

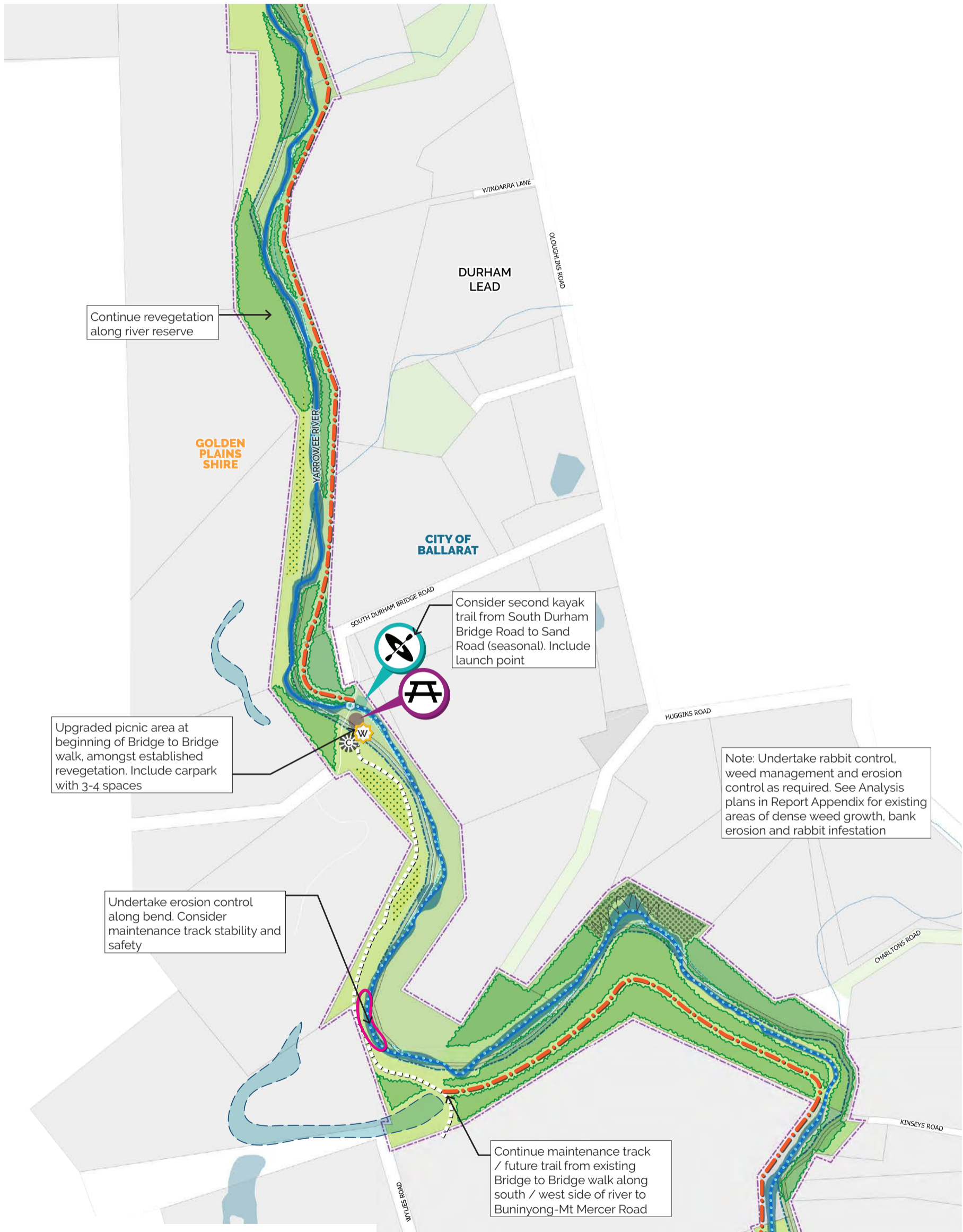


**Yarrowee River Rural**  
Masterplan



Scale 1:5000 at A3



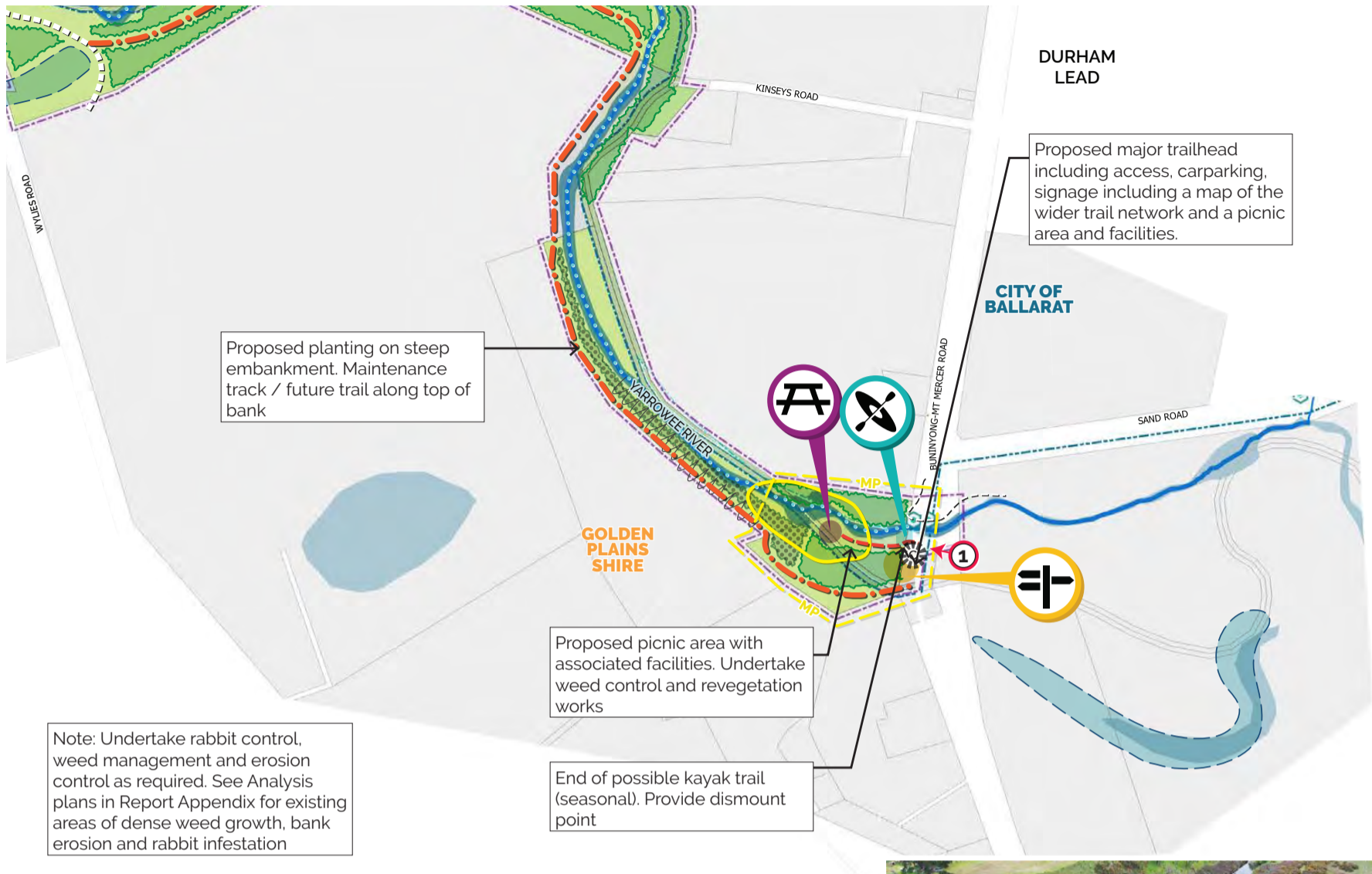


**Yarrowee River Rural**  
Masterplan



Scale 1:5000 at A3



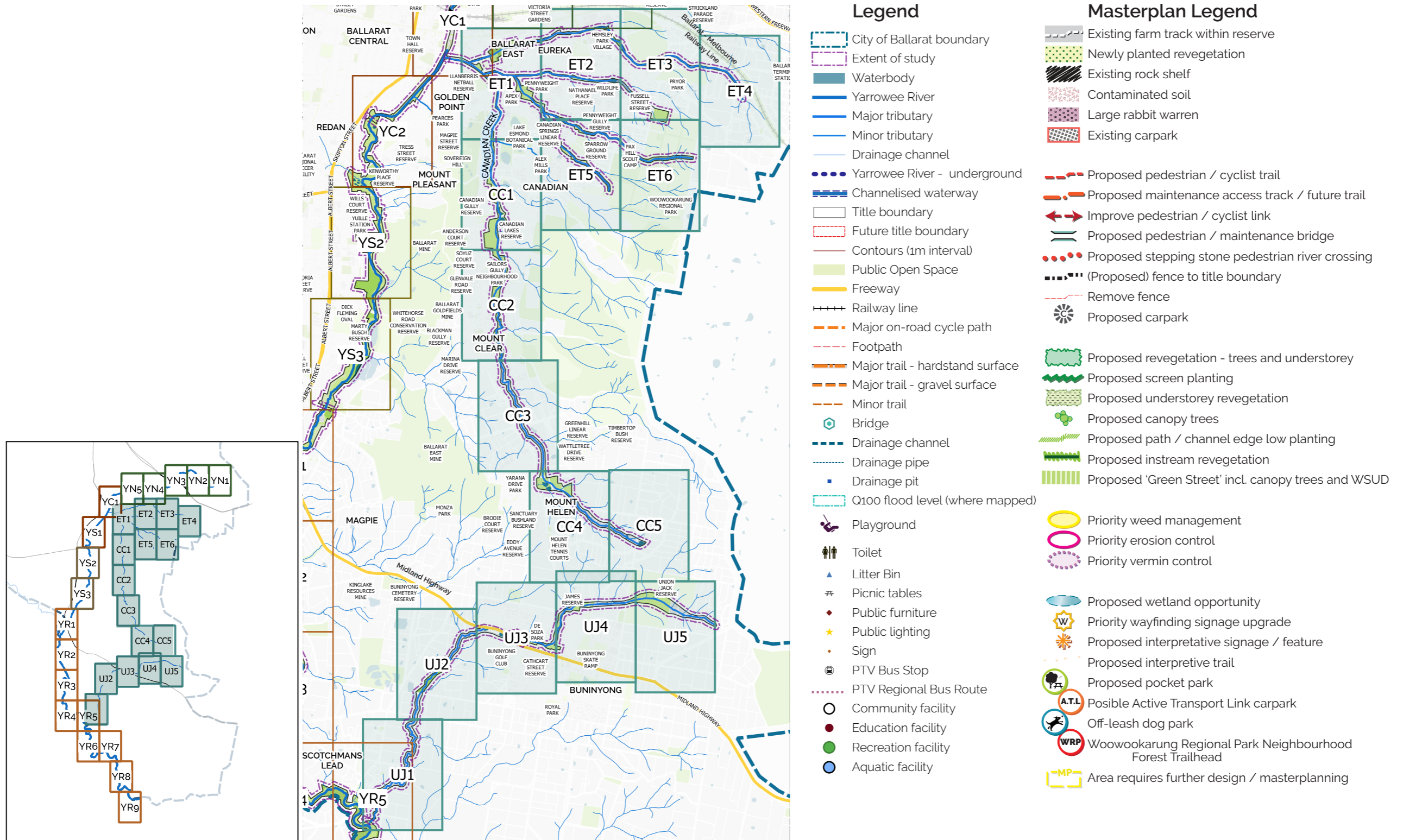


# Yarrowee River Tributaries



Canadian Creek at Canadian Lakes Estate, looking north towards Black Hill

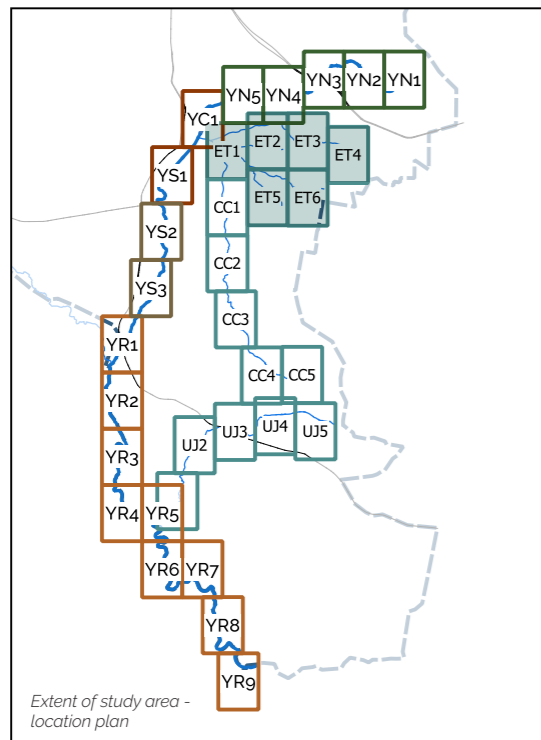
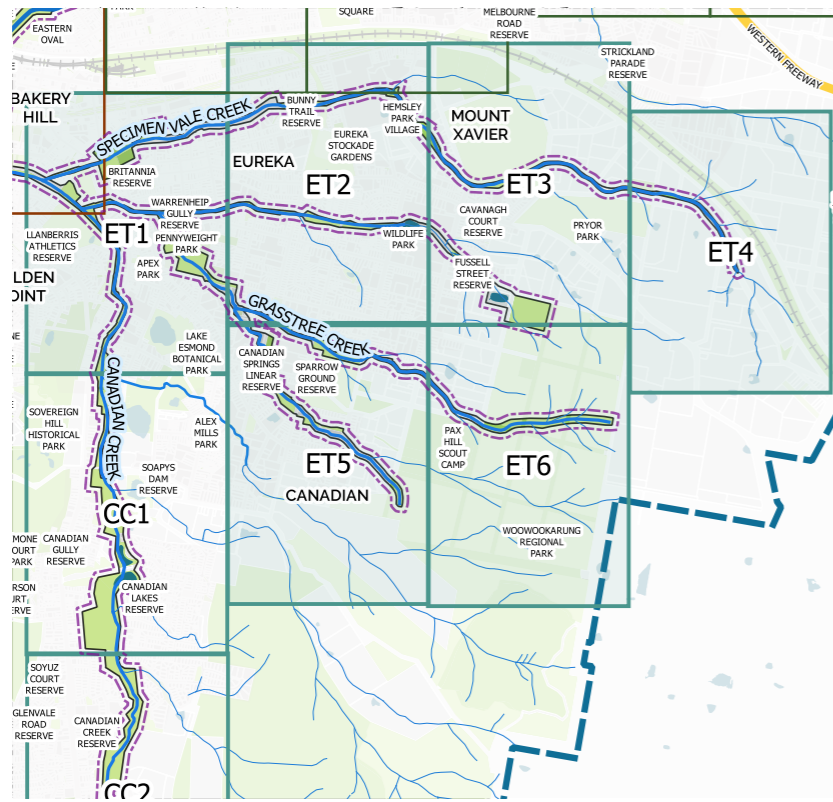
# Tributaries Scope and Reference



on Hay Landscape Architects and Roger Thomas

## Eastern Tributaries

Canadian Creek (Part), Specimen Vale Creek, Warrenheip Gully, Grasstree Creek and Pennyweight Gully



A mix of native and exotic trees edge the Canadian Creek channel near Eureka Street.



Car parking under large exotic trees in Steinfield Street, Canadian Creek channel.



Warrenheip Creek channel on Callow Street



Warrenheip Creek behind the back fences of houses



Dog walkers along Warrenheip Creek



Weedy industrial area on Specimen Vale Creek, with some remnant indigenous vegetation



Specimen Vale Creek underground section at Hemsley Park Country Club



Open fence types provide views to Specimen Vale Creek

### Landscape character & general conditions

Specimen Vale Creek, Warrenheip Gully, Grasstree Creek and Pennyweight Gully are small ephemeral creeks and tributaries of the Canadian Creek (there are 11 tributaries in total). Specimen Vale Creek and Warrenheip Gully are two valleys that run roughly parallel east to west and drain the area of Ballarat East. Pennyweight Gully and Grasstree Creek rise in the Woookarung Regional Park, flowing through the suburbs of Canadian and Ballarat East before joining Warrenheip Gully, Canadian Creek and the Yarrowee River.

The surrounding area is mostly residential with some commercial and industrial areas. Specimen Vale Creek flows through or past Mt Xavier Golf Course, the former Ballarat East Town Hall Gardens and under LT Fraser Reserve. Warrenheip Gully flows through the Ballarat Wildlife Park and Llanberis Athletics Reserve. Grasstree Creek flows through Sparrow Ground Reserve.

The creeks form gentle valleys in an undulating landscape, becoming hillier in the forest area of Woookarung Regional Park.

A well used trail runs along each creek (mostly granitic sand). There is a reasonable reserve width either side (average 20m wide, and much wider in some areas). The creeks are sometimes at the back of residential properties and sometimes adjoining a road reserve.

The EVC along Specimen Vale Creek and Warrenheip Gully is Swampy Riparian Woodland; and Grasstree Creek and Pennyweight Gully is Valley Grassy Forest. Vegetation along the river corridor is mostly native, and the surrounding area has a diversity of exotic and native trees in the streetscapes. The vegetation ranges from areas of weed infestation to high quality indigenous / remnant vegetation. There is an area of relatively intact indigenous vegetation, including many wildflowers, along Grasstree Creek in the forested and grassy section between Kline and Richards Streets.

Like the Yarrowee River, the health of the tributary creeks has been adversely impacted by gold mining activities and urban development. Unfortunately several developments have occurred over the waterway, discontinuing the river corridor. Some sections have been piped, limiting the environmental and recreational values of the waterway.

The Ballarat East area has significant cultural and built heritage, and environmental values. Planning policy / controls should be reviewed and development to ensure development along the river corridor enhances these values.

### Assessment of the 1995 Masterplan

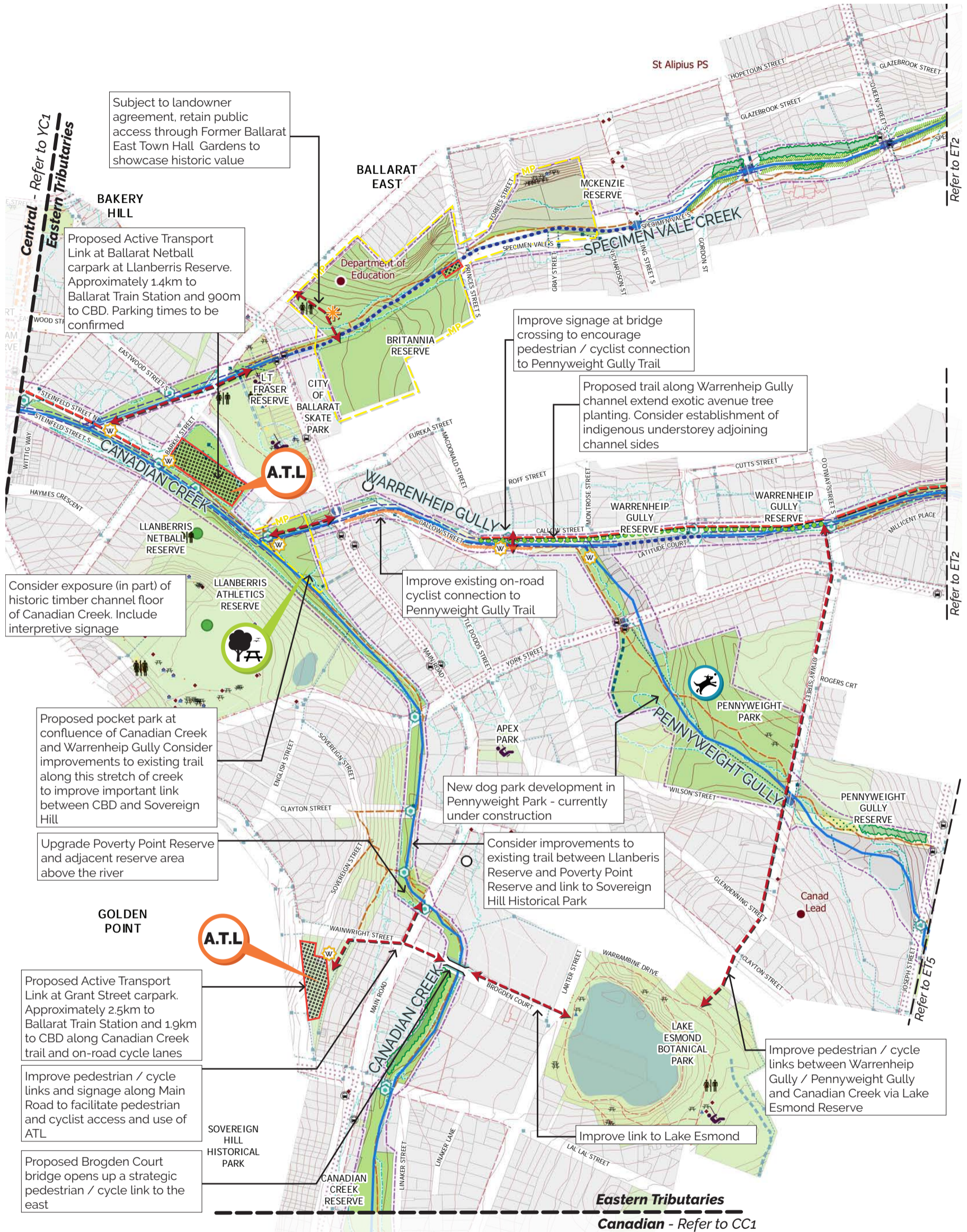
Canadian Creek, Specimen Vale Creek, Warrenheip Gully, Pennyweight Gully and Grasstree Creek are outside of the scope of the 1995 Masterplan. There has been extensive revegetation on these creeks and gullies.

### Overview of recommendations for the Eastern Tributary Reach

The following is an overview of the recommendations for this reach. Refer to the plans and the detailed recommendations in the front of this report for more information.

