Appendix E

Riverlea Landscape Master Plan.





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BACKGROUND & VISION

INTRODUCTION

2.1 SITE LOCATION

Riverlea Park site is approximately 1,340 hectares in area and is located on Port Wakefield Road between Virginia and Port Gawler, within the City of Playford (see map below).

The site is bounded by Port Wakefield Road to the east, the Gawler River to the north, land belonging to Buckland Dry Creek Pty Ltd to the west and arable horticultural land to the south. The site is approximately 4km from the Port Vincent Gulf coastline.

The development ultimately will comprise of approximately 12,000 residential allotments of various densities. Associated mixed use precincts will support the proposal with a range of schools, employment and retail precincts forming a diverse, sustainable community. Furthermore, the current overall master plan includes a network of open space for connectivity, recreation, stormwater management and drainage channels.

2.2 LANDSCAPE CONTEXT: REGIONAL

Riverlea Park / Virginia region is distinguished by open rural areas, market gardens, orchards and open paddocks. These areas are supported by associated horticulture infrastructure such as greenhouses, packaging sheds and residential rural living.

To the south and west of the region are examples of more intensive extractive land use associated with Jeffries demonstration farm and composting facility and the Buckland Dry Creek salt pans. The salt pans provide a relatively stable habitat for a wide variety of birds. Buckland Park Lake is located to the north of Buckland Dry Creek which is surrounded by areas of Samphire, Saltmarsh & Lignum.

Further to the west are coastal mangrove and estuaries associated with the Gawler River and local drainage swales.

The character of this area is defined by the low lying saltbush and samphire and dense mangroves closer to the coastal edge. Part of this coastal environment has been designated as Port Gawler Conservation Park, providing protection to a diverse range of flora and fauna.

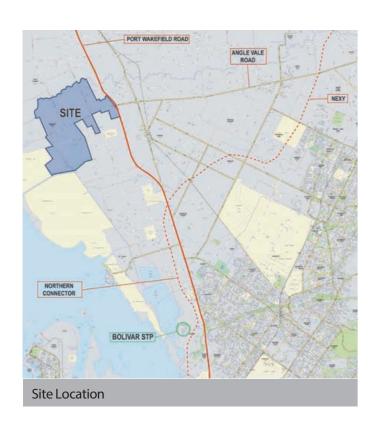
To the east, approximately 2km across Port Wakefield Road is the small township of Virginia. Virginia is characterised by a mixture of rural residential living, greenhouses and horticultural practices to the periphery with a small commercial, retail precinct along Old Port Wakefield Road.

Port Wakefield Road forms a major transportation link to the north of Adelaide. This infrastructure delineates the rural living context of Virginia to the east and more intensive horticultural practices to the West. The road corridor and its associated scattered verge planting provides fragmented views into Riverlea Park site.

Forming the site's northern boundary, the Gawler River, meanders in an east west direction. The river corridor is designated as Open Space, providing a buffer of vegetation and open space, creating a defined character zone.

It is the most dominant visual element within the local landscape region and the vertical scale of the remnant Eucalypts which align the riverbed, provide a backdrop for views from the south and north. The meandering form of the corridor dissects the landscape providing a natural gateway to those travelling on Port Wakefield Road across the river. The river is ephemeral with limited flow in the summer months.

*Introduction text sourced from Riverlea Landscape Master Plan Report [rev.M] p.5





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Image: Aerial view of Riverlea site



Gawler River edge with Red Gums.



Large open fields and big sky.



Open fields and red gums are the typical character in the north.



Gawler River edge.

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Open fields with long views.



Heathland coastal edge.



Intermittent groves of gums.



Heathland/salt flats coastal edge.



Adjacent coastal frontage of St Vincent Gulf.



Adjacent Port Gawler waterway.



Coastal landscapes to the west.



Adjacent bird habitat zones.

RIVERLEA LANDSCAPE MASTER PLAN

SURROUNDING DEVELOPMENTS

Riverlea will have few competitors for size and amenities once it is completed. For the initial stages however, the vision of amenities and quality will need to be delivered and promoted to ensure that it can outpace any northern land communities. As a result, a quick comparison of adjoining competitors and their landscape/ presentation was undertaken to confirm the key priorities for Riverlea.

COMPARISON SITES AND LOCATIONS

The closest community to Riverlea is Virginia Grove which is only 2.5km from the entry to Riverlea to the south east. Several other new developments are located slightly further away including Miravale – 5km, Eden 7km, and Liberty 7.5km. Some of the more established communities with services and community facilities and shopping are Blakes Crossing 17km and Playford Alive 14km. Blakes Crossing is now fully sold, but is included for its high presentation and level of service in public realm. The location of these projects are shown on the following page.

(A) Virginia Grove, Virginia (B) Miravale, Angle Vale

Virginia Grove will include

approximately 1,200 lots

development on the edge of

site has a central landscape

the Virginia township. The

spine on which large open

integrated into an aesthetic

outcome. The landscape

spine runs along the main

boulevard as the organising road. Two local parks are also

located within the residential

landscape buffers are located

along the Port Wakefield Road

Virginia Grove is the immediate

competitor for location. The

are of low to medium quality,

but nicely embellished. The

streets have mostly turfed

verges. Planting mix is both

native and exotic and has a

refined appearance.

edges for acoustic reasons

neighbourhoods. Large

spaces and lakes are

at completion, with the

Miravale is 1500 lot greenfield residential development positioned on the outskirts of Angle Vale. This masterplanned community features 6 neighbourhood parks and a variety of other open space types including linear fitness trails, landscaped detention basins and reserves.

Landscape quality is high through its initial stages of delivery. The recently completed Central Park is located along the central boulevard and provides a high level of amenity including BBQ facilties, a basketball halfkey, fitness trails, a skateable landscape, playground and planting scheme and the parks outdoor fitness equipment. Streets are a mix of turf and crushed granite paths, creating an interesting streetscape, however, this may not age

© Eden and Liberty, Two Wells

Eden and Liberty are two separate developments that will have combined 4,000 lots and are positioned to one day form part of the established Two Wells township (not part of the City of Playford). Both are primarily residential Master Planned estates with some local parks within the residential neighbourhoods, and small green corridors through the centre. The Liberty project also has a private Catholic College as part of its amenity. The Eden site is currently under mid way through construction on what is a development of quite large lots (some over 1ha). The streets are delivered with wide verges. The only constructed park is significant in size but low in spend. The streets look to have a front fence guideline which is quite rural in character. The street verges are all turfed.

D Playford Alive, Playford

This development is large with an estimated 16,000 lots in total at completion with a plan for many community facilities, large sports parks, a golf course, schools, Town Centre, and smaller retail and commercial centres. The development also has a key public transport node with the Munno Para Station connecting it to Adelaide. Playford Alive is a multi-faceted development consisting of greenfield sites and also regeneration of older housing trust homes that require demolition and replacement. For scale alone it is the equivalent to Riverlea.

Based on the current delivery, the quality of the landscape is low to mid level. Street tree planting has matured in the more established neighbourhoods, but have limited grass or planting so appears guite barren and hot. Footpaths, driveway crossovers and tree planting is all installed at time of lot sale.



(E) Blakes Crossing, Playford

Blakes Crossing is a 1500 lot development which is now fully sold. Blakes Crossing has a Town Centre, school, sports field and 3 childcare centres. As its centre piece a large park with oval and open lake is provided. Three other local parks are provided within the residential neighbourhoods and a large linear park / drainage corridor provides a green landscape outcome. The landscape quality in this development is mid to high level with it being a leading project in the Playford Council area. Some attempt to increase street understorey planting is evident, but the majority of streets are either crushed granite or bark mulch. The display streets with turf verges provide a much stronger impact. Public spaces in this development comprise a central lake and community gathering space, and signature shade structures.





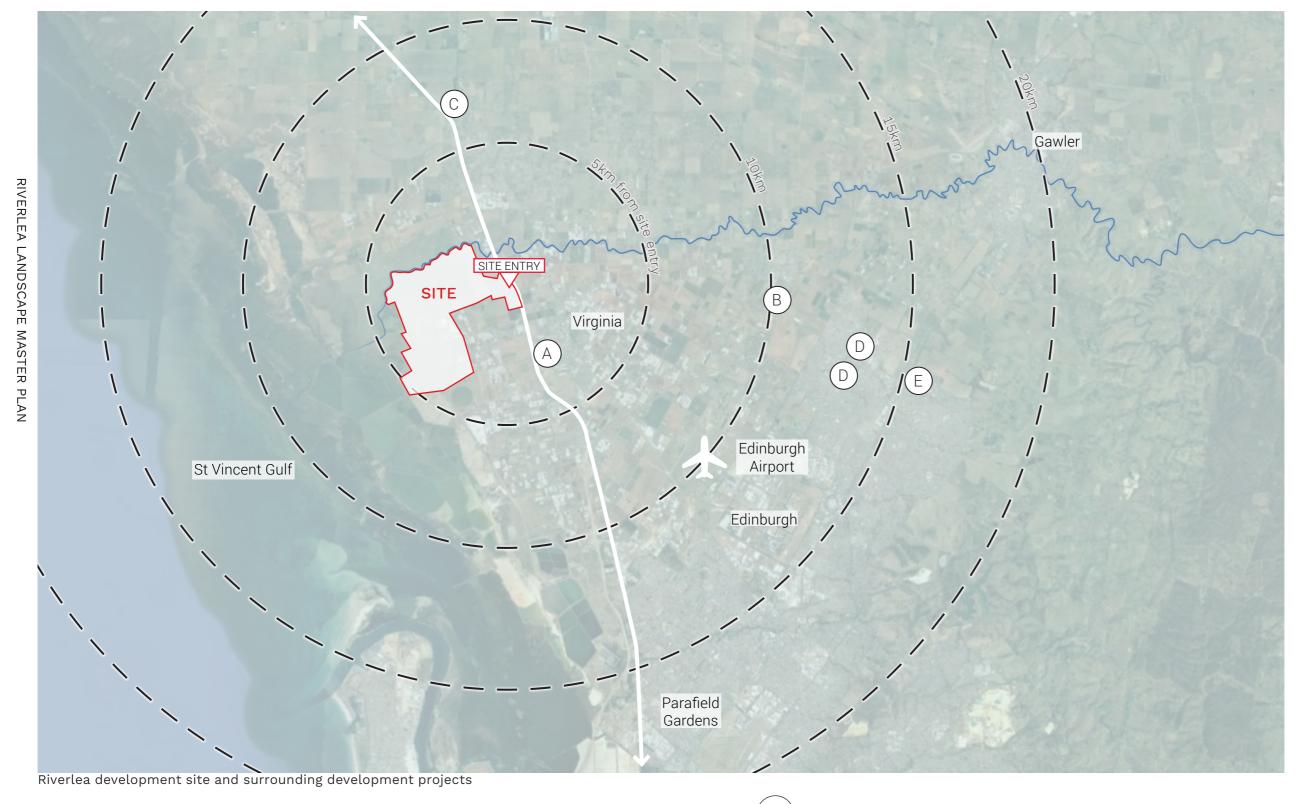






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SURROUNDING DEVELOPMENTS



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A TOWN BY THE **RIVER**

Species selection & layout and open space design will promote the townships unique setting adjacent to the Gawler River with its majestic stands of River Red Gum and open grasslands.

A **UNIQUE**DESTINATION

Every space will have special qualities making it a memorable place to walk, gather, drive through or just sit. It will be a place to come back to time and time again.

A PLACE IN **HARMONY**WITH NATURE

The township integrates well into its environmental setting by retaining habitat corridors adjacent to the Gawler River and along creeklines. In more urban areas, streets, parks and other open space will provide densely planted areas and ample shade, bringing wildlife into the heart of the community.

A TOWN CONNECTED TO THE REGION

Links to local history and the surrounding natural environment will be reinforced through the use of extensive pathways & corridors and by providing urban elements with site specific motifs that honour and celebrate these links.

AN **OASIS** OF THE NORTH

Riverlea will be a breath of fresh air, a place that will reinvigorate the region and raise the bar by creating a green, socially integrated, economically prosperous community.





Riverlea Master Plan

DESIGN DRIVERS



STRONG LANDFORMS

The design takes its cues from the hills in the distance with large strong forms that have presence.









WATER REFLECTIONS

The location of the site with proximity to St Vincent Gulf and the Gawler River promotes reflections and refractions opportunities.





RIVERLEA LANDSCAPE MASTER PLAN

DESIGN DRIVERS

VERTICAL BEACONS













CURVED AND FLOWING

Complimenting the Gawler River sinuous form the landscape will provide large soft forms horizontally and vertically. Flowing is literal and metaphorical representing how people move around the site









MOVEMENT IN THE WIND

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The natural vegetation and the flatness of the site provide for a waving soft vegetation. Art and new vegetation will embrace this movement



The Riverlea project is envisaged to have five distinct character areas which reflect the place's natural history, cultural landscape heritage (Kaurna and post colonial), and inform a variety of designed landscape responses:

THE PALMS

The Palms is the feature landscape that marks the entrance to the site and promotes the lifestyle ambitions for the remainder of the development. It drives the oasis feeling that is then continued throughout the Lakes Precinct, with heavily planted and tall mounded topography, with feature palm planting reinforcing the character.

THE LAKES

The Lakes character will focus around the new water bodies that are proposed. These new water bodies will generally run through the centre of the development. They will be more lush and promote a strong water based theming in the parks and streets and form a green core aligned with the most visual areas.

THE FIELDS

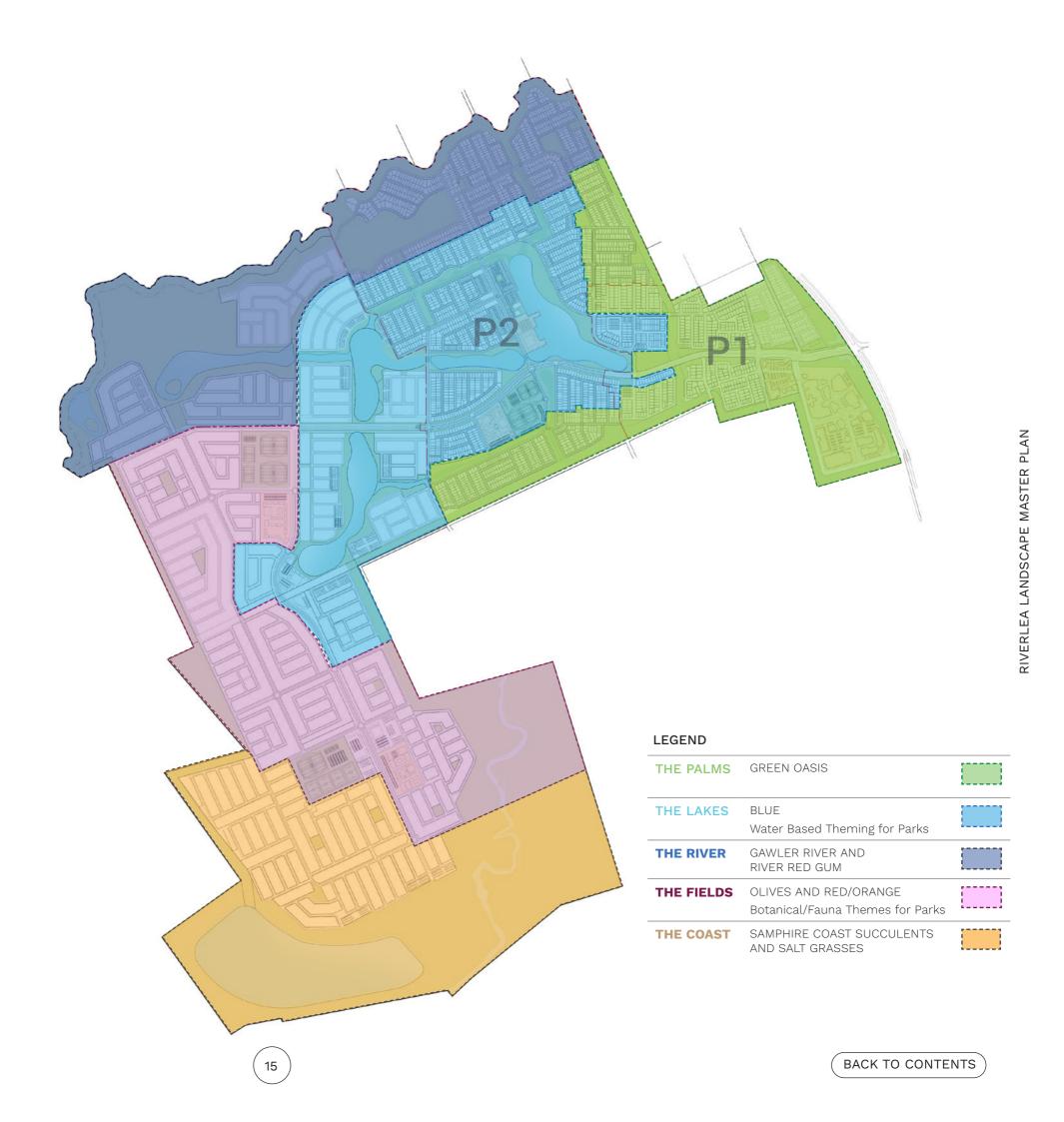
As the name suggests this landscape character is derived from the existing native landscapes with a botanical theme approach to celebrating this strong ecosystem that surrounds the site. The Fields also references the site's botanical/agricultural background. The theming will focus on the natural earthy and olive colours, and allow the wildlife of this place to also be a strong influence of how the landscape character is developed.

THE RIVER

The Gawler River is a critical element of the project and site. The River character will focus around the Gawler River and the iconic River Red Gums (Eucalyptus camadulensis) and its landscape character, which will be unique to the site. This character will also influence the allotment layout as well as urban/landscape design.

THE COAST

Situated on the south western portion of the site, the low salt marsh areas of the Samphire Coast will heavily influence the built landscape in this area. Low grasses and succulents inhabit these landscapes providing expansive views. Proposed design outcomes will highlight the vibrant colours and horizontal plant forms associated with the nearby coastal landscape.



