

Brookong Creek Master Plan DRAFT MASTER PLAN REPORT

Lockhart NSW

Date: 08 November 2023 Revision: B

Prepared for Lockhart Shire Council by HABITAT PLANNING & YONDER LANDSCAPE ARCHITECTURE ©



habitat —
Town planning + Urban design consultants

yonder.
LANDSCAPE ARCHITECTURE



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Project: Brookong Creek Master Plan
Commissioned by: Lockhart Shire Council

Prepared by Habitat Planning in collaboration with Yonder Landscape Architecture

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We acknowledge and respect Traditional Owners as the traditional custodians of our shared lands, waters and seas. We recognise their unique ability to care for Country and their deep spiritual connection with Country.
We honour Elders past, present and emerging, whose knowledge and wisdom will ensure the continuation of culture, and the values which uphold them.

STATUS	DATE	BY	CHECKED	VERSION
Draft master plan for internal review	14/09/2023	LL	AM	A
Draft master plan for to Focus Group for recommendation to Council	08/11/2023	LL	FS	B

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Background



Main image: Remnant vegetation along Brookong Creek

Inset: Brookong Creek at the Lockhart Caravan Park

Project summary

Habitat Planning and Yonder Landscape Architecture have been engaged by Lockhart Shire Council (LSC) to work with the community to prepare a Master Plan for Brookong Creek in Lockhart. The Master Plan is an aspirational and strategic plan which aims to guide future funding applications and on-ground works.

It is envisaged the Master Plan will guide the development of Brookong Creek. It will provide a clear vision and recommendations for the future planning of the area to ensure its ongoing connection with Lockhart and relevance to both the community and visitors.

It will enable residents and visitors to access a range of passive recreational activities, enriching lifestyles and enhancing the visitor experience.

Brief

The Brief called for the following to be addressed:

- » Provide the blueprint for nature-based visitor experiences that caters for a range of users.
- » Protect the values of the area and ensure the ongoing conservation of the endangered species and ecological communities
- » Protect and include Indigenous heritage values along Brookong Creek
- » Increase the health, wellbeing, and the livability of residents in Lockhart
- » Attract people to the area to provide economic benefit.

Process

The process is comprised of three key stages.

The first phase, Investigation and Engagement is complete, and the findings are summarised in this report.

This report represents the second stage of the project; the draft master plan.

1. Understand the project

- ▶ Site visit and background research
- ▶ Engagement - Round 1
 - » Crown Lands Office
 - » Narrandera Wiradjuri Community Members
 - » Other interest groups
 - » On-line survey

2. Prepare the Draft

- ▶ Initial Draft Master Plan
- ▶ Meeting with Council
- ▶ Draft Master Plan
- ▶ Engagement - Round 2
 - » Community sessions
 - » Narrandera Wiradjuri Community Members

3. Finalise the Master Plan

- ▶ Final Draft Master Plan
- ▶ Engagement - round 3
- ▶ Final Master Plan

Engagement approach

Two rounds of engagement have formed part of the project process to ensure the outcomes of the master plan reflect community aspirations, wants and needs.

Round 1

The first engagement phase, the Investigation and Engagement phase identified key strengths, issues and opportunities for the upgrade of Brookong Creek and surrounds.

An in person and on-line engagement process was delivered with the aim to seek community input and feedback on the key strengths, issues and opportunities.

Yonder, Habitat and Council engaged with user groups and stakeholders through a series of face to face workshops, and also with the broader users, via an on-line survey, to understand the strengths and issues. Relevant feedback was incorporated in the development of the Draft Master Plan.

Round 2

Round 2 of the engagement will seek community feedback on the concept options and Draft Master Plan. A range of consultation techniques will be used including a drop-in session, and an informal public feedback period and on-line survey

The findings of both rounds of engagement will inform the development of this report and final Master Plan.

Context

The Lockhart Shire covers an area of 2,942 km² and is in the Eastern Riverina area of New South Wales. With a population of 3,319 the Shire includes the major townships of Lockhart and The Rock with the smaller villages of Milbrulong, Yerong Creek and Pleasant Hills.

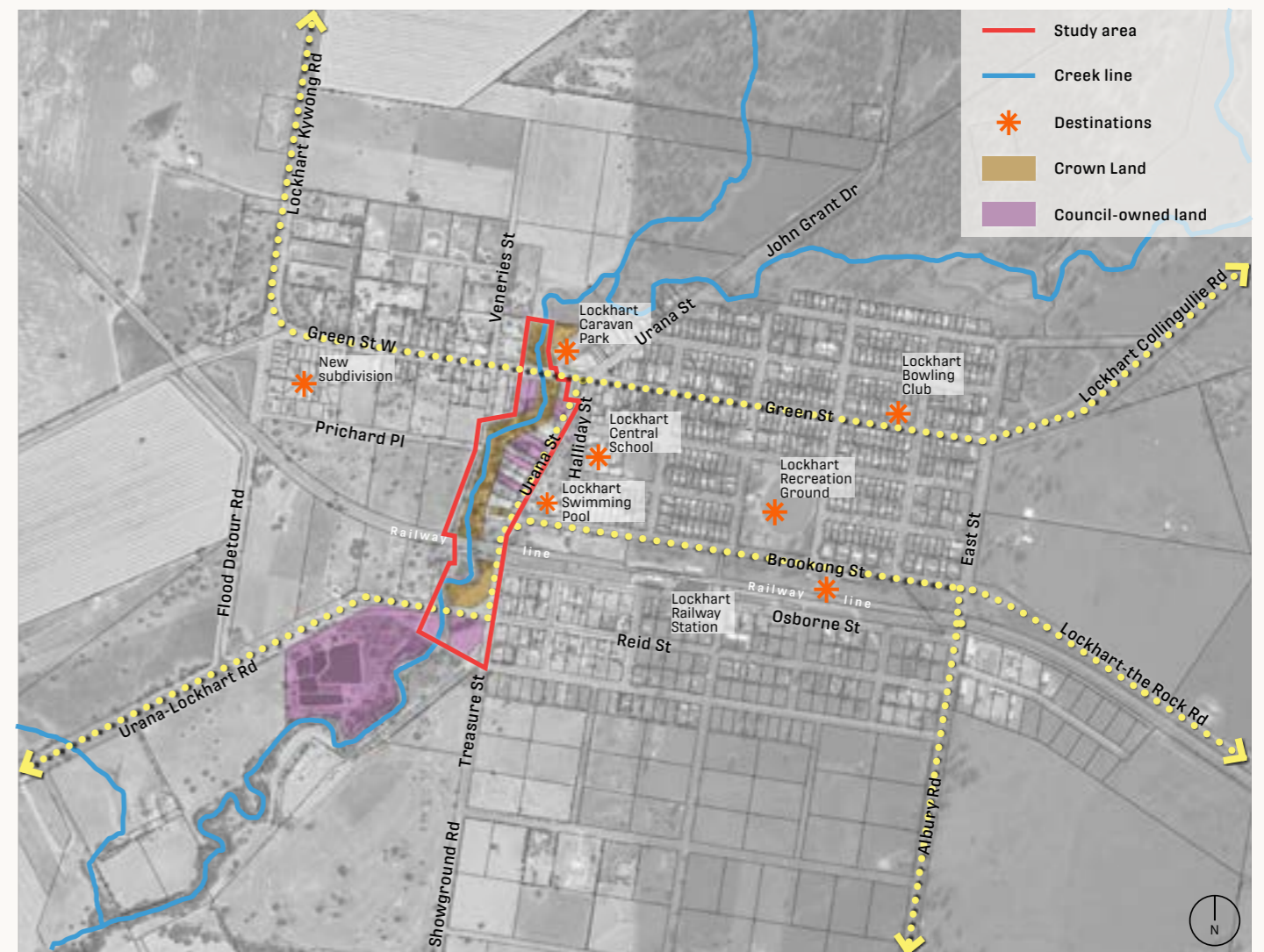
One of the many natural waterways that go through Shire is Brookong Creek. Located in the centre of Lockhart, the Creek has a small weir near Green Street, which creates a lagoon style water feature which is popular for visitors staying in the Lockhart Caravan Park and users of an already developed park. The area provides Council with an opportunity to develop a very much under-utilised area of Lockhart that has the potential to create community enjoyment for residents and encourage visitors to stop and experience Lockhart.