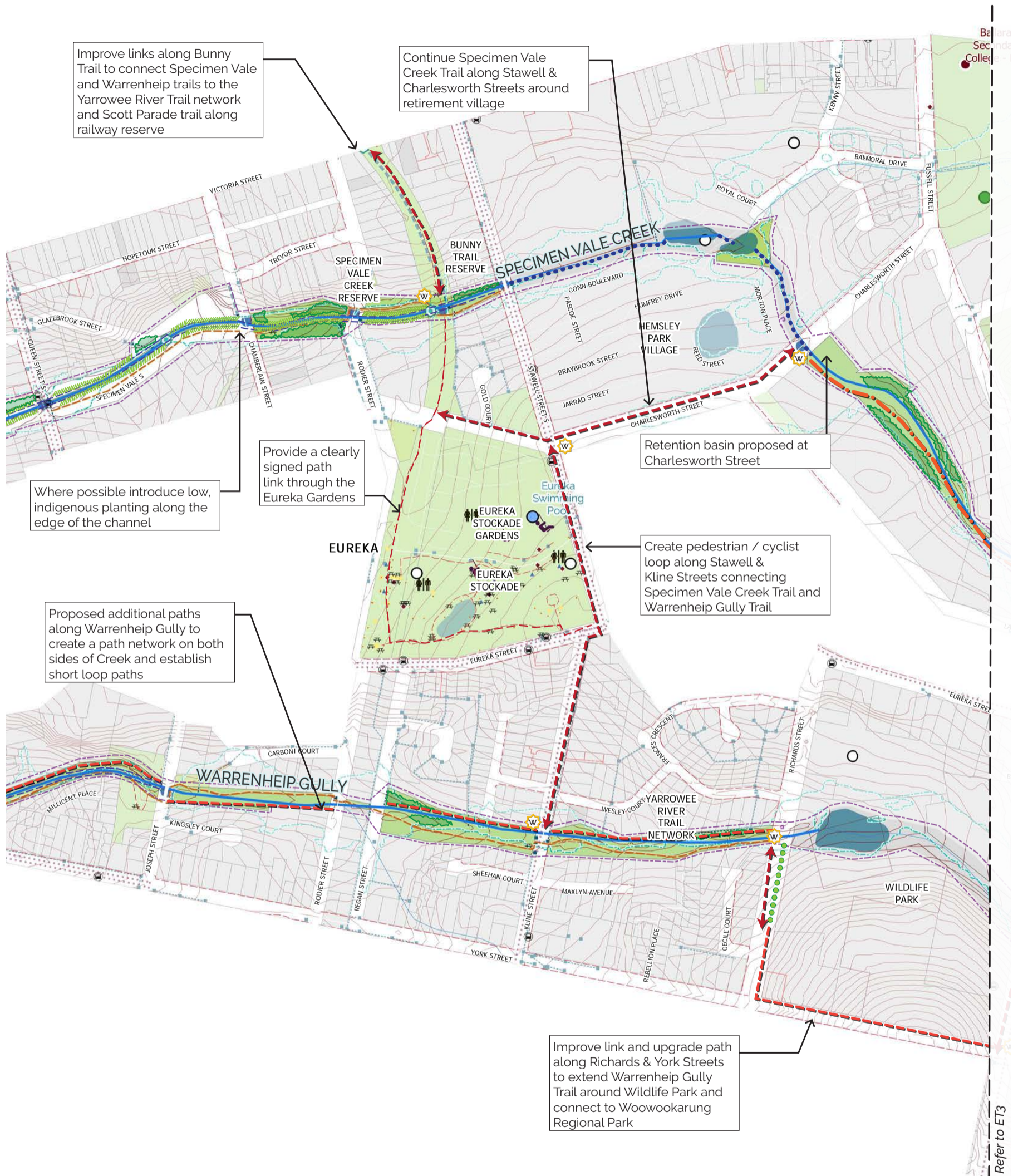
The following improvements are recommended:

- Provide Active Transport Links to improve connection to Ballarat CBD and WRP
- Provide links between creek trails to create larger loops.
- Provide recreational and social spaces along the river corridor
- Develop masterplans for larger reserves adjoining the creek corridor
- Protect and enhance environmental values including remnant indigenous vegetation
- Weed control, indigenous revegetation and vegetation management
- Review and develop planning controls to preserve and enhance the natural, cultural and built heritage, and environmental values of all tributaries

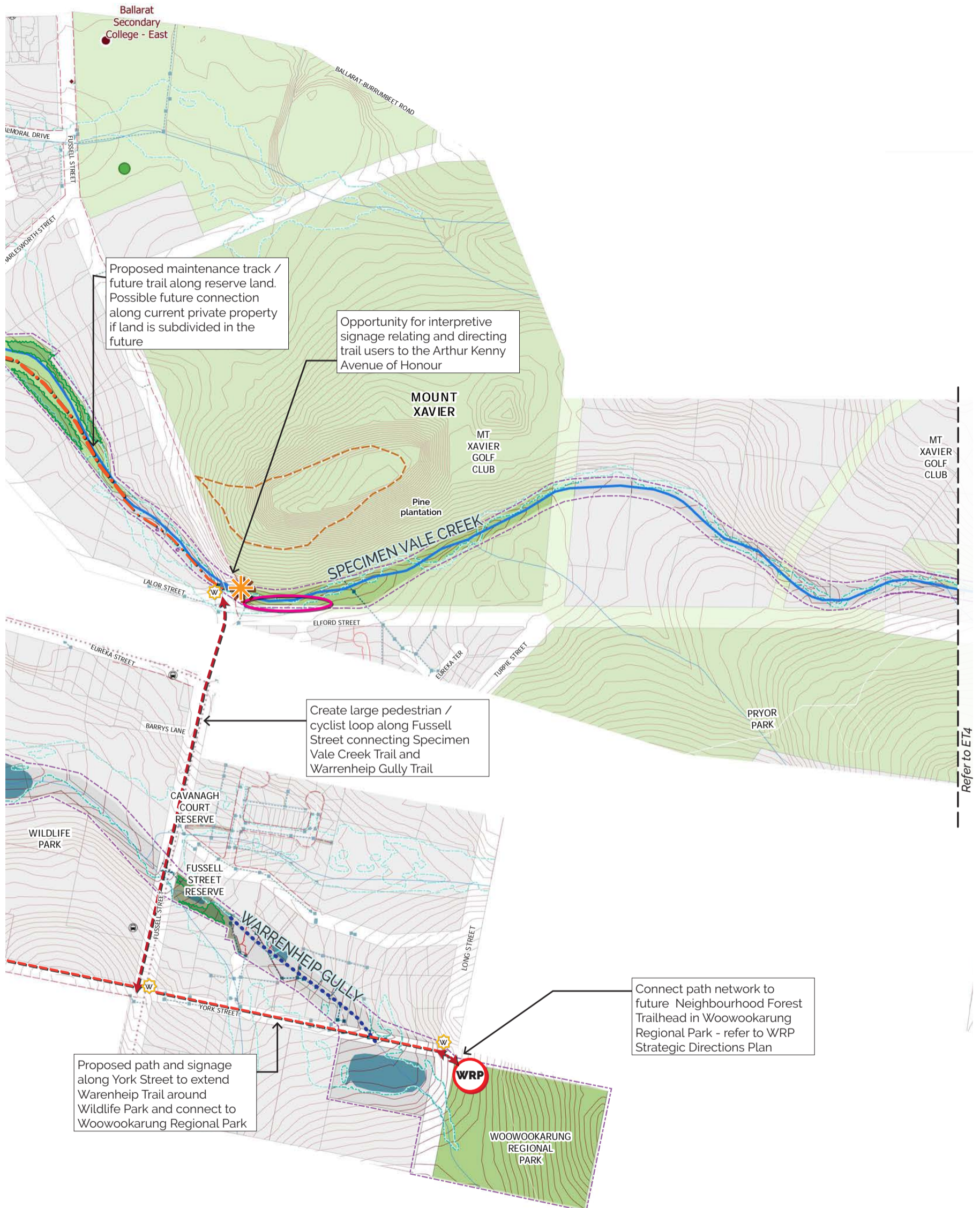


**Eastern Tributaries**  
 Canadian Creek, Specimen Vale Creek, Warrenheip Gully & Pennyweight Gully  
 Masterplan  
 Scale 1:5000 at A3

**ET 1**  
 Yarwooe Tributaries









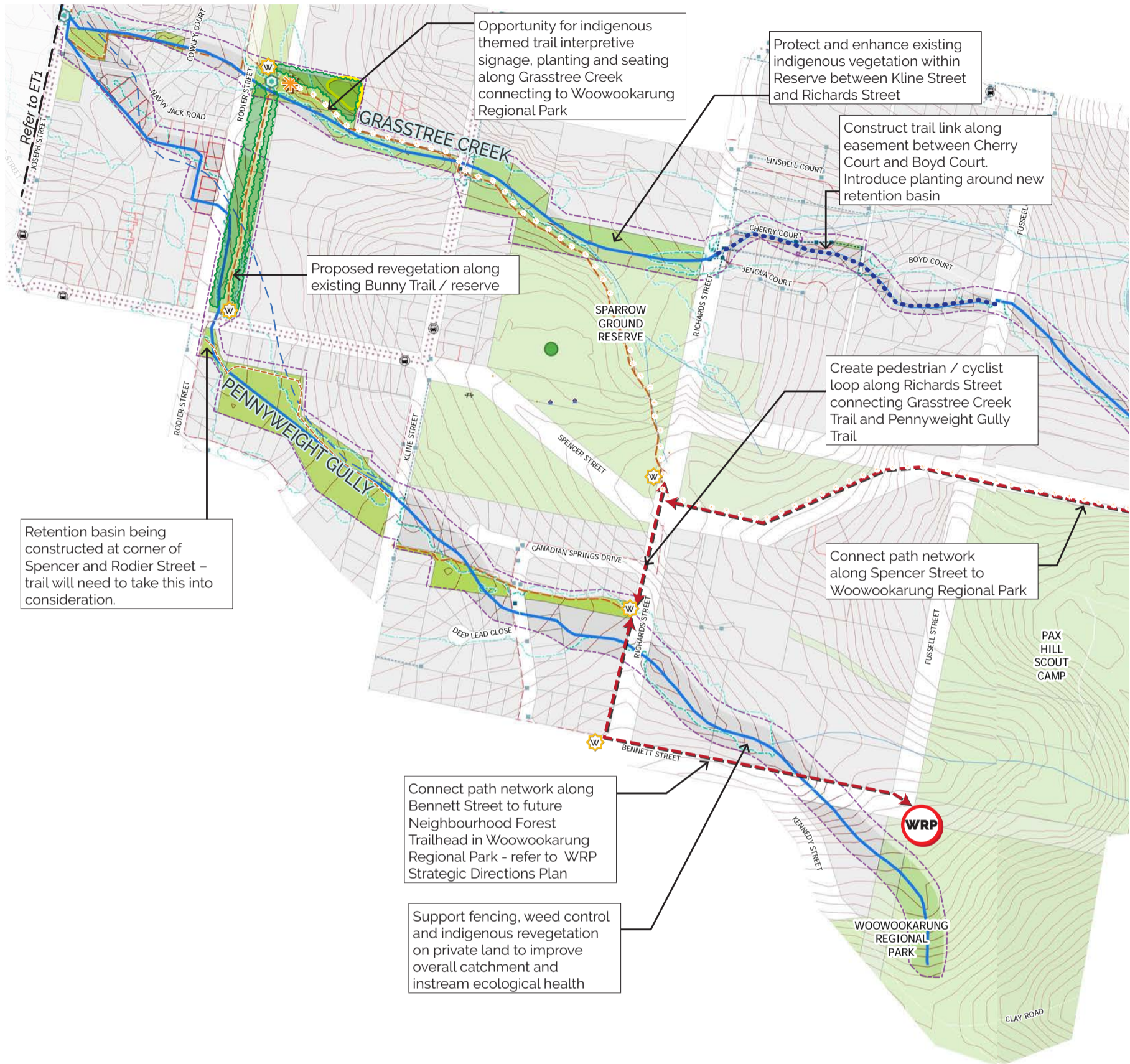
### Eastern Tributaries

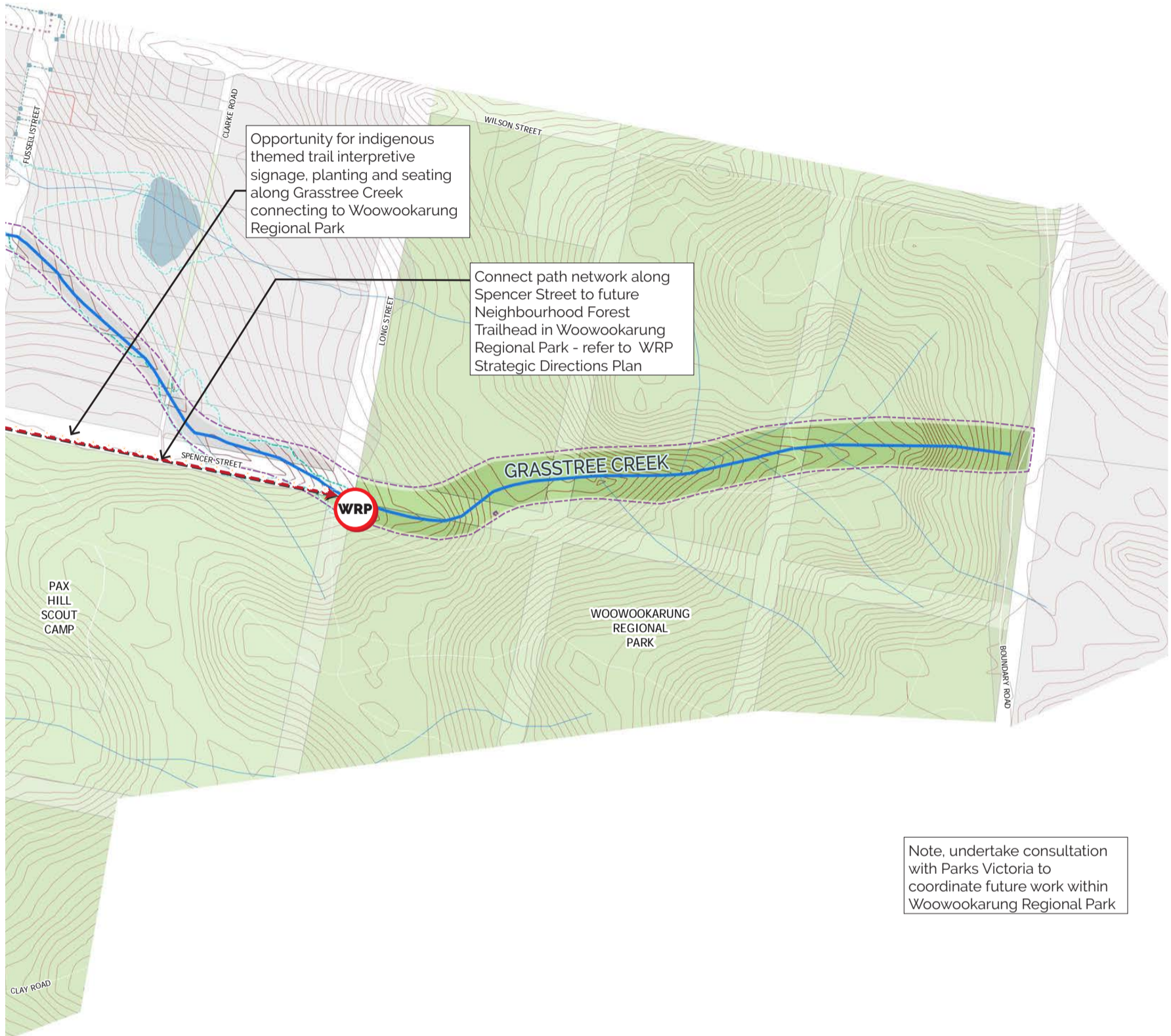
Specimen Vale Creek  
Masterplan



Scale 1:5000 at A3

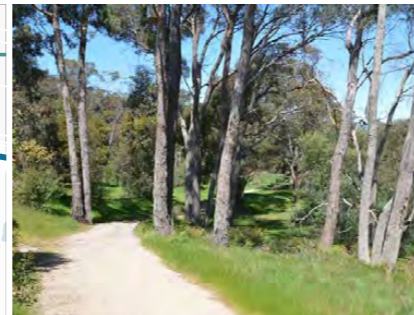
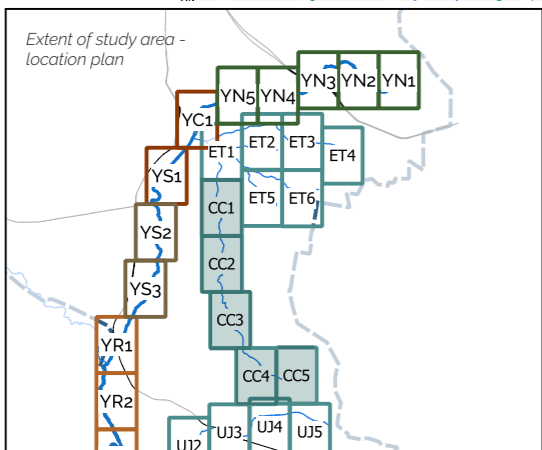
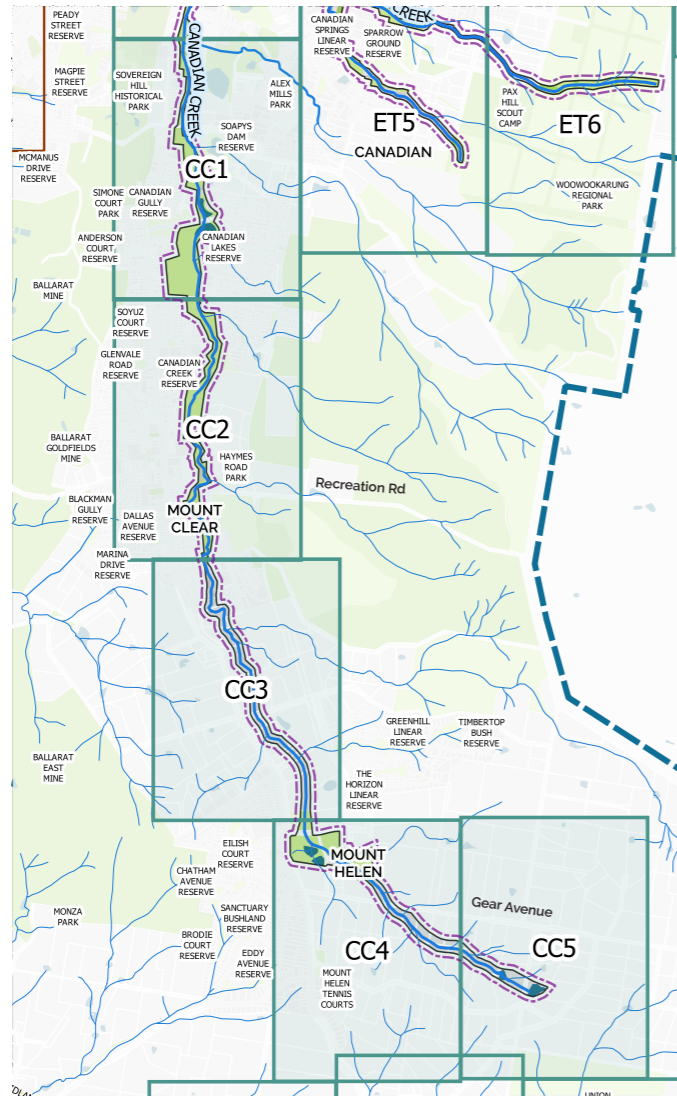






Note, undertake consultation with Parks Victoria to coordinate future work within Woowookarung Regional Park

# Canadian Creek



Remnant vegetation near Sully Court



Areas of dense vegetation



Playground in the creek corridor



Boardwalk over wetland at Canadian Lakes



Canadian Lakes wetland



Canadian Creek flows through the grounds of Mecure Hotel and provides a feature within this function centre



Wide reserve has opportunities for revegetation



Lots backing on to the Canadian Creek

## Landscape character & general conditions

Canadian Creek rises near Green Hill in Mount Helen. It flows through semi rural private land, and then becomes a generous linear reserve through the residential areas of Mount Helen, Mount Clear, Canadian and Golden Point.

The Canadian Creek adjoins a variety of recreational, educational and cultural facilities including Federation University, several schools (including Damascus College, Emmaus Primary School, Mount Clear Secondary College), reserves, hotels (including Mecure Hotel and Convention Centre), and tourist attractions such as Sovereign Hill.

Warrenheip Gully and Specimen Vale Creek join the Canadian Creek from Ballarat East. Several small tributaries join the Canadian Creek from the Woowookarung Regional Park including the Lal Lal Drain.

The Canadian Creek reserve feels like an oasis, a gentle valley with a wide flood plain in places, generally well vegetated and has a well used trails. The total width of the reserve varies between 15 – 200m with an average width of around 30m. Unfortunately, the reserve and trail terminates abruptly at Olympic Avenue where the creek enters private land.

The EVC classification mostly as Valley Grassy Forest. The upper reaches of the Canadian Creek have some intact patches of remnant indigenous vegetation. A small section of native Heathy Dry Forest occurs on the riverside at the western end of Sully Court. This could be restored and improved.

The Canadian Lakes wetlands enhance the environmental and recreational values of the river corridor and this model should generally be followed as urban development continues.

The river corridor becomes highly modified as it approaches central Ballarat. The creek is a concrete / bluestone channel and includes a section of channel with a historic timber floor. Vegetation is a mix of native and exotic species. Productive trees have been planted alongside the channel in some areas.

There is an opportunity to highlight the history of the gold rush along the Canadian Creek trail, including the first discovery of gold in Ballarat at Poverty Point.

## Assessment of the 1995 Masterplan

Canadian Creek is outside of the scope of the 1995 Masterplan.