THE PALMS

LANDSCAPE CHARACTER

High order landscape finishes such as coloured concrete paving, custom structures, off form concrete walls and integrated furniture, as the main entry to the Township featuring sculpted grass mounds, groves of palm trees

MATERIALS PALETTE CHARACTERISTICS

- metal work features
- natural materials
- reflective of colour
- natural shapes and forms
- tactile responses
- statement elements of walls and landform















RIVERLEA LANDSCAPE MASTER PLAN

THE PALMS

LANDSCAPE CHARACTER

COLOUR PALETTE

- colours sit in the deep green tones
- cool colour to reflect lush planting
- highlight colours are warm orange and vibrant yellow for contrast and visual emphasis to surrounding landscape elements

















THE PALMS

PLANTING CHARACTER

- oasis planting
- lush and green
- broad colour highlights
- strong tree forms
- palm features

SPECIES LIST

ID	Botanical name	Common Name
1	ANGOPHORA floribunda	Rough-barked Apple
2	BRACHYCHITON acerifolius	Illawarra Flame Tree
3	BRACHYCHITON acerifolius x populneus	Kurrajong Hybrid
4	CELTIS australis	Mediterranean Hackberry
5	CORYMBIA CITRIODORA 'SCENTUOUS'	Dwarf Lemon Scented Gum
6	CUPANIOPSIS anacardioides	Tuckeroo
7	EUCALYPTUS LEUCOXYLON VAR 'ROSEA'	Pink Flowering Gum
8	FRAXINUS PENNSYLVANICA 'CIMMZAM'	Cimmaron Ash
9	FRAXINUS PENNSYLVANICA 'URBDELL'	Urbanite Ash
10	HIBISCUS TILIACEUS RUBRA	Cottonwood
11	HYMENOSPORUM FLAVUM	Native Frangipani
12	KOELREUTERIA BIPINNATA	Chinese Flame Tree
13	LAGERSTROEMIA 'NANCHEZ'	Crepe myrtle
14	LIQUIDAMBAR STYRACIFLUA	Sweet Gum
15	LOMANDRA LONGIFOLIA 'TANIKA'	Tanika
16	LOPHOSTEMON CONFERTUS	Brush Box
17	MYRTUS COMMUNIS	Myrtus communis
18	PHOENIX CANARIENSIS	Phoenix Palm
19	PLATANUS HISPANICA	London plane tree
20	PYRUS USSURIENSIS	Ussurian Pear













RIVERLEA LANDSCAPE MASTER PL

THE LAKES

LANDSCAPE CHARACTER

High order landscape finishes such as exposed aggregate coloured concrete paving, hardwood decking, custom structures and integrated furniture, as the feature landscape, natural and sinuous forms, edges softened with predominantly native planting

MATERIALS PALETTE CHARACTERISTICS

- Metal work features
- Natural materials
- Natural shapes and forms
- Tactile responses
- Statement elements including play and bridge













THE LAKES

LANDSCAPE CHARACTER

COLOUR PALETTE

- colours sit in the deep blue and green tones
- cool colour to reflect the water and lush planting
- highlight colour is warm for contrast and visual emphasis



















THE LAKES

PLANTING CHARACTER

- Native trees celebrate natural history
- Eucalyptus / Corymbia canopy trees
- Banksia / Acacia understorey trees
- Ornamental trees for autumn colour
- Vibrant native flowers
- Grassy / low shrub groundcover

SPECIES LIST

	Bata dada a	0
ID_	Botanical name	Common Name
1	ACACIA pycnantha	Golden Wattle
2	ACER buergerianum 'Trident'	Trident
3	AGONIS flexuousa	Weeping Peppermint
4	BANKSIA marginata	Silver Banksia
5	BAUHINIA variegata	Orchid Tree
6	BRACHYCHITON acerifolius x populneus	Kurrajong Hybrid
7	Callistemon viminalis	Weeping Bottlebrush
8	CALYTRIX tetragona	Fringe Myrtle
9	CAREX APPRESSA	Tall Sedge
10	CELTIS AUSTRALIS	Mediterranean Hackberry
11	CORYMBIA FICIFOLIA	Red Flowering Gum
12	EUCALYPTUS LEUCOXYLON	Yellow Gum
13	EUTAXIA MICROPHYLLA	Common Eutaxia
14	GREVILLEA LAVANDULACEA	Lavender Grevillea
15	LAGERSTROEMIA 'NANCHEZ'	Crepe myrtle
16	LIQUIDAMBAR STYRACIFLUA	Sweet Gum
17	POA LABILLARDIERI	Large Tussock Grass
18	PYRUS USSURIENSIS	Ussurian Pear
19	ROBINIA PSEUDOACACIA	Black Locust



THE FIELDS

LANDSCAPE CHARACTER

Landscape finishes such as plain grey concrete paths, hardwood decking and seating, stone rubble walls, rustic design forms (large format timber, rust coloured metal) and earthy tones reflect the place's natural, Kaurna and agricultural connections

MATERIALS PALETTE CHARACTERISTICS

- Warm earthy tones
- Feature powder coated steel
- Stonework
- Angular forms
- Clean finishes
- Defined shapes
- Natural finishes
- Tactile feel



THE FIELDS

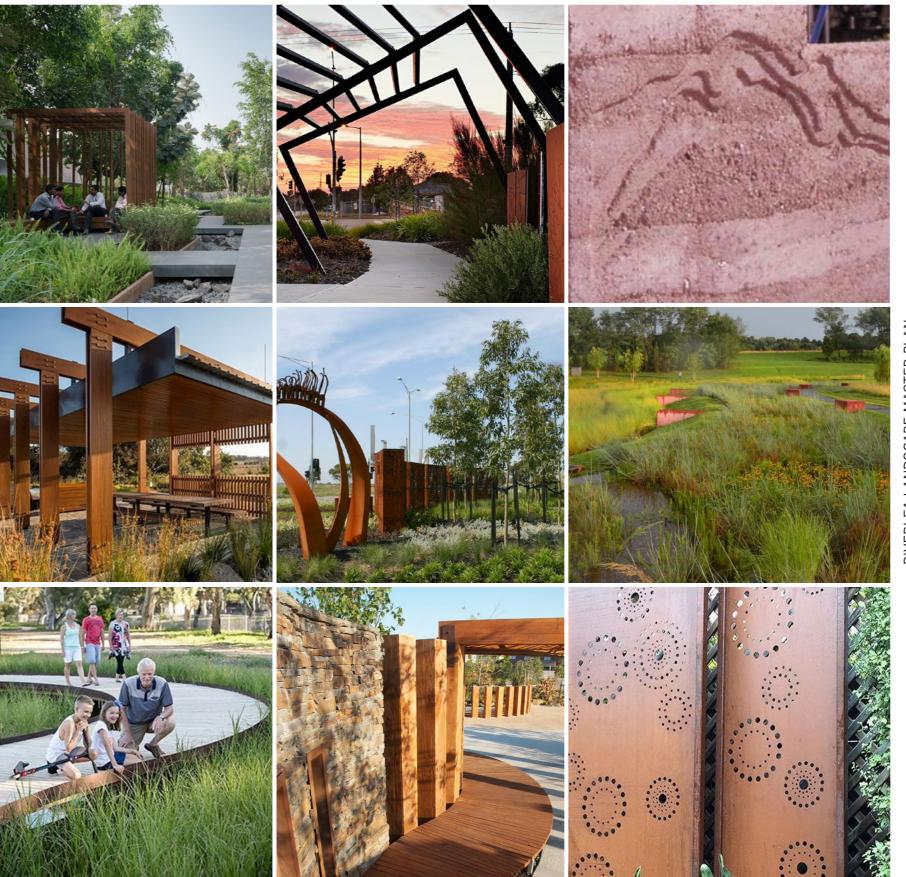
LANDSCAPE CHARACTER

COLOUR PALETTE



 deep olive balance colours that symbolise the native vegetation and previous production cropping





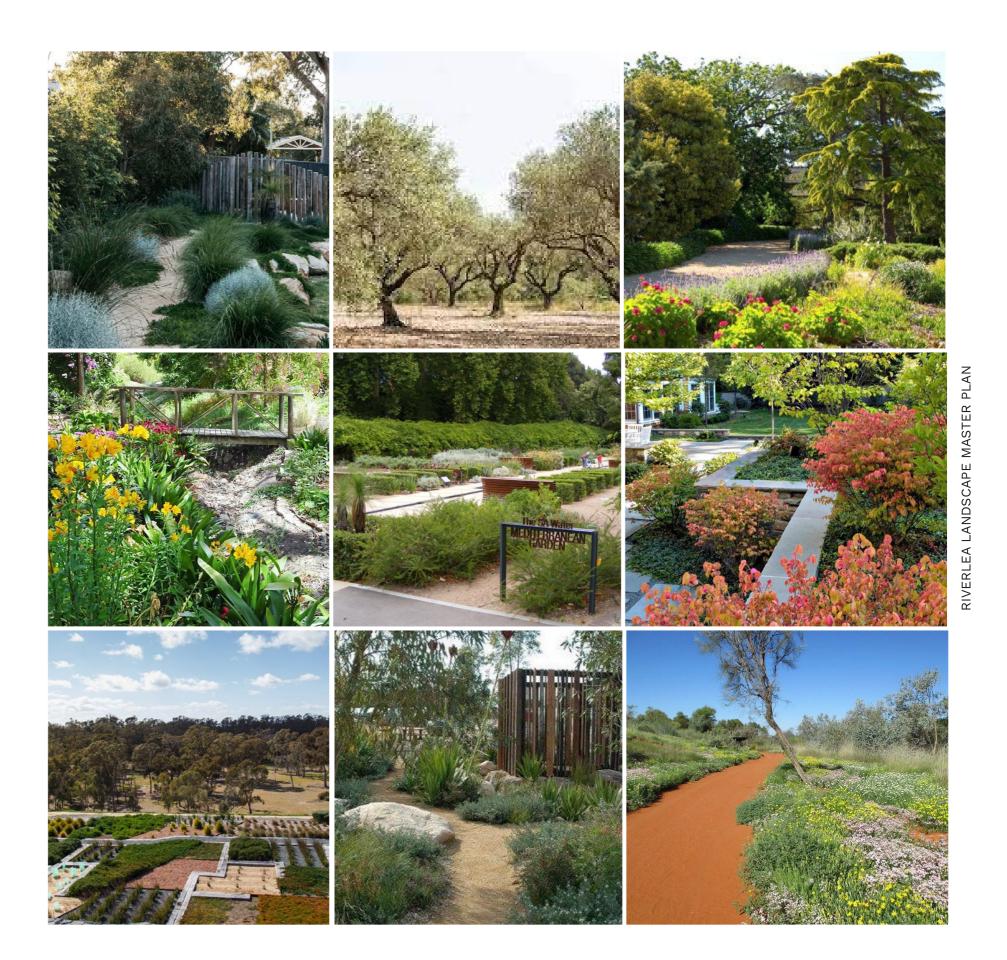
THE FIELDS

PLANTING CHARACTER

- planting is bright and colourful at major meeting points or movement corridors
- plant character references the adjacent vegetation and uses

SPECIES LIST

ID	Botanical name	Common Name
1	OLEA europaea var 'Swan hill form'	Swan Hill Olive [non fruiting]
2	AUSTRODANTHONIA spp.	Wallaby Grass
3	AUSTROSTIPA spp.	Coast Spear-grass
4	CHRYSOCEPHALUM apiculatum	Common Everlasting
5	Citrus australasica	Finger Lime
6	CITRUS limon	Lemon
7	CITRUS X SINENSIS	Sweet orange
8	CORREA REFLEXA	Native Fuchsia
9	DIANELLA BREVICAULIS	Short-stem Flax-lily
10	DIANELLA CAERULEA 'CASSA BLUE'	Cassa Blue
11	DIANELLA CAERULEA 'LUCIA'	Lucia
12	FICINIA NODOSA	Knobby Club-rush
13	GREVILLEA LAVANDULACEA	Lavender Grevillea
14	HELICHRYSUM ITALICUM	Curry Plant
15	KUNZEA POMIFERA	Muntries
16	LAURUS NOBILIS	Bay Laurel
17	LAVANDULA ANGUSTIFOLIA	English Lavender
18	LEUCOPHYTA BROWNII	Cushion Bush
19	POA LABILLARDIERI	Large Tussock Grass
20	SALVIA SP.	Salvia
21	WAHLENBERGIA SPP.	Native Bluebell
22	WESTRINGIA FRUTICOSA	Coastal Rosemary



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THE RIVER

LANDSCAPE CHARACTER

Landscape finishes such as coloured concrete paving, gabion walls, compacted gravel paths along the Gawler River and a focus on natural materials, incorporation of curvilinear forms and patterns found in the Gawler River landscape

MATERIALS PALETTE CHARACTERISTICS

- curved and angular edges
- stone faced / gabion walls
- grey timbers
- pattern and texture
- stone pavement in random patterns

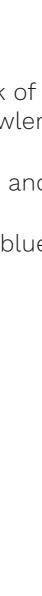


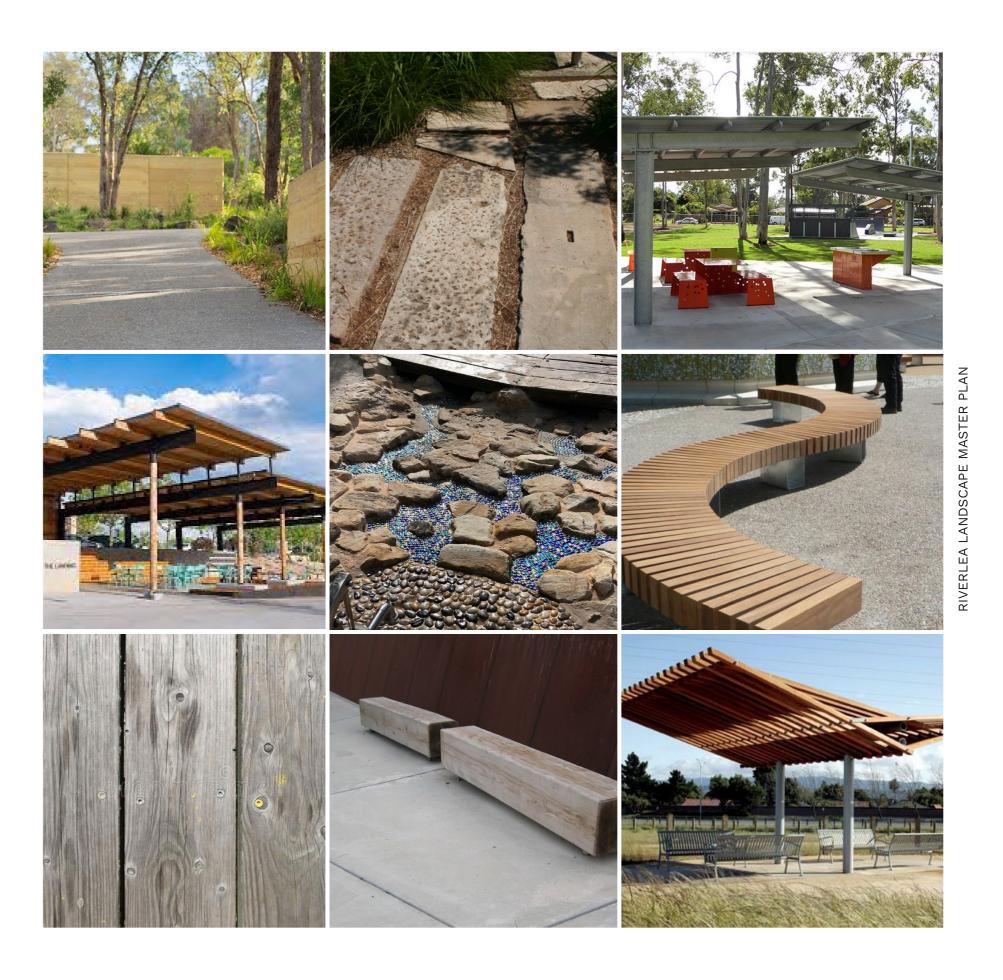
THE RIVER

LANDSCAPE CHARACTER

COLOUR PALETTE

- colours reflect the bark of River Red Gum and Gawler River landscapes
- Grey weathered timber and straw / ochre colours
- highlight colour in soft blue and red tones





THE RIVER

PLANTING CHARACTER

 plants will respond directly to the Gawler River edge and be specific to that natural habitat arranged in contemporary configuration

SPECIES LIST

ID	Botanical name	Common Name
1	AGONIS flexuousa	Weeping Peppermint
2	ANGOPHORA floribunda	Rough-barked Apple
3	AUSTROSTIPA elegantissima	Tall Feather-grass
4	AUSTROSTIPA eremophila	Rusty Spear-grass
5	BRACHYCHITON acerifolius x populneus	Kurrajong Hybrid
6	CALLISTEMON viminalis	Weeping Bottlebrush
7	CUPANIOPSIS anacardioides	Tuckeroo
8	DANTHONIA linkii	Wallaby Grass
9	ENNEAPOGON NIGRICANS	Bottle Washers
10	EUCALYPTUS CAMALDULENSIS	River Red Gum
11	EUCALYPTUS LARGIFLORENS	River Box
12	EUCALYPTUS LEUCOXYLON 'EUKY DWARF'	Dwarf Gum
13	EUCALYPTUS POROSA	Mallee Box
14	IMPERATA CYLINDRICA	Cogon grass
15	KENNEDIA PROSTRATA	Running Postman
16	KUNZEA POMIFERA	Muntries
17	LOBELIA ERINUS	Edging Lobelia
18	MELALEUCA 'SNOW IN SUMMER'	Snow in Summer
19	SALVIA CLEVELANDII	Salvia
20	SCAEVOLA ALBIDA	Mauve Carpet
21	SCAEVOLA ALBIDA 'MAUVE CARPET'	Mauve Carpet
22	THEMEDA TRIANDRA	kangaroo grass



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THE COAST

LANDSCAPE CHARACTER

Landscape finishes such as plain concrete paving, gravel mulch / surfacing, greyed hardwood boardwalks and furniture, horizontal landform, wide open spaces celebrate the natural environment of the Samphire Coast

MATERIALS PALETTE CHARACTERISTICS

- grey / green earthy tones
- sweeping curves both horizontal and vertical
- textured landscape
- · weathered timber elements
- limited metal components
- concrete walls greys and coloured oxides



THE COAST LANDSCAPE CHARACTER

PALETTE • e • g • g

COLOUR

- earthy tones that reflect the saltmarsh / Samphire Coast environment
- grey greens and bright yellows and reds with white / grey structures



THE COAST

PLANTING CHARACTER

• plants will respond directly to the Samphire Coast and existing saltmarch environment. Through new land form these will be located in low areas and utilised within secondary non-saltmarsh planting in higher areas.

