

Jordan Springs East

Northern Riparian Corridor

Development Application Report - September 2019 [REV04]



Prepared for

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Submission Status

Development Application - Landscape Design Statement
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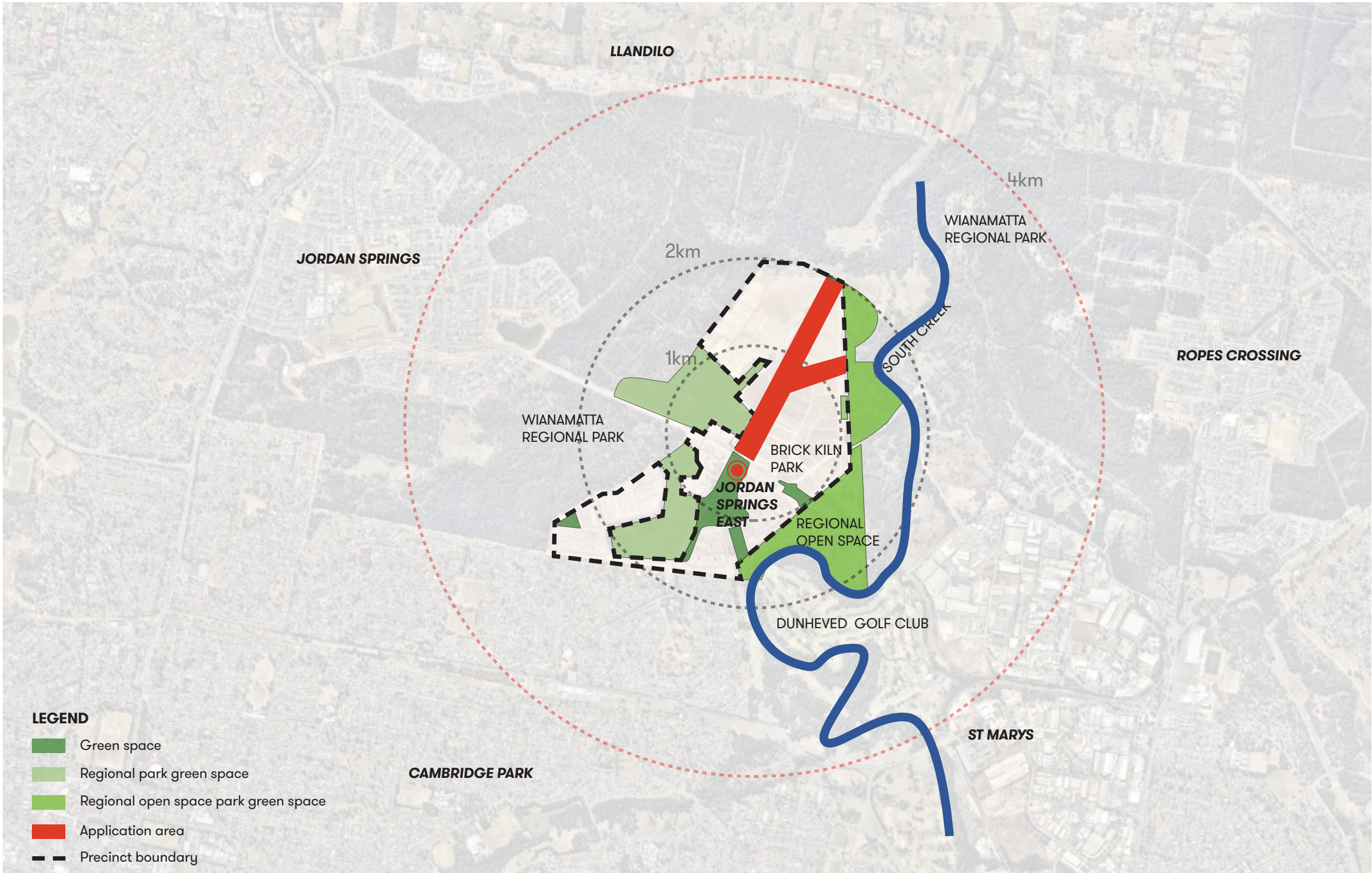
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Site image: Looking south towards future Brick Kiln Park

1.1 Context



1.2 Site Description

The proposed Northern Riparian Corridor Parkland & Transgrid Easement Parkland are located at the northern section of the Jordan Springs East Precinct. The parklands will include are vegetated Riparian Corridor, Open Space with the existing Transgrid Easement and two pocket parks.