The site

Brookong Creek is an ephemeral creek, sited within the Murray River Catchment. Flowing north to south through the township of Lockhart and discharges into Urangeline Creek, which drains to the Murray River via Billabong Creek and the Edward River. Brookong Creek is fed by numerous small ephemeral streams. At Lockhart the Creek has a catchment area of approximately 150km².

Upstream of Wattles Road, the Brookong Creek channel is incised within a confined floodplain. However, downstream of the Wattles Road crossing, the channel slope flattens and the floodplain opens up. The Creek itself consists mainly of shallow gullies that remain dry for the majority of the year.

The creek also functions as a piece of drainage infrastructure. Lockhart experiences riverine flow from the Brookong Creek and tributaries, as well as overland flow from the east. The creek is susceptible to periodic flooding, generally overland flow from significant rain events. The most recent flood event, March 2012 was a record flood 154.25m AHD.



Context plan

Existing plans and strategies

A review of the following documents has informed the preparation of the Draft Master Plan:

Lockhart Business Centre Master Plan (2019)

- » The Lockhart Business Centre Master Plan is a comprehensive master planning document which demonstrates the overall vision for Lockhart's business centre.
- » The master plan sought to respect and celebrate the unique heritage streetscape, and incorporate improvements to the public realm appropriate for life in the 21st century, providing physical structure necessary to achieve the main project goal of revitalising Lockhart's town centre for the future.

Lockhart Local Housing and Employment Strategy (2023)

- » The Lockhart Shire Local Housing and Employment Strategy is a shire wide strategic document, which identified growth and an intensification of development in the town of Lockhart.

Lockhart Flood Study (2014)

- » The Lockhart Flood Study, completed in 2014, provides a hydrological overview and risk analysis for a range of flood intensities to Lockhart and The Rock. As well as an ephemeral waterway, Brookong Creek is a crucial piece of drainage infrastructure for the town.

Lockhart Shire Local Strategic Planning Statement (2020)

- » Planning Priority 7, Action 3: Design an open space master plan for the Brookong Creek residential land precinct, incorporating active transport and accessible pathways to the Lockhart CBD

Urban Design Guide for Regional New South Wales (2022)

- » Produced by the Government Architect of New South Wales, the Urban Design Guide provides a comprehensive guide to the design and importance of public spaces in regional areas throughout the state.

Wiradjuri Plant Use in the Murrumbidgee Catchment

- » Developed in consultation with local Aboriginal communities within the Murrumbidgee catchment, to enable Traditional Owners and other Aboriginal People to have a permanent record of their cultural heritage values of native vegetation within the Murrumbidgee Catchment.

Lockhart Shire Community Strategic Plan (2017-2027)

- » Priority D: Infrastructure for the long-term needs of the community.

Lockhart Shire Community Strategic Plan 2022-2032

- » A connected and resilient community
- » A dynamic and prosperous economy
- » An environment that is respected and protected.
- » Infrastructure for the long-term needs of the community
- » Strong leadership and governance

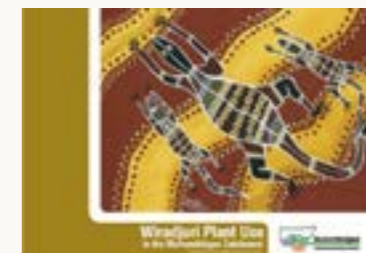
Lockhart Shire Council Tourism and Economic Development Strategy 2016 -2026