SPECIES LIST

ID	Botanical name	Common Name
1	AGONIS flexuousa	Weeping Peppermint
2	BRACHYCHITON acerifolius x populneus	Kurrajong Hybrid
3	BRUNONIA australis	Blue Pincushion
4	CALOSTEMMA purpureum	Garland Lily
5	Chenopodium parabolicum	Fragrant Saltbush
6	CORYMBIA ficifolia	Red Flowering Gum
7	CUPANIOPSIS anacardioides	Tuckeroo
8	SCLEROSTEGIA arbuscula	Shrubby Glasswort
9	ALLOCASUARINA verticillata	Drooping Sheoak
10	EUCALYPTUS porosa	Mallee Box
11	MYOPORUM insulare	Common Boobialla
12	DODONAEA viscosa ssp. spatulata	Sticky Hop-bush
13	CALLITRIS gracilis	Southern Cypress-pine
14	OLEARIA axillaris	Coast Daisy Bush
15	MAIREANA brevifolia	Small-leaved Blue-bush
16	SCAEVOLA crassifolia	Cushion Fanflower
17	WAHLENBERGIA spp.	Native Bluebell
18	MYOPORUM parvifolium	Creeping Boobialla
19	POA poiformis	Coast Tussock-grass
20	AUSTROSTIPA spp.	Coast Spear-grass
21	DIANELLA brevicaulis	Short-stem Flax-lily
22	HARDENBERGIA violacea	Native Lilac
23	MUEHLENBECKIA GUNNII	Coastal Lignum



BIVER! FA LANDSCAPE MASTER P



SITE & KEY STATISTICS

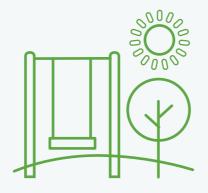
PRECINCT 1

OPEN SPACE



12.4Ha

Boulevard Landscape



4.7Ha

Neighbourhood, Local and & Minor Parks



5.1Ha

Linear Parks

NOT PART OF OPEN SPACE

9.1Ha

Drainage

SITE & KEY STATISTICS

PRECINCT 2

OPEN SPACE



0.6Ha

Boulevard Landscape



6.6Ha

Neighbourhood, Local and & Minor Parks



3.0Ha

District Parks



10.4Ha

Linear Parks



6.3Ha

Sports & Recreation



5.9Ha

Lakeside Parks



RIVERLEA LANDSCAPE MASTER PLAN

27Ha

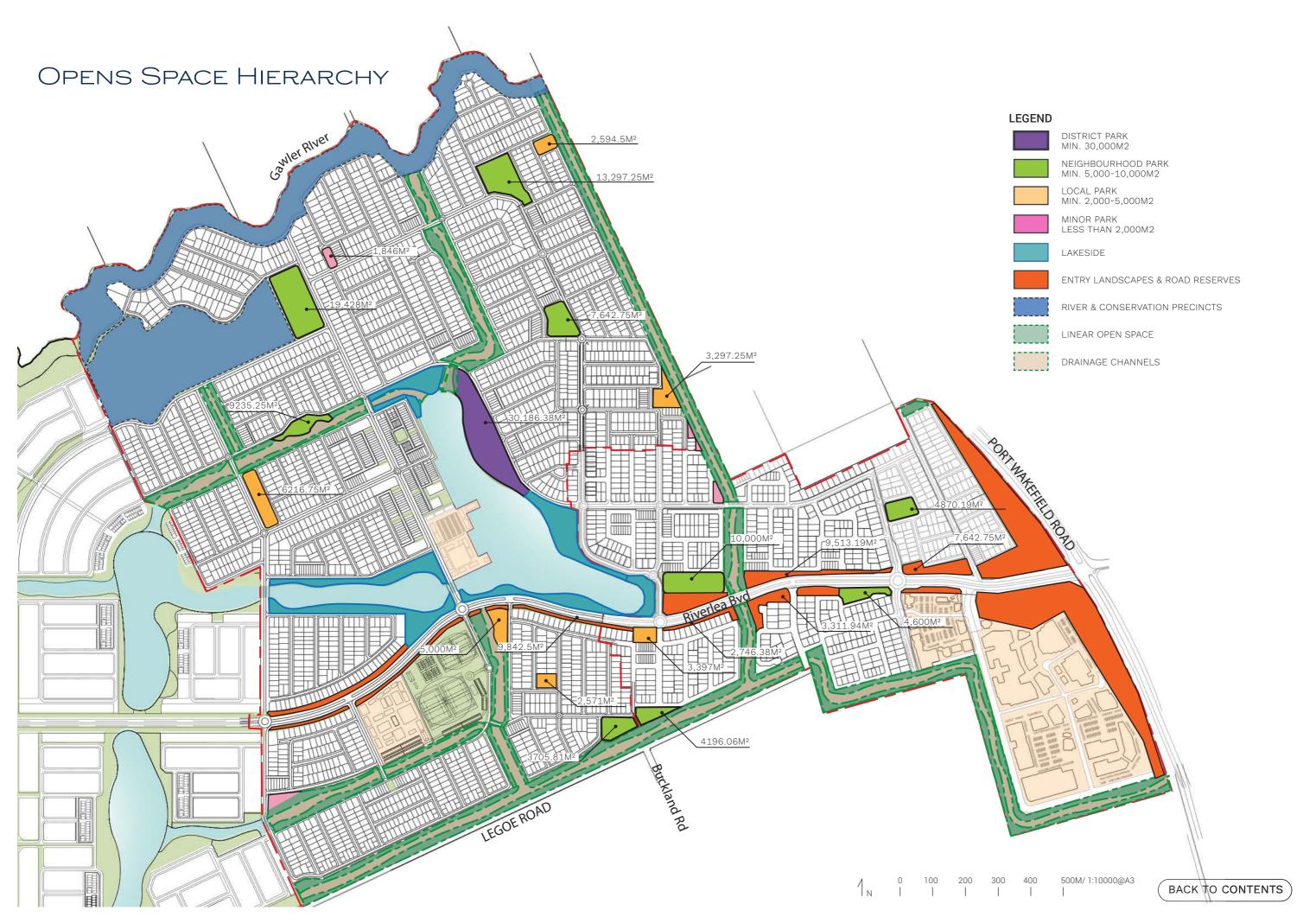
Gawler River Conservation

NOT PART OF OPEN SPACE

15.2Ha

Drainage







OPENS SPACE TYPES - DISTRICT PARKS

User age group:

- » Young and mature families
- » Empty nesters
- » Youth

Experiences sought:

- » Participation in community activity and life
- » Intense physical activity and fitness
- » Water edge

Elements:

- » Natural shade around perimeter of park, undercover spectator provisions
- » Picnic facilities
- » Interactive unfenced play equipment for younger and older children
- » Multiple play opportunities
- » Additional recreation activities for youth
- » Significant shade tree planting
- » Multiple activity spaces for dispersed groups
- » Associated furniture: seats, bins, shelters
- » Feature pavements
- » Significant vegetation for habitat and biodiversity
- » Walking to cycle trails
- » Lighting
- » Water contact
- » Boardwalks











OPENS SPACE TYPES - NEIGHBOURHOOD PARKS

User age group:

» Typically young families and the elderly

Experiences sought:

- » Play experience and physical activity for children
- » Respite from private open space / home setting
- » Casual kick-a-bout

Themes:

» Quality is a preference rather than quantity of frequency or activities (value and use impacted by number of parks within a catchment)

Elements:

- » Creative play opportunities for younger and older children (swings and slides most popular)
- » Extensive land undulation: swales and mounds
- » Upper canopy vegetation critical
- » Natural shade and sheltered seating
- » Large shelter with BBQ / table facilities
- » Irrigated ball play area
- » Half court basketball (if adjoining commercial or civic spaces)
- » Tennis courts
- » Lighting
- » 3 play/recreation experiences provided
- » Large tree planting areas for enclosure and to reduce heat load
- » Coloured concrete paths along main thoroughfare
- » Plain concrete for perimeter paths









RIVERLEA LANDSCAPE MASTER PL

OPENS SPACE TYPES - LOCAL PARKS

User age group:

- » Young children
- » Families
- » Elderly

Experiences sought:

- » Community activities
- » Opportunity for small gathering
- » Active space for younger demographics
- » Quiet space for retreat

Elements:

- » Large open lawn/ kickabout spaces
- » Shade tree plantings
- » Picnic facilities and associated furniture: Seats, bins, shelters, BBQs
- » Play facility
- » Half sport ground (Basketball, Netball)
- » Small community garden area









RIVER FA LANDSCAPE MASTER PLA

OPENS SPACE TYPES - MINOR PARKS

User age group:

- » Young children
- » Families
- » Elderly

Experiences sought:

- » Quiet space for retreat
- » Community gardening

Elements:

- » Open lawn / kickabout spaces
- » Feature garden planting
- » Community garden space
- » Furniture: seats, bins









RIVERLEA LANDSCAPE MASTER PLA

OPENS SPACE TYPES - LINEAR PARK AND DRAINAGE SWALES

Design Approach

- » Develop a riparian appearance to the corridors as the fundamental aim of the landscape development of these corridors. Conceptually, the Gawler River corridor will be the inspiration for species selection, placement and general landscape amenity
- » At strategic locations i.e. areas of high visibility, establish recreational nodal points to ornate destinations and maximise usage and surveillance throughout the corridors

Delivery Approach

- » Integrate swales with mounding to accentuate topographical changes
- » Provide a variety of invert finishes to provide diversity of habitat & aesthetic:
 - rock lined
 - vegetated
 - turfed
- » Utilise indigenous riparian and terrestrial plant species and large swathes of native grasses to create a variety of habitat and visitor experiences
- » Utilise a combination of natural hard materials & organic edges rather than concrete channels









RIVERLEA LANDSCAPE MASTER PLAN

OPENS SPACE TYPES - RIVER AND CONSERVATION AREAS

User age group:

- » Families
- » Youth
- » Empty nesters
- » Young adults
- » Elderly

Experiences sought:

- » Play facilities for youth
- » Bike and hiking
- » Wildlife observation

Themes:

- » River red gum open forest
- » Riverine landscape

Elements:

- » Long stretches of meandering pathways
- » Bike and hiking spaces
- » Picnic facilities and associated furniture: seats, shelters, bins, BBQs
- » Wildlife observation stations/information hubs
- » Significant vegetation for habitat and biodiversity
- » Landscape features (boulders, logs)
- » Landscape art











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OPENS SPACE TYPES - COASTAL/SALT MARSH AREAS

User age group:

- » Families
- » Youth
- » Empty nesters
- » Young adults
- » Elders

Experiences sought:

- » Wildlife discovery
- » Relaxation
- » Interaction with natural landscapes

Themes:

» Coastal

Elements:

- » Boardwalks across the salt marsh
- » Opportunties for wildlife observation (bird watching stations)
- » Retain native coastal plant species and large swathes of native grasses to create a variety of habitat, and improve visitor experiences
- » Utilise natural hardscape materials which weather well to respond to the coastal character of the existing site
- » Walking / cycle paths and trails
- » Associated furniture: seats, shelters, bins
- » Limited lighting to limit impact on wildlife
- » Land art











PRECINCTS 1 & 2

LANDSCAPE PLAN



The Precincts 1 & 2 Landscape Plan will directly respond to the Urban Design layout and the locations and uses proposed, which will have some significant elements such as public roads and open space.

For Precinct 1 &2, public open spaces include:

- » District Centre
- » 1 x District Park (3Ha)
- » 1 x Sports & Recreation precinct (6.3Ha)
- » 8 x Neighbourhood Recreation Parks (Av 0.5-2Ha each)
- » 6 x Local Parks (Av 0.2-0.65Ha each)
- » 5 x Minor Park (Av 0.2Ha each)
- » Local Linear Parklands
- » River & Conservation precincts
- » The Lake Major water body
- » Wetlands and water quality treatment basin

LEGEND

- 01 ENTRY LANDSCAPE
- 02 DISTRICT PARK AND THE LAKE
- 03 NEIGHBOURHOOD PARK
- 04 SALES/FEATURE PARK
- 05 DISTRICT CENTRE
- 06 NEIGHBOURHOOD CENTRE
- 07 LINEAR AND DRAINAGE OPEN SPACE
- LANDSCAPE ENTRY WALLS

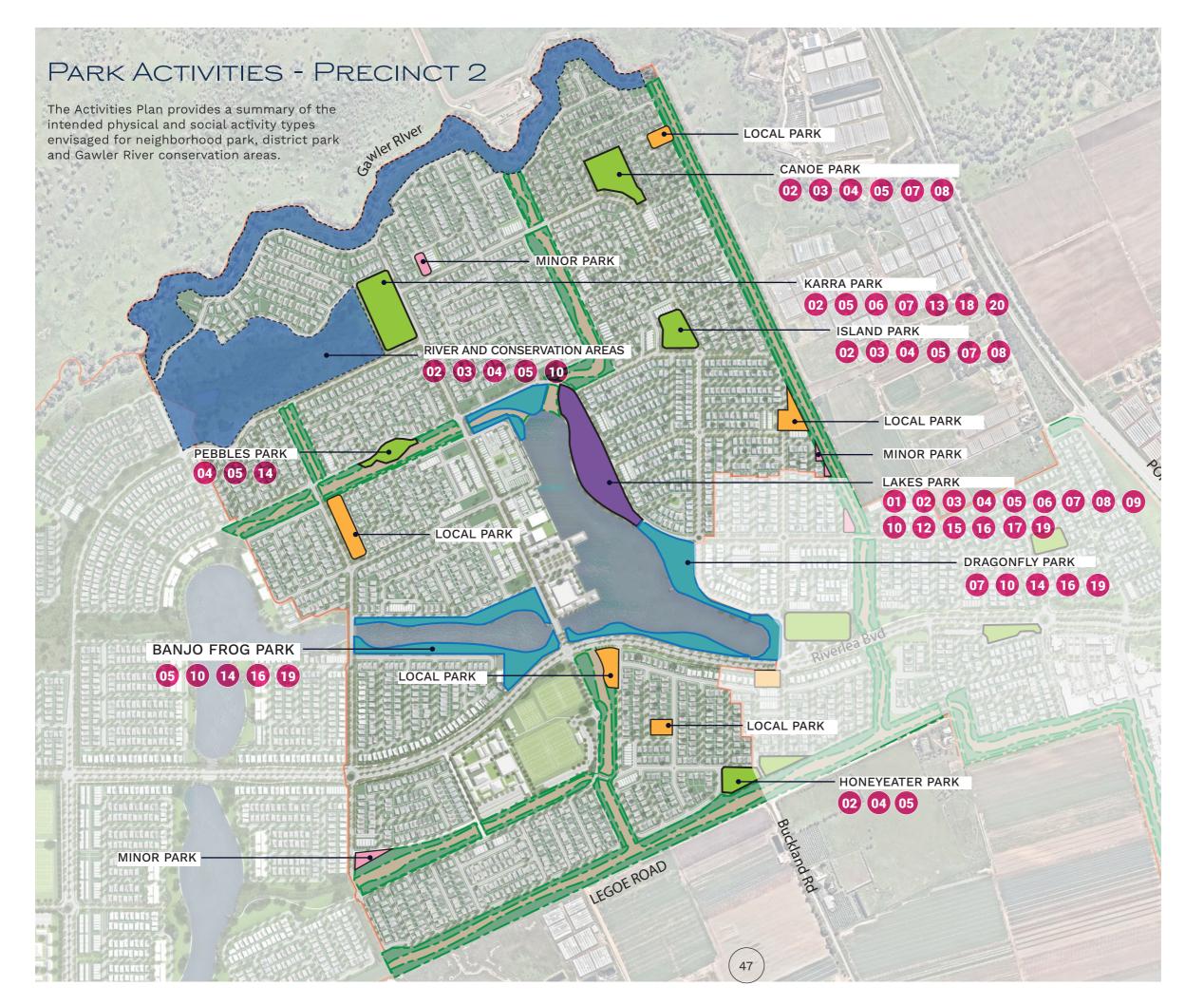
PARK ACTIVITIES - PRECINCT 1

The Activities Plan provides a summary of the intended physical and social activity types envisaged for neighborhood park, district park and Gawler River conservation areas.



LEGEND

- 01 RESTROOMS
- PICNIC SHELTERS/ FURNITURE
- 03 BBQ
- 04 PLAY FACILITIES
 0-6 YRS OLD
- PLAY FACILITIES
 7-12 YRS OLD
- PLAY FACILITIES
 12-17 YRS OLD
- OPEN GRASS
- 08 KICKAROUND SPACE
- 09 SKATE FACILITIES
- 10 LOOKOUTS
- 11 CLIMBING WALLS
- POP UP AREAS
- 13 BIKE SKILL
- 14 WATER PLAY
- 15 PLAZA SPACE
- 16 ART
- 17 PARKOUR
- FITNESS TRAIL/ EQUIPMENT
- 19 BOARDWALK
- 20 DOG PARK