The parklands will connect with the soon to be constructed Brick Kiln Park to the south which will provide a focal point for recreation, offering a children's playground, BBQ and picnic facilities as well as remnants and interpretive elements of the historical Brick Works site.

Pedestrian and cycle connections will also be established to the Wianamatta Regional Park to the west and a Regional Open Space to the east. Future subdivisions will provide adjacent boundaries to much of the site, creating a catchment of residents who will benefit from easy access to a variety of easily accessible open spaces.

The site has been completely cleared of vegetation to allow for imported fill to raise the level of future development areas above the 1:100 year flood level. The Riparian Corridor will provide flood mitigation from South Creek and will capture storm water from the surrounding future development, providing water quality improvement through infiltration, nitrogen & pollutant capture from plants and sediment drop out.

Bulk earthworks have been completed on site and the riparian corridor has been formed as a largely uniform channel. The existing Transgrid easement provides some significant constraints in terms of establishing vegetation and open space embellishments. Existing Transgrid stanchion towers are located within the site and as such, the bulk earthworks have allowed for grading to meet with existing levels to the tower surrounds. The site is devoid of natural high points.

Area Calculations

Total site area: 11.24Ha
Transgrid Easement Parkland: 6.4Ha
Riparian Corridor Parkland: 4.3Ha
Eastern Pocket: .30Ha





2.0 Design Statement

2.1 Recreation & Facilities

As outlined in the previous section, the key recreational offer for the Eastern precinct will be the Brick Kiln Park to the south of this site. The Northern Riparian Corridor Parkland and Transgrid Easement Parkland will provide opportunities for extended walking, running & cycling routes, encouraging active living and enjoyment of open spaces. This network of paths will be punctuated with exercise stations (creating potential fitness trails), as well as low-key seating areas with views towards the Riparian Corridor.

There are two pocket parks proposed for the site located on either side of the Riparian Corridor adjacent to the northern road crossing. The western park (South Creek Reserve) will provide a good sized open turf space for informal games and picnics. Surrounding this central green will be a small children's playground with a combination of proprietary equipment and natural timber play elements suitable for a range of age groups. A picnic shelter, BBQ and Table is proposed adjacent to the playground which will be suitable for birthdays and other social events. Public seating is provided around the pocket park beneath shade canopy trees.

The eastern pocket park (South Creek Quarter) will also offer a kick-about lawn area which is enclosed to the some edges by low terraced seating walls with views to the Corridor Parklands. Ornamental native planting will provide a soft border to parts of these spaces, offering shade to seating areas. A table tennis area & fitness hub will offer teenagers a separate space to play and socialise.

2.2 Environment

Cardno have been engaged by LendLease to design the grading and water quality management strategy for the Riparian Corridor. The design includes a raingarden, ripple zones, sediment dropout zones and fine grading which will establish a low flow channel

armoured with sandstone rocks, gabion baskets and variations to the embankment profile. These interventions will provide aquatic habitats and create extensive, connected habitat corridors. A native riparian planting palette will be applied to the corridor which will follow the recommendations of the precinct Vegetation Management Plan(VMP), increasing bio-diversity across the site.

The remaining parklands will predominantly be planted with a native bushland palette complimenting open spaces to the south of the site and following recommendations of the precinct VMP. The VMP identifies key ecological communities found within the Wianamatta Regional Park including; Cumberland Plain woodland, Moist Shale Woodland, Swamp Oak forest and River-flat Eucalyptus forest. Plant species from these communities will be selected to regenerate community 'cluster' as outlined in the VMP.

In addition to revegetation works, areas of more ornamental planting arranged in formal garden beds are proposed within the two pocket parks. These garden beds will also contain large feature trees which will create visual landmarks for the parks which also sit at the entrance to the future residential development to the north.