Riverina Murray Regional Plan 2041

Riverina Murray Destination Management Plan 2022-2023

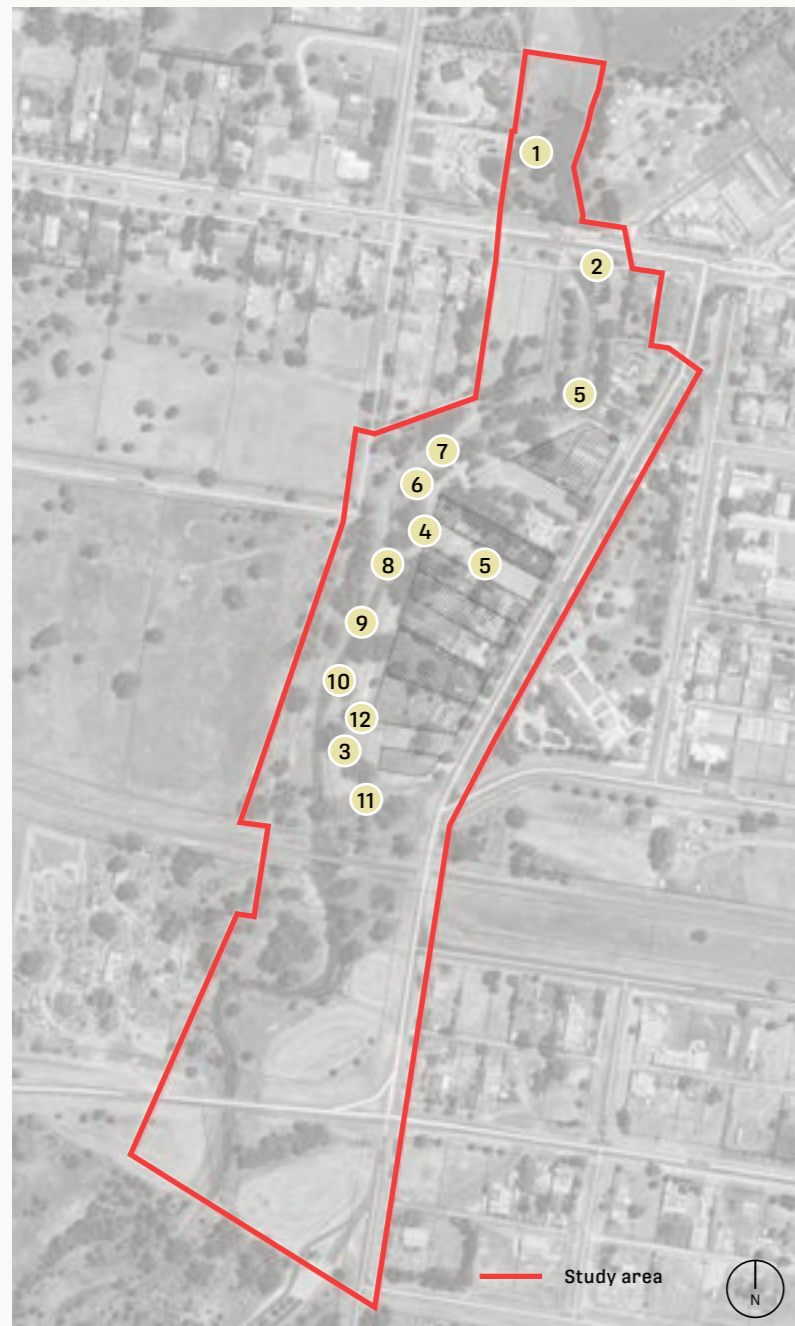
Eastern Riverina Regional Economic Development Strategy 2023

Connecting with Country, NSW Government Architect (DRAFT Framework)



Issues and opportunities

The following photo study demonstrates our assessment and analysis of the site and its context.



Issue: Existing park, boundary between water and ground is risky for maintenance.
Opportunity: Consider widening the boundary to include planting and a safer threshold.



Issue: Green St crossing and entrance to site is difficult to navigate.
Opportunity: Provide a landscape that priorities pedestrian movement and DDA compliance.



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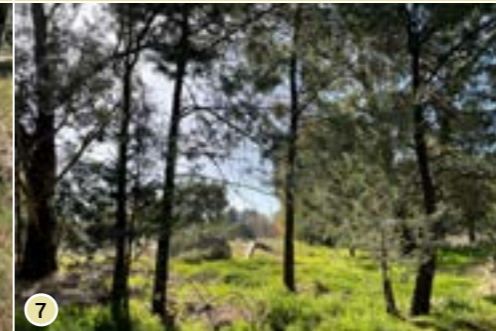
Issue: Negotiating spaces between dwellings, Brookong Creek and Urana St.
Opportunity: Retain established indigenous vegetation, creating corridors for movement and demarcation of boundaries.



Issue: Negotiating the interface with existing housing on Urana St.
Opportunity: Consider access to and from the site and landscape planting to enable privacy.



Issue: Unmaintained creek and surrounds.
Opportunity: Opportunity to revegetate creek and reinstate indigenous/native species.



Issue: Small stands of native vegetation.
Opportunity: Revegetation throughout and consolidating the existing patches of remnant native flora.



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Issue: Drainage infrastructure is undefined and difficult to negotiate.
Opportunity: Consider opportunities to better integrate drainage and naturalistic setting.



Issue: Informal service road behind Urana Street Housing.
Opportunity: Close vehicle access to road and priorities pedestrian access.



Issue: Rail crossing and culvert difficult to cross and negotiate.
Opportunity: Consider all access pathways and placement of crossings.



Opportunity: Focus on key natural features of the area. Create viewlines, and moments for repose.

Precedent studies

Other projects dealing with similar environmental, physical and social constraints and opportunities can provide a wealth of ideas for approaching Brookong Creek in contemporary and innovative ways.

Reimagine your creek Melbourne, VIC

WATERWAY NATURALISATION

Four creeks throughout suburban Melbourne were co-designed with local communities to reimagine concrete drains and long ignored waterways. The project sought to bring back a community function to pieces of drainage infrastructure.

In addition to the flora and fauna, the project has also brought human life back to the creeks, engaging with the landscape. An additional five linear kilometres of green space has been added to the open space network in communities who had historically been deprived of those experiences in their neighbourhood.

Ruggedly designed, perforated platforms and furniture allow water to pass through during flood events. They float above the water and landscape - apart from it, though a part of it.

The projects were designed with the community and as small pilots for greater Melbourne's waterways, display a high level of ambition and accordingly rich, diverse outcomes.



Small Creek Ipswich, QLD

TRANSFORMING A MONOCULTURAL DRAIN TO AN ECOLOGICAL LANDSCAPE

Smalls Creek was a typical concrete channel at the edge of an industrial estate. The project sought to reinstate the natural creek it earlier was and enhance the systems within it.

As a functioning drainage channel, it also filters the water flowing through it, from local housing and industrial land.

Water is 'slowed down' to remain in the local environment, by vegetation, rocks and flattening the path of the stream, encouraging a meandrous flow creating habitats for local flora and fauna.

Native fish, birdlife and mammal populations have all increased markedly since the completion of the project.