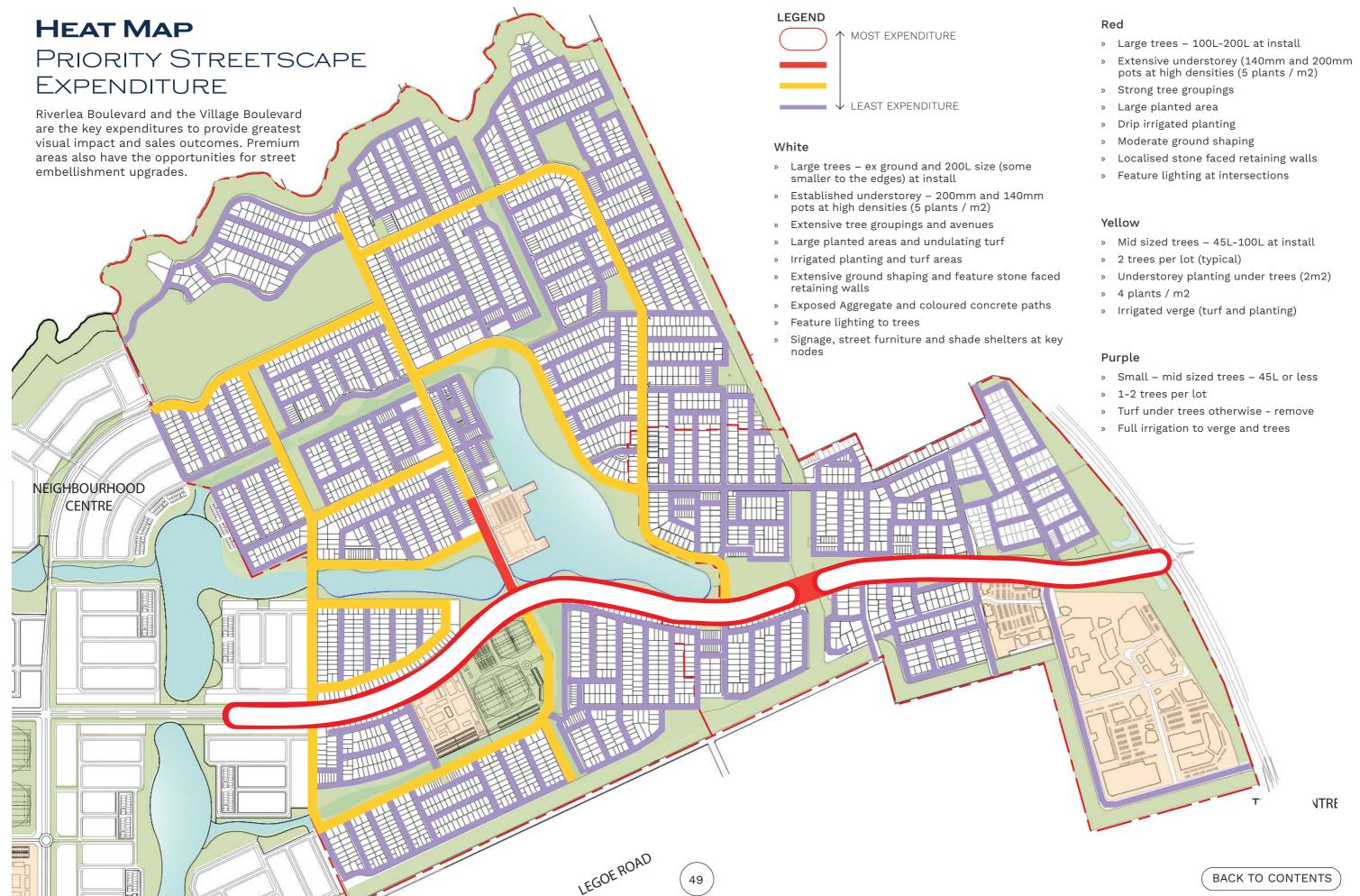
LEGEND

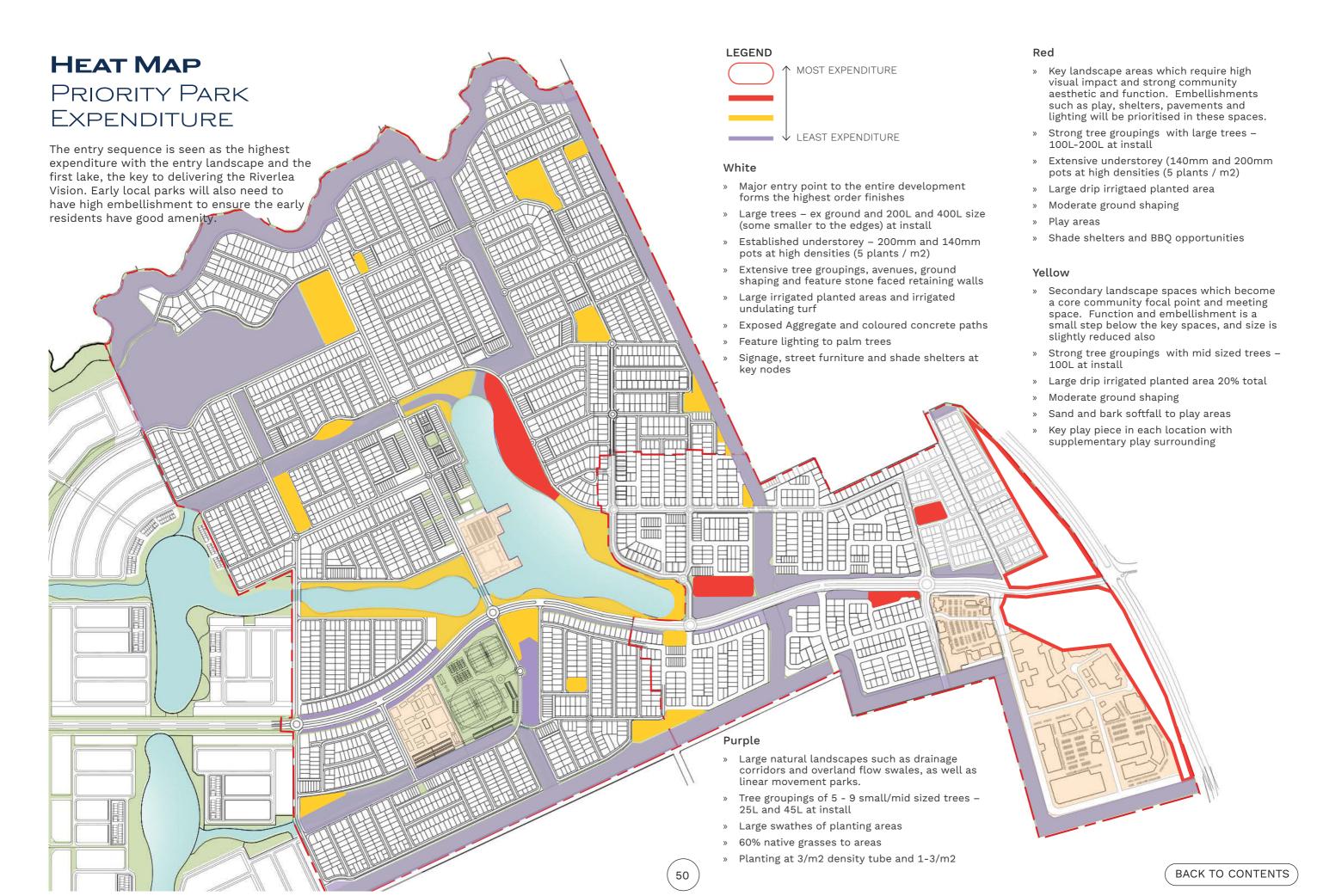
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- PLAY FACILITIES
 12-17 YRS OLD
- 07 OPEN GRASS
- 08 KICKAROUND SPACE
- 09 SKATE FACILITIES
- 10 LOOKOUTS
- 11 CLIMBING WALLS
- POP UP AREAS
- 3 BIKE SKILL
- 14 WATER PLAY
- 15 PLAZA SPACE
- 16 ART
- 17 PARKOUR
- FITNESS TRAIL/ EQUIPMENT
- 19 BOARDWALK
- 20 DOG PARK

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THE PALMS

PROPOSED PARK THEMES



P1 PALMS ACTIVITY PARK

- » Active play park
- » Play elements ages 3-14 age group
- » Inspired by natural style play and improvised pieces
- » Higher recreation basketball half court
- » Palms provide vertical markers and strong shadows on the ground















P2 STILLWATER PARK

- » Focal entry point in the development and first view of the lakes
- » Vista and sightline to lake is maintained
- » Formal play equipment to the northern section of the park
- » Recreational area with BBQ and shelters
- » Opportunity for landmark sculpture













P3 OASIS PARK

- » Sculptural grass mounding
- » Formal play equipment, such as climbing structure, swings, or tower structures with slides
- » Toddler play
- » Recreational area with BBQ and shelters
- » Variety of lush, different shaped foliage
- » Palms provide vertical markers and strong shadows on the ground

















P4 HONEYEATER PARK

- » Smaller active play park
- » Play elements ages 3-14 age group
- » Inspired by forest habitats and tree flowers that attract honeyeaters
- » Features play pieces which mimic nature and inspire improvisation
- » Trees and plams provide vertical markers and shadows on the ground



- » Local community park
- » Mounding landscape reflecting the island theme of the park
- » Play structures for young children
- » Facilitates local community gatherings

















11 THE LAKES

- » Larger active play park
- » Play elements all ages inspired by adventure play / ninja warrior / obstacle courses
- » Landmark pavilion/ plaza space
- » Landmark sculptures
- » Skate section

- » Passive recreational uses picnic, BBQ, kickabout
- » Walkable waterfront

















L2 DRAGONFLY PARK

- » Dragonfly forms inspire design
- » Focus on waterbody habitat edge
- » Lily pad forms, reeds and rushes for incidental play
- » Zero depth water play







L3 BANJO FROG PARK

- » Educational park for younger generations
- » Banjo Frog inspired play structures (animal, eggs)
- » Nature play involving water
- » Hide and seek play









L4 PEBBLES PARK

- » Rock elements for basking and water access
- » Dry creek bed with stepping stones and grassy planting
- » Yarning circles
- » Scrambling rock banks for older kids











- » Multi use park for all ages linear movement, story telling
- » Influenced by waterbodies, water interaction and water crossings bridges are features
- » Adventure nature play featuring hardwood timber logs, ropes and nets
- » Educational signage, integrated public artwork and landscape features
- » Strong ribbon pathway movement
- » Story telling focus









RIVERLEA LANDSCAPE MASTER PLAN





F1 MALLEE BOX PARKS

- » Strong copse tree arrangement
- » Play elements inspired by the Mallee Box flower and seeds
- » Education, storytelling indigenous uses and practices, bush
- » Creams and crimson colour highlights

F2 THE MEADOWS PARKS

- » Striking forms and colourful displays based on the endemic meadow / heath flowers
- » Shelters can take the form of a petal (which is similar to the bunya nut form)
- » Native Grasslands Wallaby Grass is a strong feature

















F3 BUTTERFLY PARKS

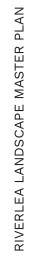
- » Inspired by endemic Butterfly
- » Butterfly themes inspire colours, patterns, play, shade sails, picnic shelters, structures, fencing forms
- » Instagrammable "wings" in the Park













R1 KARRA PARK

- » Play Facilities for older children, such as net ball courts, table tennis
- » Restrooms, picinic shelters with furniture
- » Bike skill trails
- » Pump track
- » Dog park
- » Mountain bike and hiking spaces
- » Lookouts and boardwalks

















R2

GAWLER RIVER BIRD PARK

- » River Red Gum as signature tree in park, potential for interpretive sculptures / artwork
- » Lookouts and boardwalks











- » Play inspiration traditional canoe forms and construction, fishing nets
- » Net play towers (fishing nets), low level play, seating, landscape walls / elements (canoe forms)





THE COAST

POTENTIAL PARK THEMES



C1 SAMPHIRE PARKS

- » Integrated boardwalk to wetlands, interesting shelters and platforms
- » Bird hide, bird watching
- » Kickabout space, seating
- » Play elements based on ground activity and earth mounding















RIVERLEA LANDSCAPE MASTER PLAN





PRECINCTS 1 & 2

Paving

Paving finishes for shared use paths and footpaths in the development have been selected to encourage cycling and walking whilst being sympathetic to the landscape surrounds.

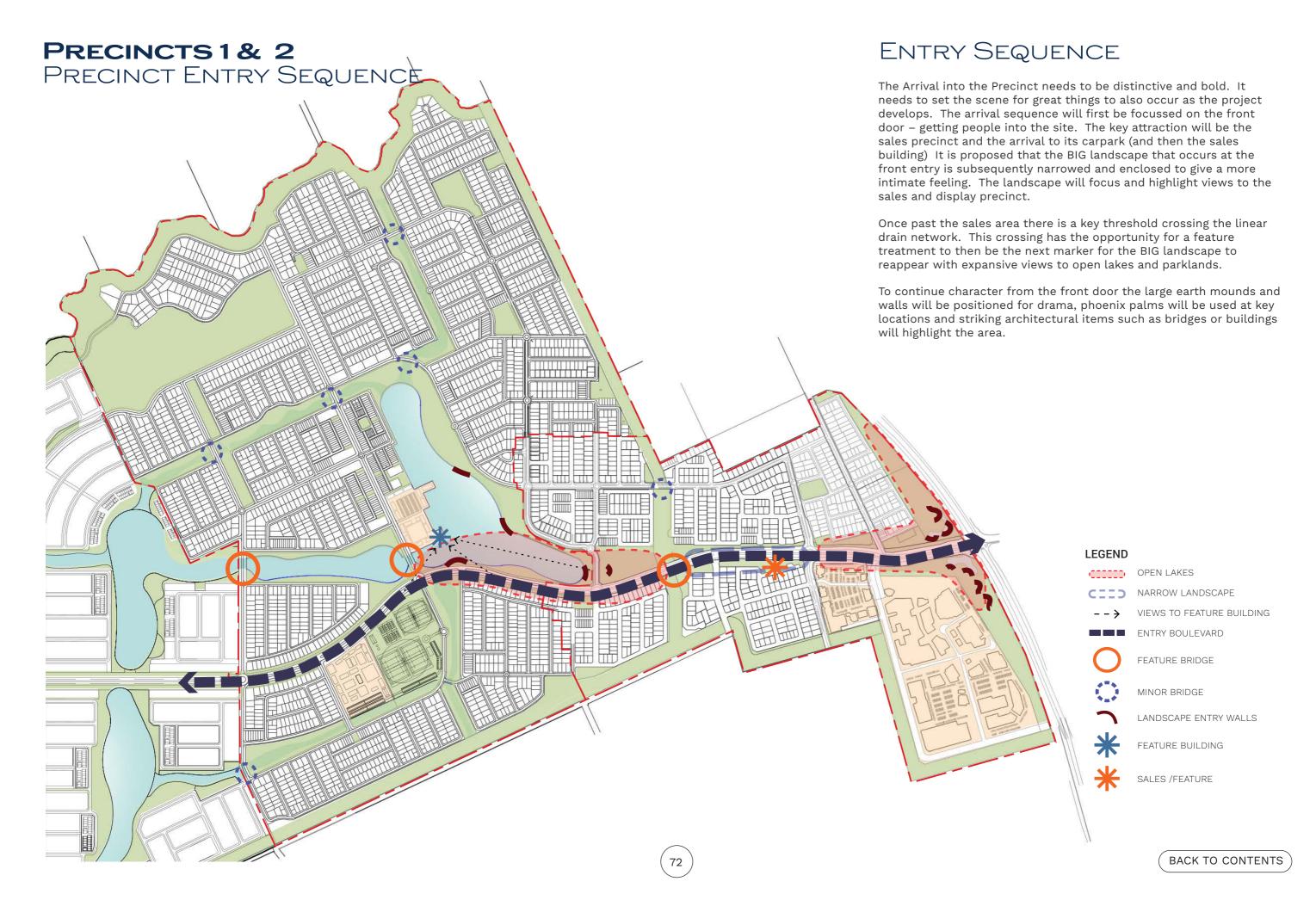
Along primary routes shared paths are proposed to be concrete (exposed aggregate or brushed); on road bike lanes are proposed to be hot mix surfacing with line marking used to distinguish cycle lanes from vehicular areas.

Along secondary routes on road bike lanes are proposed to be hot mix surfacing with line marking used to distinguish cycle lanes from vehicular areas.

Along tertiary routes cyclists share the hot mix road surface with other users.

Along the Gawler River Path the shared path is proposed to be compacted gravel to reflect its natural setting.

PAVING TYPE	USE	BENEFITS	EXAMPLE
Type 1 High-quality precast	Limited to key pedestrian gathering areas / civic precincts.	High-quality finish	
unit paving	Generally, for pedestrian only areas.		
Type 2	Shared use paths with anticipated higher	High-quality finish	
Concrete path	pedestrian use and in higher amenity areas.	Encourages slower speeds from cyclists	The second second
Finish: Exposed	inglier afficiaty areas.	on shared paths	
aggregate	Footpaths		
Type 3	Shared use paths - commuter type	Avoids lifting	
Hotmix (AC7)		Ease of maintenance	
	Minor footpaths	Cost-effective	
Type 4	Lower use paths in reserves and parks.	Blends well in 'natural' settings	
Compacted sand/	reserves and parks.		
gravel		Cost-effective	

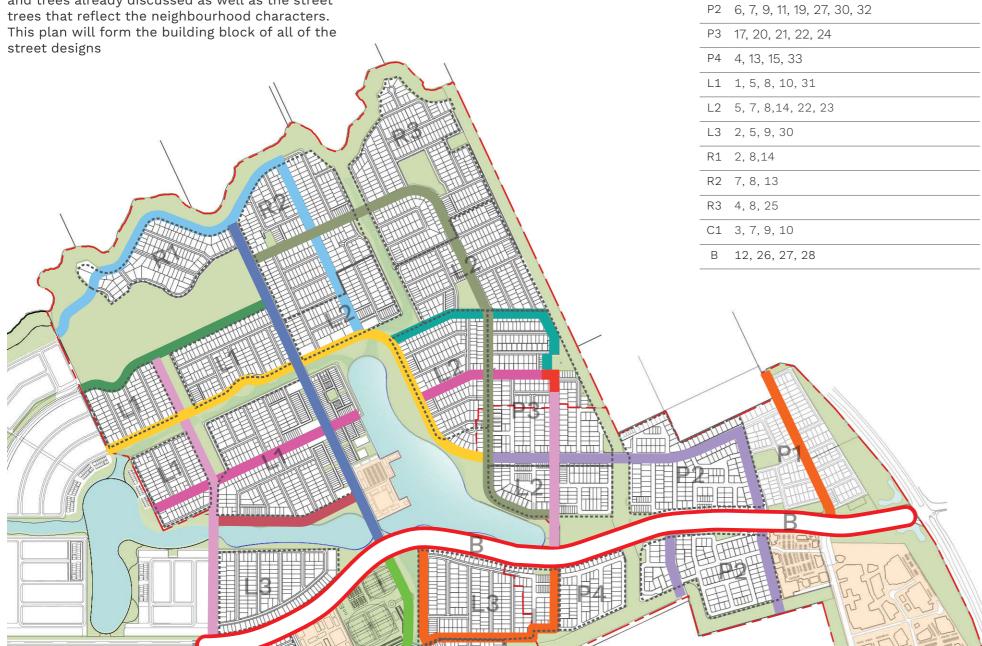




STREET TREE MASTER PLAN

The below master plan outlines the signature streets and trees already discussed as well as the street trees that reflect the neighbourhood characters. This plan will form the building block of all of the

RIVERLEA LANDSCAPE MASTER PLAN



STREET TREE SPECIES LEGEND

TREE ASSEMBLAGE BY SUB-DIVISION

ID SPECIES MIX

P1 13, 16, 18, 24, 30

STREET TREE SPECIES LEGEND				
ID	Botanical name	Common Name		
1	ACER buergerianum 'Trident'	Trident		
2	AGONIS flexuousa	Weeping Peppermint		
3	ANGOPHORA costata	Smooth-barked Apple		
4	ANGOPHORA floribunda	Rough-barked Apple		
5	BAUHINIA variegata	Orchid Tree		
6	BRACHYCHITON acerifolius	Illawarra Flame Tree		
7	BRACHYCHITON acerifolius x populneus	Kurrajong Hybrid		
8	CALLISTEMON viminalis	Weeping Bottlebrush		
9	CELTIS australis	Mediterranean Hackberry		
10	CORYMBIA ficifolia	Red Flowering Gum		
11	CORYMBIA citriodora 'Scentuous'	Dwarf Lemon Scented Gum		
12	CORYMBIA maculata	Spotted Gum		
13	CUPANIOPSIS anacardioides	Tuckeroo		
14	EUCALYPTUS leucoxylon 'Euky Dwarf'	Dwarf Gum		
15	EUCALYPTUS leucoxylon var 'Rosea'	Pink Flowering Gum		
16	FRAXINUS oxycarpa 'Raywoodii'	Claret Ash		
17	FRAXINUS Pennsylvanica 'Cimmzam'	Cimmaron Ash		
18	FRAXINUS pennsylvanica 'Urbdell'	Urbanite Ash		
19	HIBISCUS tiliaceus Rubra	Cottonwood		
20	HYMENOSPORUM flavum	Native Frangipani		
21	KOELREUTERIA bipinnata	Chinese Flame Tree		
22	LAGERSTROEMIA 'Nanchez'	Crepe myrtle		
23	LIQUIDAMBAR styraciflua	Sweet Gum		
24	LOPHOSTEMON confertus	Brush Box		
25	MELALEUCA 'Snow in Summer'	Snow in Summer		
26	OLEA europaea var 'Swan hill form'	Swan Hill Olive [non fruiting]		
27	PHOENIX canariensis	Phoenix Palm		
28	PLATANUS x acerifolia	London Plane		
29	PISTACIA chinensis	Pistachio		
30	PYRUS calleryana 'Cleveland Select'	Ornamental Pear		
31	PRUNUS cerasifera	Crimson spire		
32	ROBINIA pseudoacacia	Black Locust		
33	ULMUS parvifolia	Chinese Elm		

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STREET TYPOLOGIES

ENTRY BOULEVARD

Riverlea Boulevard is the character driver for the Palms theme. Large palms and shade trees frame views and provide a rhythm of movement along its length.

- » Wide boulevard with large established planting
- "Golf course" character with flowing landscape of planting and grassed areas
- » Feature Phoenix palms in groves and down road alignment
- » Stone faced walls and extensive land shaping
- » Large water bodies
- » Dry creek bed for drainage
- » Fully irrigated landscape
- » Feature lighting to trees
- » Incorporation of signage and shade structures
- » Timber and concrete Seating
- » Coloured concrete pathways

Typical Plan



Typical Section



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STREET TYPOLOGIES

COLLECTOR ROAD TYPE A

Village Boulevards are the key character elements for residents, with mid sized trees and generous verge planting.