Refer section 4.2 of this report for proposed Planting Schedule.

2.3 Circulation & Access

As outlined in previous sections of this report, the site will contain a network of paths which will connect to surrounding open space and recreational opportunities. Facilities have been located to ensure that all future residents within the precinct are within easy walking distance to an outdoor amenity, encouraging active living and sociability.

Shared paths for cyclists and pedestrians will be provided on both



2.0 Design Statement

sides of the Corridor. All paths will be equal access with a maximum gradient of 1:20 and will fully comply with requirements set out in AS 1428.1 : Design For Access and Mobility.

A pedestrian creek crossing is proposed towards the southern section of the site. This bridge will provide future access to a local park to the west and the Wianamatta Regional Park. Refer section 3.7 ‘Bridge Concept’.

2.4 Public Art & Wayfinding

The concept plans submitted for this application identify potential locations for public art to be installed. Potential themes for this artwork could be drawn from Indigenous culture, environmental regeneration or the site’s previous uses in either the agriculture or military periods. A public artist will be engaged to develop this element in detail. The artwork could also have a vertical form to act as a marker and wayfinding element.

In addition to public artwork, a number of locations for wayfinding signage are proposed in the parklands. These signs will provide information about local recreation and community destinations. Distances will be expressed in walking travel time to encourage users to be active and utilize the parkland circulation paths.

2.5 Materials

Paving materials, site furniture and fixtures will be robust and low maintenance, suitable for use in public spaces. Materials & site fixtures will be chosen to compliment the Brick Kiln Park to the south providing continuity which will establish a coherent precinct character.

2.6 Safety

Lighting has been excluded from the Parklands in order to discourage use after dark which may impact adjacent residents.

Pedestrian paths will be provided within the street network which will be illuminated by street lighting, providing a safe alternative for pedestrians and cyclists at night.

During the day, the Parklands will receive passive surveillance from surrounding residential properties and pedestrian and cycle activity through the Parklands. The vegetation within the Parklands will be open, providing clear site lines in all directions.

2.7 Transgrid Easement

Open space embellishments within the Transgrid Easement are constrained by the Transgrid Guidelines for Third Party Development. Key constraints include:

- No vegetation of a height exceeding 4m is permitted within easement.
- Continuous and unobstructed access along Easement.
- Reduce available fuel and subsequent bushfire risks within the Easement.
- No obstructions within 20m of any part of transmission line structure or supporting guy-wire.

The concept design responds to these constraints by providing informal clusters of low native shrubs within a native grassland setting. A path spine will link to the Riparian corridor to the south with some areas of turf / kick-about spaces and exercise stations along the easement corridor.

2.8 Bushfire Protection

The site has been identified as containing Bush Fire Prone Land by Penrith City Council. As such, an assessment has been prepared for sub-division areas adjacent to the riparian corridor & Transgrid easement parklands, by Ecological Australia. The assessment makes recommendations which will need to be considered for the parklands design including the provision of Asset Protection

Zones (APZs). These APZs (identified on figure 2.12) are required at a 10m offset from Transgrid Easement Parklands & 15m offset from Riparian Corridor Parklands. The APZs can include road reserves and have been designed to comply with the following Rural Fire Service guidelines:

- No trees within 2m of dwelling.
- Trees within APZ are acceptable provided they do not form a continuous canopy and where single trees or clumps of trees have separation of 2 - 5m depending on size of canopy.
- Limit shrubs to select and well managed garden beds that are located away from future dwellings.
- Minimise ground fuel to less than 4 tonnes per ha of fine fuel (ANY dead or living vegetation of <6mm dia.)