Budj Bim Cultural Landscape Budj Bim, VIC

A UNESCO WORLD HERITAGE LISTED CULTURAL LANDSCAPE

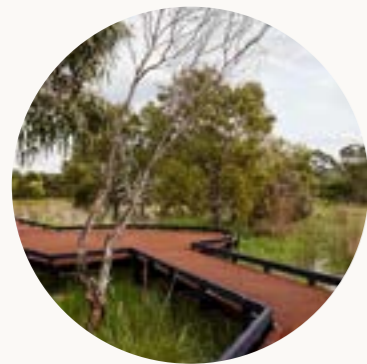
Home to the Gunditjmara People for 30,000 years, Budj Bim contains the built and natural history of a thriving and productive culture.

The landscape and architectural responses work as interpretive devices to frame landscape features.

Raised boardwalks minimise site disturbance and are designed to withstand the climatic extremes of flooding and fire.

Project teams were engaged by, and worked with the Gunditjmara people to produce informative, culturally relevant and environmentally sensitive interventions within a richly storied ecosystem.

The project showcases discrete interventions that are designed to recede into the landscape, rather than visually dominate.



Yirran Muru Playspace Shellharbour, NSW

**AN ABORIGINAL INTERPRETIVE
PLAYSPACE**

Co-designed with local Aboriginal communities (children, families, Elders) from Dharawal Country, the Yirran Muru (many pathways) playspace is designed to take visitors on a cultural journey, learning about the Dharawal people, embedded cultural knowledge and how Aboriginal people moved around and inhabited the Shellharbour area.

The playspace contains interactive elements, interpretive signage, and helps to provide an understanding of the cultural significance of local historic landscapes. The project integrates that experience with exploration, self discovery and imagination through play.



Engagement - Round 1

Engagement process

Summary of activities

Method	Date	Participation
Internal stakeholder workshops	2 March 2023	An initial brief was held with the Council project team to outline the scope of the master plan.
Crown Land meeting	21 March 2023	Council Staff, Consultants met with Crown Land in Lockhart.
Indigenous workshop and walk through of Brookong Creek	21 March 2023	A workshop and site walk was undertaken with Wiradjuri representatives. The workshop sought to integrate cultural heritage experiences, educational opportunities for and about the Wiradjuri people and their connection to Country.
Tourism and Economic Development Steering Committee workshop	27 March 2023	This session was facilitated by Council. It was general in nature and participants were directed to the on-line survey to provide their feedback.
Lockhart Progress Association workshop	25th May 2023	This session was facilitated by Council. It was general in nature and participants were directed to the on-line survey to provide their feedback.
Lockhart Central School – Students and Staff workshop	25th May 2023	This session was facilitated by Council. It was general in nature and participants were directed to the on-line survey to provide their feedback.
Lockhart Lions Club workshop	26th June 2023	This session was facilitated by Council. It was general in nature and participants were directed to the on-line survey to provide their feedback.
Lockhart Red Cross workshop	28th July 2023	This session was facilitated by Council. It was general in nature and participants were directed to the on-line survey to provide their feedback.
St Joseph’s Primary School workshop	2nd August 2023	This session was facilitated by Council. It was general in nature and participants were directed to the on-line survey to provide their feedback.
On-line survey	13 July 2023	115 community survey responses received. An on-line survey was available, open for a period of four weeks, advertised through Council website and newsletter, email, local outlets and social media.

Internal stakeholder workshops

An initial brief was held with the Council project team, including General Manager, Tourism and Economic Officer, engineers, gardening and maintenance staff to outline the scope of the master plan.

- » The local community will be the main user group of the Creek. While tourist appeal is important, it is secondary to serving community needs.
- » It should be an inclusive place, providing for all age groups and abilities.
- » The community and key stakeholders should be engaged early in the project, face to face and on-line.
- » Ecological restoration – re-establishing the landscape is an important consideration though there may be some community resistance as a result of historical flooding.
- » Property ownership and management – some adjacent residential properties have been purchased by Council as part of a buyback scheme. Some may be purchased in the future, subject to available funds and some owners may be content to stay in place. The proposal should consider the opportunities and constraints this presents.
- » As a linear space, the plan might consider the park as gateway to Lockhart from Lockhart-Urana Rd as well as connecting Green St to the Showground.
- » Consider earlier strategies and master plans, such as the Lockhart Business Centre Master plan (2019)
- » Consider important urban connections:
 - South Lockhart (properties on the south side of the railway), which are separated from the town by the railway corridor.
 - Across Green St to the Lockhart Caravan Park/ Hodgson Park and the potential for the park to continue along Brookong Creek further north.
 - Walter Day Park.
 - Access across to the creek from Walter Day Park to the new subdivisions.

» Other considerations:

- Sculpture trail – dedicated spaces for future Spirit of the Land sculptures
- Incorporate art mosaic project prepared with Narrandera Wiradjuri Community (10 x panels)
- Fitness equipment and trails
- Nature play
- Play for older kids (pump track, adventure, parkour)
- BBQ
- Provision for hosting mobile coffee/food vans
- Open spaces to cater for a variety of event sizes – from small groups (picnic/BBQ) to larger community events, such as Spirit of the Land, including vehicle access for events
- Lighting
- Way-finding
- Flood resilience
- Possible public toilets

Indigenous workshop

A workshop and site walk was undertaken with Micheal and Owen Lyons, Wiradjuri representatives. The Lyons' and Cr. Day, along with artist Francesca O'Donnell have been producing concept sculptures - Wiradjuri Yadhaa Dreaming Mosaics. The workshop sought to integrate cultural heritage experiences, educational opportunities for and about the Wiradjuri people and their connection to Country.

Key outcomes of meeting

- » Incorporating the Wiradjuri Dreaming project sculptures – the extent of the project to be confirmed.
- » Incorporating opportunities for cultural experiences, education for and about the local Wiradjuri community.
- » Yarning circle.
- » Indigenous planting, trees, foods.
- » Locating key opportunities on the subject site – scar trees, moments to engage with the environment.



Site walk

Other engagement by Council

Several community groups, including Crown Land, Tourism and Economic Development Steering Committee, Lockhart Lions Club, Lockhart Progress Association, Lockhart Red Cross and students and staff from Lockhart Central School and St Joseph's Primary School attended information sessions at Lockhart facilitated by Matt Holt, Council's Tourism and Economic Development Officer. The sessions were general in nature and participants were directed to the on-line survey to provide their feedback.

Council has emailed Uncle James Ingram – respected Elder who was happy to be kept updated on the project. Council also emailed the Wagga Wagga Aboriginal Land Council with no response.