- » Main streets inside the neighbourhoods / villages
- » Streets that connect to the local streets
- » Strong canopy tree enclosure
- » Up to two trees per lot where possible
- » Planting beds under trees (2m2)
- » Turf areas where no trees
- » On Street parking bays
- » Verge is fully drip irrigated (turf and planting)
- » Plain concrete pathways

Typical Section



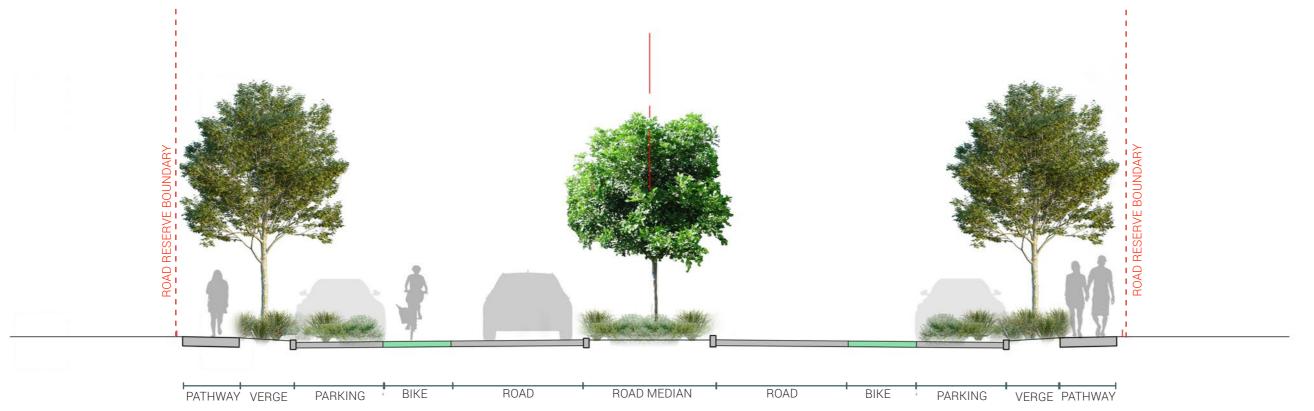
Typical Plan



RIVERLEA LANDSCAPE MASTER PLAN

- » North south connector road
- » Connects to the local streets
- » Verge and median trees provide a strong canopy and accentuate arrival
- » Up to two trees per lot where possible
- » Planting beds under trees (2m2)
- » Turf areas where no trees
- » On Street parking bays
- » Verge is fully drip irrigated (turf and planting)
- » Plain concrete pathways





RIVERLEA LANDSCAPE MASTER PLAN

STREET TYPOLOGIES

COLLECTOR ROAD TYPE B

Pedestrian streets provide the standard level of service with higher embellishment than local streets.

- » Wider than local street with additional verge width
- » Strong canopy tree enclosure
- » Up to two trees per lot where possible
- » Planting under each tree (2m2)
- » Turf where no planting
- » Plain concrete pathways
- » Drip Irrigated planting and trees only

Typical Plan



Typical Section



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RIVERLEA LANDSCAPE MASTER PLAN

STREET TYPOLOGIES

LOCAL STREET

Local streets provide the standard level of service with footpaths.

- » 1-2 trees per lot
- » Turf under trees otherwise
- » Plain concrete pathways
- » Full irrigation to verge and trees

Typical Section



Typical Plan



STREET TYPOLOGIES

LANEWAY

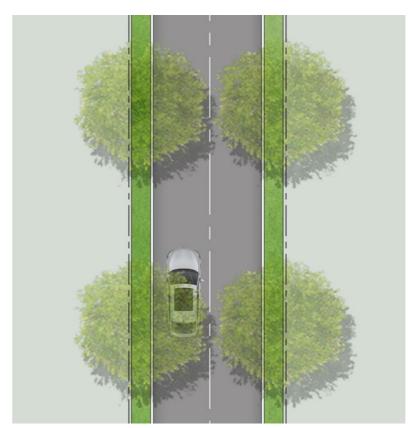
Laneway provides the standard level of service without footpaths.

- » 1-2 trees per lot
- » Turf under trees otherwise
- » Full irrigation to verge and trees

Typical Section



Typical Plan



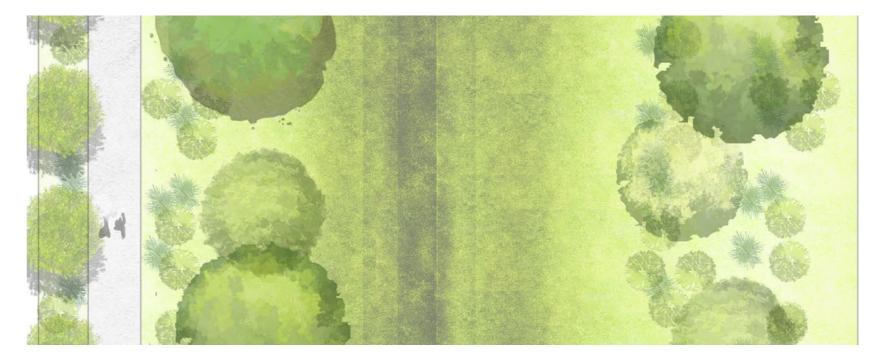
RIVERLEA LANDSCAPE MASTER PLAN

DRAINAGE CHANNEL

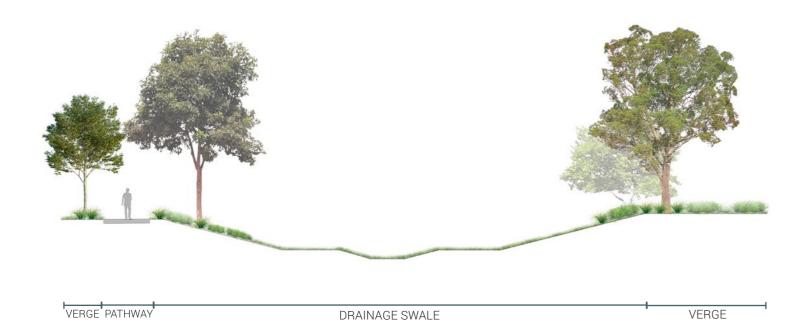
Drainage channels provide shared paths along green corridors for pedestrians and cyclists to access various parts of the neighbourhood.

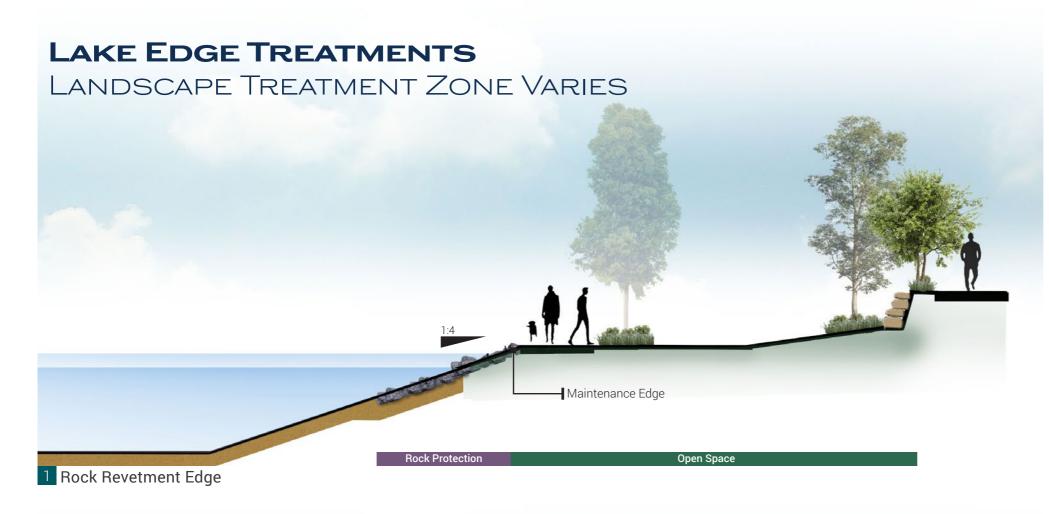
- » Linear green space connected to street network
- » Verge trees provide a strong tree canopy
- » Planting to verges and drainage swale batters
- » Turf swale (where no planting)

Typical Plan

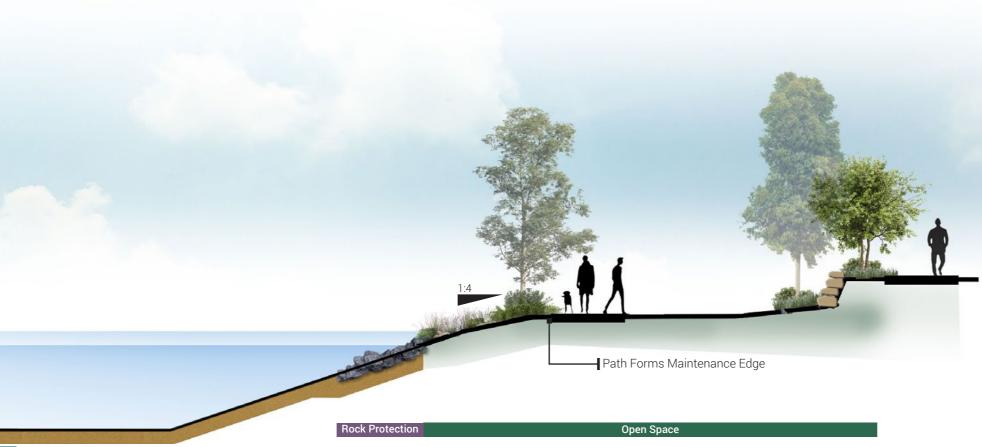


Typical Section



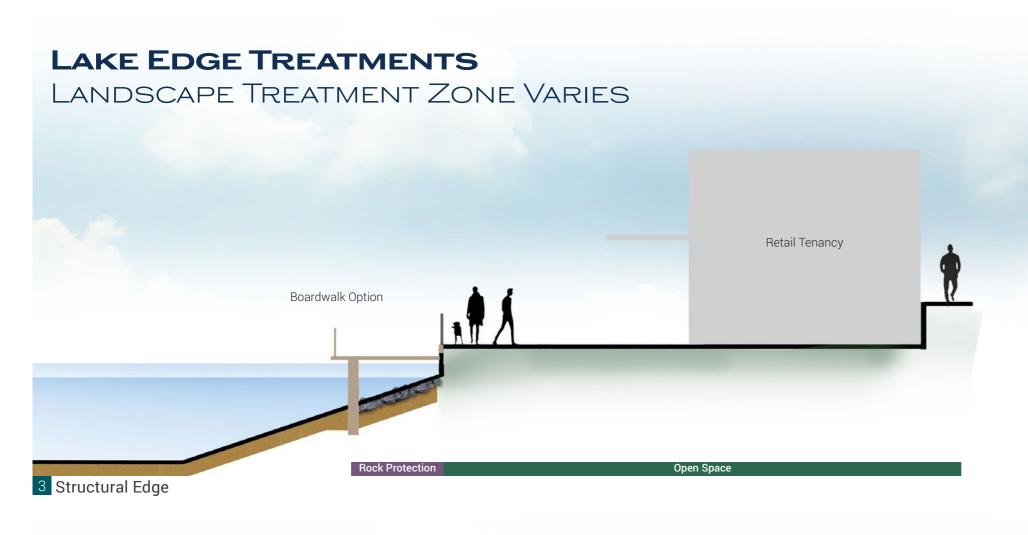




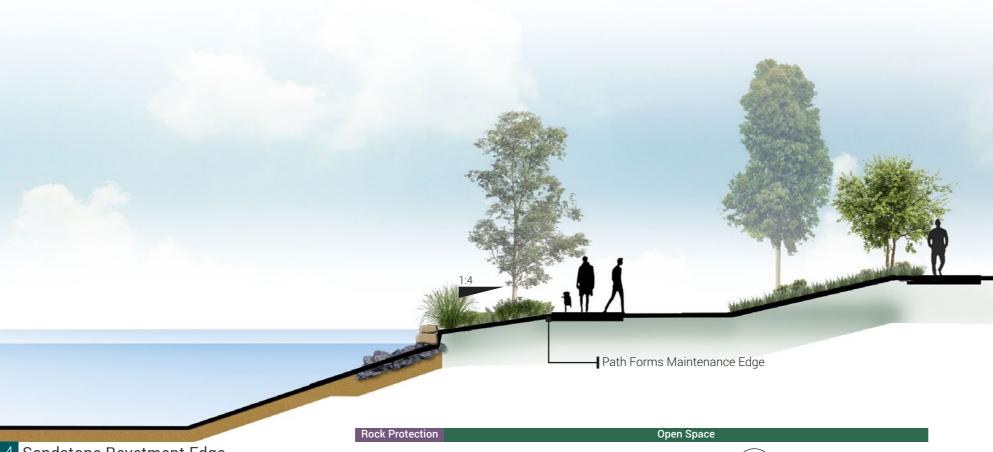




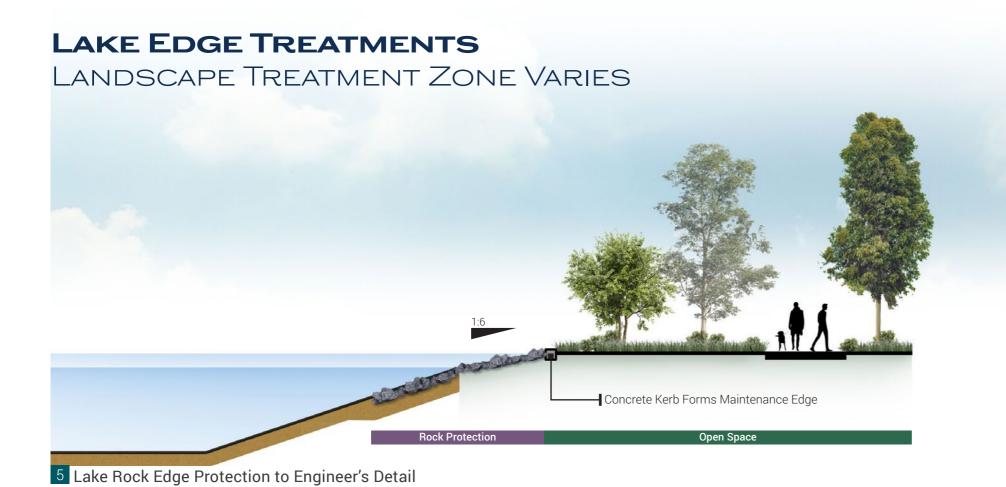
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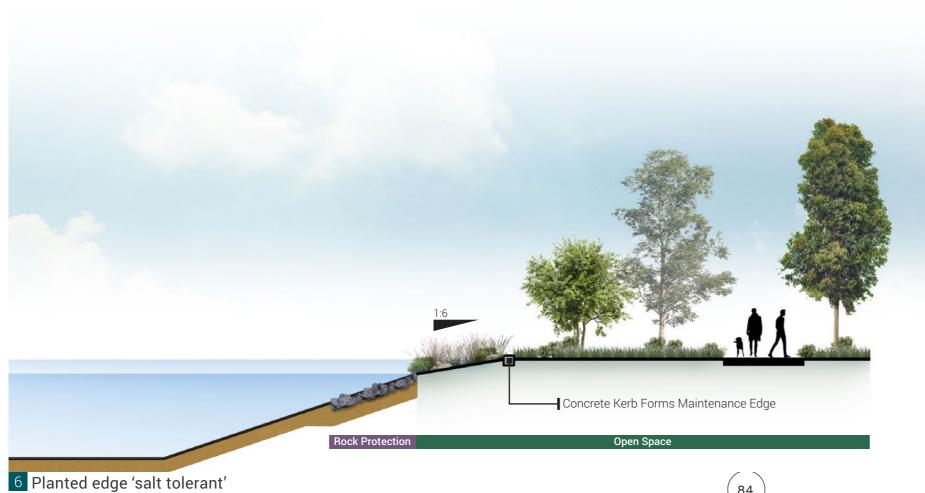
















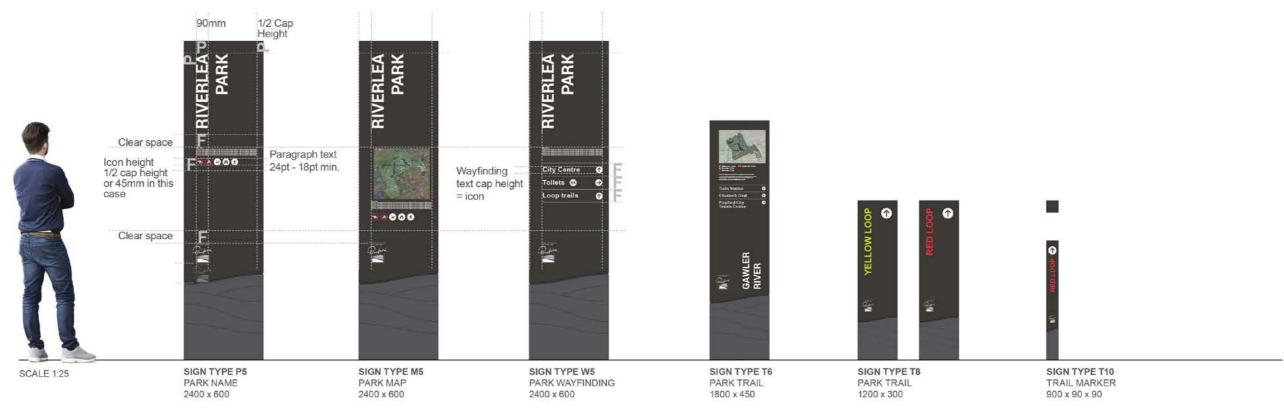
SIGN TYPES

MAP & TRAIL PARKLAND SIGNS

This suite of signs can be used across parks and open spaces. Where in use, map illustration symbols and icons should also be applied consistently across signage as well as print and online.

