social and Nature Connection

The regeneration areas provide the community and visitors with an opportunity to engage with nature, though walking and cycling, places to sit, as well as take part in the activity of bush regeneration and waterway management. Regenerating and healing the landscape is an ongoing commitment that requires the community to work with council, Landcare groups and Traditional Custodians to develop a sense of stewardship of the water way.

Sustainable Management

The regeneration process includes two main phases; initiation and perpetual.

Initial phase 2-5 years

- Control of existing invasive plant species – with minimal disturbance to soil and native vegetation
- Revegetation of local indigenous species – if practical genetic stock to be selected local to the Beaufort region

Perpetual phase

- Control of new invasive species as required (expected to be minimal)
- Custodianship activities that may include:
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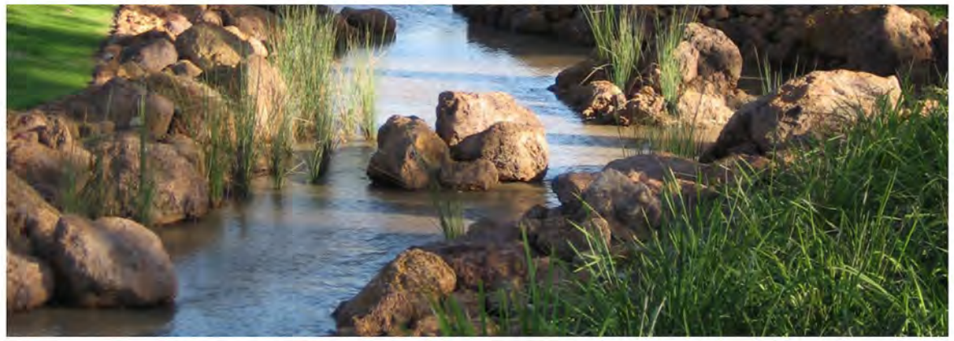
  - Slashing (patchwork)
  - Repair / revegetation after significant disturbance events

Species



Materials

Landscape Type 5

Special Use

Overview

These areas have been identified for multipurpose community and special event use. To allow for maximum flexibility the space is to be open, largely grassed, with few trees, and mostly flat to gently undulating. The grass to be rough mown, biodiverse mix of native grasses with buffer planting of mixed native and/or exotic shrubs (woody meadow type planting to reduce maintenance and increase biodiversity).

Rationale

Apart from sporting ovals, Beaufort lacks open grassy areas to host community gatherings and events including farmers markets, festivals, concerts and for informal activities such as Disc Golf. The aim of the special use areas are to provide opportunities for future uses to be explored and community lead placemaking to take place.

The special use areas have an additional storm water management role. The scale of the open space and the proximity to Garibaldi Creek allows for flash flood events to spread out across the landscape in a controlled way to mitigate flooding in built up areas.

Strengthen local environment and sense of place

The grass to be rough mown, biodiverse mix of native grasses with buffer planting of mixed native and/or exotic shrubs (woody meadow type planting to reduce maintenance and increase biodiversity). This approach will create a softer, more natural look, which is similar to the landscapes surrounding Beaufort, including at the Camp Hill lookout.

Encourage Social and Nature Connection

The special use areas are to encourage the local community to take part in 'Place Making' providing them with the flexibility to use they space as they need, providing a sence of ownership of the landscape and connection with the community.

Sustainable Management

The open grassy areas are to be managed though slashing and when appropriate the slashing may be suspended to allow for the native grasses to set seed.

The intention of the shrub buffer plantings is to be as low maintenance as possible and utilise a combination traditional parks management with regenerative practice including coppicing.

Potential Functions

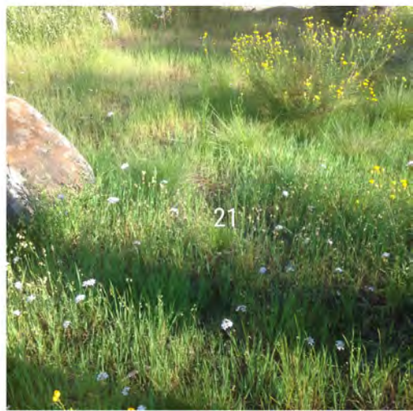

Biodiverse rough mown grass


Ozothamnus obcordatus


Eucalyptus sp


Eucalyptus sp

Materials



Healthy and Valued Waterways

Improve Biodiversity and Water Quality

Swales

Swales are shallow, vegetated open channel that conveys and treat stormwater. They are typically planted with grass or sometimes more dense vegetation to filter runoff.

Swales initially immobilise pollutants by binding them to organic matter and soil particles, then remove them by settling, filtration and infiltration into the subsoil. Certain pollutants, such as hydrocarbons, may be digested and processed by soil microorganisms in the ground as the water filters through.

The park site already has an extensive network of swales - the proposal is to revegatate these, turning them into what are called 'vegetated swales' or 'bioswales' where appropriate.