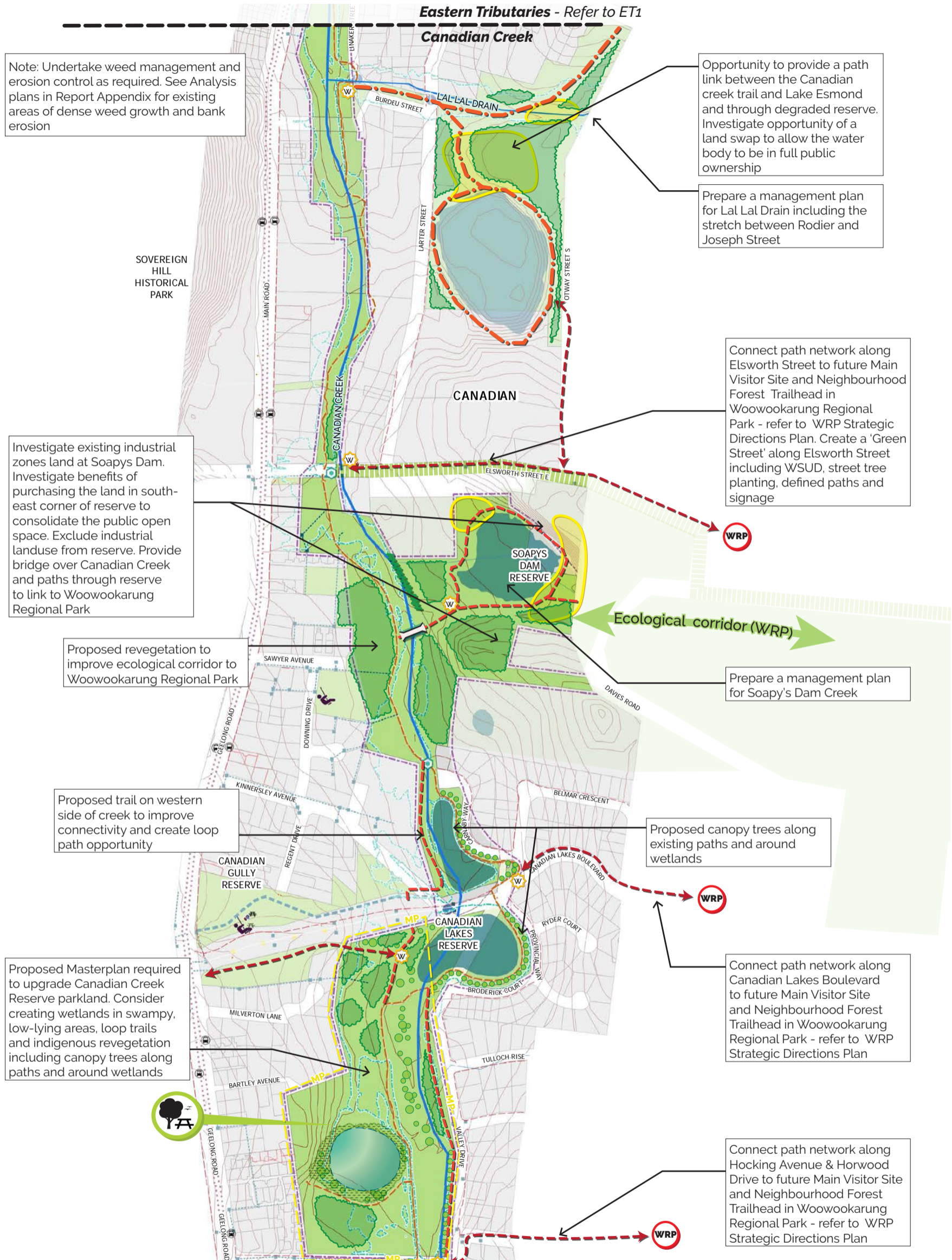
From Mt Clear north into urban Ballarat there has been much successful planting in the LINC period and before. The result is an attractive forested streamside environment.

## Overview of recommendations for the Canadian Creek Reach

The following is an overview of the recommendations for this reach. Refer to the plans and the detailed recommendations in the front of this report for more information.

The following improvements are recommended:

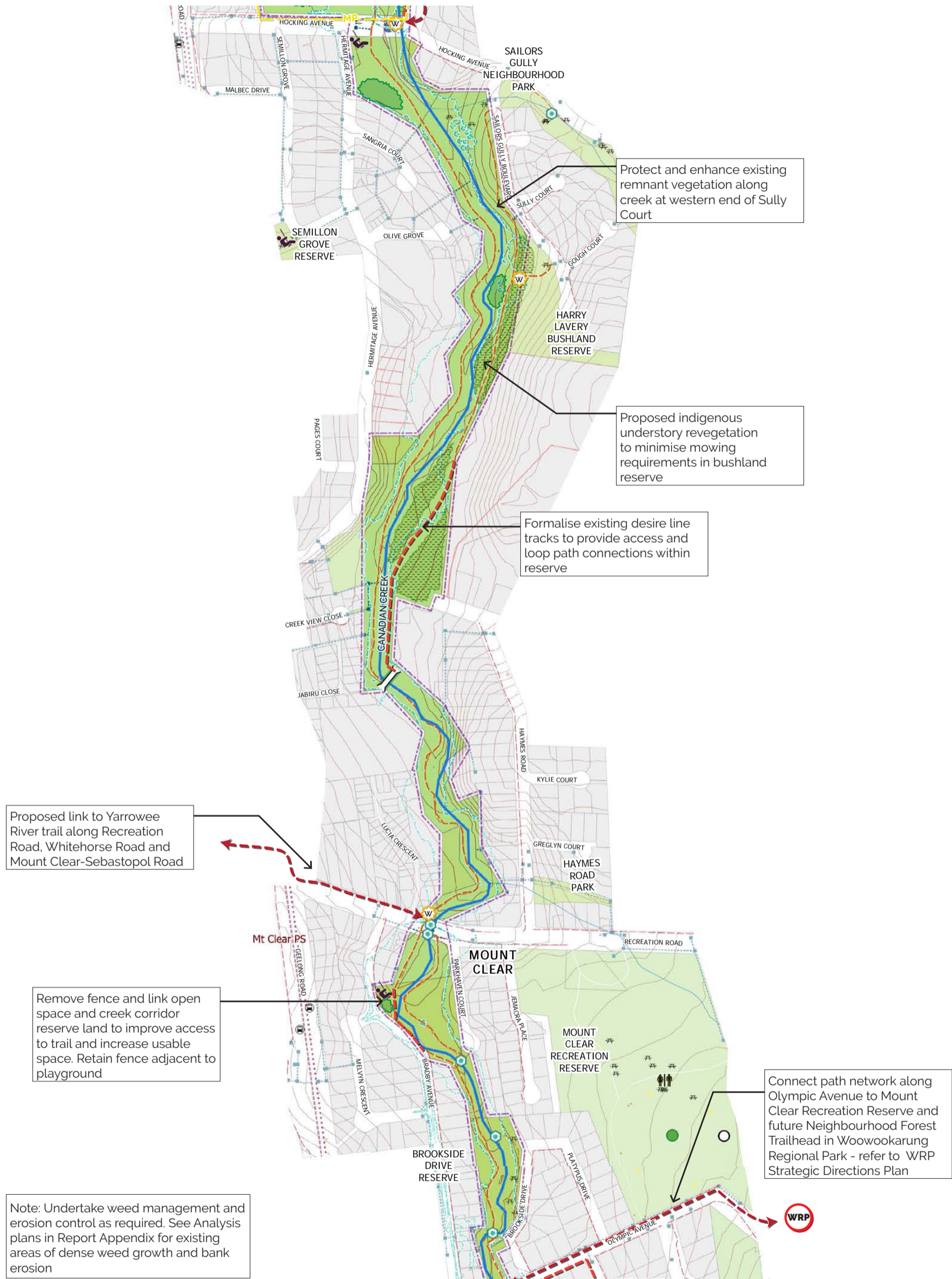
- Protect and enhance the riparian corridor, including pest and weed control, erosion control and indigenous revegetation on public and private land
- Improve pedestrian / cycle links to nearby recreational, educational and cultural facilities
- Provide pedestrian / cycle links to Woowookarung Regional Park
- Ecological corridors between the Canadian Creek and Woowookarung Regional Park
- Opportunity to develop creek corridor reserve if private / farm land is rezoned / subdivided
- Review and develop planning controls to preserve and enhance the natural, cultural and built heritage, and environmental values of all tributaries



**Canadian Creek Masterplan**

Scale 1:5000 at A3

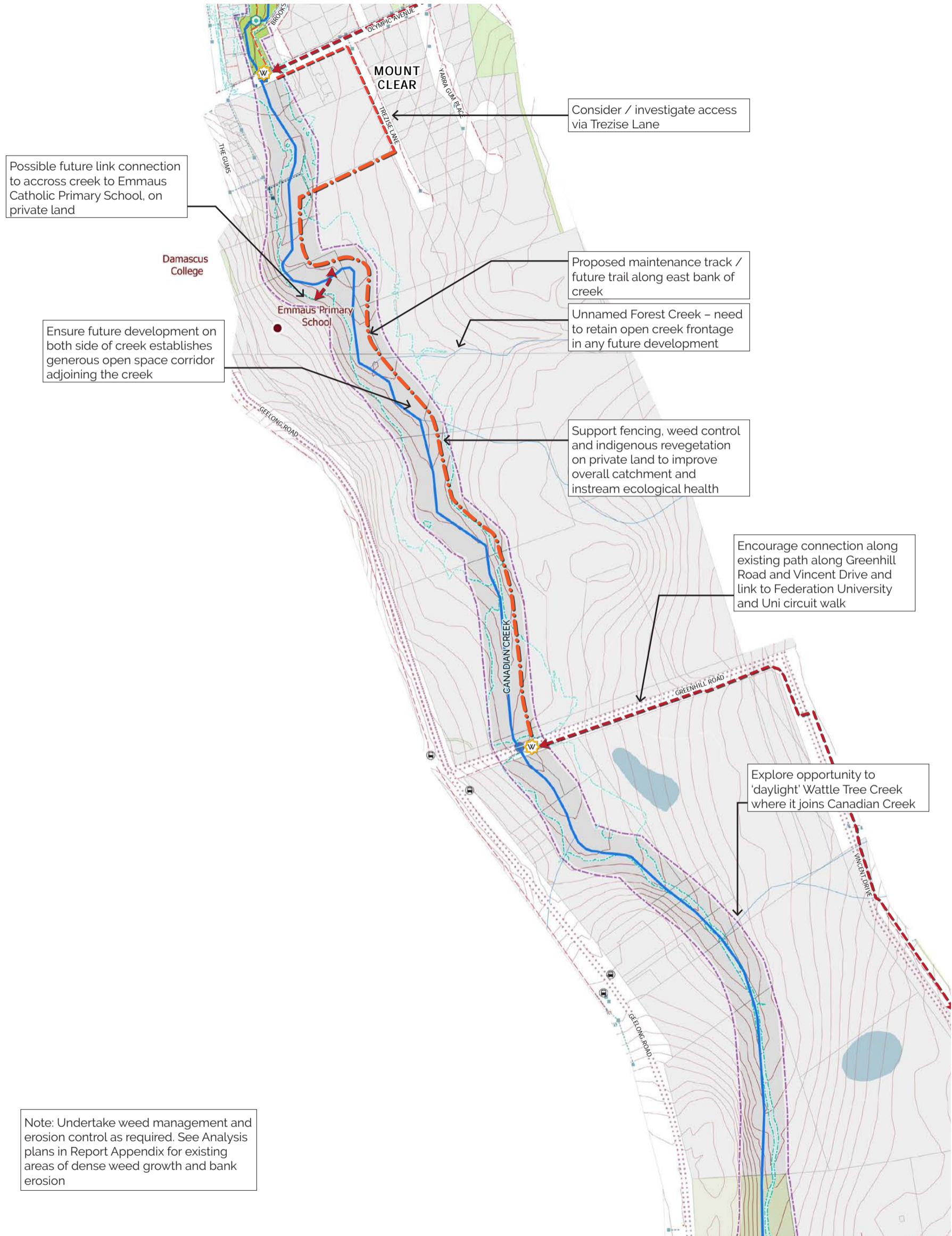
**CC 1**  
Yarwee Tributaries



**Canadian Creek Masterplan**

Scale 1:5000 at A3

**CC 2**  
Yarrowee Tributaries

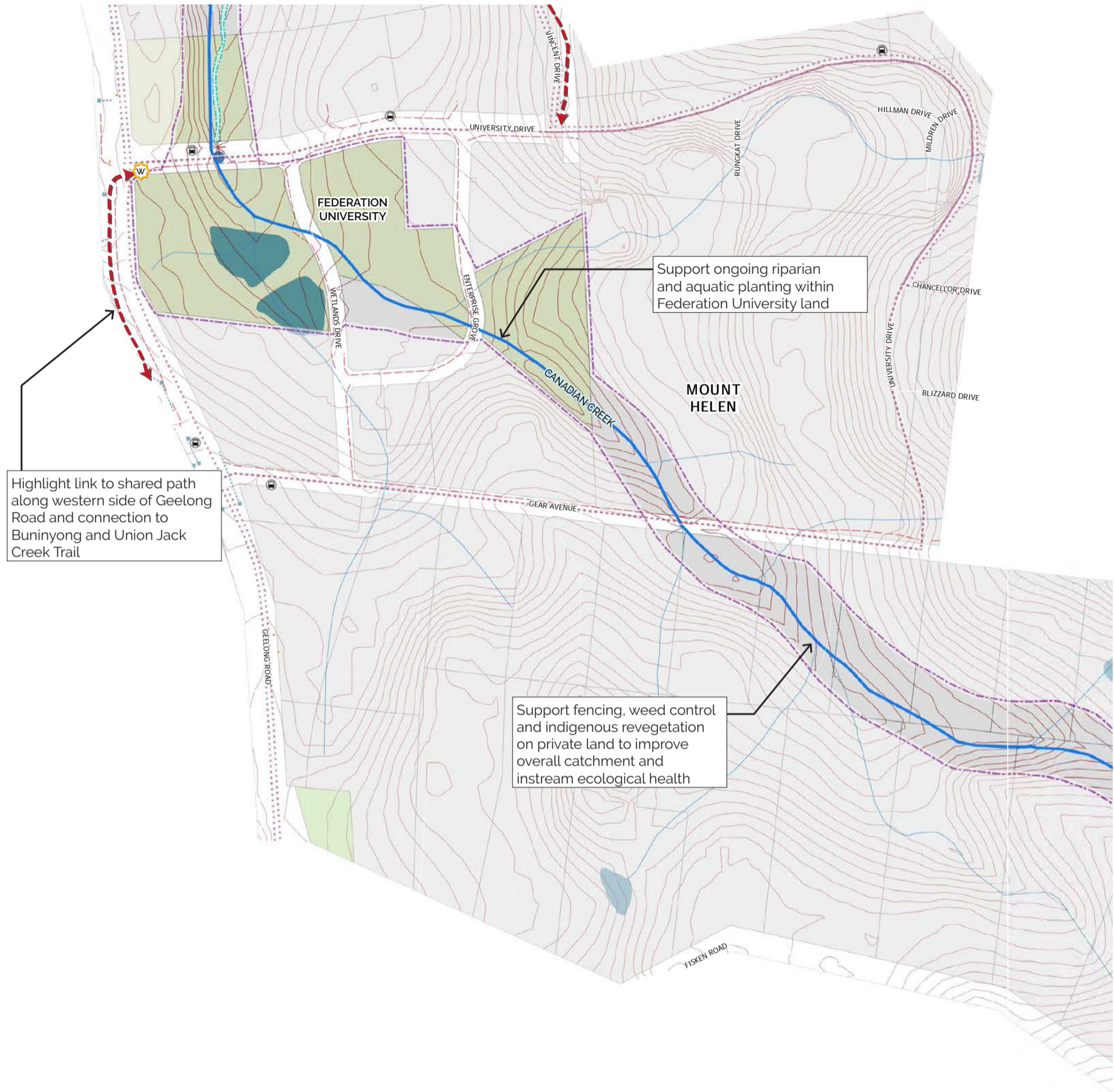


### Canadian Creek Masterplan

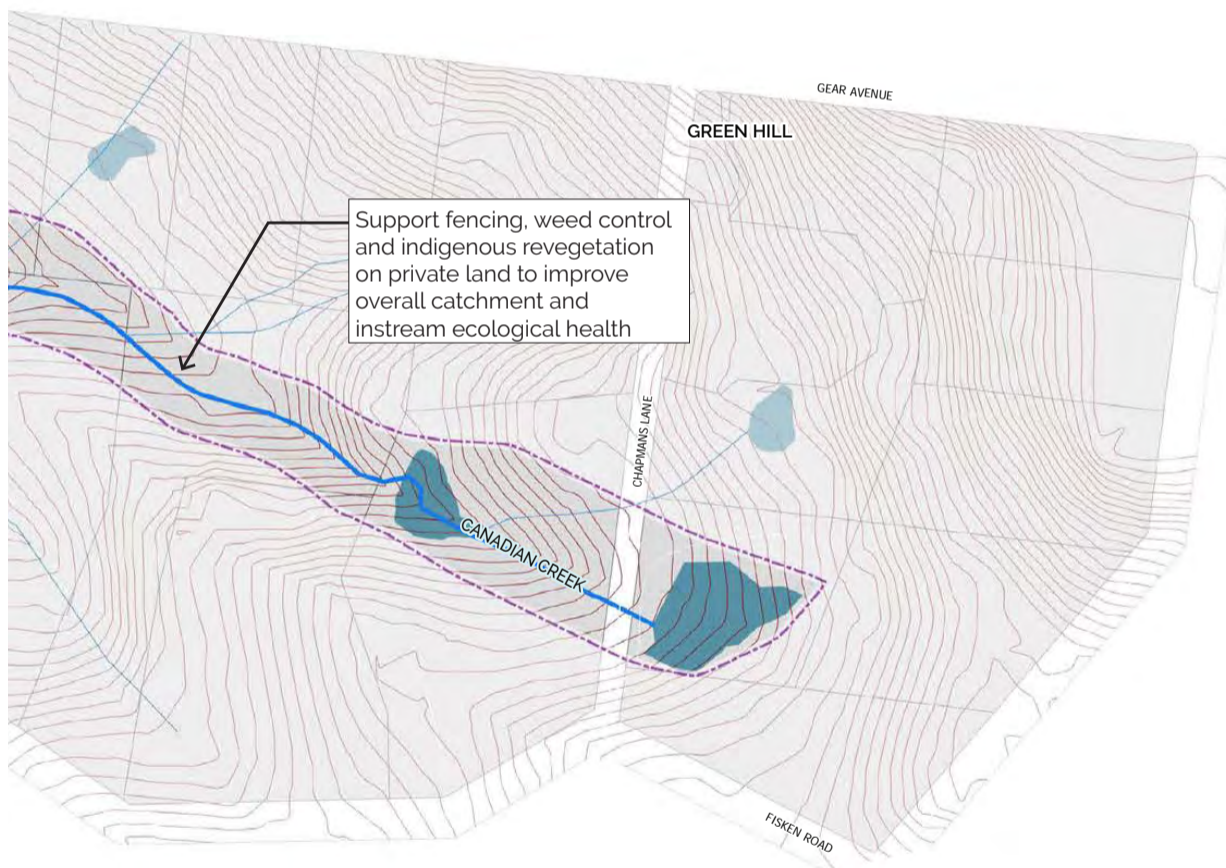
Scale 1:5000 at A3







MOUNT  
HELEN



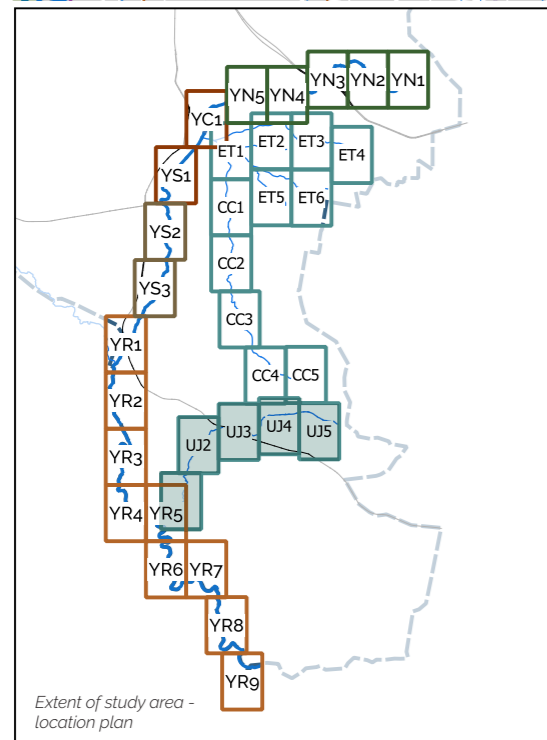
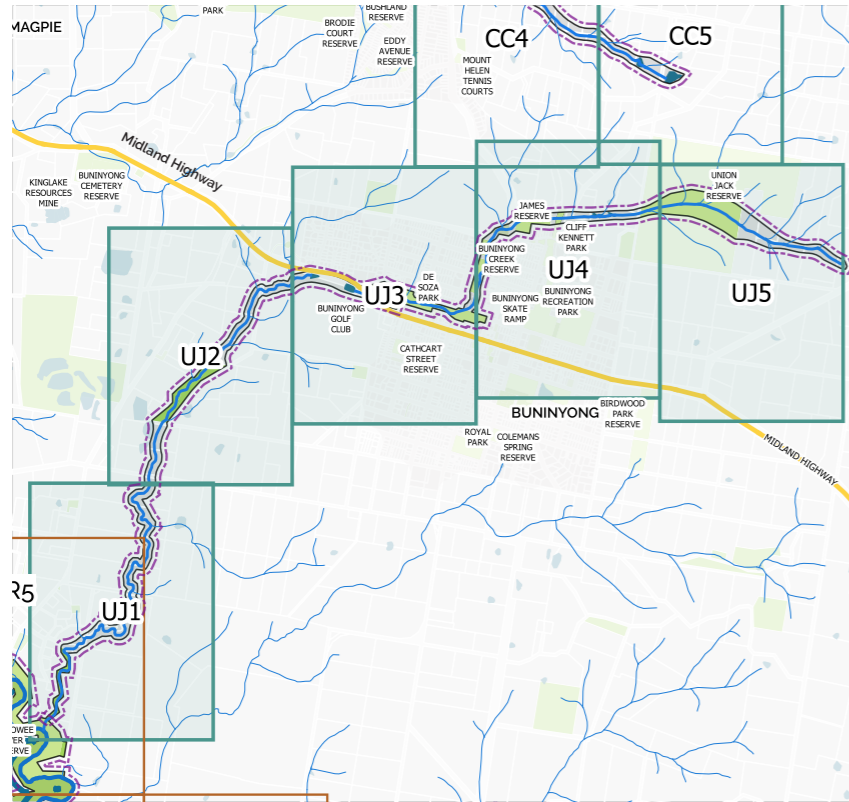
Canadian Creek  
Masterplan



Scale 1:5000 at A3



# Union Jack Creek



De Soza Park Trail



De Soza Park Trail



Steep Banks near Russell Street



Union Jack Creek Trail near Russell Street



Trail path connected to Geelong Road



Eureka Track along Geelong Road



Henderson Lane Bridge and bushland



Sykes Road revegetation

## Landscape character & general conditions

Union Jack Creek (previously known as Buninyong Creek) rises near the base of Mount Buninyong and flows through the township of Buninyong and Scotchmans Lead before joining the Yarrowee River.

The topography in the vicinity of the Union Jack Creek is undulating in the Buninyong area, becoming flatter downstream. There is a steep gully at the confluence with the Yarrowee River.