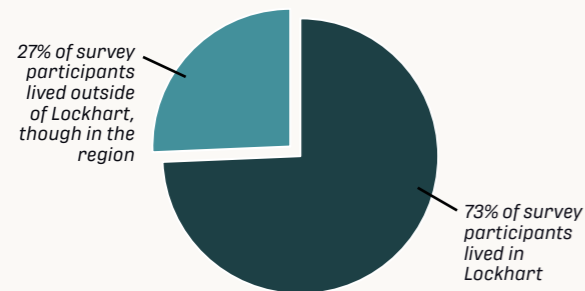
On-line Survey

An on-line survey was utilised, open for a period of four weeks, advertised through council website, newsletter, email, local outlets, and social media. The survey was released prior to the release of the draft master plan and sought to understand the community's desires for the site (broadly within the framework of the initial scope).

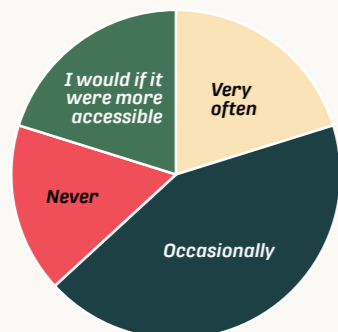
Participation

115 responses were collected representing a cross section of the community.

- » The majority of respondents had a relationship to Lockhart, either as residents of the town or living nearby.
- » Similarly, their interest in Brookong Creek was due to living in the area and/or the use of the subject site for walking and recreation.



- » While around 20% of respondents reported visiting the creek 'very often', there is an opportunity to further increase patronage through the project.



Foundational principles

The survey sought to cement some foundational principles to inform the project. In order, the most important principles according to the respondents were:

Accessibility (51.3%)

Providing the infrastructure and spaces to encourage physical activity for all ages and abilities.

Safety (41.74%)

The application of design principles that promote safety such as passive and community surveillance, lighting and open lines of sight.

Environmental sustainability and resilience (35.65%)

Protection and enhancement of native vegetation, weed eradication and ongoing maintenance. Creating an environment that can withstand increasing climatic extremes, such as flooding and drought condition.

Urban Design (35.65%)

Provide a design that aligns with the needs of the community and key stakeholders

Culture and Education (33.04%)

Story-telling, education and connection through interpretive signage, artistic interventions, events and developing a relationship with the landscape.

Connections and Activation (29.57%)

Improve pedestrian (and other non-motorised) connections for the community around Lockhart, between open and public spaces.

Inclusiveness (23.48%)

An openness to all members of the community and cultural backgrounds

Identity (10.43%)

- » Ensure the project fits with the local identity and helps achieve a sense of place for the local community.

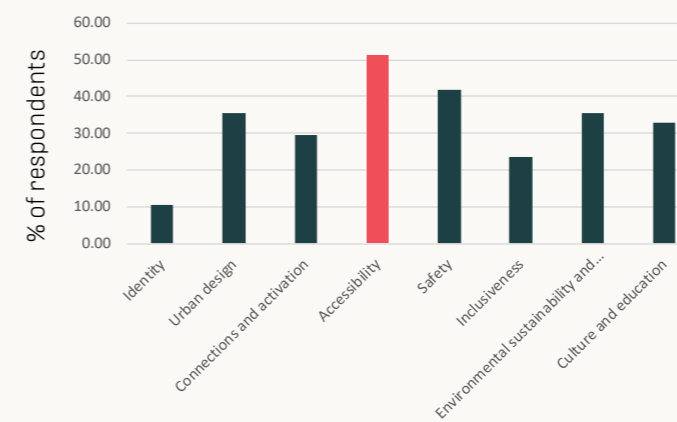


Figure 3: Result from on-line survey responses in relation to foundational principles

Vegetation, connectivity & opportunities for education and play

Respondents answered a series of questions in relation to their view on the importance of:

Landscaping

- » Over half of the respondents considered the inclusion of "landscaping with a mixture of vegetation types, plants and grasses" very to extremely important.

Pedestrian and cycling connections

- » The majority of respondents considered 'pedestrian and cycling connections with shared paths' a priority, reinforcing the importance of the physical framework for movement.

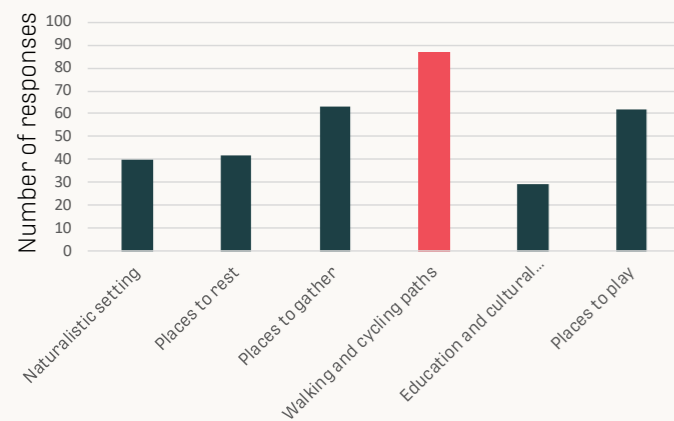
Educational elements and opportunities for discovery and play

- » The respondents identified opportunities to further imbue the project with elements for education, discovery and play.
- » In this instance, better feedback may be gained at later stages when the community has something more tangible to respond to.

Physical characteristics

The respondents were asked to select up to three important physical characteristics:
 (Response listed in the order of popularity)

- » Walking and cycling paths
- » Places to gather
- » Places to play
- » Places to rest
- » Naturalistic setting
- » Education and cultural opportunities



Is there anything else you would like to see in a master plan for Brookong Creek?

Finally, an open ended question was asked, for any other ideas the community like to see implemented in the master plan.

“A partnership with local Wiradjuri people to provide correct place names in language and planting of native plants. Areas to gather for cultural talks”

“I’d like for it to incorporate a peaceful place and environment where people from the community (or visiting) can go to sit and immerse themselves in nature.”

“I would love to see an off leash dog park.”