Vegetated Swales

A vegetated swale is an open channel with sloping sides which has been planted with native wetland and damp land species.

Vegetated swales are utilised in the master plan to:

- Protect gravel paths from washing out during storm events
- Provide passive irrigation to the surrounding landscape by holding water in the soil and distribute it to adjacent trees and vegetation.

Bio Swales

Bio-swales are similar to vegetated swale but have been constructed to manage a higher volume of storm water through installation of underground filtration structures and soils.

Bioswales are utilised in the master plan to:

- Mitigate flash flooding of the Garibaldi Creek by diverting and delaying stormwater from reaching the creek during severe storm events
- Improve water quality by allowing plants and soil organisms filter out pollutants and purify storm water before reaching the waterway.

Wetlands and Waterways

Wetlands are shallow water bodies permanently or periodically inundated. Many areas throughout Beaufort Linear Park currently act as wetlands.

Revegetated Wetland

Additional vegetation will help these areas to retain much of the stormwater flow before slowly discharging it through natural aquatic vegetation to reduce sediment and improve water quality.

Revegetated wetlands are utilised in the master plan to:

- Improve water quality by allowing plants and soil organisms filter out pollutants and purify storm water before reaching the waterway
- Slow water velocity with plants to slow the water and increase infiltration
- Mitigate downstream erosion and flash flooding
- Increase habitat for wetland and riparian species

Naturalised Waterway

Beaufort Linear park currently has extensive open drains running the length of the site connecting Yam Holes Creek to the Beaufort Reservoir.

Re-naturalising the channels restores creek meander, slow storm water velocity, reduce erosion, aerate and improve water quality and create habitat. The process of renaturing, includes construction of low flow rock line creek and rock bank stabilization as well as revegetation.

Low flow rock lined creek and rock bank stabilization areas are utilised in the master plan to:

- Improve water quality, by aerating the water as it flows over and between the rocks
- Slow water velocity, to increase infiltration and reduce erosion
- Provide habitat for small fish, insects and inebriates
- Stabilise and protect the bank at constructed meander points
- Increase the meander of the creek to slow velocity
- Make the creekline look more attractive, welcoming for people, and creates an opportunity to use the creekline as a recreation experience (nature play)

Mitigate and Adapt to Flooding

Detention Basin

Detention (or 'retarding') basins are dam-like depressions designed to detain large stormwater flows immediately after a storm then release it slowly downstream. The proposed basins do not hold water for long periods, but they do help to prevent flash flooding and to protect assets after storms.

Detention basins are utilised in the master plan to fix water flow issues caused by the roads. The masterplan proposes to reinstate old school oval as a detention basin, primarily for major storm events. This space is already designed to be a detention basin, however over time soil has built up reducing the depth and efficiency of the oval.

Location of WSUD elements

Zone 1

Swales (including Bio-swales)

-Increase soil infiltration of surface runoff
-Provides passive irrigation to adjacent landscape
-Mitigates down stream flash flooding (disrupt the stormwater flow and velocity reaching Yam Holes creek)
-Protects gravel paths from washing out from surface runoff

Low Flow (creek centre line)

-Rock lining - reduce flow velocity, increase flow aeration and increase habitat
-Increased meander - slow flow velocity and improve the natural aesthetic of the creek

Waterway

-Increase meander Increased meander, slow flow velocity and improve the natural aesthetic of the creek
-Regenerative planting of riparian species, improves water quality and habitat

Mudstone Embankment Stabilisation

-Bank stabilisation
-Increase water aeration
-Provide habitat

Wetlands (low depressions)

-Existing depressions act as functioning natural wetlands
-Vegetation improves water quality, slows runoff and improves habitat
-Natural depressions mitigate down stream flash flooding

Detention Basin (old school oval)

Mitigates flooding by safely diverting and temporarily storing flood waters. The old school oval already serves as a detention basin with an overflow grate at Leichardt Street, however re-grading the oval will increase the water diverting capacity

Zone 2

Location of WSUD elements

Zone 3

Swales (including Bio-swales)

-Increase soil infiltration of surface runoff
-Provides passive irrigation to adjacent landscape
-Mitigates down stream flash flooding (disrupt the stormwater flow and velocity reaching Yam Holes creek)
-Protects gravel paths from washing out from surface runoff

Low Flow (creek centre line)

-Rock lining - reduce flow velocity, increase flow aeration and increase habitat
-Increased meander - slow flow velocity and improve the natural aesthetic of the creek

Waterway

-Increase meander Increased meander, slow flow velocity and improve the natural aesthetic of the creek
-Regenerative planting of riparian species, improves water quality and habitat

Concrete Crossovers (high flow water coverage)

-Provide vehicle and pedestrian access during dry periods.
-Allows unimpeded flow during high flow and flood events