The EVC along Union Jack Creek is Valley Grassy Forest. Vegetation varies from areas of high quality indigenous vegetation, newly planted revegetation, to large weed infested areas. There are well developed trails along the creek corridor through the township of Buninyong.

There are several reserves along the Union Jack Creek including:

- Union Jack Reserve, managed by Parks Victoria, is a significant conservation reserve and historically a gold mining area
- De Soza Park, managed by City of Ballarat, is a linear reserve in the Buninyong town centre with excellent facilities and trails
- Several smaller reserves along the creek corridor in the township of Buninyong
- Buninyong Golf Course
- Crown land adjoining Macs Road / Somerville Road, Buninyong – local Landcare / community groups have undertaken weed control and revegetation works in this area
- Crown land between Sykes Road and confluence with Yarrowee River, Scotchmans Lead – the Napoleons Landcare Group have been actively working in this area, including good weed control and recent revegetation plantings

Aside from the reserves mentioned, the remainder of the Union Jack Creek is on privately owned farm land.

## Assessment of the 1995 Masterplan

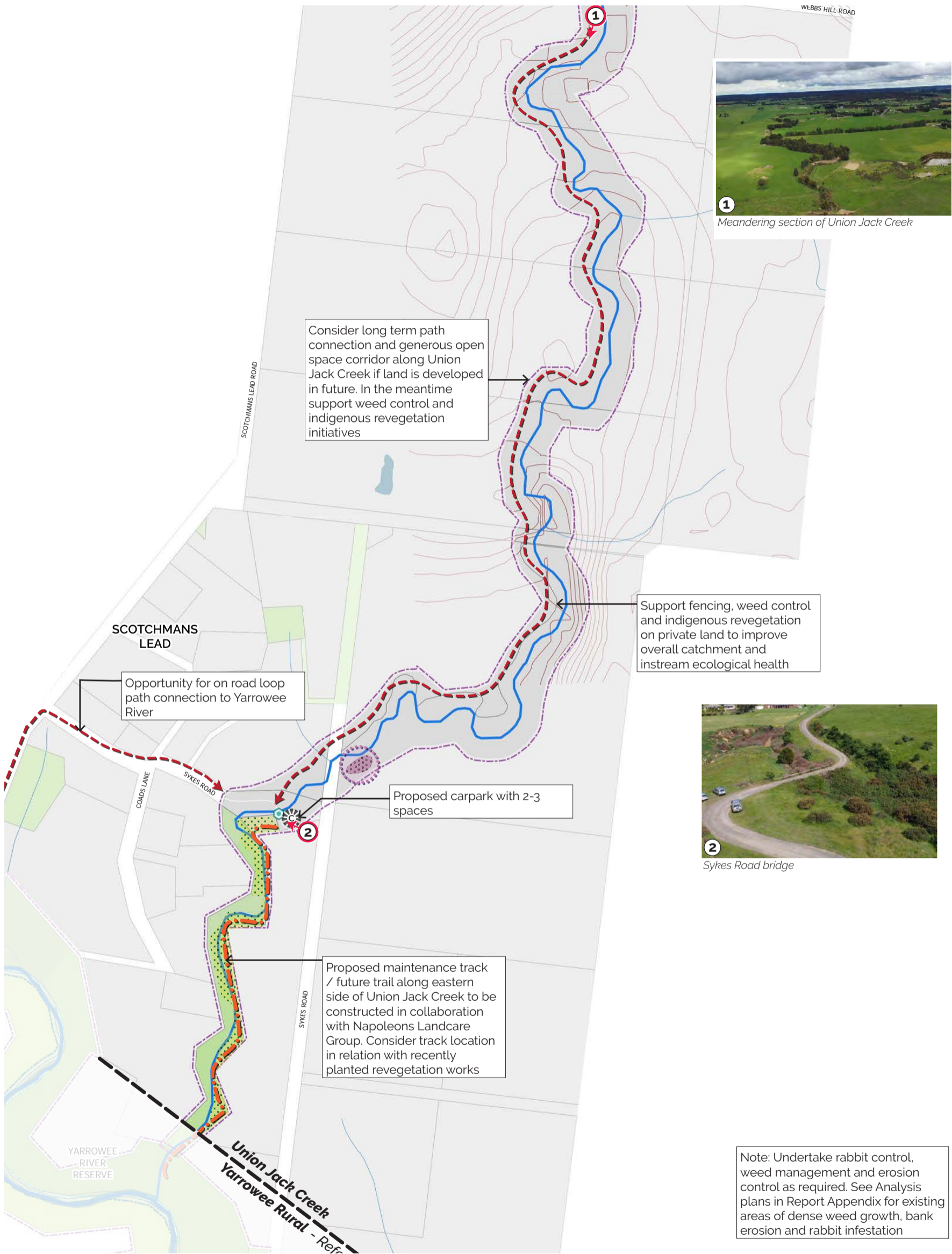
Canadian Creek is outside of the scope of the 1995 Masterplan.

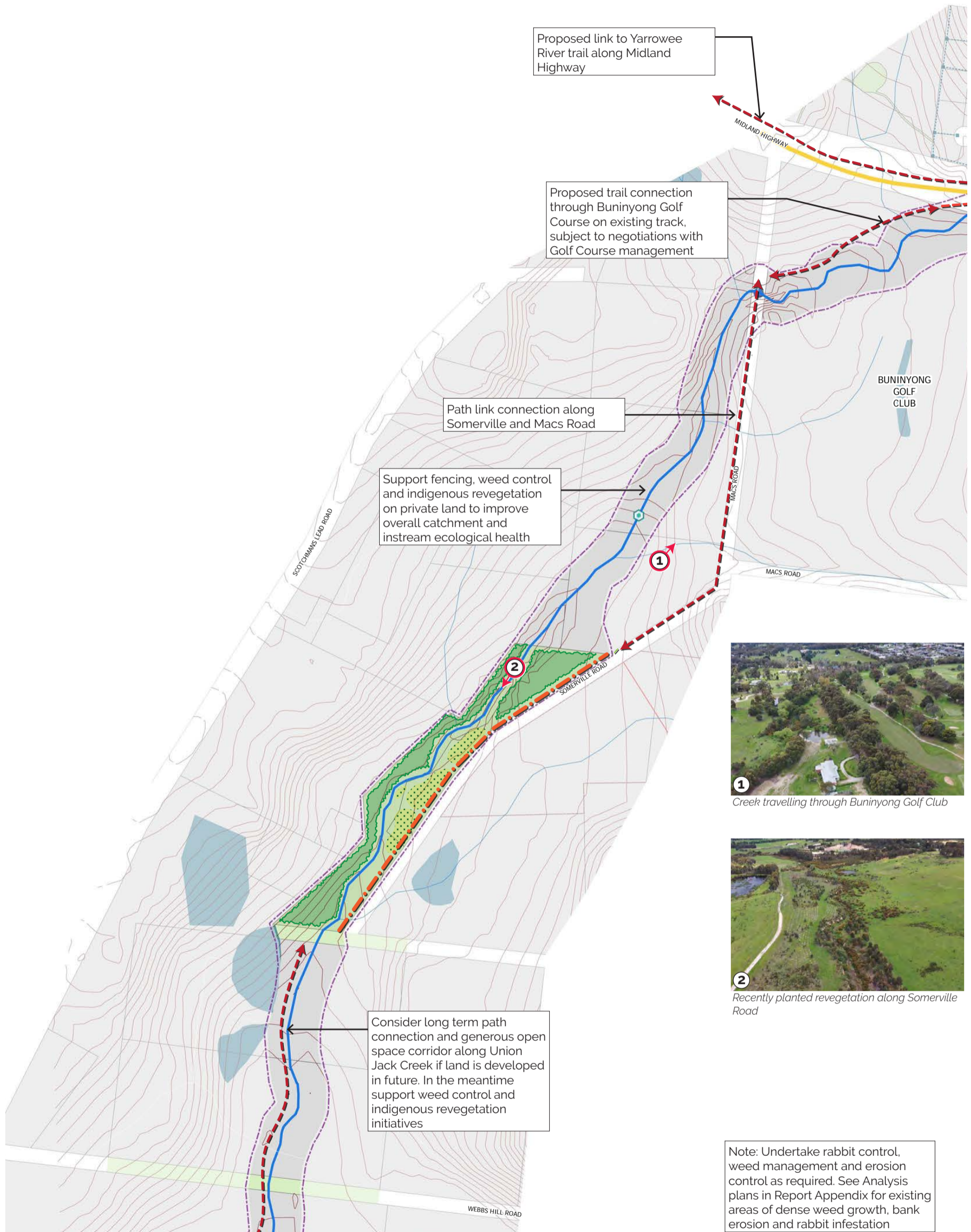
## Overview of recommendations for the Union Jack Reach

The following is an overview of the recommendations for this reach. Refer to the plans and the detailed recommendations in the front of this report for more information.

The following improvements are recommended:

- Support local Landcare and community groups and land owners to undertake pest and weed control, erosion control and indigenous revegetation
- Stock proof farm fencing to property boundaries adjoining private land
- Improve instream vegetation within Buninyong township
- Develop trails within Buninyong township
- Develop a loop trail at the confluence with Yarrowee River
- Possible larger loop trails (i.e. linking Buninyong to Canadian Creek trail to the north and Yarrowee River to the south)
- Opportunity to develop creek corridor reserve if farm land is rezoned / subdivided





**Union Jack Creek**  
Masterplan

Scale 1:5000 at A3

**UJ 2**  
Yarrowee Tributaries



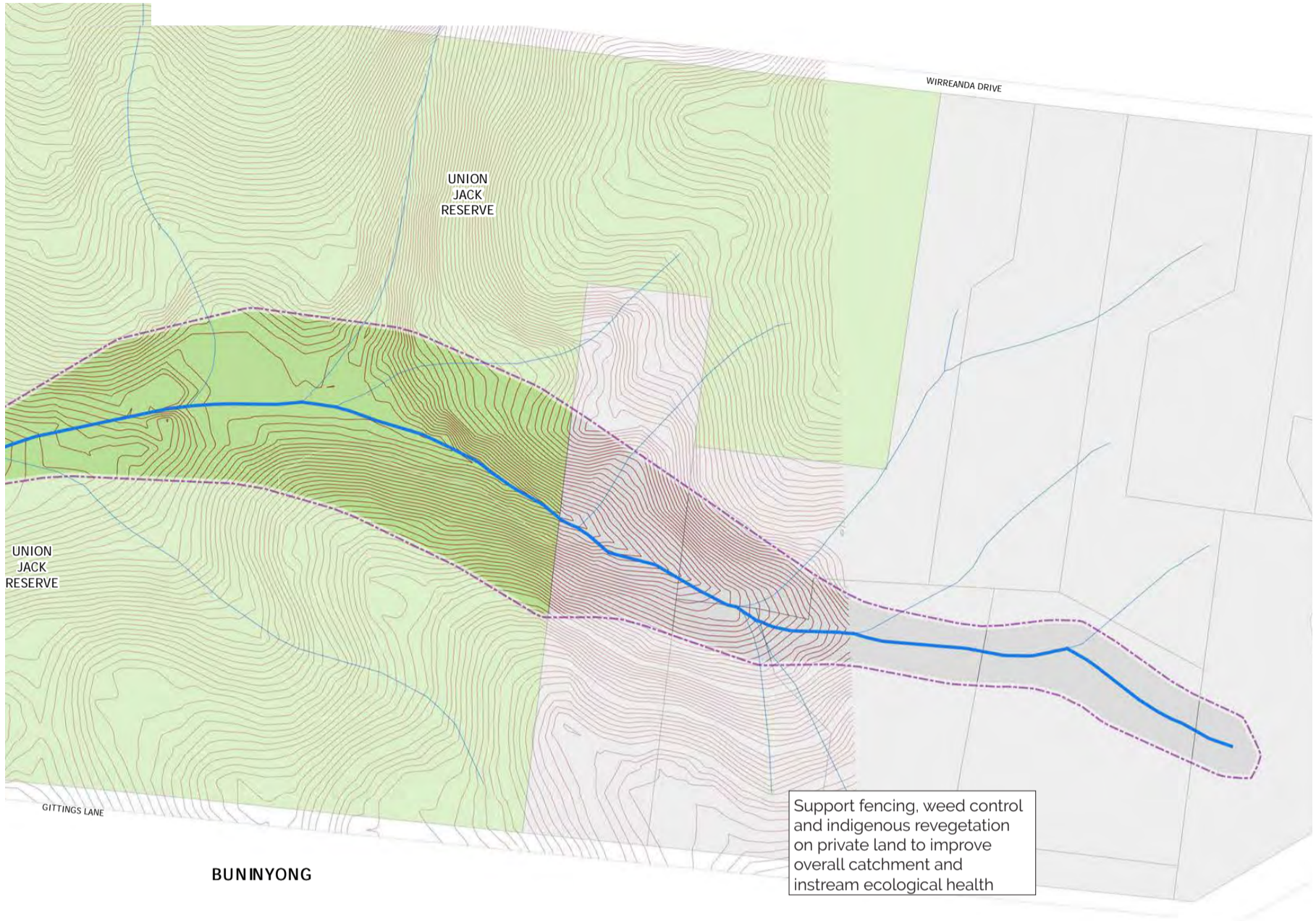


# Union Jack Creek Masterplan



Scale 1:5000 at A3







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## Yarrowee and Tributaries Flora Species List

As recorded Spring 2019 by Roger Thomas

### Native Species

(Including planted local species, as noted)

Botanical Name	Common Name
<i>Acacia aspera</i> (planted)	Rough Wattle
<i>Acacia dealbata</i> (planted)	Silver Wattle
<i>Acacia implexa</i> (planted)	Lightwood
<i>Acacia mearnsii</i> (planted)	Black Wattle
<i>Acacia melanoxylon</i>	Blackwood
<i>Acacia paradoxa</i>	Hedge Wattle
<i>Acacia pycnantha</i> (planted)	Golden Wattle
<i>Acacia provincialis</i> (planted)	Wirilda
<i>Acacia pycnantha</i> (planted)	Golden Wattle
<i>Acacia stricta</i> (planted)	Hop Wattle
<i>Acacia verticillata</i>	Prickly Moses
<i>Acaena echinata</i>	Sheep's Burr
<i>Acaena novae-zelandiae</i>	Bidgee-widgee
<i>Acaena ovina</i>	Sheep's Burr
<i>Alisma plantago-aquatica</i>	Water Plantain
<i>Allocasuarina littoralis</i> (planted)	Black She-oak
<i>Allocasuarina verticillata</i> (planted)	Drooping She-oak
<i>Alternanthera dentata</i>	Lesser Joyweed
<i>Amyema pendula</i>	Drooping Mistletoe
<i>Arthropodium strictum</i>	Chocolate Lily
<i>Astroloma humifusum</i>	Cranberry Heath
<i>Austrostipa mollis</i>	Supple Spear-grass
<i>Austrostipa rudis</i>	Veined Spear-grass
<i>Austrostipa scabra</i>	Slender Spear-grass
<i>Austrostipa sp.</i>	Spear-grass
<i>Banksia marginata</i> (planted)	Silver Banksia
<i>Blechnum nudum</i>	Fishbone Water-fern
<i>Bolboschoenus sp.</i>	Club-rush
<i>Burchardia umbellata</i>	Milkmaids
<i>Bursaria spinosa</i>	Sweet Bursaria
<i>Callistemon sieberi</i> (planted)	River Bottlebrush
<i>Calochlaena dubia</i>	Common Ground-fern
<i>Carex appressa</i>	Tall Sedge
<i>Carex fascicularis</i>	Tassel Sedge
<i>Carex incomitata</i>	Hillside Sedge
<i>Carex tereticaulis</i>	Rush Sedge
<i>Cassinia aculeata</i>	Common Cassinia
<i>Cassinia arcuata</i>	Drooping Cassinia
<i>Cassinia complanata</i>	Sticky Cassinia
<i>Centella cordifolia</i>	Centella

Botanical Name	Common Name
<i>Coprosma quadrifida</i>	Prickly Currant-bush
<i>Coronidium scorpioides</i>	Button Everlasting
<i>Crassula decumbens</i>	Spreading Crassula
<i>Crassula helmsii</i>	Swamp Crassula
<i>Crassula peduncularis</i>	Purple Crassula
<i>Crassula sieberiana</i>	Sieber Crassula
<i>Cyathea australis</i>	Rough Tree-fern
<i>Cycnogeton procerum</i> (2 forms)	Water-ribbons
<i>Daviesia leptophylla</i>	Narrow-leaf Bitter-pea
<i>Dianella longifolia</i> (planted)	Pale Flax-lily
<i>Dianella revoluta</i>	Black-anther Flax-lily
<i>Dianella tasmanica</i> (planted)	Tasman Flax-lily
<i>Dichelachne sp.</i>	Plume-grass
<i>Dillwynia glaberrima</i>	Smooth Parrot-pea
<i>Dodonaea viscosa</i>	Wedge-leaf Hop-bush
<i>Drosera hookeri</i>	Grassland Sundew
<i>Drosera sp.</i>	Sundew
<i>Eleocharis acuta</i>	Common Spike-sedge
<i>Eleocharis sphacelata</i>	Tall Spike-sedge
<i>Epilobium billardierianum ssp. billardierianum</i>	Smooth Willow-herb
<i>Epilobium billardierianum subsp. cinereum</i>	Grey Willow-herb
<i>Epilobium hirtigerum</i>	Hairy Willow-herb
<i>Eucalyptus aromaphloia</i>	Scent-bark
<i>Eucalyptus camaldulensis</i>	River Red Gum
<i>Eucalyptus dives</i> (planted)	Broad-leaved Peppermint
<i>Eucalyptus obliqua</i>	Messmate
<i>Eucalyptus ovata</i>	Swamp Gum
<i>Eucalyptus radiata</i>	Narrow-leaved Peppermint
<i>Eucalyptus rubida</i>	Candlebark
<i>Eucalyptus viminalis</i>	Manna Gum
<i>Eucalyptus yarraensis</i>	Yarra Gum
<i>Exocarpos cupressiformis</i>	Cherry Ballart
<i>Geranium sp. 2</i>	Austral Cranebill
<i>Geranium sp. 5</i>	Naked Cranesbill
<i>Glyceria australis</i>	Australian Sweet-grass
<i>Gonocarpus tetragynus</i>	Common Raspwort
<i>Goodenia lanata</i>	Trailing Goodenia
<i>Goodenia ovata</i>	Hop Goodenia
<i>Gynatrix pulchella</i>	Hemp-bush
<i>Hakea decurrens</i> (planted)	Bushy Needlewood
<i>Hemarthria uncinata</i>	Mat-grass

**Yarrowee and Tributaries Flora Species List cont.**

As recorded Spring 2019 by Roger Thomas

**Native Species cont.**

(Including planted local species, as noted)

<b>Botanical Name</b>	<b>Common Name</b>
<i>Isolepis inundata</i>	Swamp Club-sedge
<i>Juncus amabilis</i>	Hollow Rush
<i>Juncus australis</i>	Austral Rush
<i>Juncus holoschoenus</i>	Joint-leaf Rush
<i>Juncus pallidus</i>	Pale Rush
<i>Juncus procerus</i>	Tall Rush
<i>Juncus sarophorus</i>	Fan Rush
<i>Lachnagrostis filiformis</i>	Common Blown-grass
<i>Leptospermum continentale</i>	Prickly Tea-tree
<i>Leptospermum lanigerum</i> (planted)	Woolly Tea-tree
<i>Leptospermum myrsinoides</i>	Heathy Tea-tree
<i>Leptospermum obovatum</i>	River Tea-tree
<i>Lomandra filiformis</i>	Wattle Matrush
<i>Lomandra longifolia</i>	Spiny-headed Matrush
<i>Lythrum hyssopifolia</i>	Small Loosestrife
<i>Lythrum salicaria</i>	Purple Loosestrife
<i>Meliccytus dentatus</i> (planted)	Tree Violet
<i>Microlaena stipoides</i>	Weeping Grass
<i>Microtis sp.</i>	Onion-orchid
<i>Myriophyllum sp.</i>	Water-milfoil
<i>Neopaxia australasica</i>	White Purslane
<i>Oxalis perennans</i>	Grasslands Wood-sorrel
<i>Ozothamnus ferrugineus</i>	Tree Everlasting
<i>Ozothamnus obcordatus</i>	Grey Everlasting
<i>Pauridia vaginata</i>	Yellow Star
<i>Persicaria decipiens</i>	Slender Knotweed
<i>Phragmites australis</i>	Common Reed
<i>Pimelea humilis</i>	Common Rice-flower
<i>Pimelea linifolia</i>	Slender Rice-flower
<i>Poa labillardierei</i>	Common Tussock-grass
<i>Poa sieberiana</i>	Grey Tussock-grass
<i>Podolepis procumbens</i>	Trailing Shaggy-pea
<i>Pteridium esculentum</i>	Austral Bracken
<i>Pterostylis nutans</i>	Nodding Greenhood
<i>Pultenaea gunnii</i>	Golden Bush-pea
<i>Pultenaea humilis</i>	Dwarf Bush-pea
<i>Ranunculus inundatus</i>	River Buttercup
<i>Rumex bidens</i>	Mud Dock
<i>Rumex brownii</i>	Slender Dock
<i>Rytidosperma fulvum</i>	Copper-awned Wallaby-grass
<i>Rytidosperma geniculatum</i>	Knead Wallaby-grass

<b>Botanical Name</b>	<b>Common Name</b>
<i>Rytidosperma racemosum</i>	Slender Wallaby-grass
<i>Rytidosperma sp.</i>	Wallaby-grass
<i>Senecio glomeratus</i>	Annual Fireweed
<i>Senecio minimus</i>	Shrubby Fireweed
<i>Senecio phelleus</i>	Stony Fireweed
<i>Senecio quadridentatus</i>	Cotton Fireweed
<i>Senecio sp.</i>	Fireweed
<i>Solanum laciniatum</i>	Large Kangaroo-apple
<i>Stylidium armeria</i>	Common Triggerplant
<i>Tetraloche ciliata</i>	Pink-bells
<i>Thelymitra pauciflora</i>	Slender Sun-orchid
<i>Thelymitra sp.</i>	Sun-orchid
<i>Typha domingensis</i>	Narrow-leaf Cumbungi
<i>Typha orientalis</i>	Broad-leaf Cumbungi
<i>Veronica gracilis</i>	Slender Speedwell
<i>Wurmbea dioica</i>	Early Nancy
<i>Xanthorrhoea australis</i>	Austral Grass-tree
<i>Xanthorrhoea minor</i>	Small Grass-tree
<i>Xerochrysum viscosum</i> (planted)	Sticky Everlasting

Yarrowee and Tributaries Flora Species List cont.