“Indigenous input ”

“Many native trees to bring back all the birds”

“I would like a place to rest down near the creek with a dog park so you can take your dog down to the creek and let them play in the dog park while you catch up with an old friend ”

“Having grown up around and played down Brookong Creek, I would say this is already an amazing place, so don’t mess with what is already naturally beautiful. Please keep your/our plan simple. The plan has lots of good ideas but we certainly don’t need clutter, just space”

“Shaded play and gathering spaces are important due to the extreme heat in summer. Flood resistance for infrastructure and landscaping.”

“Pump track!”

“A wonderful opportunity for Lockhart to showcase the beautiful environment and preserve Lockhart’s unique character. The master plan includes creates opportunities for views and beautiful landscaping.”

Summary

- » Many of the responses outlined the importance of a constructed network of paths and a safe network.
- » The responses could broadly be summarised as the prioritisation of physical-spatial characteristics and movement frameworks over the social and/or conceptual.
- » Understandably, some of the concepts are more amorphous ideas, though these can be layered into the project outcome and experience.
- » One of the ideas not earlier considered in the scope included an off leash dog park, which can be factored into the master plan.
- » The project team’s job is to enrich the community wishlist into a cohesive experience as well as integrate contemporary landscape and land use ideas into the master plan.

Draft Master Plan

Through developing the brief with Council and testing those ideas with the community, a series of foundational principles has been proposed which inform the Draft Master Plan.

The draft seeks to bring together the needs and desires of the community for Brookong Creek into a cohesive, functional and attractive proposal.

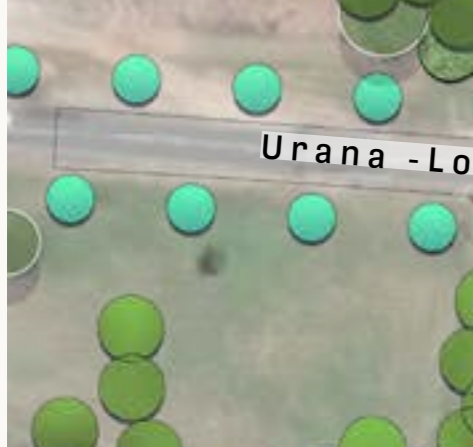
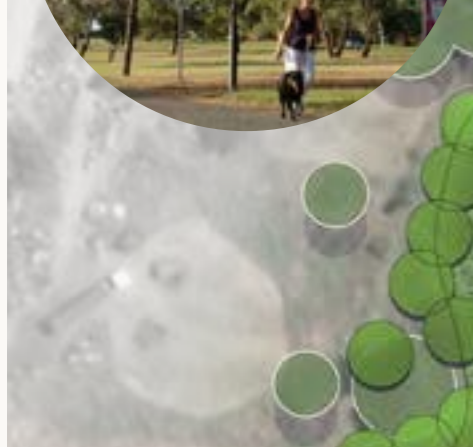
Master plan principles

As a result of the first round of engagement, the project team have implemented a set of foundational ideas and functional principles to guide the project.

An accessible network	Play and discovery	Education and culture	Community and events	Ecological restoration
<p>Creating a network of shared pathways linking local destinations:</p> <ul style="list-style-type: none"> » Green Street precinct to the north » Walter Day Park to the east » The Lockhart Showground to the south » Planned residential growth to the west <p>The network should encourage all ages and abilities to explore and navigate the area. The initial round of feedback indicated this was the most important feature of the Master Plan to the respondents. As well as providing connections, the pathways will also form navigable loops around Brookong Creek for the community and tourism.</p>	<p>The provision of a playground, youth activation areas for a range of age groups and younger members of the community. Provide smaller moments for quiet discovery, through place-making and way-finding.</p> <p>Opportunities for bigger items (financially as well as spatially), such as a pump track and a sound shell will be identified and explored.</p>	<p>Engagement with representatives of the Wiradjuri people to co-design - including:</p> <ul style="list-style-type: none"> » The Wiradjuri dreaming project » Opportunities to pass on local knowledge, an understanding of Country and what it means to the community. <p>The project should encourage the community to consider themselves as custodians of Brookong Creek and broader landscape.</p>	<p>Lockhart hosts community events ranging in scale, including The Spirit of the Land festival, a local celebration of sculpture and art.</p> <p>The thoughtful integration of temporary, large scale events, as well as space for hosting community groups of all sizes will be considered.</p>	<ul style="list-style-type: none"> » Environmental regeneration. Removing invasive species and re-introducing indigenous and native species. » Encouraging a diversity of vegetation, flora and fauna. » Consider the creek in the states of empty, full and in between - requiring the plan to negotiate these different states.

GENERAL RECOMMENDATIONS

- ▶ Protect adjacent residents from bushfire risk by maintaining reserve boundaries.
- ▶ Implement an ongoing weed eradication program as part of the reserve maintenance.
- ▶ Prepare a revegetation plan and implement over time as the reserve is developed.
- ▶ Implement a hierarchy of identifier, directional and interpretive signage across the reserve.
- ▶ Provide solar lighting to key pedestrian walkways.