2.9 Maintenance

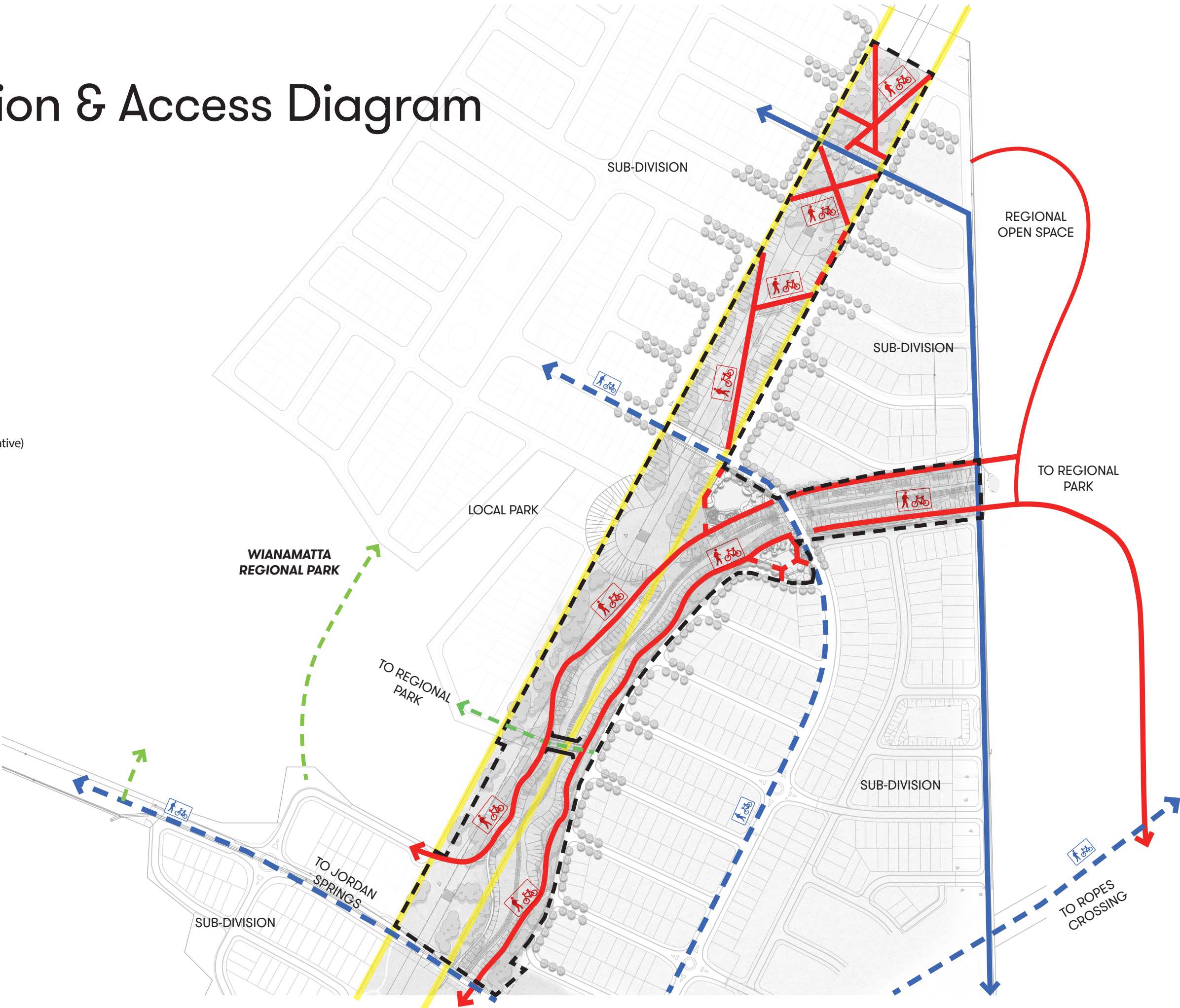
Both planting and hardscape materials have been selected to be robust and low maintenance. Plant species are generally endemic to the local area and will not require irrigation beyond the initial establishment period. Turf areas and native grassland areas have been graded at a maximum of 1:6, allowing for ride-on mowers to access.