As recorded Spring 2019 by Roger Thomas

Introduced / Exotic Species

Botanical Name	Common Name	Botanical Name	Common Name
<i>Acacia baileyana</i>	Cootamundra Wattle	<i>Callistemon pallidus</i>	Lemon Bottlebrush
<i>Acacia decurrens</i>	Early Black Wattle	<i>Callistemon salignus</i>	Pink-tips Bottlebrush
<i>Acacia floribunda</i>	Gossamer Wattle	<i>Callitriche stagnalis</i>	Common Water-starwort
<i>Acacia longifolia</i>	Sallow Wattle	<i>Cardamine hirsuta</i>	Common Bitter-cress
<i>Acacia pravissima</i>	Ovens Wattle	<i>Carduus pycnocephalus</i>	Slender Thistle
<i>Acacia prominens</i>	Gosford Wattle	<i>Carduus tenuiflorus</i>	Winged Thistle
<i>Acetosella vulgaris</i>	Sheep's Sorrel	<i>Cedrus deodara</i>	Deodar Cedar
<i>Agapanthus praecox</i>	African Lily	<i>Centaurium erythraea</i>	Common Centaury
<i>Agrostis capillaris</i>	Brown-top Bent	<i>Cerastium glomeratum</i>	Common Mouse-ear Chickweed
<i>Agrostis stolonifera</i>	Creeping Bent	<i>Chamaecytisus palmensis</i>	Tree Lucerne
<i>Aira caryophyllea</i>	Silvery Hair-grass	<i>Chenopodium album</i>	Fat Hen
<i>Aira cupaniana</i>	Quicksilver Hair-grass	<i>Chenopodium murale</i>	Sowbane
<i>Allium triquetrum</i>	Angled Onion	<i>Chrysanthemoides monilifera</i>	Boneseed
<i>Allium vineale</i>	Crow Garlic	<i>Cirsium arvense</i>	Californian (Perennial) Thistle
<i>Alnus jorullensis</i>	Evergreen Alder	<i>Cirsium vulgare</i>	Spear Thistle
<i>Alopecurus pratensis</i>	Meadow Foxtail	<i>Claytonia perfoliata</i>	Miners Lettuce
<i>Alstroemeria sp.</i>	Parrot Lily	<i>Conium maculatum</i>	Hemlock
<i>Anthoxanthum odoratum</i>	Sweet Vernal-grass	<i>Conyza sp.</i>	Fleabane
<i>Aphanes arvensis</i>	Parsley Piert	<i>Coprosma repens</i>	Mirror Bush
<i>Aponogeton distachyon</i>	Cape Water-lily	<i>Cordyline australis</i>	New Zealand Cabbage Tree
<i>Aphanes arvensis</i>	Parsley Piert	<i>Cortaderia selloana</i>	Pampas Grass
<i>Aptenia cordifolia</i>	Heart-leaf Ice-plant	<i>Cotoneaster glaucophyllus</i>	Large-leaf Cotoneaster
<i>Arctotheca calendula</i>	Capeweed	<i>Cotula coronopifolia</i>	Water-buttons
<i>Artemisia verlotiorum</i>	Chinese Wormwood	<i>Crassula alata</i>	Three-part Crassula
<i>Arum italicum</i>	Italian Arum Lily	<i>Crataegus monogyna</i>	Hawthorn
<i>Avena barbata</i>	Bearded Oat	<i>Cupressus macrocarpa</i>	Monterey Cypress
<i>Bellardia latifolia</i>	Red Bartsia	<i>Cynodon dactylon</i>	Couch
<i>Bellis perennis</i>	English Daisy	<i>Cynosurus echinatus</i>	Rough Dog's-tail
<i>Brassica fruticulosa</i>	Twiggy Turnip	<i>Cyperus eragrostis</i>	Drain Flat-sedge
<i>Brassica rapa</i>	Canola	<i>Cytisus scoparius</i>	English Broom
<i>Briza maxima</i>	Large Quaking-grass	<i>Dactylis glomerata</i>	Cocksfoot
<i>Briza minor</i>	Lesser Quaking-grass	<i>Dipsacus fullonum</i>	Teasel
<i>Bromus catharticus</i>	Prairie Grass	<i>Echium candicans</i>	Pride-of-Madeira
<i>Bromus diandrus</i>	Great Brome	<i>Echium plantagineum</i>	Paterson's Curse
<i>Bromus hordeaceus</i>	Soft Brome	<i>Ehrharta erecta</i>	Panic Veldt-grass
<i>Bromus racemosus</i>	Smooth Brome	<i>Ehrharta longiflora</i>	Annual Veldt-grass
<i>Buddleja sp.</i>	Butterfly-bush	<i>Erica lusitanica</i>	Spanish Heath
<i>Calendula officinalis</i>	Garden Marigold	<i>Erodium botrys</i>	Big Heron's-bill
<i>Calicotome spinosa</i>	Spiny Broom	<i>Erodium moschatum</i>	Musky Heron's-bill
<i>Callistemon citrinus</i>	Crimson Bottlebrush	<i>Eucalyptus botryoides</i>	Southern Mahogany
		<i>Eucalyptus crenulata</i>	Silver Gum

Yarrowee and Tributaries Flora Species List cont.

As recorded Spring 2019 by Roger Thomas

Introduced / Exotic Species cont.

Botanical Name	Common Name	Botanical Name	Common Name
<i>Eucalyptus globulus</i>	Tasmanian Blue Gum	<i>Lolium perenne</i>	Perennial Rye
<i>Eucalyptus leucoxyloides ssp. megalocarpa</i>	Red-flowered Yellow Gum	<i>Lolium rigidum</i>	Annual Ryegrass
<i>Eucalyptus melliodora</i>	Yellow Box	<i>Lotus corniculatus</i>	Bird's-foot Trefoil
<i>Eucalyptus scoparia</i>	Wallangarra White Gum	<i>Lunaria annua</i>	Honesty
<i>Eucalyptus sideroxylon</i>	Mugga Ironbark	<i>Lycium ferocissimum</i>	African Boxthorn
<i>Euphorbia lathyris</i>	Caper Spurge	<i>Lysimachia arvensis</i>	Scarlet Pimpernel
<i>Euphorbia peplus</i>	Petty Spurge	<i>Malus pumila</i>	Apple
<i>Euphorbia characias ssp. wulfenii</i>	Mediterranean Spurge	<i>Malva sp.</i>	Mallow
<i>Festuca arundinacea</i>	Tall Fescue	<i>Marrubium vulgare</i>	Horehound
<i>Ficinia nodosa</i>	Knobby Club-rush	<i>Medicago arabica</i>	Spotted Medic
<i>Foeniculum vulgare</i>	Fennel	<i>Medicago polymorpha</i>	Burr Medic
<i>Fraxinus sp.</i>	Ash	<i>Melaleuca armillaris</i>	Bracelet Honey-myrtle
<i>Fumaria capreolata</i>	White Fumitory	<i>Melaleuca decussata</i>	Totem-poles
<i>Fumaria muralis</i>	Wall Fumitory	<i>Melaleuca hypericifolia</i>	Hillock-bush
<i>Galium aparine</i>	Cleavers	<i>Melaleuca parvistaminea</i>	Rough-barked Honey-myrtle
<i>Genista monspessulana</i>	Cape Broom	<i>Mentha x piperita</i>	Eau-de-Cologne Mint
<i>Geranium dissectum</i>	Cut-leaf Cranesbill	<i>Mimulus guttatus</i>	Yellow Monkey-flower
<i>Gladiolus tristis</i>	Evening-flower Gladiolus	<i>Modiola caroliniana</i>	Red-flowered Mallow
<i>Gladiolus undulatus</i>	Wild Gladiolus	<i>Moenchia erecta</i>	Erect Chickweed
<i>Glyceria maxima</i>	Reed Sweet-grass	<i>Molineriella minuta</i>	Early Hair-grass
<i>Grevillea sp.</i>	Grevillea	<i>Muscari armeniacum</i>	Grape Hyacinth
<i>Hakea salicifolia</i>	Willow-leaf Hakea	<i>Myoporum insulare</i>	Common Boobialla
<i>Hedera helix</i>	English Ivy	<i>Myosotis discolor</i>	Yellow-and-blue Forget-me-not
<i>Helminthotheca echioides</i>	Bristly Ox-tongue	<i>Myosotis sylvatica</i>	Wood Forget-me-not
<i>Hirschfeldia incana</i>	Hedge Mustard	<i>Narcissus sp.</i>	Jonquil/Daffodil
<i>Holcus lanatus</i>	Fog Grass	<i>Oxalis articulata</i>	Shamrock Oxalis
<i>Hordeum leporinum</i>	Common Barley-grass	<i>Oxalis corniculata</i>	Yellow Wood-sorrel
<i>Hyacinthoides non-scripta</i>	English Bluebell	<i>Oxalis incarnata</i>	Pale Wood-sorrel
<i>Hypericum perforatum</i>	St John's Wort	<i>Oxalis pes-caprae</i>	Soursob
<i>Hypochaeris radicata</i>	Flatweed	<i>Oxalis purpurea</i>	Large-flower Wood-sorrel
<i>Ilex aquifolium</i>	Holly	<i>Pennisetum clandestinum</i>	Kikuyu
<i>Ipheion uniflorum</i>	Spring Star-flower	<i>Phalaris aquatica</i>	Toowoomba Canary-grass
<i>Iris pseudacorus</i>	Yellow Flag Iris	<i>Phalaris arundinacea</i>	Reed Canary-grass
<i>Isolepis levynsiana</i>	Tiny Flat-sedge	<i>Phormium tenax</i>	New Zealand Flax
<i>Juncus acutus</i>	Spiny Rush	<i>Pinus radiata</i>	Radiata Pine
<i>Juncus articulatus</i>	Jointed Rush	<i>Piptatherum miliaceum</i>	Rice Millet
<i>Kunzea sp. Upright Form</i>	Forest Burgan	<i>Pittosporum tenuifolium</i>	Kohuhu
<i>Lactuca serriola</i>	Prickly Lettuce	<i>Pittosporum undulatum</i>	Sweet Pittosporum
<i>Laurus nobilis</i>	Bay Tree	<i>Plantago coronopus</i>	Buck's-horn Plantain
<i>Lepidium africanum</i>	Common Peppergrass	<i>Plantago lanceolata</i>	Ribwort
<i>Leucospermum aestivum</i>	Snowflake	<i>Poa annua</i>	Annual Meadow-grass

Yarrowee and Tributaries Flora Species List cont.

As recorded Spring 2019 by Roger Thomas

Introduced / Exotic Species cont.

Botanical Name	Common Name
<i>Poa bulbosa</i>	Bulbous Poa
<i>Poa pratensis</i>	Kentucky Blue-grass
<i>Polycarpon tetraphyllum</i>	Four-leaf Allseed
<i>Polygonum aviculare</i>	Wireweed
<i>Populus alba</i>	White Poplar
<i>Populus nigra 'Italica'</i>	Lombardy Poplar
<i>Prunus cerasifera 'Nigra'</i>	Cherry Plum
<i>Prunus sp.</i>	Cherry
<i>Prunus sp.</i>	Plum
<i>Pyrus communis</i>	Pear
<i>Quercus robur</i>	English Oak
<i>Ranunculus muricatus</i>	Sharp Buttercup
<i>Ranunculus ophioglossifolius</i>	Snake-tongue Buttercup
<i>Ranunculus repens</i>	Creeping Buttercup
<i>Raphanus raphanistrum</i>	Wild Radish
<i>Romulea minutiflora</i>	Small-flower Onion-grass
<i>Romulea rosea</i>	Onion-grass
<i>Rorippa nasturtium-aquaticum</i>	Water-cress
<i>Rosa rubiginosa</i>	Sweet Briar
<i>Rubus sp.</i>	Blackberry
<i>Rubus ulmifolius</i>	Elm-leaf Blackberry
<i>Rumex conglomeratus</i>	Clustered Dock
<i>Rumex crispus</i>	Curled Dock
<i>Rumex obtusifolius</i>	Broad-leaf Dock
<i>Rumex pulcher</i>	Fiddle Dock
<i>Salix babylonica</i>	Weeping Willow
<i>Salix cinerea</i>	Grey Sallow
<i>Salix matsudana 'Tortuosa'</i>	Tortured Willow
<i>Salix x rubens</i>	Basket Willow
<i>Sambucus nigra</i>	Black Elderberry
<i>Schinus molle</i>	Pepper Tree
<i>Senecio vulgaris</i>	Common Groundsel
<i>Silybum marianum</i>	Variiegated Thistle
<i>Sisyrinchium officinale</i>	Hedge Mustard
<i>Sonchus asper</i>	Prickly Sow-thistle
<i>Sonchus oleraceus</i>	Common Sow-thistle
<i>Stellaria media</i>	Chickweed
<i>Symphiotrichum subulatum</i>	Aster-weed
<i>Taraxacum sp.</i>	Dandelion
<i>Trifolium dubium</i>	Suckling Clover
<i>Trifolium glomeratum</i>	Cluster Clover

Botanical Name	Common Name
<i>Trifolium repens</i>	White Clover
<i>Trifolium subterraneum</i>	Subterranean Clover
<i>Typha latifolia</i>	Lesser Reedmace
<i>Ulex europaeus</i>	Gorse
<i>Ulmus sp.</i>	Elm
<i>Urtica urens</i>	Small Nettle
<i>Veronica arvensis</i>	Wall Speedwell
<i>Verbascum thapsus</i>	Great Mullein
<i>Verbascum virgatum</i>	Twiggy Mullein
<i>Veronica persica</i>	Trailing Speedwell
<i>Vicia hirsuta</i>	Tiny Vetch
<i>Vicia sativa</i>	Common Vetch
<i>Vicia tetrasperma</i>	Slender Vetch
<i>Vinca major</i>	Blue Periwinkle
<i>Viola odorata</i>	Common Violet
<i>Vulpia bromoides</i>	Squirrel-tail Fescue
<i>Vulpia muralis</i>	Wall Fescue
<i>Vulpia myuros</i>	Rat's-tail Fescue
<i>Watsonia meriana var bulbilifera</i>	Bulbil Watsonia
<i>Zantedeschia aethiopica</i>	Arum Lily

## Yarrowee and Tributaries Fauna Species List

As recorded Spring 2019 by Roger Thomas

### Bird Species


Common Name	Botanical Name
Common Blackbird	<i>Turdus merula</i>
Yellow-tailed Black-Cockatoo	<i>Zanda funerea</i>
Common Bronzewing	<i>Phaps chalcoptera</i>
Little Pied Cormorant	<i>Microcarbo melanoleucos</i>
Horsfield's Bronze-Cuckoo	<i>Chalcites plagosus</i>
Shining Bronze-cuckoo	<i>Chalcites lucidus</i>
Common Bronzewing	<i>Phaps chalcoptera</i>
Grey Butcherbird	<i>Cracticus torquatus</i>
Sulphur-crested Cockatoo	<i>Cacatua galerita</i>
Eurasian Coot	<i>Fulica atra</i>
Long-billed Corella	<i>Cacatua tenuirostris</i>
Grey Currawong	<i>Strepera versicolor</i>
Pied Currawong	<i>Strepera graculina</i>
Spotted Dove	<i>Spilolelia chinensis</i>
Pacific Black Duck	<i>Anas superciliosa</i>
Wood Duck	<i>Chenonetta jubata</i>
Little Eagle	<i>Hieraaetus morphnoides</i>
Superb Fairy-wren	<i>Malurus cyaneus</i>
Brown Falcon	<i>Falco berigora</i>
Grey Fantail	<i>Rhipidura albiscapa</i>
Red-browed Finch	<i>Neochmia temporalis</i>
Satin Flycatcher	<i>Myiagra cyanoleuca</i>
Galah	<i>Eolophus roseicapilla</i>
European Goldfinch	<i>Carduelis carduelis</i>
Brown Goshawk	<i>Accipiter fasciatus</i>
Little Grassbird	<i>Poodytes gramineus</i>
Australasian Grebe	<i>Tachybaptus novaehollandiae</i>
Common Greenfinch	<i>Chloris chloris</i>
Hardhead	<i>Aythya australis</i>
White-faced Heron	<i>Egretta novaehollandiae</i>
Brown-headed Honeyeater	<i>Melithreptus brevirostris</i>
New Holland Honeyeater	<i>Philydonyris novaehollandiae</i>
White-naped Honeyeater	<i>Melithreptus lunatus</i>
White-plumed Honeyeater	<i>Ptilotula penicillata</i>
Yellow-faced Honeyeater	<i>Caligavis chrysops</i>
Sacred Kingfisher	<i>Todiramphus sanctus</i>
Black Kite	<i>Milvus migrans</i>
Laughing Kookaburra	<i>Dacelo novaeguineae</i>
Masked Lapwing	<i>Vanellus miles</i>
Rainbow Lorikeet	<i>Trichoglossus moluccanus</i>
Australian Magpie	<i>Gymnorhina tibicen</i>

Common Name	Botanical Name
Magpie-lark	<i>Grallina cyanoleuca</i>
Dusky Moorhen	<i>Gallinula tenebrosa</i>
Barn Owl	<i>Tyto alba</i>
Spotted Pardalote	<i>Pardalotus punctatus</i>
Striated Pardalote	<i>Pardalotus striatus</i>
Red-rumped Parrot	<i>Psephotus haematonotus</i>
Crested Pigeon	<i>Ocyphaps lophotes</i>
Australian Raven	<i>Corvus coronoides</i>
Little Raven	<i>Corvus mellori</i>
Eastern Yellow Robin	<i>Eopsaltria australis</i>
Australian Reed Warbler	<i>Acrocephalus australis</i>
Crimson Rosella	<i>Platycercus elegans</i>
Eastern Rosella	<i>Platycercus eximius</i>
White-browed Scrubwren	<i>Sericornis frontalis</i>
Crested Shrike-tit	<i>Falcunculus frontatus</i>
Grey Shrike-thrush	<i>Colluricincla harmonica</i>
Silvereye	<i>Zosterops lateralis</i>
Latham's Snipe	<i>Gallinago hardwickii</i>
House Sparrow	<i>Passer domesticus</i>
Collared Sparrowhawk	<i>Accipiter cirrocephalus</i>
Common Starling	<i>Sturnus vulgaris</i>
Welcome Swallow	<i>Hirundo neoxena</i>
Purple Swamphen	<i>Porphyrio porphyrio</i>
Black Swan	<i>Cygnus atratus</i>
Grey Teal	<i>Anas gracilis</i>
Brown Thornbill	<i>Acanthiza pusilla</i>
Yellow-rumped Thornbill	<i>Acanthiza chrysorrhoa</i>
White-throated Treecreeper	<i>Cormobates leucophaea</i>
White-winged Triller	<i>Lalage sueurii</i>
Willie Wagtail	<i>Rhipidura leucophrys</i>
Red Wattlebird	<i>Anthochaera carunculata</i>
Golden Whistler	<i>Pachycephala pectoralis</i>
Rufous Whistler	<i>Pachycephala rufiventris</i>
White-browed Woodswallow	<i>Artamus superciliosus</i>

### Other Wildlife

Common Name	Botanical Name
Eastern Banjo-frog	<i>Limnodynastes dumerilii</i>
Spotted Marsh-frog	<i>Limnodynastes peroni</i>
Growling Grass-frog	<i>Litoria raniformis</i>
Common Froglet	<i>Crinia signifera</i>
Southern Froglet	<i>Pseudophryne semimarmorata</i>
Brown Tree-frog	<i>Litoria ewingii</i>
Black Wallaby	<i>Wallabia bicolor</i>
European Rabbit	<i>Oryctolagus cuniculus</i>


## Priority Project Opinion of Probable Cost Spreadsheets

Preliminary Cost Estimate <b>Yarrowee River Masterplan</b> Pilot Project 1 					
Dowcra Street Trail Head					
The schedule is based on the landscape concept plan (Dwg No. 1944 - LP01) date May 2020 Prepared by Thomson Hay Landscape Architects - May, 2020					
Item	Description	Unit	Qty	Rate	Amount
<b>1.00</b>	<b>Preliminaries</b>				
1.01	Preliminaries to including securing site, temporary fencing, public safety signage, setting out of works, liaison with Superintendent, preparation of OH&S Plan, provision of contract insurances, soil tests, permits and all other costs necessary for the completion of the works that are not included in this schedule	allow	1	\$ 5,000.00	\$ 5,000.00
1.02	Allowance for earthworks including site preparation, bulk earthworks, topsoil placement / preparation, levelling, footings installation, path / services excavation	allow	1	\$ 7,500.00	\$ 7,500.00
1.03	Allowance for demolition (fencing)	allow	1	\$ 500.00	\$ 500.00
1.04	Allowance for weed treatment and removal	allow	1	\$ 500.00	\$ 500.00
<b>2.00</b>	<b>Paths &amp; Surfaces</b>				
2.01	Gravel pavement in carpark - add to and formalise existing pavement	m <sup>2</sup>	1400	\$ 20.00	\$ 28,000.00
2.02	Gravel pavement in picnic area	m <sup>2</sup>	156	\$ 35.00	\$ 5,460.00
2.03	Gravel path along north of carpark - 1.5m wide	m <sup>2</sup>	66	\$ 35.00	\$ 2,310.00
2.04	Gravel path to kayak launch - 1.5m wide	m <sup>2</sup>	91	\$ 35.00	\$ 3,185.00
2.05	Signage / carpark identification markers or wheel stops / bollards + linemarking to indicate parking alignment including 2x DDA carparks	allow	1	\$ 10,000.00	\$ 10,000.00
<b>3.00</b>	<b>Fencing</b>				
3.01	Post and rail fence	lin.m	45	\$ 150.00	\$ 6,750.00
3.02	Removable bollard	item	3	\$ 400.00	\$ 1,200.00
<b>4.00</b>	<b>Structures &amp; Furniture</b>				
4.01	Picnic shelter including concrete pavement	allow	1	\$ 20,000.00	\$ 20,000.00
4.02	Electric BBQ including electrical connection to shelter	allow	1	\$ 12,000.00	\$ 12,000.00
4.03	Picnic tables	item	3	\$ 4,000.00	\$ 12,000.00
4.04	Unisex toilet block including electrical, sewer (or effluent envelope) and water connection	allow	1	\$ 100,000.00	\$ 100,000.00
<b>5.00</b>	<b>Planting</b>				
5.01	Tree planting - including ground preparation, supply and install of tubestock plants (allowance for 18lt pot planting), mulching, staking, guarding and fertilising	approx. no	73	\$ 100.00	\$ 7,300.00
5.02	Revegetation mass planting of indigenous shrubs and understorey plants - including ground preparation, supply, planting, jute mat, guarding and fertilising (tubestock planting at 2 x 2m centres)	ea	650	\$ 10.00	\$ 6,500.00
<b>6.00</b>	<b>Wayfinding</b>				
6.01	Entry welcome signage at 'vehicle scale' including graphic design and fabrication	allow	1	\$ 12,000.00	\$ 12,000.00
6.02	Wayfinding map including graphic design and fabrication	allow	1	\$ 7,000.00	\$ 7,000.00
<b>7.00</b>	<b>Kayak Trail</b>				
7.01	Vegetation removal (including Willows)	allow	1	\$ 3,000.00	\$ 3,000.00
7.02	Launch point steps / ramp access / signage	allow	1	\$ 10,000.00	\$ 10,000.00
Subtotal					<b>\$ 260,205.00</b>
10% contingency					<b>\$ 26,020.50</b>
<b>Landscape Works Estimate (exc. GST)</b>					<b>\$ 286,225.50</b>

**NOTES**

This preliminary estimate includes certain assumptions. Further detailed landscape documentation, materials / fittings selection and finishes, services location (electricity / sewer) and client consultation is required to provide a more accurate estimate of costs.