Mudstone Embankment Stabilisation

-Bank stabilisation
-Increase water aeration
-Provide habitat

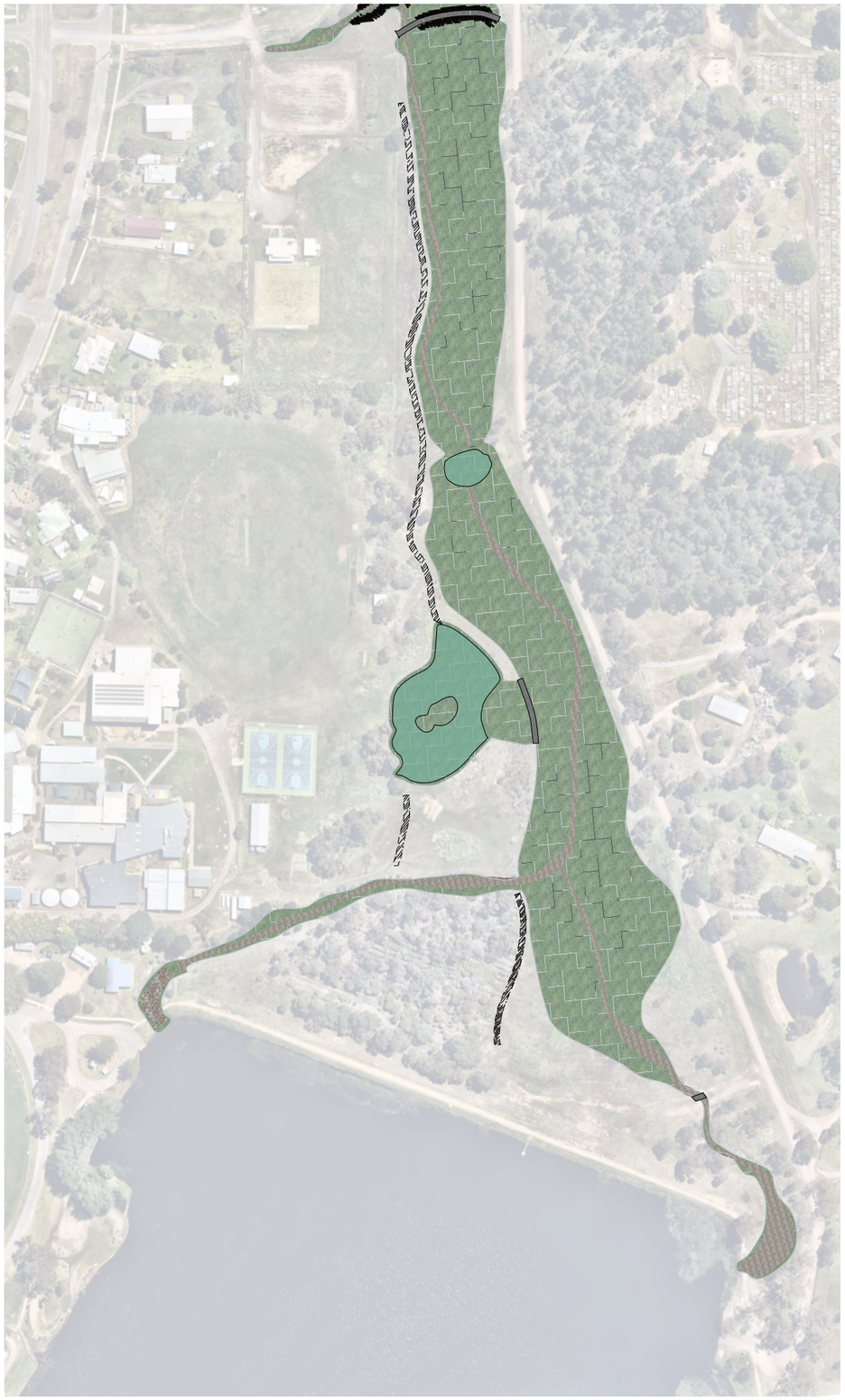
Wetlands (low depressions)

-Existing depressions act as functioning natural wetlands
-Vegetation improves water quality, slows runoff and improves habitat
-Natural depressions mitigate down stream flash flooding

Existing Dams

-Capture and hold stormwater runoff
-Migrate down stream flash flooding
-Aesthetic feature