FUTURE RESIDENTIAL DEVELOPMENT

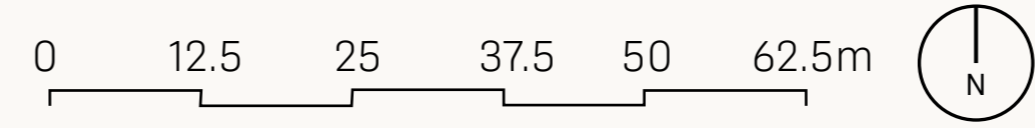
FUTURE RESIDENTIAL DEVELOPMENT

SHOWGROUND



- 1 **Develop a dog park**
Provide fencing, double gates, furniture, agility equipment, trees and planting.
- 2 **Create a sculpture path**
Install Council acquired Spirit of the Land artworks along a new path and boardwalk.
- 3 **Improve the creek edge**
Flatten the banks and provide macrophyte planting for improved safety, maintenance access and habitat.
- 4 **Improve pedestrian connections**
Provide a raised wombat crossing and kerb outstand for safer pedestrian crossing.
- 5 **Establish the Wiradjuri Trail**
Install the first sculpture on Green Street West where it can be easily seen by passers-by. Create a loop of up to 10 sculptural pieces.
- 6 **Create a Wiradjuri cultural space**
Develop the area to the west of the Rio building for education and interpretation. Provide two yarnning circles, one small and one large. Collaborate with local Wiradjuri people to design and develop outdoor spaces suitable for group performances and learning (e.g. basket weaving, dance, art, bush tucker)
- 7 **Enhance the entry experience**
Install identifier and way-finding signage to highlight the entries to the reserve.
- 8 **Create a village green / event space**
Develop the flat area as a central gathering space. Provide public toilets and space for food trucks. Co-design a flood resistant structure that functions as a sound shell (similar to Riverside Reserve at Wagga Wagga) which references the form of the traditional 'gunyah'.
- 9 **Utilise lane for event access**
Provide vehicular access food trucks, events and local residents. Install a gate close to the sound shell to control access.
- 10 **Naturalise the stream**
Investigate naturalising of the stream to create a series of pool and riffles (check dams) on the downstream side of the bridge.
- 11 **Develop a Wiradjuri interpretation playspace**
Develop a new playspace with local Wiradjuri people and include a range of nature based equipment and splash pad, as well as toilets, changing place facility and picnic facilities.
- 12 **Create pedestrian links**
Utilise narrow open spaces to connect the creek landscape to facilities at Walter Day Park.
- 13 **Create youth active zone**
Develop a pump track, ninja course and picnic facilities.
- 14 **Connect both sides of the creek**
Construct a pedestrian bridge linking the new housing to the west to the pool.
- 15 **Prioritise the pedestrian**
Provide bollards to restrict vehicular access to rear of properties and solar lighting for improved security.
- 16 **Improve drainage**
Create a series of pool and riffles (check dams) to the drainage channels off Brookong Street. Include pedestrian bridges.
- 17 **Connect both sides of the creek**
Provide an informal creek crossing with stepping stones.
- 18 **Create spaces for habitat**
Remove olive infestation under existing native tree over-storey and undertake revegetation of the bank.
- 19 **Strengthen the town entry**
Augment existing pin oaks to create a stronger town entry experience. Fill area to create a level grass space, which could potential be used for camping. Provide a path with direct access to Green Street and a second path which follows the creek line.
- 20 **Connect the Showground**
Investigate a possible refuge for improved safety of pedestrians crossing Urana Street. Provide a path to the Showgrounds entry.

BROOKONG CREEK DRAFT MASTER PLAN





Dog Park
Landscape concept plan

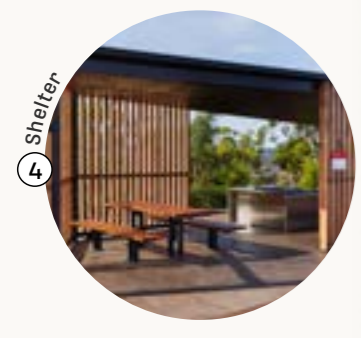


Key plan

- Legend**
- Grass
 - Trees
 - Revegetation - local species
 - Mass planting - shrubs and groundcovers
 - Concrete paving
 - Agility equipment
 - Furniture
 - Fencing

0 2.5 5 7.5 10 12.5m





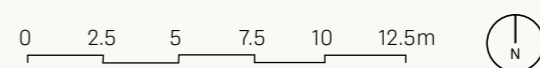
Key plan

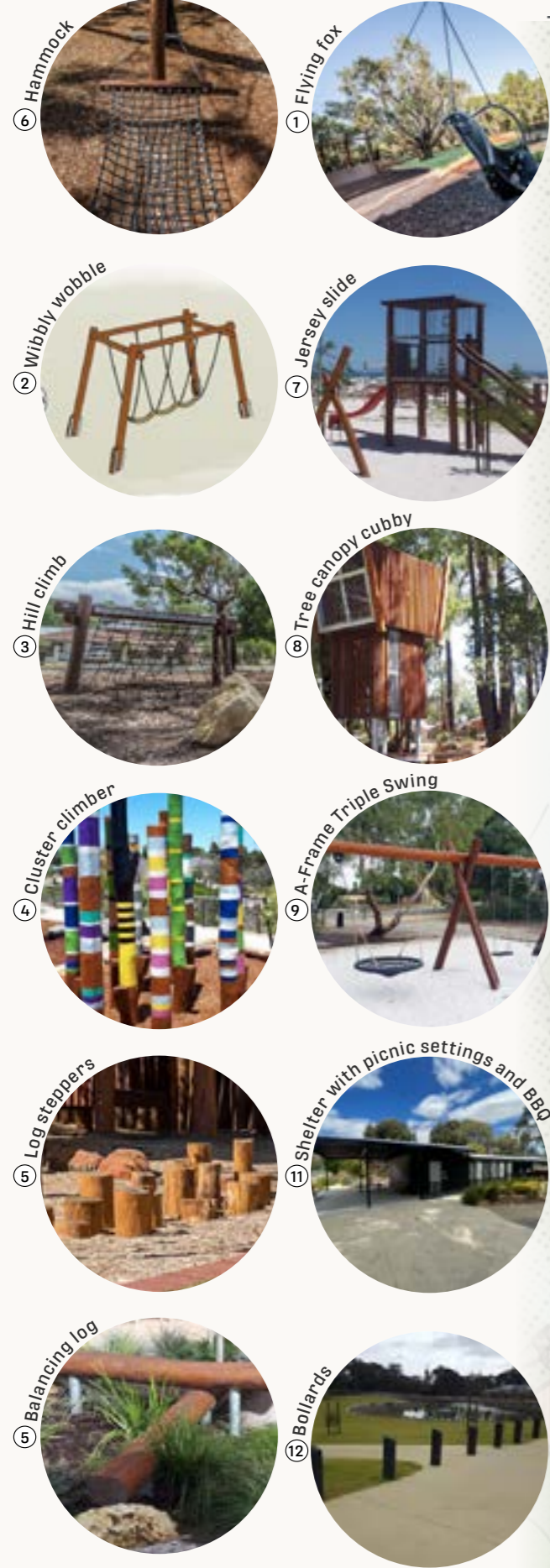
Legend

- Existing trees retained
- Trees
- Grass
- Rolled turf
- Mass planting - shrubs and groundcovers
- Revegetation - local species
- Concrete paving
- Feature paving
- Gravel
- Wall
- Furniture
- Bollards

Green Street West
Landscape concept plan

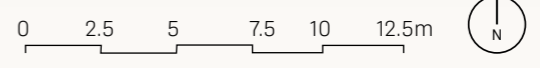
Joins playspace landscape concept on page 18





Key plan

- Legend**
- Existing trees retained
 - Trees
 - Revegetation - local species
 - Mass planting - shrubs and groundcovers
 - Rolled turf
 - Grass
 - Concrete paving
 - Feature paving
 - Organic softfall
 - Seating
 - Bollards



Playspace
Landscape concept plan

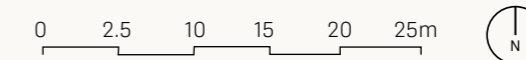


Key plan

Legend

- Existing trees retained
- Trees
- Grass
- Mass planting - shrubs and groundcovers
- Revegetation - local species
- Rubber softfall
- Organic softfall
- Asphalt pump track
- Concrete paving
- Furniture
- Bollards

Youth Active Zone
Landscape concept plan



Creek restoration

Background

Council understands the complexities of creek management about water flow, vegetation on the creek bank and its impacts on bank stability. Council will seek further advice and any permissions with Fisheries NSW and any other organisations before any works are carried out.