Preliminary Cost Estimate					
Yarrowee River Masterplan					
Pilot Project 1					
Prest Street Lookout					
The schedule is based on the landscape concept plan (Dwg No. 1944 - LP02) date May 2020 Prepared by Thomson Hay Landscape Architects - May, 2020					
Item	Description	Unit	Qty	Rate	Amount
<b>1.00</b>	<b>Preliminaries</b>				
1.01	Preliminaries to including securing site, temporary fencing, public safety signage, setting out of works, liaison with Superintendent, preparation of OH&S Plan, provision of contract insurances, soil tests, permits and all other costs necessary for the completion of the works that are not included in this schedule	allow	1	\$ 2,500.00	\$ 2,500.00
1.02	Allowance for earthworks including site preparation, bulk earthworks, topsoil placement / preparation, levelling, footings installation	allow	1	\$ 2,500.00	\$ 2,500.00
1.03	Allowance for weed treatment and removal	allow	1	\$ 500.00	\$ 500.00
<b>2.00</b>	<b>Paths &amp; Surfaces</b>				
2.01	Gravel path connection from Prest Street to existing trail - 1.8m wide	m <sup>2</sup>	66	\$ 35.00	\$ 2,310.00
<b>3.00</b>	<b>Structures &amp; Furniture</b>				
3.01	Detailed design and structural engineering of lookout structure	allow	1	\$ 4,000.00	\$ 4,000.00
3.02	Lookout structure including frame, footings, grated decking and balustrading. Provision of protection to historic mine relics	m <sup>2</sup>	16	\$ 2,500.00	\$ 40,000.00
<b>4.00</b>	<b>Planting</b>				
4.01	Tree planting - including ground preparation, supply and install of planting, mulching, staking and fertilising (allowance for 18lt pot planting)	no.	10	\$ 100.00	\$ 1,000.00
4.02	Embankment revegetation mass planting on slope below lookout (indigenous shrubs, grasses and ground covers) - including ground preparation, supply and install of planting, embankment stabilisation, mulching + juteshield, tree guards and fertilising (approx. 1 plant per m <sup>2</sup> )	m <sup>2</sup>	555	\$ 15.00	\$ 8,325.00
<b>5.00</b>	<b>Wayfinding and Interpretation</b>				
5.01	Interpretive signage on lookout structure - including interpretation design and curation, graphic design and fabrication	allow	1	\$ 7,000.00	\$ 7,000.00
5.02	Wayfinding marker	allow	1	\$ 1,500.00	\$ 1,500.00
				Subtotal	<b>\$ 69,635.00</b>
				10% contingency	<b>\$ 6,963.50</b>
<b>Landscape Works Estimate (exc. GST)</b>					<b>\$ 76,598.50</b>


**NOTES**

This preliminary estimate includes certain assumptions. Further detailed landscape documentation, materials / fittings selection and finishes, services location (where applicable) and client consultation is required to provide a more accurate estimate of costs.

Preliminary Cost Estimate Yarrooee River Masterplan Pilot Project 2					
Sunnyside Mill Parkland					
The schedule is based on the landscape concept plan (Dwg No. 1944 - LP03&4) date May 2020 Prepared by Thomson Hay Landscape Architects - May, 2020					
Item	Description	Unit	Qty	Rate	Amount
<b>1.00 Preliminaries</b>					
1.01	Preliminaries to including securing site, temporary fencing, public safety signage, setting out of works, liaison with Superintendent, preparation of OH&S Plan, provision of contract insurances, soil tests, permits and all other costs necessary for the completion of the works that are not included in this schedule	allow	1	\$ 10,000.00	\$ 10,000.00
1.02	Allowance for earthworks including site preparation, bulk earthworks, topsoil placement / preparation, levelling, footings installation, path / services excavation	allow	1	\$ 20,000.00	\$ 20,000.00
1.03	Allowance for demolition	allow	1	\$ 2,500.00	\$ 2,500.00
1.04	Allowance for weed treatment and removal	allow	1	\$ 2,000.00	\$ 2,000.00
<b>2.00 Paths &amp; Surfaces</b>					
2.01	Yarrooee Trail gravel shared path extension along south side of channel - 2.5m wide	m <sup>2</sup>	1586	\$ 35.00	\$ 55,510.00
2.02	Road crossing upgrade (including pram crossings, signage etc.)	allow	1	\$ 12,000.00	\$ 12,000.00
2.03	Gravel path along north of carpark - 1.5m wide	m <sup>2</sup>	130	\$ 35.00	\$ 4,550.00
2.04	Gravel pavement in carpark - add to and formalise existing pavement	m <sup>2</sup>	1159	\$ 20.00	\$ 23,180.00
2.05	Stabilised gravel shared / maintenance path to litter trap - 3m wide	m <sup>2</sup>	1005	\$ 40.00	\$ 40,200.00
2.06	Gravel loop paths within southern reserve area - 1.8m wide	m <sup>2</sup>	738	\$ 35.00	\$ 25,830.00
2.07	Path traversing along mound - 1.5m wide (material to be confirmed)	m <sup>2</sup>	168	\$ 40.00	\$ 6,720.00
<b>3.00 Fencing</b>					
3.01	Fencing along edge of channel (material to be confirmed)	lin.m	445	\$ 125.00	\$ 55,625.00
3.02	Restoration of Hill Street Bridge pillars and iron railing	allow	1	\$ 5,000.00	\$ 5,000.00
3.03	Vehicle barrier eg. bollards along carpark	lin.m	85	\$ 100.00	\$ 8,530.00
<b>4.00 Structures &amp; Furniture</b>					
4.01	Upright drinking fountain / refill station	item	1	\$ 10,000.00	\$ 10,000.00
4.02	Bike repair station including lift up fix station and tyre pump with gauge	item	1	\$ 6,500.00	\$ 6,500.00
4.03	Sawn stone basalt seats	item	3	\$ 1,500.00	\$ 4,500.00
4.04	Bridge crossing	item	1	\$ 60,000.00	\$ 60,000.00
4.05	Picnic shelter	item	1	\$ 30,000.00	\$ 30,000.00
4.06	Electric BBQ	item	1	\$ 10,000.00	\$ 10,000.00
4.07	Picnic table	item	1	\$ 4,000.00	\$ 4,000.00
4.08	Unisex toilet block including electrical, sewer and water connection	item	1	\$ 100,000.00	\$ 100,000.00
<b>5.00 Planting</b>					
5.01	Tree planting - including ground preparation, supply and install of planting, mulching, staking and fertilising (allowance for 45lit pot planting)	approx. no	70	\$ 180.00	\$ 12,600.00
5.02	Revegetation mass planting of indigenous trees and shrubs - including ground preparation, supply and install of tubestock plants, embankment stabilisation, mulching + jute mesh, tree guards and fertilising (at 2 x 2m centres)	ea	884	\$ 10.00	\$ 8,840.00
5.03	Mass planting of low indigenous grasses and shrubs along channel edge - including ground preparation, supply and install of tubestock plants, embankment stabilisation, mulching + jute mesh, tree guards and fertilising (tubestock planting at 0.6 x 0.6m centres)	m <sup>2</sup>	821	\$ 25.00	\$ 20,525.00
5.04	Screening planting of indigenous trees and shrubs - including ground preparation, supply and install of tubestock plants, embankment stabilisation, mulching + jute mesh, tree guards and fertilising (tubestock planting at 2 x 2m centres)	ea	47	\$ 10.00	\$ 472.50
5.05	Mound mass planting on slope of indigenous trees, shrubs and understorey - including ground preparation, supply and install of planting, embankment stabilisation, jute mat, guarding, staking, mulching and fertilising (4 plants per m <sup>2</sup> )	m <sup>2</sup>	551	\$ 25.00	\$ 13,775.00
<b>6.00 River Remediation &amp; Revegetation</b>					
6.01	Bank remediation and silt / sludge removal. Earthworks to create areas of pools, rock beaching and riffles - approx. 300m length of river. Price to be confirmed based on final extent and scope of site works.	allow	1		
6.02	Riparian and aquatic planting along river - including ground preparation, supply and install of planting (allowance for tubestock planting at 4 plants per m <sup>2</sup> ), jute mat and fertilising (average 7m wide riparian zone planting)	m <sup>2</sup>	2367	\$ 25.00	\$ 59,175.00
<b>7.00 Wetland Development</b>					
7.01	Develop basin as wetland area with increased water volume, planted batters and swales and sediment ponds etc. Explore options to divert additional stormwater volume to wetland. Estimate to be confirmed based on final extent and scope of site works	allow	1		\$ -
<b>8.00 Mound - Flexible Open Space</b>					
8.01	Allowance for earthworks and soil cap (subject to soil testing) to create mound	allow	1	\$ 15,000.00	\$ 15,000.00
8.02	Topsoiling preparation, supply and seeding of grass on mound	m <sup>2</sup>	3138	\$ 5.00	\$ 15,690.00
8.03	Electrical and water connection to open space, BBQ and shelter. Estimate subject to further investigation of services.	allow	1		\$ -
8.04	Electrical, water and sewer connection to toilet block. Estimate subject to further investigation of services.	allow	1		\$ -
<b>9.00 Wayfinding</b>					
9.01	Wayfinding marker	no.	4	\$ 1,500.00	\$ 6,000.00
9.02	Wayfinding map as part of drinking fountain graphic display	allow.	1	\$ 1,000.00	\$ 1,000.00
<b>10.00 Litter Trap</b>					
10.01	Supply and installation of instream litter trap	item	1		\$ -
Subtotal					\$ 649,722.50
10% contingency					\$ 64,972.25
<b>Landscape Works Estimate (exc. GST)</b>					<b>\$ 714,694.75</b>

**NOTES:**

This preliminary estimate includes certain assumptions. Further detailed landscape documentation, materials / fittings selection and finishes, services location (electricity / sewer) and client consultation is required to provide a more accurate estimate of costs.

Preliminary Cost Estimate					
Yarrowee River Masterplan					
Pilot Project 3					
Redan Wetlands Upgrade					
The schedule is based on the landscape concept plan (Dwg No. 1944 - LP05) date May 2020					
Prepared by Thomson Hay Landscape Architects - May, 2020					
Item	Description	Unit	Qty	Rate	Amount
<b>1.00</b>	<b>Preliminaries</b>				
1.01	Preliminaries to including securing site, temporary fencing, public safety signage, setting out of works, liaison with Superintendent, preparation of OH&S Plan, provision of contract insurances, soil tests, permits and all other costs necessary for the completion of the works that are not included in this schedule	allow	1	\$ 10,000.00	\$ 10,000.00
1.02	Allowance for earthworks including site preparation, bulk earthworks, topsoil placement / preparation, levelling, footings installation, path / services excavation	allow	1	\$ 15,000.00	\$ 15,000.00
1.03	Allowance for demolition	allow	1	\$ 5,000.00	\$ 5,000.00
1.04	Allowance for weed treatment and removal including over populated species	allow	1	\$ 4,000.00	\$ 4,000.00
<b>2.00</b>	<b>Paths &amp; Surfaces</b>				
2.01	Upgrade to existing shared path	m <sup>2</sup>	1026	\$ 10.00	\$ 10,260.00
2.02	East river trail	m <sup>2</sup>	407	\$ 35.00	\$ 14,245.00
2.03	Re-aligned gravel shared path connection to up bank	m <sup>2</sup>	66	\$ 40.00	\$ 2,640.00
<b>3.00</b>	<b>Wetland Remediation (subject to detailed investigation - by others)</b>				
3.01	Engineering review of functionality, capacity, water level and infrastructure	allow	1		\$ -
3.02	Allowance to drain / fill wetland to manage water levels for aquatic planting / management	allow	1		\$ -
3.03	Silt and litter management in water bodies, sediment ponds, rock weirs, litter trap and bypass channel	allow	1		\$ -
3.04	Re-form bank shape and rock weirs	allow	1		\$ -
<b>4.00</b>	<b>River Remediation &amp; Revegetation</b>				
4.01	Bank remediation, erosion control and silt / sludge removal. Earthworks to create areas of pools, rock beaching and riffles - approx. 250m length of river. Price to be confirmed based on final extent and scope of site works.	allow	1		
4.02	Riparian and aquatic planting along river - including ground preparation, supply and install of planting (allowance for tubestock planting at 4 plants per m <sup>2</sup> ), jute mat and fertilising (average 7m wide riparian zone planting)	allow	1		
<b>5.00</b>	<b>Structures &amp; Furniture</b>				
5.01	Bridge	item	2	\$ 40,000.00	\$ 80,000.00
5.02	Boardwalk	item	2	\$ 30,000.00	\$ 60,000.00
5.03	Shelter including concrete pavement	item	1	\$ 20,000.00	\$ 20,000.00
5.04	Maintenance upgrade to existing jetty	allow	1	\$ 5,000.00	\$ 5,000.00
5.05	Bench seats in shelter	item	2	\$ 1,800.00	\$ 3,600.00
<b>6.00</b>	<b>Planting</b>				
6.01	Tree planting - including ground preparation, supply and install of planting, mulching, guarding, staking and fertilising (tubestock planting as shown)	approx. no	75	\$ 10.00	\$ 750.00
6.02	Revegetation mass planting of indigenous trees and shrubs - including ground preparation, supply and install of planting, guarding, mulching and fertilising (tubestock planting at 2 x 2m centres)	ea	539	\$ 10.00	\$ 5,392.50
6.03	Embankment revegetation mass planting on slope of indigenous trees and shrubs - including ground preparation, supply and install of planting, embankment stabilisation, jute mat, guarding and fertilising	m <sup>2</sup>	23416	\$ 10.00	\$ 234,160.00
6.04	Infill (30% allowance) riparian and aquatic planting around wetlands - including ground preparation, supply and install of planting, embankment stabilisation, jute mat and fertilising	m <sup>2</sup>	3728	\$ 15.00	\$ 55,917.00
<b>7.00</b>	<b>Wayfinding &amp; Interpretation</b>				
7.01	Wayfinding marker	allow.	1	\$ 1,500.00	\$ 1,500.00
7.02	Interpretive signage in shelter - including interpretation design and curation, graphic design and fabrication	allow.	1	\$ 3,000.00	\$ 3,000.00
Subtotal					<b>\$ 530,464.50</b>
10% contingency					<b>\$ 53,046.45</b>
<b>Landscape Works Estimate (exc. GST)</b>					<b>\$ 583,510.95</b>

**OTES:**

This preliminary estimate includes certain assumptions. Further detailed landscape documentation, materials / fittings selection and finishes, services location (where applicable) and client consultation is required to provide a more accurate estimate of costs.

Preliminary Cost Estimate Yarrowee River Masterplan Pilot Project 4					
Rural Trail Extension - Dowcra Street to Midland Highway					
The schedule is based on the landscape concept plan (Dwg No. 1944 - LP06) date May 2020 Prepared by Thomson Hay Landscape Architects - May, 2020					
Item	Description	Unit	Qty	Rate	Amount
<b>1.00</b>	<b>Preliminaries</b>				
1.01	Preliminaries including any securing site, temporary fencing, public safety signage, setting out of works, liaison with Superintendent, preparation of OH&S Plan, provision of contract insurances, soil tests, permits and all other costs necessary for the completion of the works that are not included in this schedule	allow	1	\$ 500.00	\$ 500.00
1.02	Allowance for earthworks including site preparation, bulk earthworks, topsoil placement / preparation, levelling, footings installation, path / services excavation	allow	1	\$ 20,000.00	\$ 20,000.00
1.03	Allowance for weed treatment and removal	allow	1	\$ 5,000.00	\$ 5,000.00
<b>2.00</b>	<b>Paths &amp; Surfaces</b>				
2.01	Yarrowee Trail gravel shared path extension - 2m wide	m <sup>2</sup>	2450	\$ 35.00	\$ 85,750.00
2.02	Gravel path to Aubrey Road 1.5m wide	m <sup>2</sup>	239	\$ 35.00	\$ 8,365.00
2.03	Carpark at Midland Highway - negotiations with authorities and further design required to confirm location and scope of site works.	allow	1		\$ -
<b>3.00</b>	<b>Fencing</b>				
3.01	Farm fence to reserve boundary	lm	1640	\$ 20.00	\$ 32,800.00
<b>4.00</b>	<b>Structures &amp; Furniture</b>				
4.01	Boardwalk over billabong (nominal 1.50 metre wide (+ passing bays) x 80 metres long)	item	1	\$ 100,000.00	\$ 100,000.00
4.02	Bridge	item	1	\$ 40,000.00	\$ 40,000.00
<b>5.00</b>	<b>Planting</b>				
5.01	Revegetation mass planting of indigenous trees and shrubs - including ground preparation, weed control, supply and install of tubestock, guarding and fertilising (tubestock planting at 3 x 3m centres)	ea	4124	\$ 10.00	\$ 41,237.78
<b>6.00</b>	<b>River &amp; Billabong Remediation &amp; Revegetation</b>				
6.01	Earthworks to create areas of pools, rock beaching and riffles silt / sludge removal, erosion and weed control. Price to be confirmed based on final extent and scope of site works.	allow	1		\$ -
6.02	Riparian and aquatic planting along river - including ground preparation, weed control, jute matting, supply and install of planting (allowance for tubestock planting at 4 plants per m <sup>2</sup> ), jute mat and fertilising	m <sup>2</sup>	4843	\$ 25.00	\$ 121,075.00
6.03	Riparian and aquatic planting around billabong - including ground preparation, weed control, jute matting / mulching, supply and install of planting (allowance for tubestock planting at 4 plants per m <sup>2</sup> ), jute mat and fertilising	m <sup>2</sup>	4170	\$ 25.00	\$ 104,250.00
<b>7.00</b>	<b>Kayak Trail</b>				
7.01	Vegetation clearing / management	allow	1	\$ 5,000.00	\$ 5,000.00
7.02	Dismount point steps / ramp access	allow	1	\$ 10,000.00	\$ 10,000.00
<b>8.00</b>	<b>Wayfinding and Interpretation</b>				
8.01	Wayfinding marker	item	3	\$ 1,500.00	\$ 4,500.00
	Interpretive panel sign at billabong - including graphic design	item	1	\$ 5,000.00	\$ 5,000.00
<b>9.00</b>	<b>Land Acquisition / Sale</b>				
9.01	Allow to negotiate with adjoining landowners to transfer land parcels along the river to provide a more effective corridor	allow			\$ -
Subtotal					<b>\$ 583,477.78</b>
10% contingency					<b>\$ 58,347.78</b>
<b>Landscape Works Estimate (exc. GST)</b>					<b>\$ 641,825.56</b>

**NOTES:**

This preliminary estimate includes certain assumptions. Further detailed landscape documentation, materials / fittings selection and finishes, services location (where applicable) and client consultation is required to provide a more accurate estimate of costs.