Zone 4

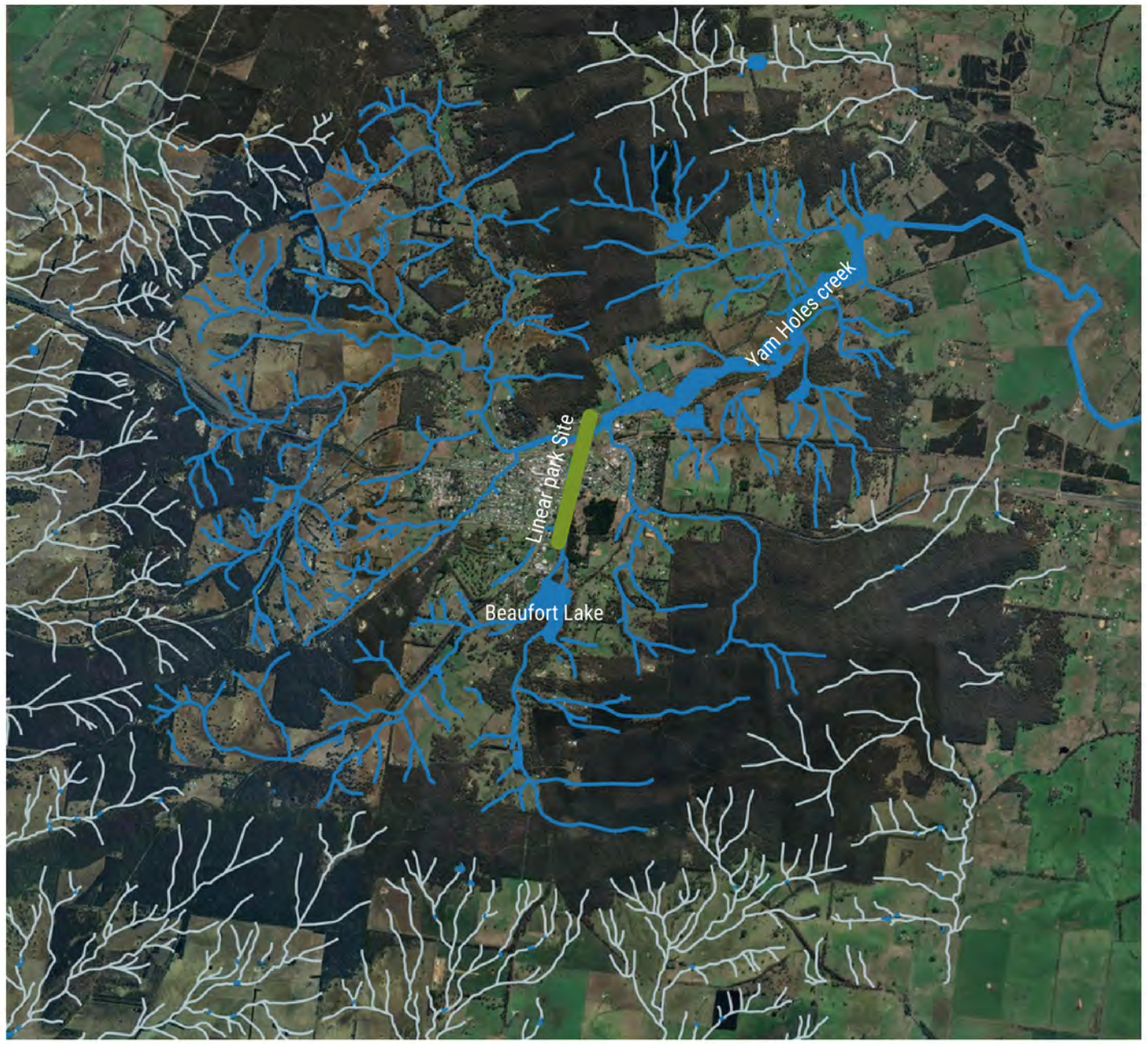


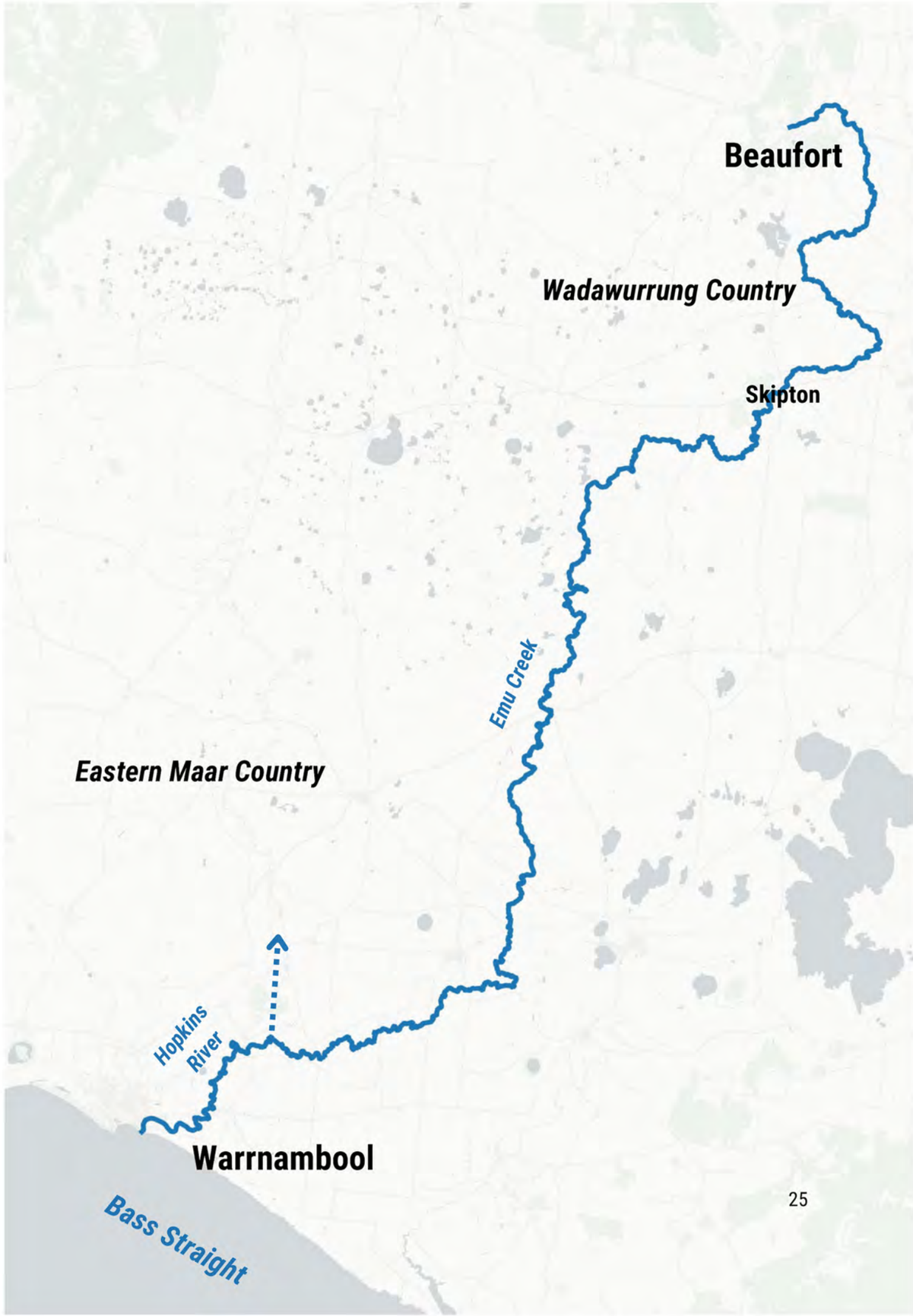
Celebrate the Garibaldi Creek and the Broader Catchment

The Garibaldi Creek is part of a much larger network of creeks flowing through the Yam Holes creek and towards Emu Creek.

Green Blue Infrastructure along the Beaufort Linear Park site is important and will increase the climate resilience of Beaufort, however a wholistic approach is needed across the entire Beaufort catchment and township to capitalise on the benefits of Integrated Water Management.

Water Sensitive Urban Design can be incorporated into the streetscapes, parks and private property to include rain gardens, swales and passive irrigation. Connecting the Beaufort Catchment with an Integrated Water Management system will vastly improve the towns resilience against both drought and flood.





Action Plan

Pyrenees
Shire Council

Action Plan Overview

The Action plan is designed to be funded by grants and partnership as they become available.