2.10 Circulation & Access Diagram

LEGEND

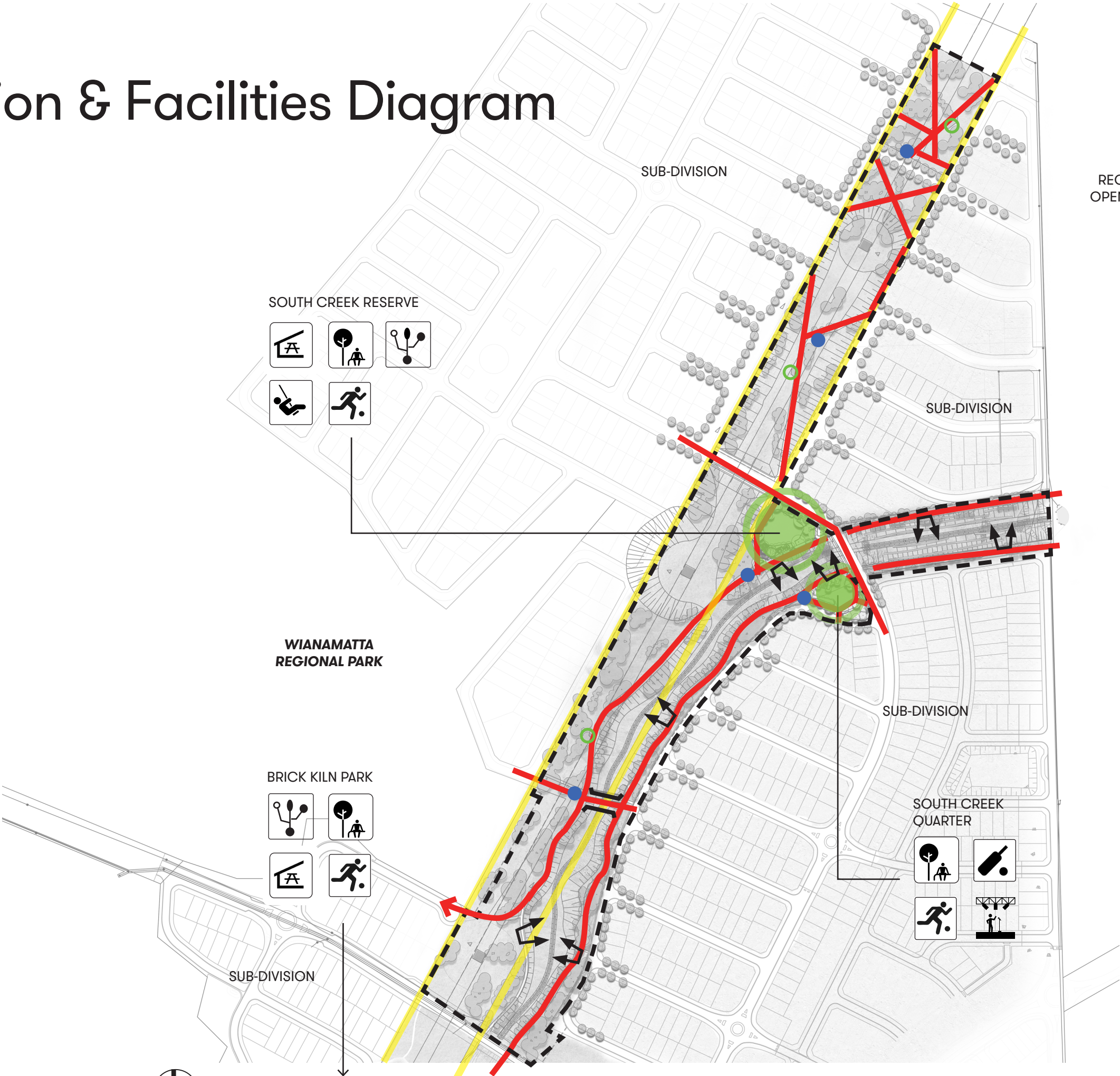
- Application boundary
- 2.5m Shared path [off road]
- 1.8m Pedestrian path [off road]
- Connection to Regional Park network (indicative)
- 2.5m Shared path [road reserve]
- Secondary pedestrian path 1.8m edge link
- Pedestrian bridge
- Transgrid Easement