PAINTED BASE





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SIGN TYPES

BIODIVERSITY AND KAURNA EDUCATIONAL SIGNAGE EXAMPLES











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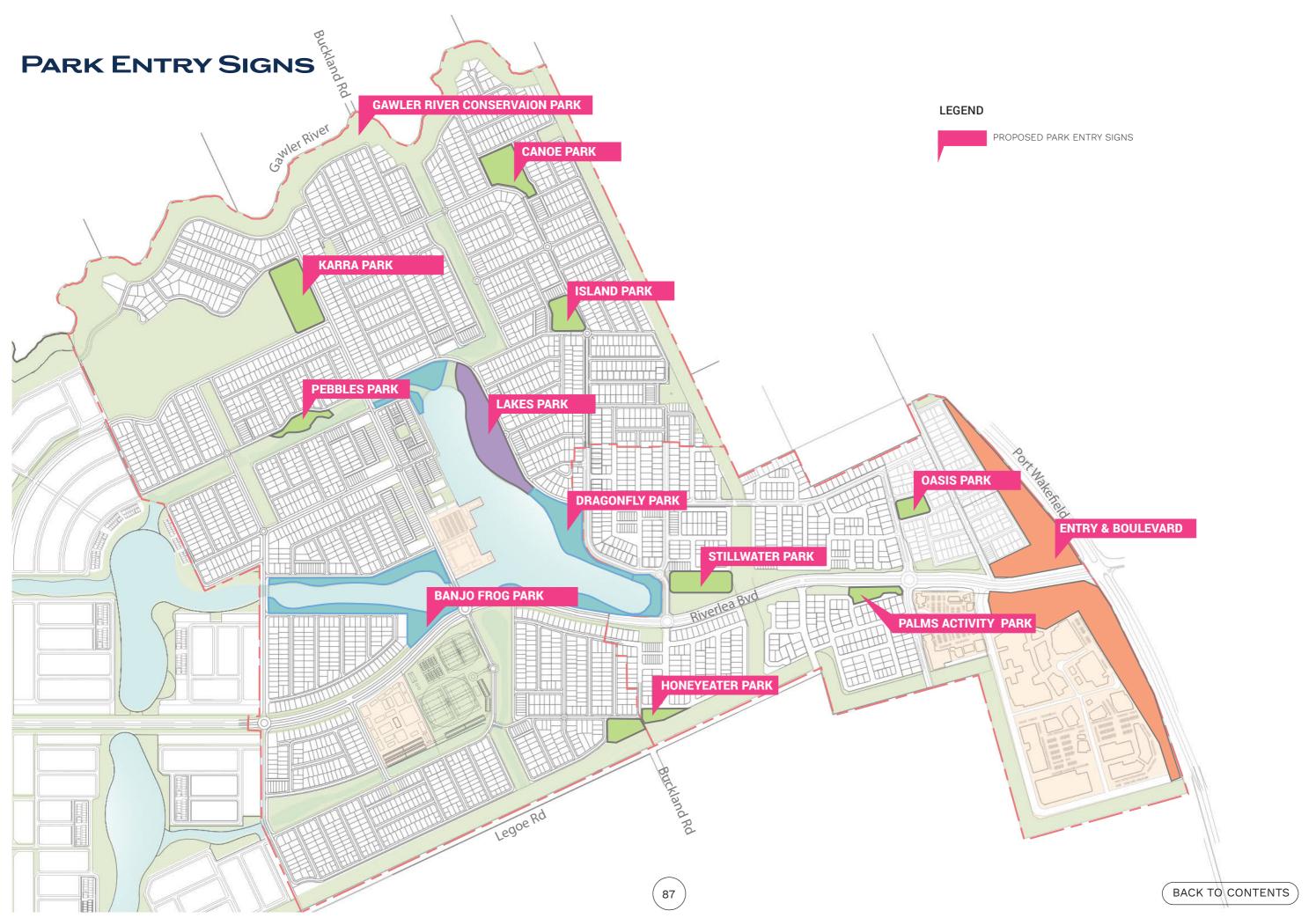
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RIVERLEA LANDSCAPE MASTER





Appendix F

Hudson Howells - Salt Water Lakes System, Economic & Social Impacts - Online Survey.





SALT WATER LAKE SYSTEM

ECONOMIC & SOCIAL IMPACTS

Online Survey Report

November 2022

prepared by





EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

Introduction

In July 2022, Hudson Howells, in association with BDO EconSearch, was engaged by Walker Buckland Park Developments (Walker) to undertake a study to determine the impact the delivery of the salt water lake system for its Riverlea development project would have on the City of Playford.

The proposed salt water lake system is a key item of amenity for the project which will play a key role in stormwater management, visual amenity and recreational amenity.

The study examined the impact of the salt water lake system from two key perspectives:

- 1. The financial impact of the implemented system on the City of Playford as the ultimate owner and operator of the salt water lake system.
- 2. The social impact, in the form of a statistically robust survey, on the local and surrounding communities where the potential future residents of, and visitors to, Riverlea will be drawn from.



Financial Analysis Approach

BDO EconSearch has undertaken a financial analysis of the salt water lake system for Walker which will be used to seek endorsement from the City of Playford and will ultimately be used to seek full approval from Council to proceed with delivery of the salt water lake system.

The costs and benefits of the Lakes Option were measured using a 'with' and 'without' project framework, that is, quantification of the incremental changes associated with the Lakes Option (i.e. the salt water lake system) compared to the Base Case, from Council's perspective.

A description of the options is as follows:

Base case 3.5ha Freshwater lake and extensive network of floodways for stormwater and flood mitigation.

Lakes Option 40ha Salt water lake system with parkland links incorporating shallow overland flow pathways

and minimal floodways for stormwater and flood mitigation which is expected to increase sales

demand for residential and commercial properties relative to the base case as a result of higher

amenity, wellness and wellbeing for residents.



Financial Analysis Results

In each year of the 25-year period costs to maintain the Base Case is expected to exceed the costs to operate and maintain the Lakes Option. This means that from a pure cost perspective, the Lakes Option is preferred to the Base Case and that the costs for Council to maintain the Base Case are greater than the costs to maintain the Lakes Option in every year of the analysis.

In addition, the increased sales demand from improved visual and recreational amenity under the Lakes Option is expected to bring forward the increase in general rate revenue compared to that which would be received under the open channel Base Case. The net present value (NPV) of \$38.4m indicates that, relative to the Base Case, the Lakes Option is expected to generate a net benefit to Council of \$38.4m over a 25-year period. The decision rule is that the investment is preferred to the Base Case if the NPV is greater than zero.

A NPV of \$38.4m over the 25-year period of analysis represents an annual net benefit for Council of \$1.5m. This annual benefit would increase the expected operating surplus for 2022/23 (\$1.9m (City of Playford 2022b)). This benefit is presented in this report as a financial benefit to the Council but could be passed on to rate payers in the form of a lower rate in the dollar of capital value.



Financial Analysis Summary

In summary, the Lakes Option is preferred to the Base Case as a stormwater and flood mitigation solution. Not only will the Lakes Option cost less than the Base Case option to operate and maintain, it is expected to bring forward the increase in general rate revenue compared to that which would be received under the Base Case. This is a significantly positive benefit to council and will serve to underpin the 10,000 employment impact expected from the Riverlea project.



Social Impact Study Objective & Methodology

A primary objective of the overall study was to gain a rich understanding of the impact of the salt water lake system on the local and broader communities as the potential future residents of, and visitors to, Riverlea.

The methodology employed involved:

- Designing a questionnaire to be completed by the online survey respondents.
- Sourcing examples of the two stormwater and flood management system options for inclusion in the online survey questionnaire.
- Undertaking the fieldwork which consisted of two surveys using the same questionnaire:
- Riverlea registrations of interest database which resulted in n=342 responses.
- Online panel database drawn from postcodes within the defined catchment Riverlea project catchment area (surrounding communities) which resulted in n=350 responses.
- Collating, analysing and interpreting the survey responses (independently undertaken by Hudson Howells).



Social Impact Study Sample Size

- A total of 692 responses to the online survey were received.
- Respondents are extended across 83 postcodes in South Australia (refer to maps in the body of the report),
 with an additional 38 respondents from interstate.
- This sample size results in a confidence interval of plus or minus 3.72 at a 95% confidence level.
- The confidence interval (also called margin of error) is the plus-or-minus figure typically reported in newspaper or television opinion poll results. For example, if you use a confidence interval of 3.72 and 47% percent of your sample selects an answer you can be 'sure' that if you had asked the question of the entire relevant population between 43.3% (47-3.72) and 50.7% (47+3.72) would have selected that answer.
- The confidence level indicates how sure you can be. It is expressed as a percentage and represents how often the true percentage of the population who would pick an answer lies within the confidence interval. The 95% confidence level means you can be 95% certain. Researchers typically use a 95% confidence level.
- When you put the confidence level and the confidence interval together, you can say you are 95% sure that the true percentage of the population is between 43.3% and 50.7% (using the above example).



Social Impact Study Findings

The online survey findings demonstrated beyond doubt that the <u>local and broader communities</u> strongly prefer the Lake System option (93% preference) over the Channel System option (7% <u>preference</u>). In particular the Lake System open space option achieved:

- A 9.2/10 overall rating for making Riverlea an attractive place when the Lake System open space is completed.
- A 9.1/10 rating for making Riverlea a more attractive place to live in.
- A 9.1/10 rating for making Riverlea a more attractive place for people to visit.
- A 9.0/10 rating for making Riverlea a welcoming environment for people to socialise.
- A 9.2/10 rating for promoting a healthy lifestyle.
- An 8.5/10 rating for providing safe and secure access for all people.
- An 8.5/10 rating for filling a need in the area for a modern and attractive destination.
- A 9.1/10 rating for providing benefits in the form of places to relax and meet.
- An 8.9/10 rating for providing opportunities for festivals and events.
- A 9.1/10 rating for creating a sense of pride within the community.



Social Impact Study Conclusions

The online survey findings highlighted that the Lake System open space option is highly likely to influence recommendations to friends or family for Riverlea to be a place to visit, rating 9.2 out of a possible 10.

In conclusion the Lake System option in not only strongly preferred by the local and surrounding communities, it is also the catalyst for a series of highly favourable perceptions by future residents of, and visitors to, Riverlea.

When the research findings are overlayed on the financial analysis undertaken by BDO EconSearch, it is clear that the Lake System option is highly beneficial to Council and its constituents.

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INTRODUCTION

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In July 2022, Hudson Howells, in association with BDO EconSearch, was engaged by Walker Buckland Park Developments (Walker) to undertake a study to determine the impact the delivery of the salt water lake system for its Riverlea development project would have on the City of Playford.

The proposed salt water lake system is a key item of amenity for the project which will play a key role in stormwater management, visual amenity and recreational amenity.

The study examined the impact of the salt water lake system from two key perspectives:

- 1. The financial impact of the implemented system on the City of Playford as the ultimate owner and operator of the salt water lake system.
- 2. The social impact, in the form of a statistically robust survey, on the local and surrounding communities where the potential future residents of, and visitors to, Riverlea will be drawn from.

This report provides a summary of the financial analysis undertaken by BDO EconSearch with the full report provided as an appendix (Appendix 1 - Riverlea Salt Water Lake System Financial Analysis).

This report also details the findings of the online survey with a MS Excel workbook containing the full set of tables and charts provided as an appendix (Appendix 2 - Riverlea Salt Water Lake System Online Survey Tables & Charts).





SUMMARY OF FINANCIAL ANALYSIS UNDERTAKEN BY BDO ECONSEARCH

SUMMARY OF FINANCIAL ANALYSIS UNDERTAKEN BY BDO ECONSEARCH

Introduction

BDO EconSearch has undertaken a financial analysis of the salt water lake system for Walker which will be used to seek endorsement from the City of Playford and will ultimately be used to seek full approval from Council to proceed with delivery of the salt water lake system.

Method

The costs and benefits of the Lakes Option were measured using a 'with' and 'without' project framework, that is, quantification of the incremental changes associated with the Lakes Option (i.e. the salt water lake system) compared to the Base Case, from Council's perspective.

A description of the options is as follows:

Base case 3.5ha Freshwater lake and extensive network of floodways for stormwater and flood mitigation.

Lakes Option 40ha Salt water lake system with parkland links incorporating shallow overland flow pathways

and minimal floodways for stormwater and flood mitigation which is expected to increase sales demand for residential and commercial properties relative to the base case as a result of higher

amenity, wellness and wellbeing for residents.

Riverlea

SUMMARY OF FINANCIAL ANALYSIS UNDERTAKEN BY BDO ECONSEARCH (Continued)

The evaluation criterion employed for this analysis was Net Present Value (NPV), which is the discounted option benefits less discounted option costs, measured in Dollars and relative to the Base Case. Under this decision rule the option is considered to be potentially viable if the NPV is greater than zero.

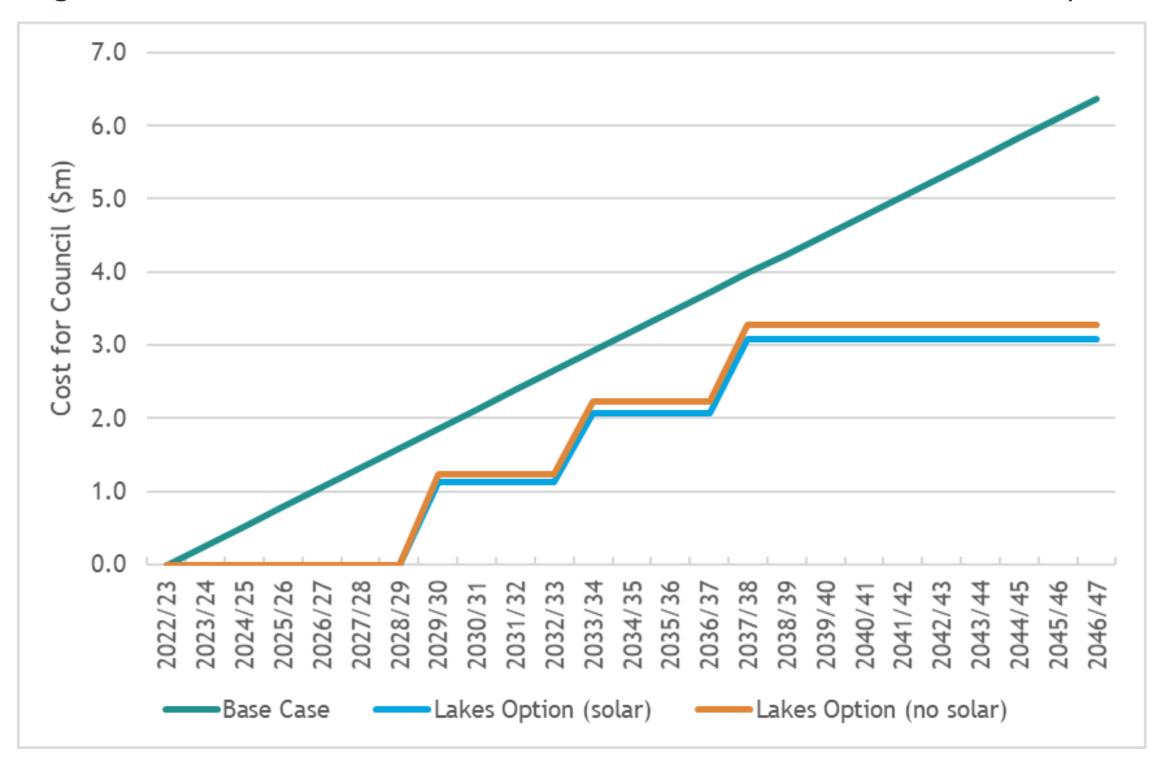
Assumptions

The schedule of costs which Council would be required to fund under the Base Case and the Lakes Option is shown in Figure ES 1 on the following page. The annual cost for maintenance of the Base Case was based on October 2022 tendered rates for landscape maintenance works at Riverlea. Walker expects to progressively pass on the costs to Council over the 25-year period so the full annual cost (\$6.37m) is passed on to Council in year 25 (2046/47). Costs would include system, water body and edge maintenance.

The annual cost for operation and maintenance of the Lakes Option was also based on October 2022 tendered rates for landscape maintenance works at Riverlea. The three phases of the lake system construction will be staged over approximately a 15-year period, meaning the earlier phases would operate independently until the latter phases are constructed and become operational. After five years from practical completion of each phase, and upon rectification of any known salt water lake system defects (except wear and tear), Council would assume the operation and maintenance of the system from Walker Corporation. Total cost for operating and maintenance of the system will be handed over to Council in year 16 (2037/38) at \$3.08m.

SUMMARY OF FINANCIAL ANALYSIS UNDERTAKEN BY BDO ECONSEARCH (Continued)

Figure ES 1 Schedule of annual costs for the Base Case and Lakes Option





SUMMARY OF FINANCIAL ANALYSIS UNDERTAKEN BY BDO ECONSEARCH (Continued)

General rate revenue estimated under the Base Case and Lakes Option will add significantly to the current rate revenue received by Council. As described by Council "Money raised through rates assists Council to provide the Playford community with a wide range of services. These include existing ongoing, core services such as keeping our streets clean, rubbish removal, running immunisation clinics, operating libraries and community programs, as well as renewing, replacing and building new assets such as footpaths, roads and sporting grounds" (City of Playford 2022). General rate revenue expected is expected to be \$74.7m in 2022/23 (City of Playford 2022).

Under the Lakes Option general rate revenue is expected to stabilise in year 21 (2042/43) at \$32.2m when it is estimated the 12,000 homes will have been sold. This amount would significantly increase the general rate revenue expected for 2022/23.

Under the Base Case general rate revenue is not expected to stabilise during the 25-year period of analysis as a result of the anticipated 12,000 total homes not being reached under the assumed sales demand schedule. In this case general rate revenue from the development would reach \$28.2m in year 25 (2046/47).



SUMMARY OF FINANCIAL ANALYSIS UNDERTAKEN BY BDO ECONSEARCH (Continued)

Results

Table ES 1 on the following page shows the results of the financial analysis in present value term. In each year of the 25-year period costs to maintain the Base Case is expected to exceed the costs to operate and maintain the Lakes Option. This means that from a pure cost perspective, the Lakes Option is preferred to the Base Case and that the costs for Council to maintain the Base Case are greater than the costs to maintain the Lakes Option in every year of the analysis.

In addition, the increased sales demand from improved visual and recreational amenity under the Lakes Option is expected to bring forward the increase in general rate revenue compared to that which would be received under the open channel Base Case. The net present value (NPV) of \$38.4m indicates that, relative to the Base Case, the Lakes Option is expected to generate a net benefit to Council of \$38.4m over a 25-year period. The decision rule is that the investment is preferred to the Base Case if the NPV is greater than zero.

A NPV of \$38.4m over the 25-year period of analysis represents an annual net benefit for Council of \$1.5m. This annual benefit would increase the expected operating surplus for 2022/23 (\$1.9m (City of Playford 2022b)). This benefit is presented in this report as a financial benefit to the Council but could be passed on to rate payers in the form of a lower rate in the dollar of capital value.

A sensitivity analysis found that the NPV for the Lakes Option remains positive over a reasonable range of assumed values for key variables in the analysis.

SUMMARY OF FINANCIAL ANALYSIS UNDERTAKEN BY BDO ECONSEARCH (Continued)

Table ES 1 Present value of result of the financial analysis (\$m)

	Expected Council Benefit		
			Net benefit of
	No lakes	With lakes	lakes
Rate income	147.46	198.96	51.50
Residual capital value	0.00	2.35	2.35
Provision of Council Services	-147.46	-178.69	-31.23
Capital replacement costs	0.00	-0.06	-0.06
Maintenance costs	-32.60	-16.77	15.84
Total	-32.60	5.80	38.40

Source: BDO EconSearch analysis

In summary, the Lakes Option is preferred to the Base Case as a stormwater and flood mitigation solution. Not only will the Lakes Option cost less than the Base Case option to operate and maintain, it is expected to bring forward the increase in general rate revenue compared to that which would be received under the Base Case. This is a significantly positive benefit to council and will serve to underpin the 10,000 employment impact expected from the Riverlea project.



RESEARCH METHODOLOGY

RESEARCH DESIGN

A primary objective of the overall study was to gain a rich understanding of the impact of the salt water lake system on the local and broader communities as the potential future residents of, and visitors to, Riverlea.

Research methodologies such as focus groups and depth interviews were discussed, but it was concluded that the evidence base for decision making should be the result of an empirical study using a quantitative approach.

The methodology employed involved:

- Designing a questionnaire to be completed by the online survey respondents.
- Sourcing examples of the two stormwater and flood management system options for inclusion in the online survey questionnaire.
- Undertaking the fieldwork which consisted of two surveys using the same questionnaire:
 - Riverlea registrations of interest database which resulted in n=342 responses.
 - Online panel database drawn from postcodes within the defined catchment Riverlea project catchment area (surrounding communities) which resulted in n=350 responses.
- Collating, analysing and interpreting the survey responses (independently undertaken by Hudson Howells).