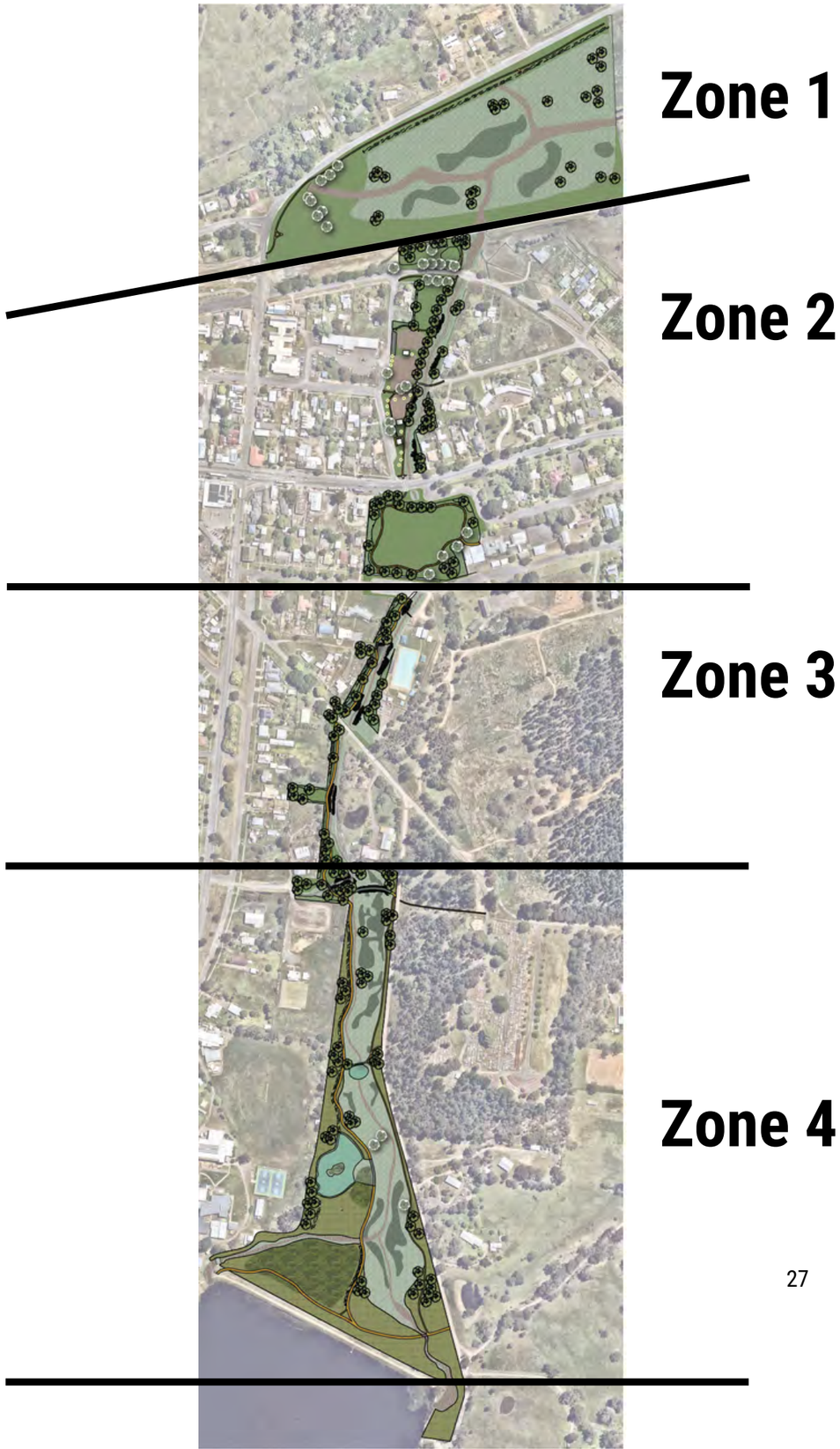
Actions are staged and costed by zone and by anticipated time frame.

*NOTE: costs estimated here are approximate and current as of November 2023. Costs are expected to increase per year at a rate higher or equal to the Australian Bureau of Statistics' Producer Price Index for Non-Residential Building Construction in Victoria. For example, over the past twelve months (Sept 2022-Sept 2024), non-residential building construction prices rose 5.7%.

Because timing of the works is currently unknown the estimated costs do not included predicted escalation.

Zone	Nov 2023* Predicted Costs
Total Zone #1	$1M
Total Zone #2	$720-40K
Total Zone #3	$460-70K
Total Zone #4	$760-80K
Total project costs	**Approx $3M**

Project Timing	Nov 2023* Predicted Costs
Total Short Term Projects (1-3 years)	$460-70K
Total Medium Term Projects (4-6 years)	$520-30K
Total Long Term Projects (7-10 years)	$1.3K
Total for regeneration over the first 10 years	$739-40K



Implementation Actions

**NOTE: costs estimated here are approximate and current as of November 2023. Costs are expected to increase per year at a rate higher or equal to the Australian Bureau of Statistics' Producer Price Index for Non-Residential Building Construction in Victoria. For example, over the past twelve months (Sept 2022-Sept 2024), non-residential building construction prices rose 5.7%.*