## MySay Survey Report

### Yarrowee River Masterplan

18th November - 15th December 2019  
81 respondents

Note: some questions have been removed due to edit to survey in early stages and no answers were supplied for these questions



The graphic is a rectangular box with a light green background. It contains the following text and logo:

Survey Report  
12 February 2015 - 15 December 2019

# Have Your Say

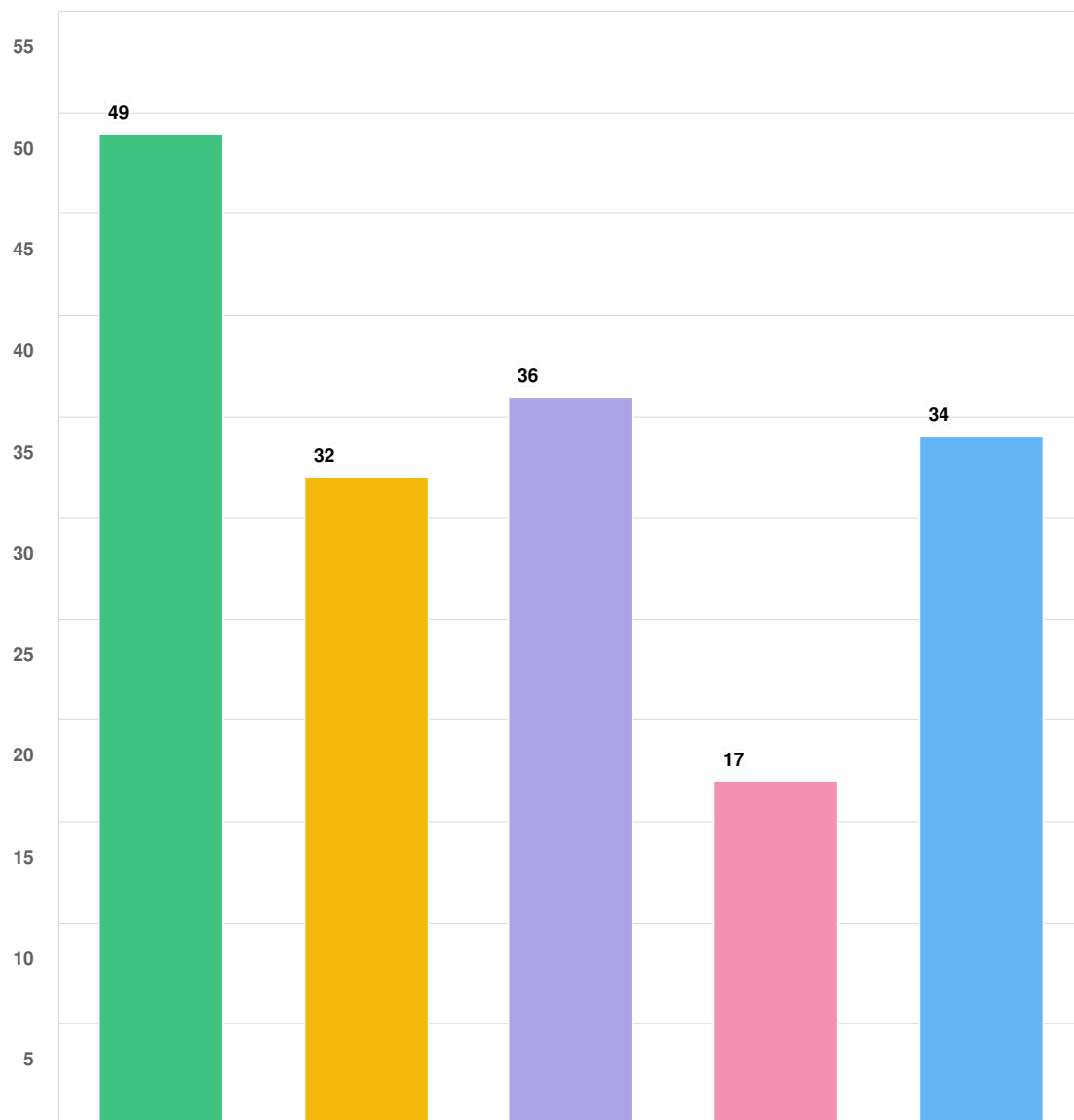
PROJECT: Yarrowee River Masterplan

**mySay - City of Ballarat**

engagement   
by Bong the Table

Have Your Say : Survey Report for 12 February 2015 to 15 December 2019

**Q3 Where do you go**



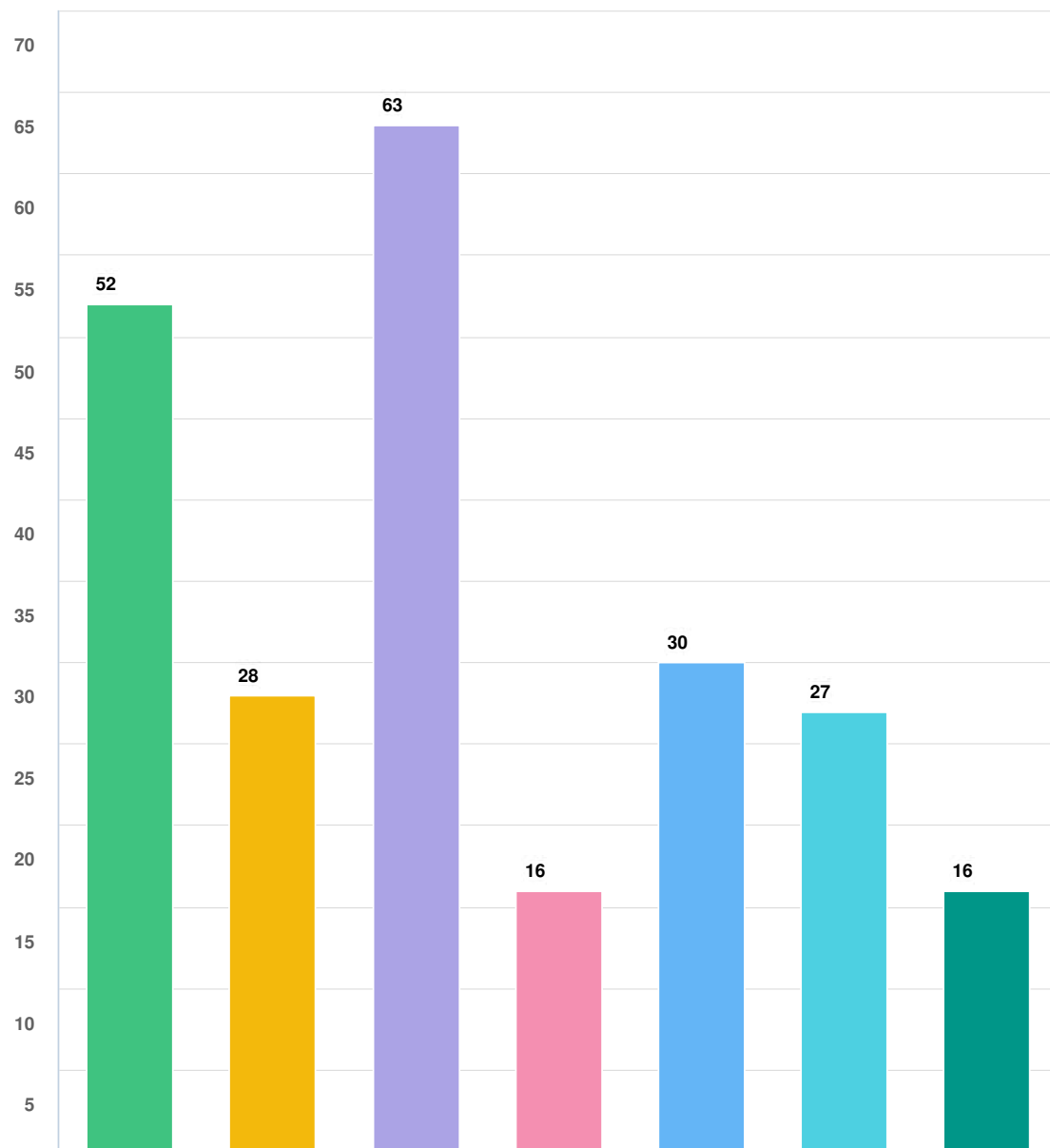
**Question options**

- North (Gong Gong Reservoir to Eastern Oval)
- Central (Eastern Oval to White Flat Recreation Reserve)
- South (White Flat Recreation Reserve to Dowcra Street)
- Rural (Docwra Street to Buninyong Mt Mercer Road bridge crossing)
- Tributaries (including Canadian Creek, Specimen Vale Creek, Warrenheip Gully, Grasstree Creek, Pennyweight Gully, Buninyong Creek, Winter Creek)

*Optional question (79 responses, 2 skipped)*

Have Your Say : Survey Report for 12 February 2015 to 15 December 2019

**Q5 How do you use the area?**



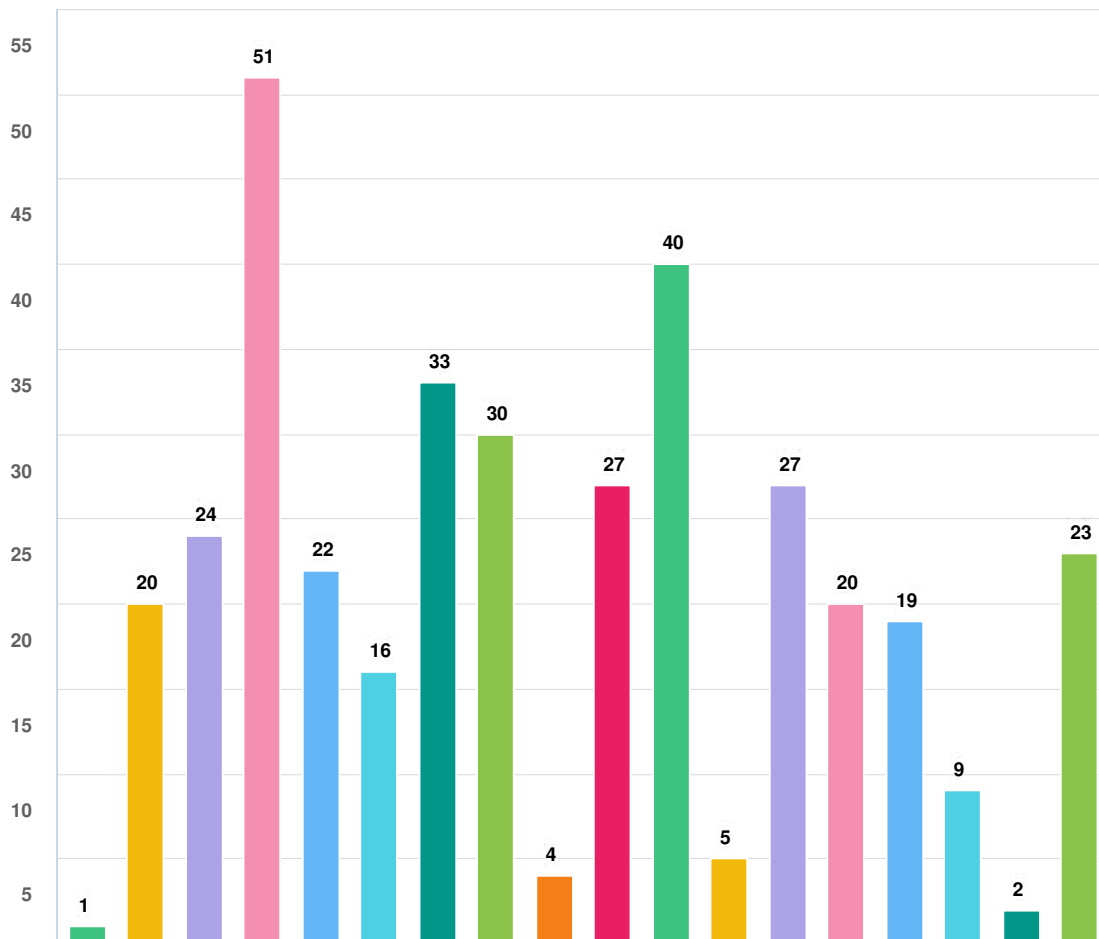
**Question options**

- Enjoying and learning about nature
- Path connection (on your way to somewhere else)
- Exercise
- Picnic
- Dog walking
- Social
- Other

*Optional question (79 responses, 2 skipped)*

Have Your Say : Survey Report for 12 February 2015 to 15 December 2019

**Q7 Tick which statements you agree with**



**Question options**

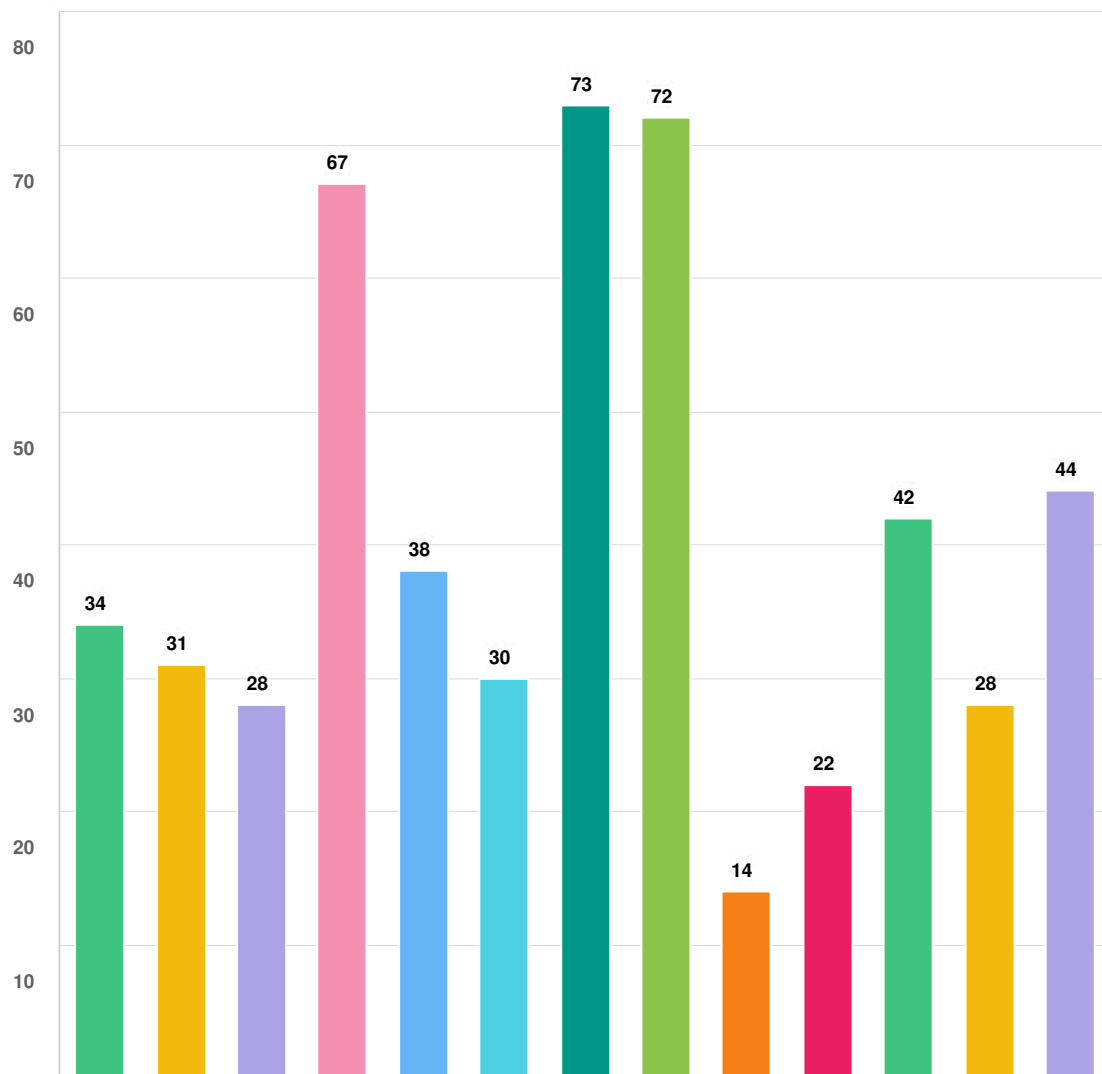
- The history and stories of the Yarrowee River are well known and understood
- The open space along the river is well maintained
- The river trail paths are well connected to adjoining paths/roads
- The river corridor supports a healthy lifestyle
- There are good quality spaces for children to play
- The water quality of the river has improved
- I feel safe when I visit the river
- The river is a social place
- The ecology of the river system is high quality
- I see native animals living within the river corridor
- It is easy to get to the river
- There are sufficient public facilities along the river
- The river is well used by the community
- It is easy to find your way along the river corridor/tracks are clearly signed
- There are adequate pedestrian crossings along the river and tributaries
- The river corridor is well managed
- There are sufficient resources allocated for the management of the river corridor
- I have noticed an improvement in the river condition over the past few years

*Optional question (73 responses, 8 skipped)*



Have Your Say : Survey Report for 12 February 2015 to 15 December 2019

**Q9 Tick the boxes most important to you**



**Question options**

- Path connections that help me get where I am going
- Spaces to exercise
- Spaces for children to play
- Clean water in the Yarrowee
- Personal safety
- Community spaces and social places to meet people
- Good habitat and healthy plant life
- Presence of native animal and birds
- Car parking/ public transport connections
- Proximity to public facilities ( toilets, shelters, picnic tables etc)
- Wayfinding and signage relating to history and stories of the river
- All abilities access
- Opportunities to assist in caring for the river and tributaries

*Optional question (80 responses, 1 skipped)*

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 Have Your Say : Survey Report for 12 February 2015 to 15 December 2019
 

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**Q10 Tell us your vision for the Yarrowee River corridor**

<p>Anonymous 11/19/2019 11:43 AM</p>	<p>Foot paths along the Yarrowee and tributaries right along the River to Garibaldi. Weeds free and revegetated in the riparian environment. Clean from rubbish.</p>
<p>Anonymous 11/21/2019 01:20 AM</p>	<p>I believe all sectors of management authorities should strive to ameliorate the river corridor by weed eradication, and restoration of native riparian vegetation communities to improve the habitat quality to better support native biodiversity.</p>
<p>EllenScott 11/21/2019 02:18 PM</p>	<p>My vision includes a system of growth benchmarking Ballarat's Yarrowee River's health and habitats to the world. Five year custodian appointments would be led by people like Nick McKinley. It can be simply represented by a graphic of an eagle with a koala</p>
<p>Anonymous 11/22/2019 04:09 PM</p>	<p>Improve riverine habitats for plants and animals. Widen corridor. Increase native vegetation plantings, prevent any intrusive lighting at night</p>
<p>Anonymous 11/22/2019 04:53 PM</p>	<p>Plant more Trees &amp; Shrubs along Pennyweight Gully track &amp; leading into the Ballarat CBD</p>
<p>Anonymous 11/22/2019 08:13 PM</p>	<p>Access ability for people with a disability. Wonderful inner city place to walk pets and connect with nature. Like bridges and ability to walk long or short, compared to min 6ks at the lake.</p>
<p>Anonymous 11/22/2019 08:16 PM</p>	<p>Would be great to have it fixed up and allow an annual walking event from Ballarat to bunningyong for charity.</p>
<p>Anonymous 11/22/2019 11:48 PM</p>	<p>I really love bike riding along this track in both directions for fun with my family and occasionally commuting to IBM in summer. I would like to see the path a bit more bike friendly</p>
<p>Anonymous 11/23/2019 01:15 PM</p>	<p>More bbq areas, al more ponds for wildlife.</p>
<p>Anonymous 11/25/2019 09:18 AM</p>	<p>Prevention of ferals on unregistered trail bikes ripping up the path and endangering walkers. Similarly ferals in cars ripping up car parks. Weed &amp; rubbish management and water quality are key factors.</p>
<p>Anonymous 11/25/2019 10:57 AM</p>	<p>To feel safe accessing the YR. Improved natural enviro'. Lots of info/signs acknow'/descr the Wadawurrung history + ecosystem, animals, plants etc &amp; importance of protecting culture &amp; enviro. Lots of regular &amp; well ad' comm' ops to get involved planting etc</p>
<p>Anonymous 11/25/2019 11:28 AM</p>	<p>Removal of noxious weeds, feral animals (overrun with rabbits, cats and foxes) and dangerous unregistered motorbikes (daily event). More trees and riparian plants Docwra St end and safer carparking area - very muddy, hoons destroy it.</p>
<p>Anonymous 11/25/2019 03:00 PM</p>	<p>An easily accessible area similar the pristine way it would have been prior to white settlement. No rubbish or weeds..</p>
<p>Anonymous 11/25/2019 04:45 PM</p>	<p>More planting. Less weeds without weed spray. Better quality water.</p>

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**Have Your Say : Survey Report for 12 February 2015 to 15 December 2019**

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<p>Anonymous 11/25/2019 04:57 PM</p>	<p>Need more parking to enable access</p>
<p>Anonymous 11/25/2019 05:06 PM</p>	<p>A cleaner river, that can be accessed in more areas (PLEASE reinstall stairs to the river off Yarrowee Parade,Redan), so more people can enjoy the beauty of our local nature. So many times I have mentioned the river to people, &amp; they reply, 'What river?'</p>
<p>Anonymous 11/25/2019 06:25 PM</p>	<p>My vision that the corridor is used by as many user groups and community members as possible. A greater awareness of the trails and a more visible way to connect to the corridor and for the connection of the North and South corridors.</p>
<p>Anonymous 11/25/2019 07:05 PM</p>	<p>A safe place to enjoy, especially for women. Cycle friendly and places to picnic. Easily accessible by car along different access points. Conducive to native habitat- flora and fauna.</p>
<p>Anonymous 11/25/2019 08:08 PM</p>	<p>Maintain the fauna and flora along Creek. Make sure no development changes the nature and feel of the creek</p>
<p>Anonymous 11/25/2019 08:11 PM</p>	<p>It's such an asset to Ballarat. It's a great place for our whole family to walk/ride where we mostly don't have to worry about them getting run over. They are free to ride ahead and stop at places and play. The path sometimes gets a bit boggy and muddy</p>
<p>Anonymous 11/25/2019 09:23 PM</p>	<p>The small tributaries of the Canadian Creek are enhanced and maintained. Stop piping creeks,</p>
<p>DamienMartin 11/25/2019 09:48 PM</p>	<p>Clean and safe</p>
<p>Anonymous 11/25/2019 10:15 PM</p>	<p>Need to improve the health / quality of water particularly around wetlands at the South: the ponds are bypassed, heaps of rubbish &amp; litter all around the South area (Redan / Sebastopol); Not good for river health downstream for Garibaldi &amp; Napoleons</p>
<p>Anonymous 11/26/2019 10:03 AM</p>	<p>Continue to be a well maintained place for exercise and family walks. We love it &amp; use it all the time. - Every week!</p>
<p>Anonymous 11/26/2019 12:01 PM</p>	<p>Love walking along the river. More history signs would be a great addition. If people know more about the rivers history in relation to Ballarats history they might feel more connected. A few more seats to rest these tired legs :) Keep up the good work</p>
<p>Anonymous 11/26/2019 03:33 PM</p>	<p>Less rubbishy in the system. Plastic waste and shopping trolleys are an eyesore. Green corridors along waterways with native vegetation and animals not Gorze and feral cats</p>
<p>Anonymous 11/26/2019 11:05 PM</p>	<p>Limitations on housing development and tree felling near the river corridor. Environmental flows during summer to maintain aquatic life (which would return crustaceans and fish to the river). Earthworks in the river bed to create billabongs, remove trash</p>
<p>Anonymous 11/27/2019 07:42 AM</p>	<p>To be used by everyone and it's story to be shared for future generations.</p>
<p>Anonymous</p>	<p>a place of beauty and nature. that is not overly ordered, and is welcoming to</p>