Suggested planning steps

- » Check for interested parties to assist.
- » Check channel stability.
- » Setting priorities and break into manageable areas.
- » Assess material and equipment options.
- » Select appropriate weed control practices.
- » Select and develop treatment options.
- » Impacts on fauna and flora.
- » Detail design and cost estimate of preferred treatment option.
- » Obtain approvals and permits.

Suggested advice for detail design

- » Ensure that large weed removal does not reduce the vegetative roughness of the waterway.
- » Investigate whether large weed root systems can be used for erosion control.
- » Ensure timing of weed removal sits adjacent to re-vegetation.
- » Avoid non-vegetated solutions for stabilisation.
- » Avoid mat-forming grasses.
- » Use stiff grasses which are locally endemic.
- » Place rocks with native vegetation throughout on steeper bank slopes.
- » Ensure there is over-bank riparian vegetation.
- » Ensure there is a suitable balance between upper (canopy), middle and lower storey plants.
- » Ensure that creek bends (outside and inside) have suitable bank slopes to cope with erosion and add more rock stabilisation (seek engineering advice).

- » Ensure that the creek has a good ratio of gravel and rock along the base of the creek (seek engineering advice).
- » Consider protection of the toe of bank.
- » Consider benching of slope for future maintenance safety (1.5m wide).
- » Consider jute mesh and/or hydraulic-applied erosion control blankets. Rocks can be used as anchors as well as metal pins/barbed plastic pins, etc. Do not use plastic reinforced mats.

Suggested species list

Trees

<i>Brachychiton populneus</i>	Kurrajong
<i>Callitris glaucophylla</i>	White Cypress Pine
<i>Eucalyptus camaldulensis</i>	River Red Gum
<i>Eucalyptus melliodora</i>	Yellow Box

Shrubs

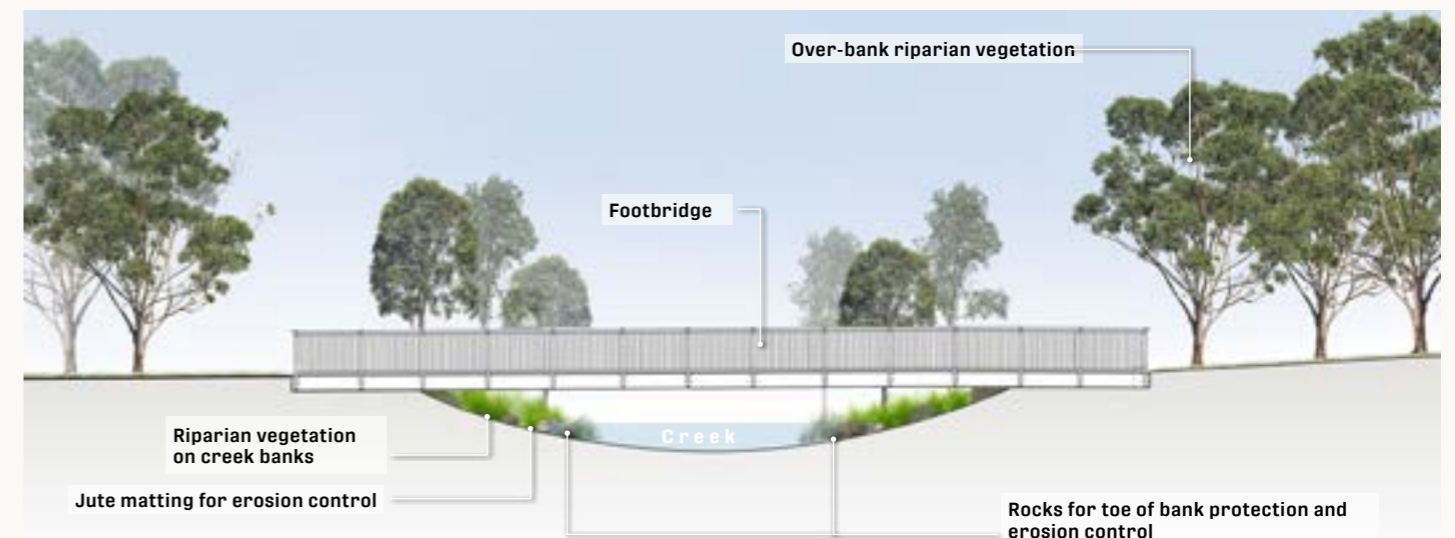
<i>Acacia decora</i>	Western Silver Wattle
<i>Acacia hakeoides</i>	Hakea Wattle
<i>Bursaria spinosa</i>	Sweet Bursaria
<i>Eremophila longifolia</i>	Long-leaf Emu-bush

Rushes, sedges & grasses

<i>Carex appressa</i>	Sedge
<i>Carex tereticaulis</i>	Sedge
<i>Cyperus</i> species	Umbrella Sedges
<i>Eleocharis acuta</i>	Common Spike rush
<i>Juncus</i> species	Rushes
<i>Phragmites australis</i>	Common Reed
<i>Poa labillardieri</i>	Tussock Grass
<i>Mentha</i> species	Native Mint
<i>Typha orientalis</i>	Cumbungi



Typical plan



Typical section

Next steps

Would you like to have your say about the Brookong Creek Draft Master Plan?

We want you to be involved in helping to guide the Council's decision making for this project. There are several ways that you can have your say about the Draft Master Plan.

COMMUNITY SESSIONS

Detail tbc with council

WRITTEN SUBMISSIONS

Detail tbc with council

CONTINUED INVOLVEMENT

Detail tbc with council