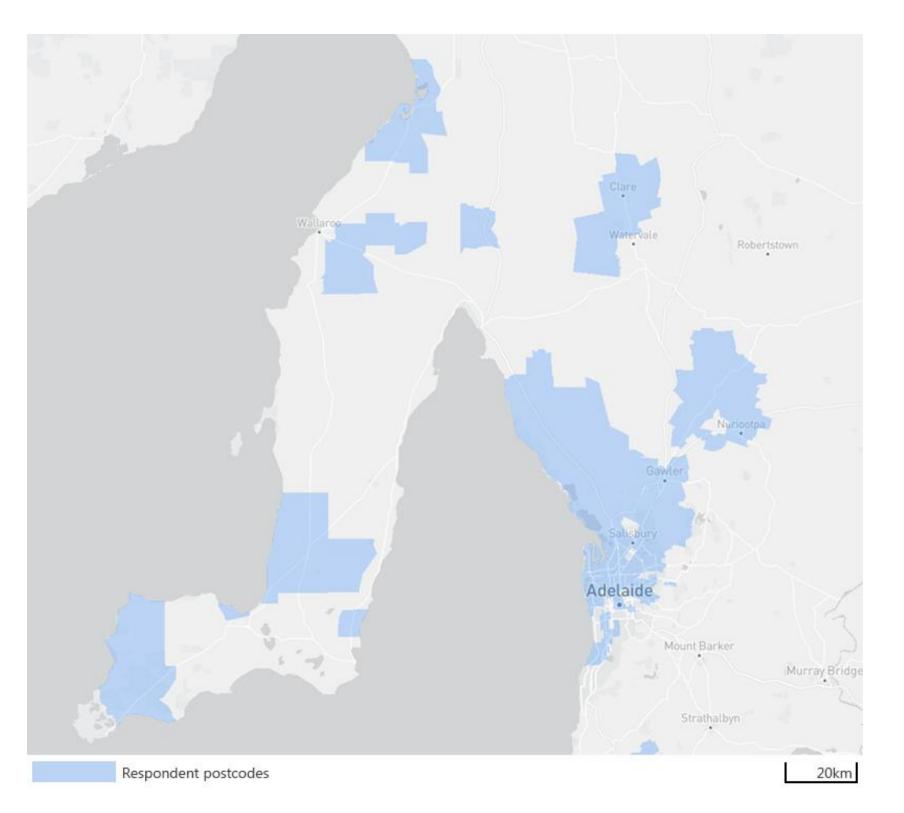


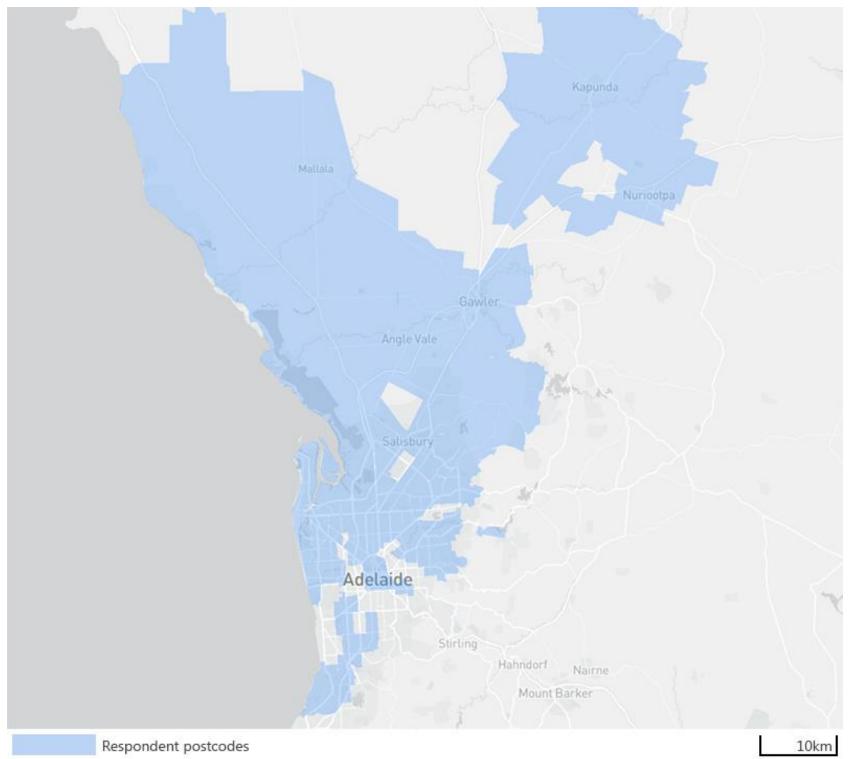
RESEARCH SAMPLE SIZE

- A total of 692 responses to the online survey were received.
- Respondents are extended across 83 postcodes in South Australia (refer to maps on the following slide), with an additional 38 respondents from interstate.
- This sample size results in a confidence interval of plus or minus 3.72 at a 95% confidence level.
- The confidence interval (also called margin of error) is the plus-or-minus figure typically reported in newspaper or television opinion poll results. For example, if you use a confidence interval of 3.72 and 47% percent of your sample selects an answer you can be 'sure' that if you had asked the question of the entire relevant population between 43.3% (47-3.72) and 50.7% (47+3.72) would have selected that answer.
- The confidence level indicates how sure you can be. It is expressed as a percentage and represents how often the true percentage of the population who would pick an answer lies within the confidence interval. The 95% confidence level means you can be 95% certain. Researchers typically use a 95% confidence level.
- When you put the confidence level and the confidence interval together, you can say you are 95% sure that the true percentage of the population is between 43.3% and 50.7% (using the above example).



RESPONDENT POSTCODES







RESEARCH QUESTIONNAIRE

The survey respondents were provided with an introduction to the questionnaire and then presented with two landscape option image sets:

Image set A (channel images)





Image set B (lakes images)







RESEARCH QUESTIONNAIRE (Continued)

- The survey respondents were then asked which set of images they preferred Image set A or Image set B (respondents were also given the opportunity to state they didn't like either of the image sets).
- Subsequent questions were then based on the Image set preferred by the respondent.
- The following research findings are based on the respondents' preferences.



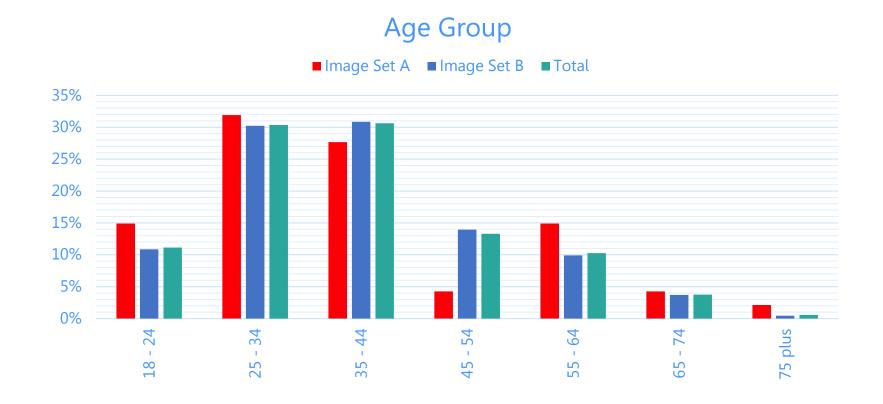


RESEARCH FINDINGS

RESPONDENT DEMOGRAPHICS

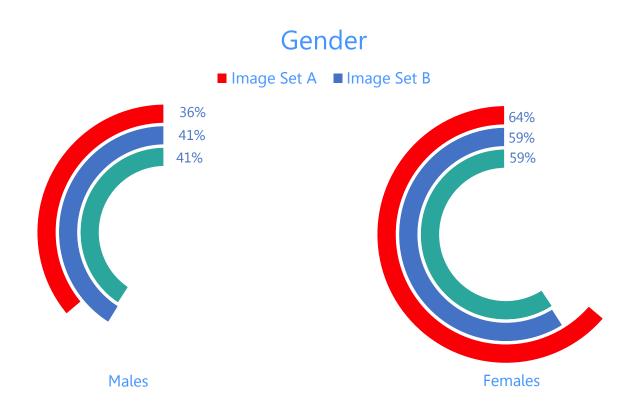
AGE GROUP

- Over half of total respondents are aged 25-44 years (61%)
- Respondents who prefer Image Set A are slightly younger compared to those preferring Image Set B (average 27 years and 28 years respectively)



GENDER

- More than half of total respondents are female (59%)
- There are more females in those respondents who prefer Image Set A (64%) when compared to those that prefer Image Set B (59%)

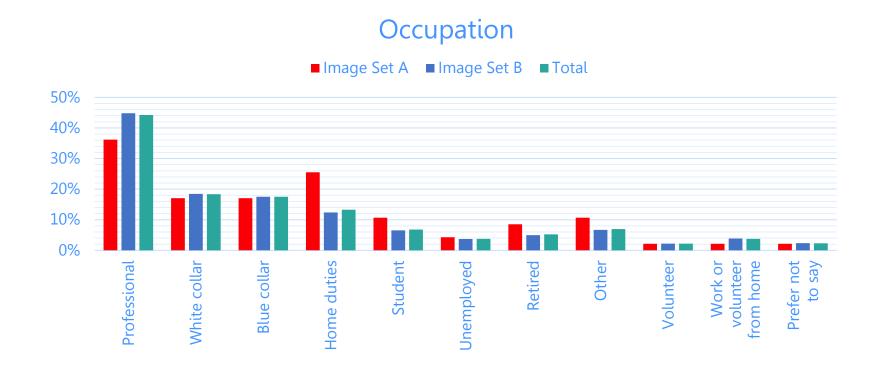




RESPONDENT DEMOGRAPHICS (Continued)

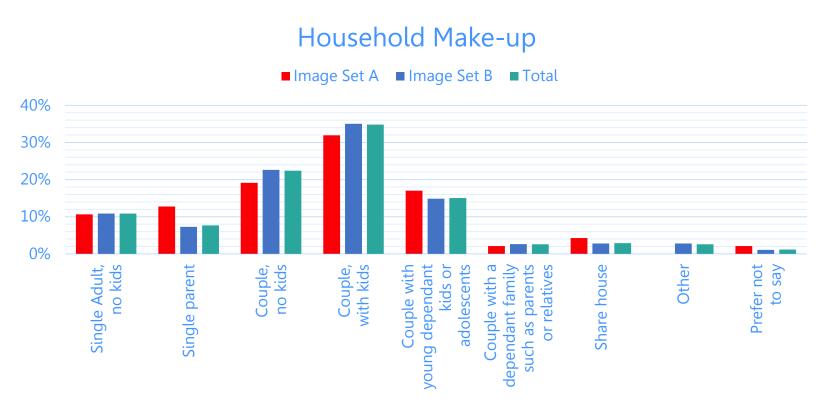
OCCUPATION

- Nearly half of total respondents work in professional occupations (44%)
- Respondents who prefer Image Set A are more likely to do house duties or are retired (26% and 9% respectively)



GENDER

- Three quarters of total respondents are couple households (75%)
- Respondents who prefer Image Set B are more likely to be couples with young children or no children (35% and 23% respectively)

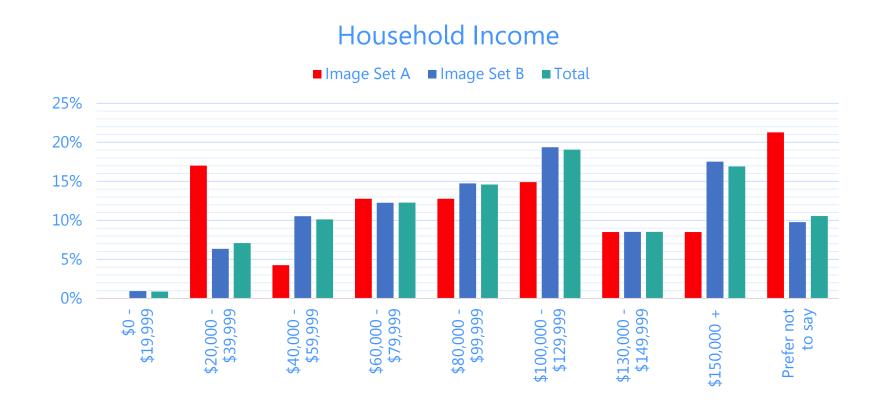




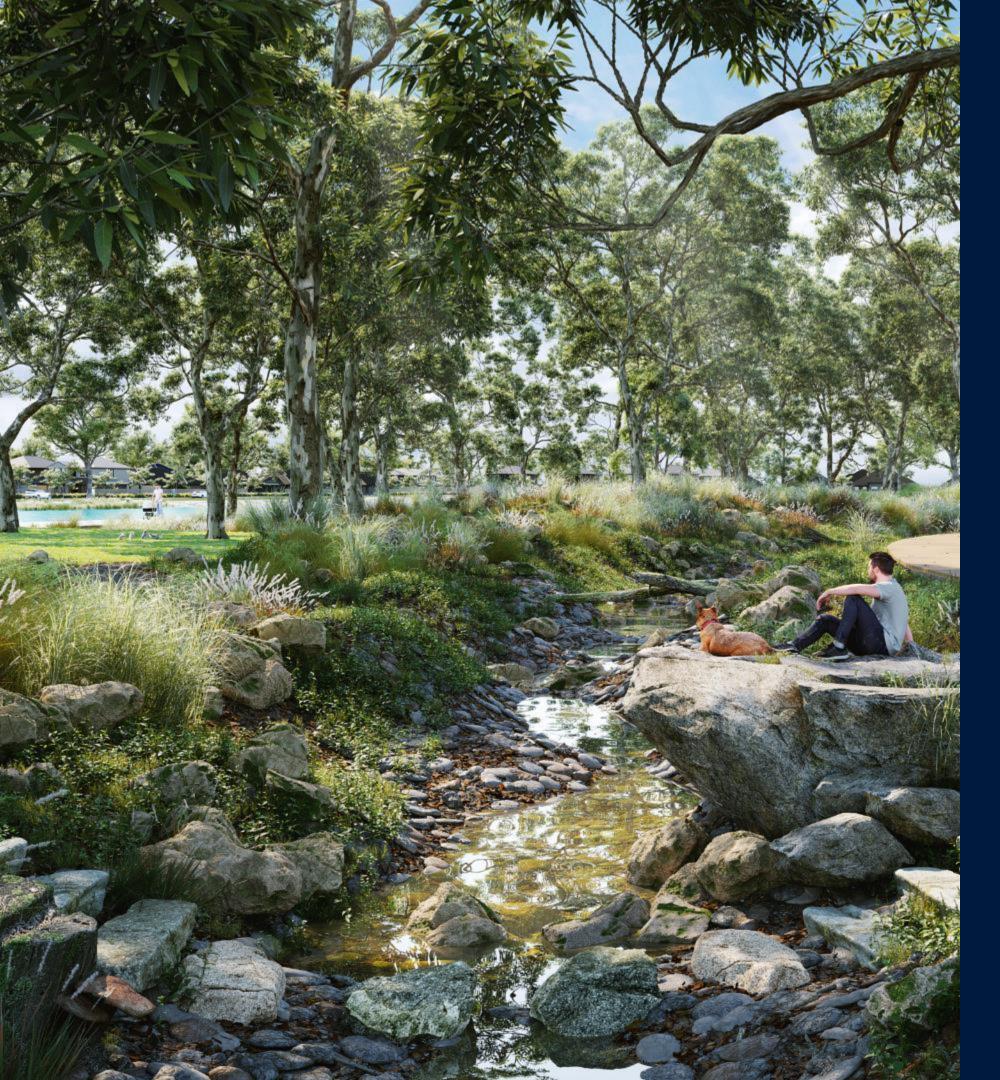
RESPONDENT DEMOGRAPHICS (Continued)

HOUSEHOLD INCOME

- Nearly half of total respondents have an annual household income between \$60,000 and \$130,000 (46%)
- Respondents who prefer Image Set B are more likely to have a higher household income







LANDSCAPE OPTION PREFERENCES

LANDSCAPE OPTION PREFERENCES

IMAGE SET A OR IMAGE SET B

• Nearly all respondents (93%) prefer Image Set B (lakes images) compared to Image Set A (channel images) (7%)

Image Set Preference
Image Set A Image Set B

7%

93%

Image set A - channel image 1



Image set B - lakes image 1



Image set A - channel image 2



Image set B - lakes image 2





IMAGE SET A MOST LIKED ABOUT CHANNEL SYSTEM

IMAGE SET A – LIKE MOST ABOUT CHANNEL SYSTEM

- Nature and green spaces is the most liked feature of the open channel system for those respondents who preferred Image Set A (62%)
- Image Set A respondents also noted the channel system was family friendly and good for the community (13%)



It looks more natural

• I like that it is a more natural setting with trees

It looks more natural

- Feels more homely and green
- Looks more natural and homely

Looks quieter

• It's great and I know it will look more great if its conserved and maintained

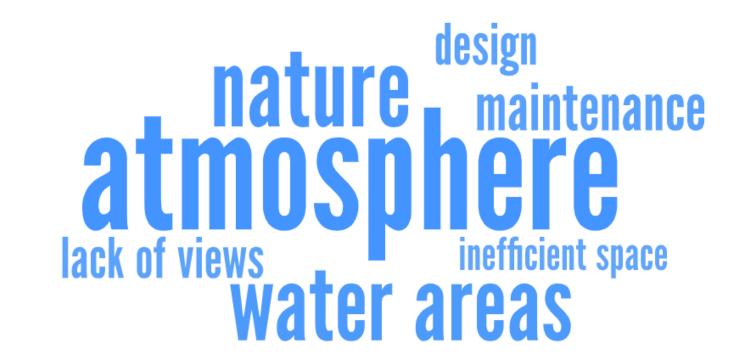
• It looks 'more homey', and more like a place you raise children in. Image set A looks more green and natural



IMAGE SET A LEAST LIKED ABOUT LAKE SYSTEM

IMAGE SET A – LIKE LEAST ABOUT LAKE SYSTEM

- The water and the atmosphere are the most disliked features of the lake system for those respondents who preferred Image Set A (23%)
- Image Set A respondents also noted the lack of greenery in the lake system (11%)



- Waterways attract way too many mosquitoes especially out north
 - A hazard for children and can't really explore the environment
- Looks artificial
- Looks nice as a town centre but not for my residential street
- Too modern and like you have to be a certain type of wealthy family to be able to live there
 - Misleading, developed land giving ambiguity of green space

• Expensive infrastructure not needed

Looks too fake, not inviting or family friendly



IMAGE SET B MOST LIKED ABOUT LAKE SYSTEM

IMAGE SET B - LIKE MOST ABOUT LAKE SYSTEM

- The bridge and waterfront location is the most liked feature of the lake system for those respondents who preferred Image Set B (40%)
- Image Set B respondents also noted the atmosphere and design of the lakes (23% and 21% respectively)



- Everything about image set B says peace and tranquility and just the perfect location to escape and call home
 - Modern and exquisite
 - Looks calm and tranquil
- Clean modern futuristic design
- Greenery combined with pockets of water

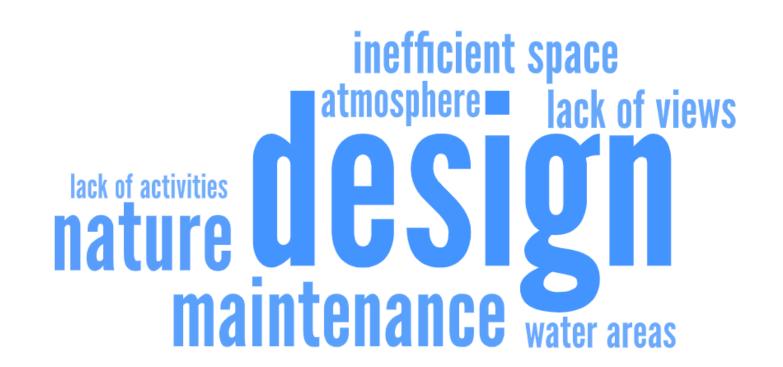
- The sophistication and relaxing vibe
- I love the water aspect, which is a main reason why I have bought my block in Riverlea
 - Looks pleasant to the eye



IMAGE SET B LEAST LIKED ABOUT CHANNEL SYSTEM

IMAGE SET B - LIKE LEAST ABOUT CHANNEL SYSTEM

- The design of the channel system is the most disliked feature for those respondents who preferred Image Set B (34%)
- Image Set B respondents also noted the safety and maintenance of the channel system may be an issue (24%)



Waste of space not being used to what its potential is

• I feel it is a bit outdated and not very modern

- Looks boring and old
- Does not appear welcoming and nature areas don't seem practical or can be enjoyed

Untidy looking

- It has a dull quality to it
 - Looks messy and unkept

• I know the area where photos look like. They have swiftly become lower economic areas purchased by investors not owner occupiers.