#	Zone	Activities	Description	Cost*	Timeframe
1	1	Detailed design and preliminary works for a new welcoming entry to Beaufort (Zone 1)		$20-30,000	7-10 Years
2	1	Picnic area and parking at a new welcoming entry to Beaufort	Install entry picnic grounds. Proposed works include a small seating area with accessible furniture, access path shade structure and grass area.	$63-68,000	7-10 Years
3	1	Boardwalk and interpretive signage at a new welcoming entry to Beaufort	Install a boardwalk and pathways to connect visitors from the picnic area along the regenerated creek and on to Beaufort Linear Park and into Beaufort. Use Water Sensitive Urban Design elements including swales along Albert Street, and naturalised wetland and creek line to improve water quality and ecosystem health.	$730-750,000	7-10 Years
4	1	Additional trees along Albert Street at a new welcoming entry to Beaufort	Plant an avenue of exotic trees to define the entry to the township and provide a colourful welcome for visitors and residents	$25-35,000	7-10 Years
5	1	Regeneration of the Yam Holes Creek flood plain and planting in swales (Zone 1)	Initial bush regeneration of waterway including weed control, revegetation. The commencement of patchwork disturbance regime including grazing (goats), cool burning and slashing.	$250-$260,000 establishment cost.	7-10 Years
6	2	Detailed design and preliminary works for the Beggs Street Recreation Activity Area Enhancement (Zone 2)		$34-38,000	7-10 years
7a	2	Beggs Street Recreation Activity Area Enhancement	Expand and upgrade existing recreation node to cater for all ages and abilities and provide a meeting, play and recreation space for the local community and visitors. Including: - Expand the skate park to cater for a wider range of ages and abilities - Develop a new junior pump track to provide the community with biking skill development - Upgrade the play space to improve play opportunities for all ages and to integrate with the neighbouring skate park and pump track - New small car parking area - New shade structure between the pump track and skate park	$270-320,000	7-10 years
7b	2	Special Use Area- Off Leash Dog Park	Create a new area for dog off leash use including fenced areas for large and small dogs and a seating area shaded by trees. Repurpose the existing shed to create a shelter and seating area. *Subject to community engagement (see Action 25)*	$60-65,000	7-10 years
8	2	Rocks, embankment stabilisation and grading to create a naturalised creek line	Undertake site grading, and install rocks and mudstone flats to change the open drain into a creek line formation. The works will naturalise the existing open drain to add aquatic and riparian ecological values and create a waterway which mimics a natural creek.	$60-70,000	7-10 years
8	2	Pathways connecting Western Highway through to Pratt Street and the existing bridge for access from Willoby Street.	Install gravel pathways (1.5m width) around and through the Beggs Street Recreation Activity Area.	$20-25,000	7-10 years
9	2	Trees and a rough mown lawn area of native grasses in the recreation activity zone.	Prepare and install of rough mown areas with native grass species, garden beds with low maintenance woody meadow species and trees to maintain an area of grassy open space for informal lawn activities and events.	$55-65,000	7-10 years
10	2	Establishment weed control and revegtatative planting of the newly reshaped waterway (Zone 2)	After site grading and reformation of the open drain to create a naturalised waterway formation, undertake establishment weed control and revegetation planting. The works will naturalise the existing open drain to add aquatic and riparian ecological values and create a waterway which mimics a natural creek.	$30-35,000 establishment cost.	7-10 years
11	2	Pathways and grassy open space detention basin at the old School Oval site	Re-grade the site to form a detention basin and grassy open space including buffer plantings (woody meadow) to provide critical flood mitigation function. Remove the existing school fence to open the site for community use and increase drainage. Install pathways around the detention basin area with seating to rest and enjoy the view of the site. Utilise extra wide shared paths (3m) to allow for safe use and movement for multiple users including cycling, mobility scooters, jogging and pedestrians. The width also provides access to service and maintenance vehicles to ensure ease of site maintenance.	$160-170,000	4-6 years
12	3	Detailed design and preliminary works for habitat link and pedestrian/cycle corridor (linking north with south) (Zone 3)		$25-30,000	1-3 years
13	3	Rest and observation nodes along the pathway to provide comfortable access to the natural, recreational waterway	Install seating, bins, bicycle hoops, drinking fountain and wayfinding/interpretive signage along the recreational waterway path and at the entrance to the pocket park (just South of Cemetery Road).	$28-32,000	1-3 years

Implementation Actions

**NOTE: costs estimated here are approximate and current as of November 2023. Costs are expected to increase per year at a rate higher or equal to the Australian Bureau of Statistics' Producer Price Index for Non-Residential Building Construction in Victoria. For example, over the past twelve months (Sept 2022-Sept 2024), non-residential building construction prices rose 5.7%.*