**Have Your Say : Survey Report for 12 February 2015 to 15 December 2019**

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<p>11/27/2019 06:32 PM</p> <p><b>Anonymous</b></p> <p>11/28/2019 07:34 AM</p> <p><b>Anonymous</b></p> <p>11/28/2019 01:14 PM</p> <p><b>Anonymous</b></p> <p>12/02/2019 07:41 AM</p> <p><b>Anonymous</b></p> <p>12/03/2019 12:33 PM</p> <p><b>Anonymous</b></p> <p>12/03/2019 12:40 PM</p> <p><b>Anonymous</b></p> <p>12/03/2019 12:47 PM</p> <p><b>Anonymous</b></p> <p>12/03/2019 12:49 PM</p> <p><b>Anonymous</b></p> <p>12/03/2019 12:54 PM</p> <p><b>Anonymous</b></p> <p>12/03/2019 12:56 PM</p> <p><b>Anonymous</b></p> <p>12/03/2019 01:00 PM</p> <p><b>Anonymous</b></p> <p>12/03/2019 01:07 PM</p> <p><b>Anonymous</b></p> <p>12/03/2019 01:38 PM</p> <p><b>Anonymous</b></p> <p>12/03/2019 01:42 PM</p> <p><b>Anonymous</b></p> <p>12/03/2019 01:43 PM</p> <p><b>Anonymous</b></p>	<p>all with a priority to native and nature.</p> <p>Stop the mine from feeding arsenic into the water. Constant maintenance and rubbish removal from the river flow and surrounds. Allow the viaduct walls to be used for public street art and set a an actual programme for that with the public arts officer.</p> <p>Open the covered areas. Indigenous use. Remove drains. Shady picnic areas.</p> <p>Ballarat's green belt - A healthy, thriving biodiverse river corridor connecting surrounding urban areas and people with Ballarat's history, nature and places to be active. (Please provide regular drink fountains).</p> <p>More emphasis on environmental outcomes Control of erosion Better support for community groups Restoration of natural flow patterns (eg, wetlands) Support for a local Waterwatch program Consultation with nearby residents prior to works More funding for wo</p> <p>More emphasis on environmental outcomes / Control of erosion and weeds / More tree planting / Restoration of natural flow patterns (eg, wetlands) / Support for a local Waterwatch program</p> <p>More emphasis on environmental outcomes Control of erosion Better support for community groups Restoration of natural flow patterns (eg, wetlands) More funding for en</p> <p>To have healthy eco systems.</p> <p>Greater emphasis on environmental outcomes Control of erosion Restoration of natural flow patterns (eg, wetlands) Support for a local Waterwatch program More tree planting</p> <p>More tree planting!</p> <p>more wetlands, more focus on environmental aspects, better flow management, better erosion management, better access for all</p> <p>I live next door to the river, my kids and I love it and black hill, we only wish is was supplied with more water all year round and release of fish would be amazing. I you also love for it to be named correctly Yaramlok as the traditional owners call it.</p> <p>Support community groups to continue environmental work More management resources for the river Improve the ecological effort Include more history and stories</p> <p>Casual recreation is crucially important. Keep it rural and undeveloped. The Yarrowee corridor should not be paved, should not have more fences, and doesn't need more infrastructure. It is a contrast to the built environment, not an extension of it.</p> <p>Strong connection to via in an environment suitable for all people</p> <p>A fully revegetated and connected wildlife corridor from north of Ballarat to</p>
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<p>12/03/2019 02:04 PM</p> <p>Anonymous</p> <p>12/03/2019 06:11 PM</p> <p>Anonymous</p> <p>12/03/2019 06:17 PM</p> <p>Anonymous</p> <p>12/03/2019 08:24 PM</p> <p>Anonymous</p> <p>12/03/2019 08:37 PM</p> <p>Anonymous</p> <p>12/03/2019 09:25 PM</p> <p>Anonymous</p> <p>12/04/2019 10:29 AM</p> <p>Anonymous</p> <p>12/04/2019 02:03 PM</p> <p>Anonymous</p> <p>12/04/2019 02:31 PM</p> <p>Anonymous</p> <p>12/04/2019 02:53 PM</p> <p>Anonymous</p> <p>12/04/2019 03:58 PM</p> <p>Anonymous</p> <p>12/04/2019 08:44 PM</p> <p>Anonymous</p> <p>12/04/2019 08:54 PM</p> <p>Anonymous</p> <p>12/05/2019 06:25 AM</p>	<p>Garibaldi incorporating paths and reserves for community activity and education. Increased support to Landcare groups including site upkeep, bio monitoring and water watch.</p> <p>Need for buffer zones adjacent to the river. It is important for other nature corridors to be connected to the river.. some parts are choked with weeds and invasive species.</p> <p>More swamps with water recirculation to the river. Have you seen the recent reclamation of the creeks through O'Connor ACT? A bit of the bluestone and underground stormwater channels could be returned to nature. Better GDT bike trail connection too</p> <p>much the same as it is, I like it's "secret" aspect. But there should be far more maintenance and care taken, especially on tributaries. the original vision is superb, changing weed choked areas to wonderful places for humans, wildlife, birds and plants</p> <p>Ballarat celebrates its built environment well, but not its natural environment. The Yarrowee should be centrepiece of Ballarat. I would like to see major emphasis placed on the rejuvenation of native habitats with the removal of noxious weeds.</p> <p>Greater emphasis on environmental outcomes Control of erosion Restoration of natural flow pattern</p> <p>As a Landcare Group we have worked hard for many years improving access, biodiversity and social connections in the southern rural section of the Yarrowee. Local people are increasingly connected to the river here.We still need support to keep going.</p> <p>More funding for environmental works</p> <p>Natural, wild spaces with clean air and water, accessible to and loved by all and connected to original owners and ongoing custodians. More trees and indigenous plants, natural water treatment and flows through wetlands for diversity and habitat.</p> <p>More emphasis on environmental outcomes, Control f erosion, Restoration of natural flow patterns (eg, wetlands), Consultation with nearby residents prior to works</p> <p>Litter transported down the river is obviously a key issue. I know education is important, but its obvious Council need to care more about allocating budget to litter interception measures.</p> <p>I believe that the condition of the river and the surrounding space has improved greatly over the last few years however it would be nice to see less rubbish and weeds within the area. More reveg of natives would be great too!</p> <p>No rubbish in stream, more understory plants, bank stabilisation</p> <p>A haven for people to reconnect to nature and recharge away from the stress and busyness of everyday. A destination for visitors to Ballarat to demonstrate our respect for history, the environment,animal/bird life, &amp; the power of nature to support people</p>
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- Anonymous  
12/05/2019 10:19 AM  
Somewhere that people of Ballarat feel as comfortable and safe using as walking around Lake Wendouree. Vegetation is managed to provide a corridor for wildlife to move across Ballarat. Was deeply saddened to see a dead tree owls used for hunting cut down.
- Anonymous  
12/05/2019 03:12 PM  
Regular maintenance of the trail and surrounds. Remove weeds, repair erosion, remove rubbish
- Anonymous  
12/05/2019 03:32 PM  
Healthy waterways and riparian environments with good pedestrian and cycling access. Waterways managed with natural attributes, including wetlands for flow management and environmental benefits
- Anonymous  
12/06/2019 04:21 PM  
The Yarrowee is funded and cared for through an established program of works that support volunteers and the community in its care. The City of Ballarat has wonderful environmental assets that need help to thrive not just survive. Please support.
- Anonymous  
12/06/2019 04:24 PM  
The Yarrowee is funded and cared for through an established program of works that support volunteers and the community in its care. The City of Ballarat has wonderful environmental assets that need help to thrive not just survive. Please support.
- Anonymous  
12/06/2019 09:57 PM  
Green spaces are important for our physical and mental health. In addition green spaces help build communities
- Anonymous  
12/07/2019 11:53 AM  
It's a lovely river to walk along but the river does need some cleaning and care for the water quality, plus need to remove some of those weeds like blackberry and all and replace with some new native plants.
- Anonymous  
12/10/2019 09:50 AM  
Emphasis on environmental outcomes, eg: erosion control, restoration of wetlands, connection to other areas, eg Nerrina wetlands etc., with the appropriate funding for this and for improved public toilet facilities. A holistic approach to the entire basin
- Anonymous  
12/11/2019 07:59 AM  
A clean river free of rubbish, good quality habitat for wildlife. Native vegetation maintained, more financial resources committed to upkeep.
- Anonymous  
12/11/2019 08:27 PM  
A natural community asset free of woody weeds and revegetated and maintained for both the community and nature to thrive. A healthy river with environmental flows from the Gong Gong all the way through Ballarat. A natural treasure for Ballarat
- Anonymous  
12/11/2019 08:54 PM  
more understorey vegetation planted for habitat for birds
- Anonymous  
12/12/2019 02:27 PM  
Water quality improves and more natural flow rates due to better management of tributaries, wider riparian vegetation buffer zones, improved management of stormwater and construction run-off. Better woody weed control by council and private landholders.

**Optional question** (69 responses, 12 skipped)

## Survey Report

16 November 2019 - 15 December 2019

# Survey for Map - 3677

PROJECT: Yarrowee River Masterplan

**mySay - City of Ballarat**



## Survey for Map - 3677 : Survey Report for 16 November 2019 to 15 December 2019

Q1	Your Comment
EllenScott 11/21/2019 02:03 PM	Site of Golden Sun Orchid, supporting mosses and fly traps that eat the Sun Orchid's fertilising wasps
EllenScott 11/21/2019 02:04 PM	Continuing Sun Orchids.
EllenScott 11/21/2019 02:05 PM	Continuing Sun Orchids. Prefer not spray or to put the tractor and mower over May to November each year.
EllenScott 11/21/2019 02:06 PM	Further Thelymitra Sun Orchid site, also genus Diuris (Donkey Orchids) and Yam Orchids
EllenScott 11/21/2019 02:08 PM	There is a little creek through here a wonderful opportunity to develop similar to Horsham Old Saleyards site, now residential/wetlands.
EllenScott 11/21/2019 02:08 PM	Same little creek.
EllenScott 11/21/2019 02:08 PM	Same little creek.
EllenScott 11/21/2019 02:11 PM	There used to be a wetlands here with creek vegetation and a large population of frogs. Old Fred, who is now dead told me about it. It was before the Americans camped here in WWII (1944?)
EllenScott 11/21/2019 02:13 PM	There is a little creek here (overflow from St Patricks) that used to flow into the old frog wetlands. Its north west of the stand of poplars.
EllenScott 11/21/2019 02:15 PM	There is a stand of wattles along here that could be used to establish habitat for grass land birds, such as green parrots and various finches.
EllenScott 11/21/2019 02:17 PM	There is a gumtree here a family of Galah's used a hole in it for their young ones this year. They were still there on 14 November 2019.
EllenScott 11/21/2019 02:21 PM	It is really lovely walking in this area. The trees, bushes and birds are truly lovely.
DamienMartin 11/25/2019 09:40 PM	Weed infestation and rubbish dumping. Many, many rabbits and substantial evidence of rabbit warrens and fresh c=scratchings. Evidence of feral cats with repeated bird kills. Sighting of large foxes repeatedly during the day.
DamienMartin 11/25/2019 09:35 PM	Rubbish dumping in creek including large oxy acetylene bottles. Damage from gold prospectors not repairing after digging (leaving deep and large holes)
DamienMartin 11/25/2019 09:35 PM	Dumped rubbish in creek including car seats and shopping trolleys.
DamienMartin 11/25/2019 09:37 PM	Substantial piles of fallen trees, weed infestations and piles of scrubby wood providing ready made fuel for would be arsonists. Seems to have been cut and stacked semi-professionally but not removed.



**Survey for Map - 3677** : Survey Report for **16 November 2019** to **15 December 2019**

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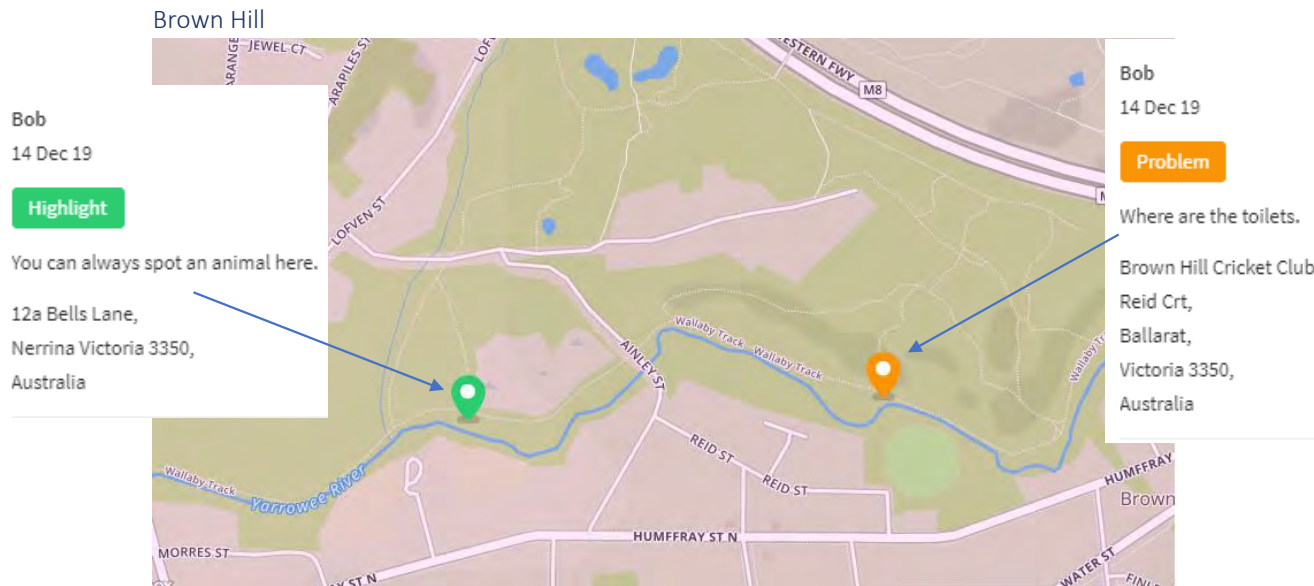
- |   |   |
|---|---|
| <p>DamienMartin<br/>11/25/2019 09:38 PM</p> | <p>Illegal dumping and a total lack of rubbish bins. I meet school groups here frequently and the lack of shelter and adequate tables and bins in concerning.</p>   |
| <p>DamienMartin<br/>11/25/2019 09:39 PM</p> | <p>Severe weed infestation to the point of blocking and over running the track. Have sighted large foxes and evidence of bird kills.</p>  |
| <p>DamienMartin<br/>11/25/2019 09:42 PM</p> | <p>Illegal dumping. Damage to carpark from hoons. Lack of bins. Syringes. Access gate frequently cut. Dirtbike riders on a daily basis cutting up the track and on occasion deliberately terrorising and making threats of track users.</p> |
| <p>DamienMartin<br/>11/25/2019 09:42 PM</p> | <p>Burnt out cars and dirt bike riders.</p>   |
| <p>DamienMartin<br/>11/25/2019 09:44 PM</p> | <p>Bridge in disrepair and becoming dangerous</p>   |
| <p>DamienMartin<br/>11/25/2019 09:45 PM</p> | <p>Birdlife. Can be very serene and peaceful when no dirtbike riders cutting the track up.</p>  |
| <p>DamienMartin<br/>11/25/2019 09:46 PM</p> | <p>Abundant birdlife of a wide variety. Very peaceful whe no dirt bike riders curting the place up</p>  |
| <p>Bob<br/>12/14/2019 09:38 AM</p>          | <p>You can always spot an animal here.</p>  |
| <p>Bob<br/>12/14/2019 09:38 AM</p>          | <p>Where are the toilets.</p>   |

**Optional question** (25 responses, 0 skipped)

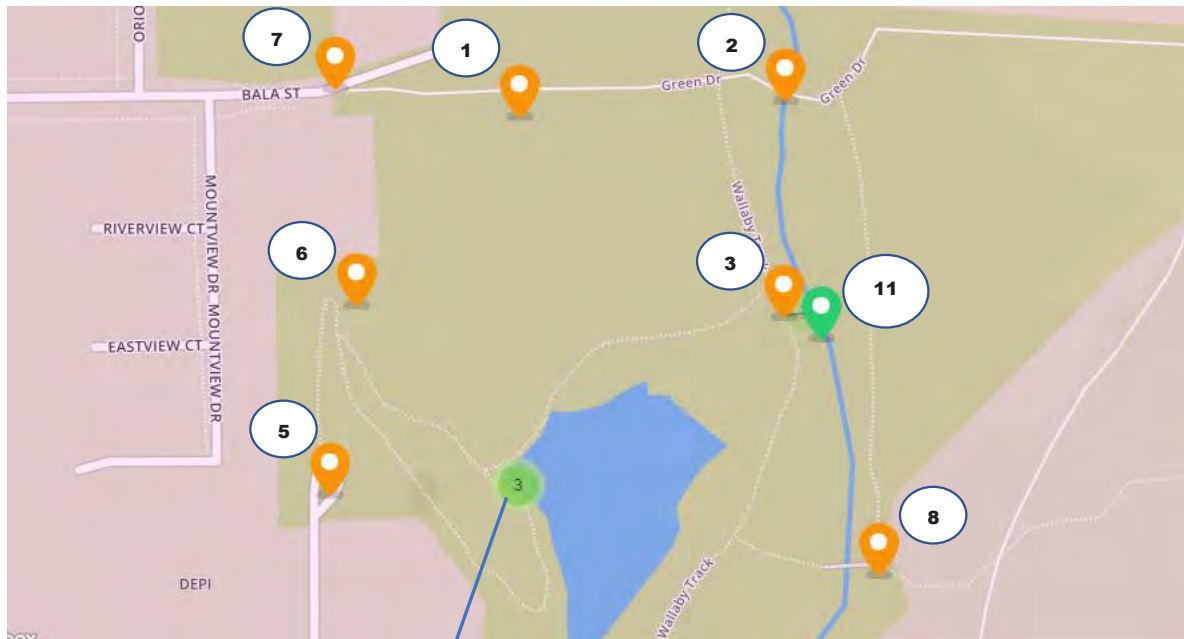
### Yarrowee Pin Map

Of the 25 pins in total:

- 12 in Victoria Park! (Good information but not in study area.)
- 2 in Brown Hill (see below).
- 11 in Yarrowee South adjacent to Sebastopol (see below). Of these, 2 were highlights and 9 problems.

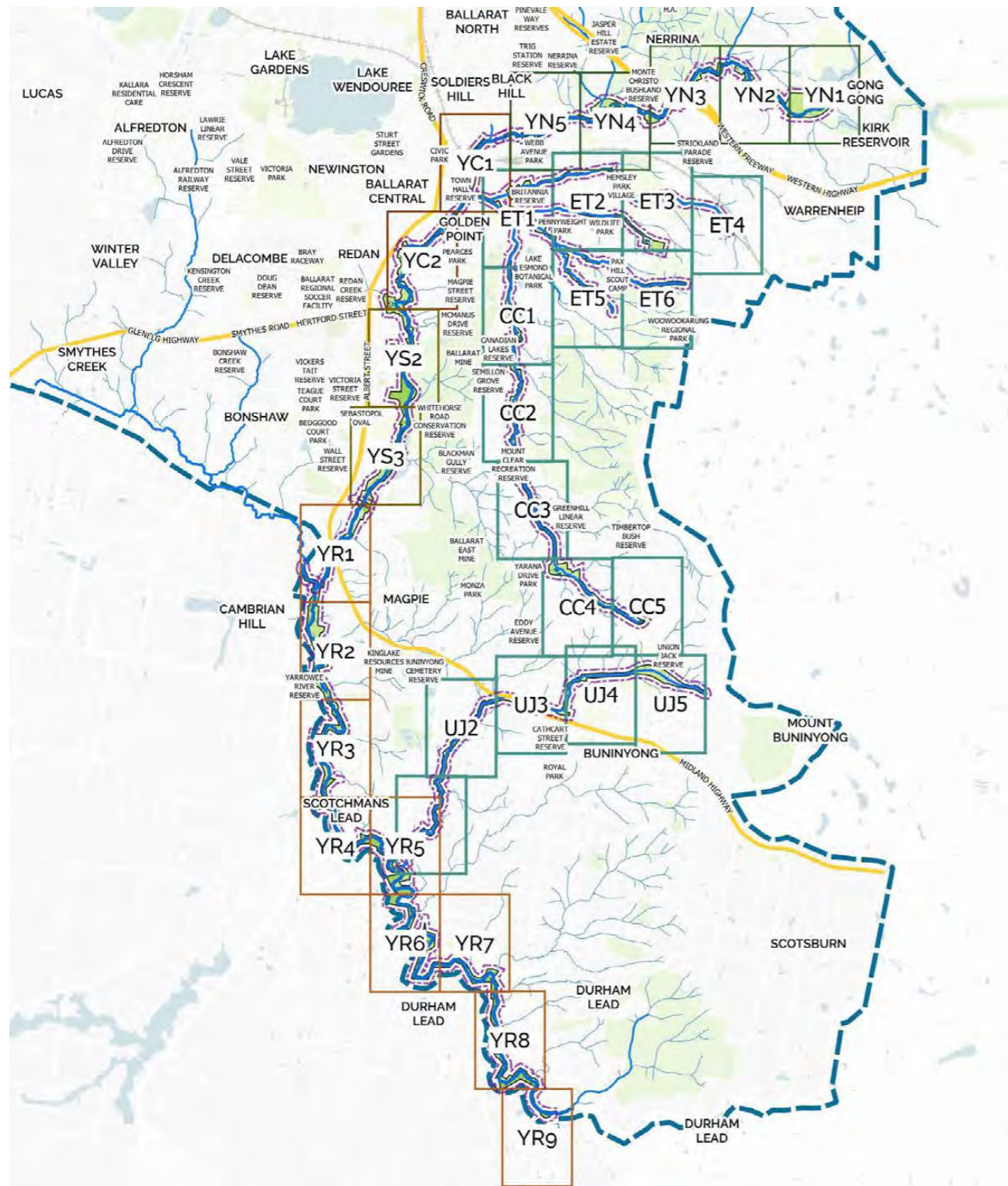


Yarrowee South (numbers refer to order of Damien's comments in 'Survey for Map' report)



# Site Analysis Plans - scope and reference

## Yarrowee River & Tributaries



Yarrowee River and Tributaries River Corridor Masterplan 2019-20

- ### Legend
- City of Ballarat boundary
  - Extent of study
  - Waterbody
  - Yarrowee River
  - Major tributary
  - Minor tributary
  - Drainage channel
  - Yarrowee River - underground
  - Channelised waterway
  - Title boundary
  - Future title boundary
  - Contours (1m interval)
  - Public Open Space
  - Freeway
  - Railway line
  - Major on-road cycle path
  - Footpath
  - Major trail - hardstand surface
  - Major trail - gravel surface
  - Minor trail
  - Bridge
  - Drainage channel
  - Drainage pipe
  - Drainage pit
  - Q100 flood level (where mapped)
  - Playground
  - Toilet
  - Litter Bin
  - Picnic tables
  - Public furniture
  - Public lighting
  - Sign
  - PTV Bus Stop
  - PTV Regional Bus Route
  - Community facility
  - Education facility
  - Recreation facility
  - Aquatic facility
  - Drone footage flight point

- ### Analysis Legend
- Existing farm track along reserve
  - Weed infested area
  - Existing erosion area
  - Existing erosion control
  - Steep bank
  - Existing CHW treated water outlet
  - Newly planted revegetation
  - Former river bed / billabong
  - Existing rock shelf in river
  - Existing soil contamination
  - Existing large rabbit warren
  - Existing overhead transmission powerlines
  - Existing above ground pipeline
  - Existing gross pollutant trap
  - Areas of large sludge deposits / river bed degradation
  - Un-authorized river crossing point
  - Existing carpark
  - Confusing wayfinding point
  - Image location

Note, use this legend for all Site Analysis Plans covering the full extent of study - Yarrowee River and Tributaries