ATTRACTIVENESS OF SYSTEM OPTIONS A & B

ATTRACTIVENESS

On a scale of 1 to 10:

- Image Set A respondents gave an average rating of 7.2/10 with 83% rating the channel system an attractive place to visit (6-10 score)
- Image Set B respondents gave an average rating of 9.2/10 with 99% rating the lake system an attractive place to visit (6-10 score)
- Image Set B (lake system) is rated as more attractive by those respondents who prefer Image Set B compared to those respondents who prefer Image Set A (channel system)

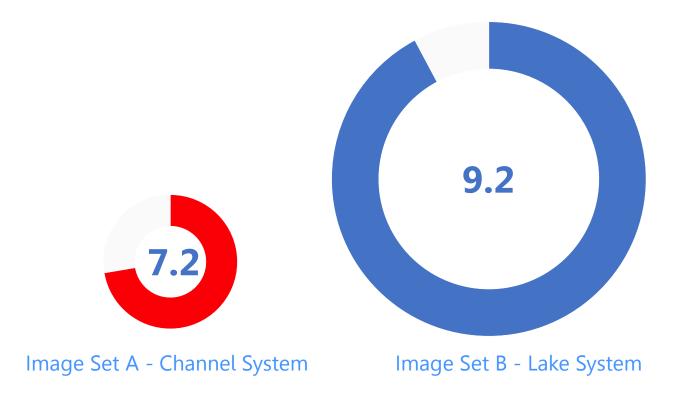




IMAGE SET A <u>BENEFITS OF SYSTEM FOR RESIDENTS AND VISITORS</u>

BENEFITS OF A CHANNEL SYSTEM

- The open space of the channel system is the biggest benefit of the channel system for over half of Image Set A respondents (57% for residents and 38% for visitors)
- The system looks like it would encourage people to get outside and is a relaxing environment (19% for residents)
 - Wide roads and well-presented trees and grass calms you down and makes you feel connected with nature
 - It will be spacious with easy walking areas
 - Welcoming, calming and a great place to explore
 - It makes the suburbs more inviting to guests



for visitors:



IMAGE SET B BENEFITS OF SYSTEM FOR RESIDENTS AND VISITORS

BENEFITS OF A LAKE SYSTEM

- Over half of Image Set B respondents think the lake system would encourage people to relax outside (51%)
- The open space and a relaxing environment (30% and 24% respectively)
- Visitors to the area would benefit from the open space and the atmosphere (27%)
 - Lifestyle and affordability perfect for families
 - Plenty of space, new infrastructure, good social life, get dream house without breaking the bank
 - A great place to meet people and looks inviting
 - Walking paths, open space, relaxing vibe, not that far from the CBD - day trips

for residents:



for visitors:





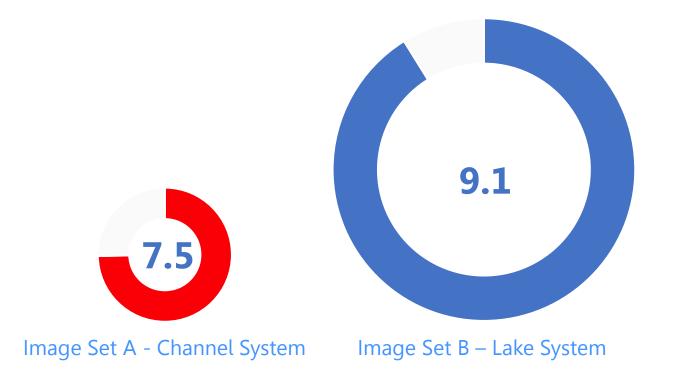
FEATURE INCLUSIONS

ATTRACTIVE PLACE TO LIVE AND FOR PEOPLE TO VISIT

OPEN SPACE WILL MAKE RIVERLEA A MORE ATTRACTIVE PLACE TO LIVE IN

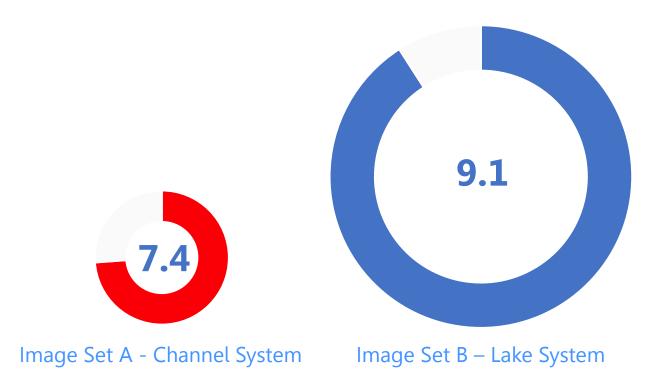
To a large extent (rated 8-10):

- Image Set A: 51% mean score 7.5/10
- Image Set B: 89% mean score 9.1/10



OPEN SPACE WILL MAKE RIVERLEA MORE ATTRACTIVE FOR PEOPLE TO VISIT

- Image Set A: 47% mean score 7.4/10
- Image Set B: 88% mean score 9.1/10



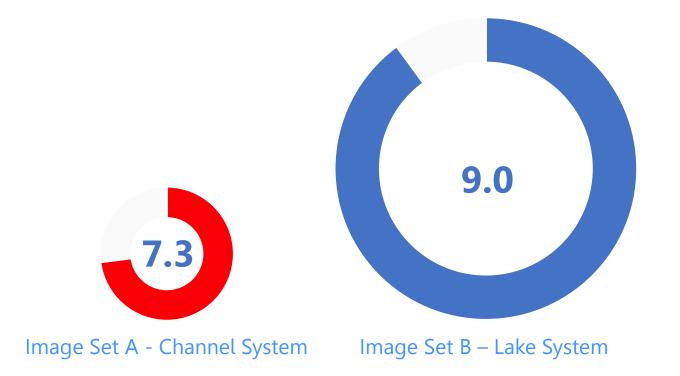


WELCOMING ENVIRONMENT AND A HEALTHY LIFESTYLE

OPEN SPACE WILL BE A WELCOMING ENVIRONMENT FOR PEOPLE TO SOCIALISE

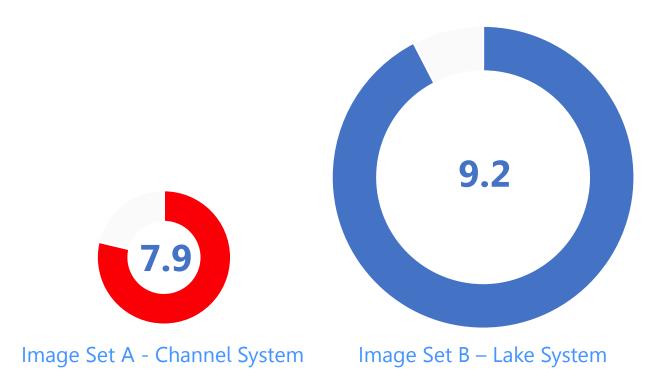
To a large extent (rated 8-10):

- Image Set A: 47% mean score 7.3/10
- Image Set B: 86% mean score 9.0/10



OPEN SPACE WILL PROMOTE A HEALTHY LIFESTYLE

- Image Set A: 57% mean score 7.9/10
- Image Set B: 91% mean score 9.2/10



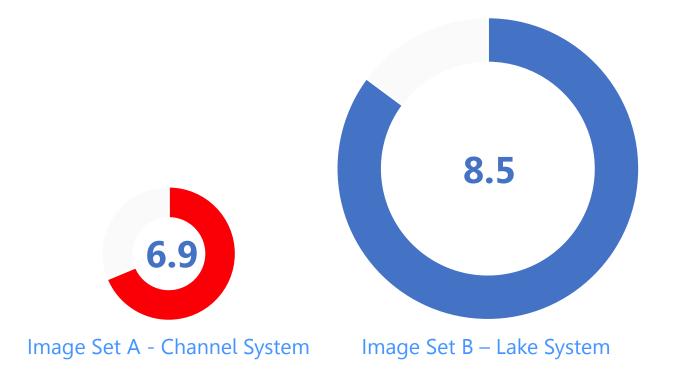


SAFE AND SECURE IN A MODERN AND ATTRACTIVE OPEN SPACE

OPEN SPACE WILL PROVIDE SAFE AND SECURE ACCESS FOR ALL PEOPLE

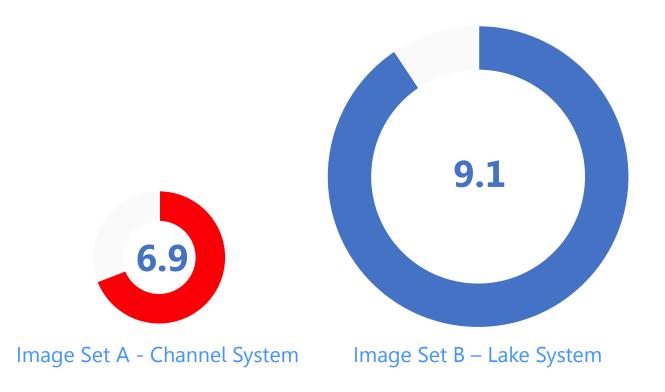
To a large extent (rated 8-10):

- Image Set A: 40% mean score 6.9/10
- Image Set B: 76% mean score 8.5/10



OPEN SPACE WILL FILL A NEED IN THE AREA FOR A MODERN & ATTRACTIVE DESTINATION

- Image Set A: 38% mean score 6.9/10
- Image Set B: 87% mean score 8.5/10



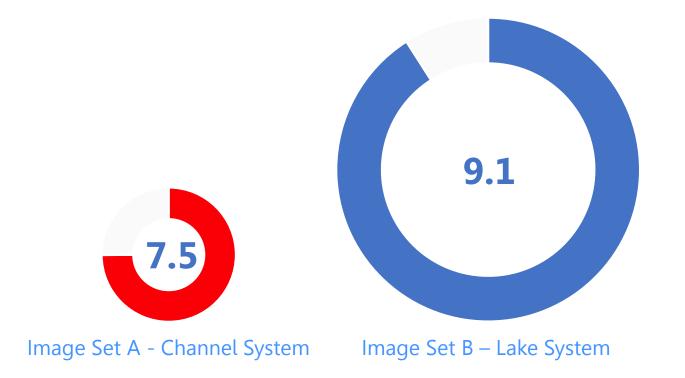


PLACES TO RELAX AND MEET WHILE ENHANCING LIFE

OPEN SPACE WILL PROVIDE BENEFITS IN THE FORM OF PLACES TO RELAX AND MEET

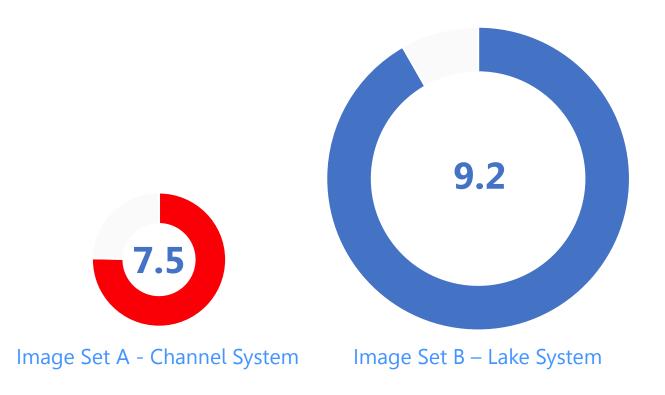
To a large extent (rated 8-10):

- Image Set A: 53% mean score 7.5/10
- Image Set B: 89% mean score 9.1/10



OPEN SPACE WILL ENHANCE THE WELLBEING AND QUALITY OF LIFE

- Image Set A: 53% mean score 7.5/10
- Image Set B: 88% mean score 9.2/10



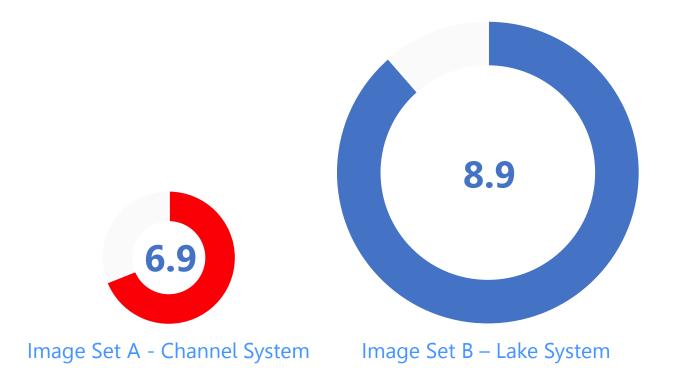


FESTIVALS AND EVENTS AND CREATING A SENSE OF PRIDE

OPEN SPACE WILL PROVIDE OPPORTUNITIES FOR FESTIVALS AND EVENTS

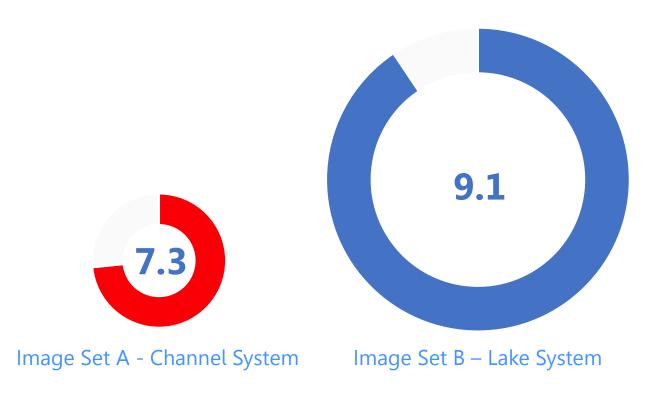
To a large extent (rated 8-10):

- Image Set A: 49% mean score 6.9
- Image Set B: 82% mean score 8.9



OPEN SPACE WILL CREATE A SENSE OF PRIDE WITHIN THE COMMUNITY

- Image Set A: 51% mean score 7.3
- Image Set B: 85% mean score 9.1







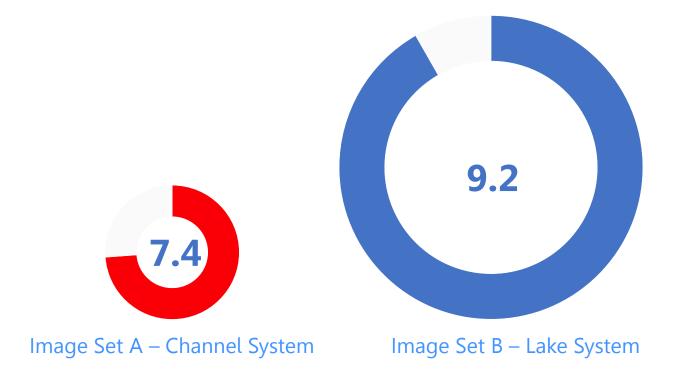
RECOMMENDING THE PREFERED VERSUS NON-PREFERRED SYSTEM

RECOMMENDING VISITING THE PREFERRED OPEN SPACE AREA TO FRIENDS OR FAMILY

RECOMMENDING TO FRIENDS AND FAMILY

On a scale of 1 to 10:

- Image Set A respondents gave an average rating of 7.4/10 with 83% likely to recommend the Channel System option to friends and family (6-10 score)
- Image Set B respondents gave an average rating of 9.2/10 with 97% likely to recommend the Lake System option to friends and family (6-10 score)





RECOMMENDING VISITING THE NON-PREFERRED OPEN SPACE AREA TO FRIENDS OR FAMILY

RECOMMENDING THE NON-PREFERRED OPEN SPACE AREA

On a scale of 1 to 10:

- Image Set A respondents gave an average rating of 6.6/10 with 68% likely to recommend the Lake System option to friends and family (6-10 score)
- Image Set B respondents gave an average rating of 4.2/10 with 31% likely to recommend the Channel System option to friends and family (6-10 score)



the Lake System option



Image Set B respondents likely to recommend the Channel System option





SUMMARY AND CONCLUSIONS

SUMMARY AND CONCLUSIONS

The online survey findings have demonstrated beyond doubt that the local and broader communities strongly prefer the Lake System option (93% preference) over the Channel System option (7% preference). In particular the Lake System open space option achieved:

- A 9.2/10 overall rating for making Riverlea an attractive place when the Lake System open space is completed.
- A 9.1/10 rating for making Riverlea a more attractive place to live in.
- A 9.1/10 rating for making Riverlea a more attractive place for people to visit.
- A 9.0/10 rating for making Riverlea a welcoming environment for people to socialise.
- A 9.2/10 rating for promoting a healthy lifestyle.
- An 8.5/10 rating for providing safe and secure access for all people.
- An 8.5/10 rating for filling a need in the area for a modern and attractive destination.
- A 9.1/10 rating for providing benefits in the form of places to relax and meet.
- An 8.9/10 rating for providing opportunities for festivals and events.
- A 9.1/10 rating for creating a sense of pride within the community.



SUMMARY AND CONCLUSIONS (Continued)

The online survey findings highlighted that the Lake System open space option is highly likely to influence recommendations to friends or family for Riverlea to be a place to visit, rating 9.2 out of a possible 10.

In conclusion the Lake System option in not only strongly preferred by the local and surrounding communities, it is also the catalyst for a series of highly favourable perceptions by future residents of, and visitors to, Riverlea.

When the research findings are overlayed on the financial analysis undertaken by BDO EconSearch, it is clear that the Lake System option is highly beneficial to Council and its constituents.



Appendix G

Conceptual Master Plans - Original Open Linear Swales & Proposed Riverlea Lakes.