#	Zone	Activities	Description	Cost	Timeframe
14	3	Pathways and a pedestrian bridge for walking and cycling along the recreational waterway, protected by water sensitive urban design features and embankment stabilisation to manage stormwater and create a naturalised creek line	Undertake site grading, and install rocks and mudstone flats to change the open drain into a creek line formation. The works will naturalise the existing open drain to add aquatic and riparian ecological values and create a waterway which mimics a natural creek. Install swales (and bioswales where required) alongside the route of the new gravel pathway to protect it from washing away during storm or flood events. Establish a new pathways network using extra wide shared paths (3m) to allow for safe use and movement for multiple users including cycling, mobility scooters, jogging and pedestrians. The width also provides access to service and maintenance vehicles to ensure ease of site maintenance. Provide bollards (including removal/droppable) bollards at the Cemetery Road crossover to allow for vehicle access to the path when required. Improve access to the pool by installing a new low-maintenance pedestrian bridge (recycled plastic) and positioning creek line rocks to create stepping stones across the new waterway.	$300-320,000 Excluding the concrete path into town North of Cemetery Road (walkability project)	1-3 years
15	3	Native grasses and densely planted woody meadow areas in a new pocket park space and along the natural recreational waterway area to buffer adjoining properties and the pool	Prepare and install of rough mown areas with native grass species, garden beds with low maintenance woody meadow species, planting to the newly installed swales and shade trees. Utilise high volume, densely planted woody meadow species to establish low maintenance buffers to adjoining private land owners and improve the interface with the pool.	$63-68,000	1-3 years
16	3	Establishment weed control and revegtatative planting of the newly reshaped waterway (Zone 3)	After site grading and reformation of the open drain to create a naturalised waterway formation, undertake establishment weed control and revegetation planting. The works will naturalise the existing open drain to add aquatic and riparian ecological values and create a waterway which mimics a natural creek.	$36-40,000 establishment cost.	1-3 years
17	4	Detailed design and preliminary works for habitat link and pedestrian/cycle corridor (linking north with south) (Zone 3)		$25-35,000	4-6 years
18	4	Rest and observation nodes along the pathway to provide comfortable access to the school and the wetland area	Install seating, bins, bicycle hoops, drinking fountain and wayfinding/interpretive signage along the recreational waterway path and create a circular seating area with local rocks to provide opportunities for an outdoor classroom.	$33-38,000	4-6 years
19	4	Pathways and and a floodable crossover with stepping stones for informal/playful crossing to Audus Lane, protected by water sensitive urban design features and embankment stabilisation to manage stormwater and create a naturalised creek line.	Undertake site grading, and install rocks and mudstone flats to change the open drain into a creek line formation, where required while maintaining existing wetland and dam areas. The works will naturalise the existing open drain to add aquatic and riparian ecological values and create a waterway which mimics a natural creek. Install swales (and bioswales where required) alongside the route of the new gravel pathway to protect it from washing away during storm or flood events. Provide pathways to connect through the zone and to Goldfield Recreation Reserve and cycle loop onto lake road and beyond. Pathways on the western side of the site are wide (3m) to allow for safe use and movement for multiple users including cycling, mobility scooters, jogging and pedestrians. The width also provides access to service and maintenance vehicles to ensure ease of site maintenance. Pathways on the eastern side of the site are designed to be pedestrian only (1.5m wide) as cyclists can cross over to Lake Drive. Install a floodable concrete road crossing to allow access across the site at Audus Lane (east-west). Designed-in stepping stones will soften the look at the crossing (especially when not flooded), provide an alternative options for crossing during wetter months, and encourage playful interactions with the creek.	$260-310,000k	4-6 years
20	4	Regeneration of the Garibaldi Creek wetland areas and waterway and adjacent woodland (Zone 4)	After site grading, swale installation and reformation of the open drain to create a naturalised waterway formation, undertake establishment weed control and revegetation planting. The works will naturalise the existing open drain to add aquatic and riparian ecological values and create a waterway which mimics a natural creek. Utilise denser planting in woodland areas to help to buffer visibility to the school.	$ 400-405,000 establishment cost. Custodian management of the site is ongoing.	4-6 years

Management Actions

	Activities	Timeframe
21	Establish maintenance protocols for the site which respond to the unique characteristics of the linear park, by managing the landscape in line with landscape types 1-5, including: • Control existing invasive plant species with minimal disturbance to soil and native vegetation. • Source local indigenous species for revegetation. If practical genetic stock to be selected local to the Beaufort region • Choose shrub species for buffer plantings, which will be as low maintenance as possible (Woody Meadow style planting and management) • Utilise a combination traditional parks management with regenerative practice including coppicing • Establish a patchwork disturbance regime including grazing (goats), cool burning and slashing. • Monoculture lawn to be avoided to reduce irrigation and maintenance cost and replaced with the establishment of rough mown grassy areas - a biodiverse mix of native grass and flowering species to increase biodiversity and climate resilience	Initial phase 2-5 years, then ongoing
22	Partner with Wadawurrung, Dja Dja Wurrung, Wotjobaluk and Eastern Maar Peoples to regenerate and heal the landscape as a long term commitment to ongoing management of the landscape	Ongoing
23	Partner with community groups including Landcare to develop a sese of ownership and commitment to the ongoing regeneration of the waterway and linear park. Custodianship activities that may include: ◦ Cool burning (patchwork) ◦ Slashing (patchwork) The open grassy areas are to be managed though slashing and when appropriate the slashing may be suspended to allow for the native grasses to seed ◦ Repair / revegetation after significant disturbance events	Ongoing
24	Undertake community engagement regarding the potential dog off leash area (Beaufort Linear park Zone 2) to determine level of community support and if supported, it's final design.	Within the next 12 months
25	Engage a specialist hydrologist to review concept drawings and model the proposed water management approaches to confirm: • capacity and grading of detention basin (old school oval) • if bioswales are required in areas of greater stormwater runoff volume (or if basic swale drains are sufficient throughout the project)	Within the next 12 months

emerge ASSOCIATES

This document was prepared by Emerge Associates on behalf of Pyrenees Shire Council.

For further information please contact:
Stephen Read, stephen.read@emergeassociates.com.au
Katherine Howard, katherine.howard@emergeassociates.com.au

November 2023