2.11 Recreation & Facilities Diagram

LEGEND

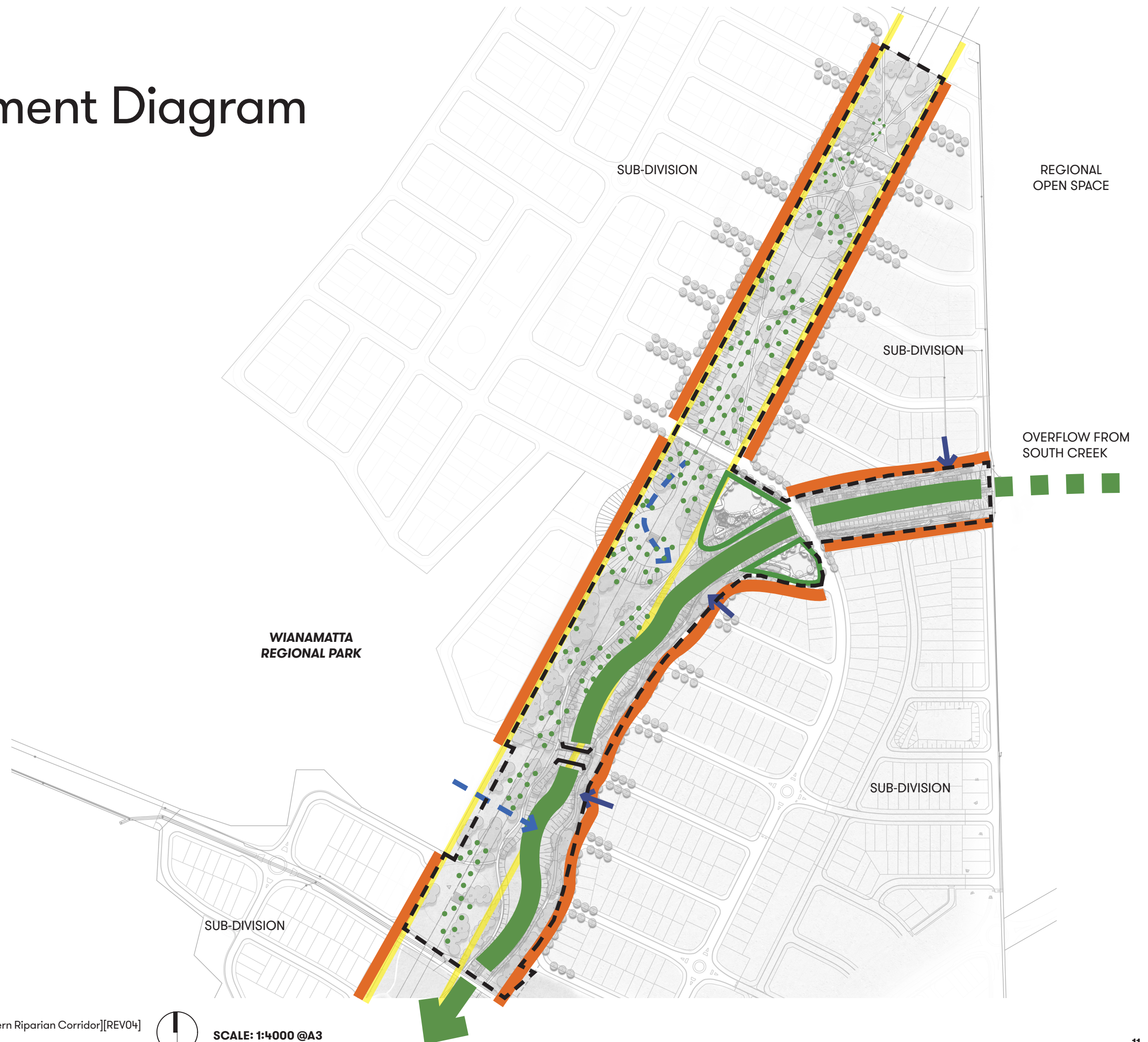
- Application boundary
- Corridor Parkland nodes
- Exercise station
- Wayfinding signage
- Pedestrian bridge
- Vistas
- Pedestrian/ cycle paths
- Transgrid Easement
- Children's play
- Picnic & BBQ
- Teenage play/ Ball games
- Kick-about green
- Public art
- Seating
- Performance space



2.12 Environment Diagram

LEGEND

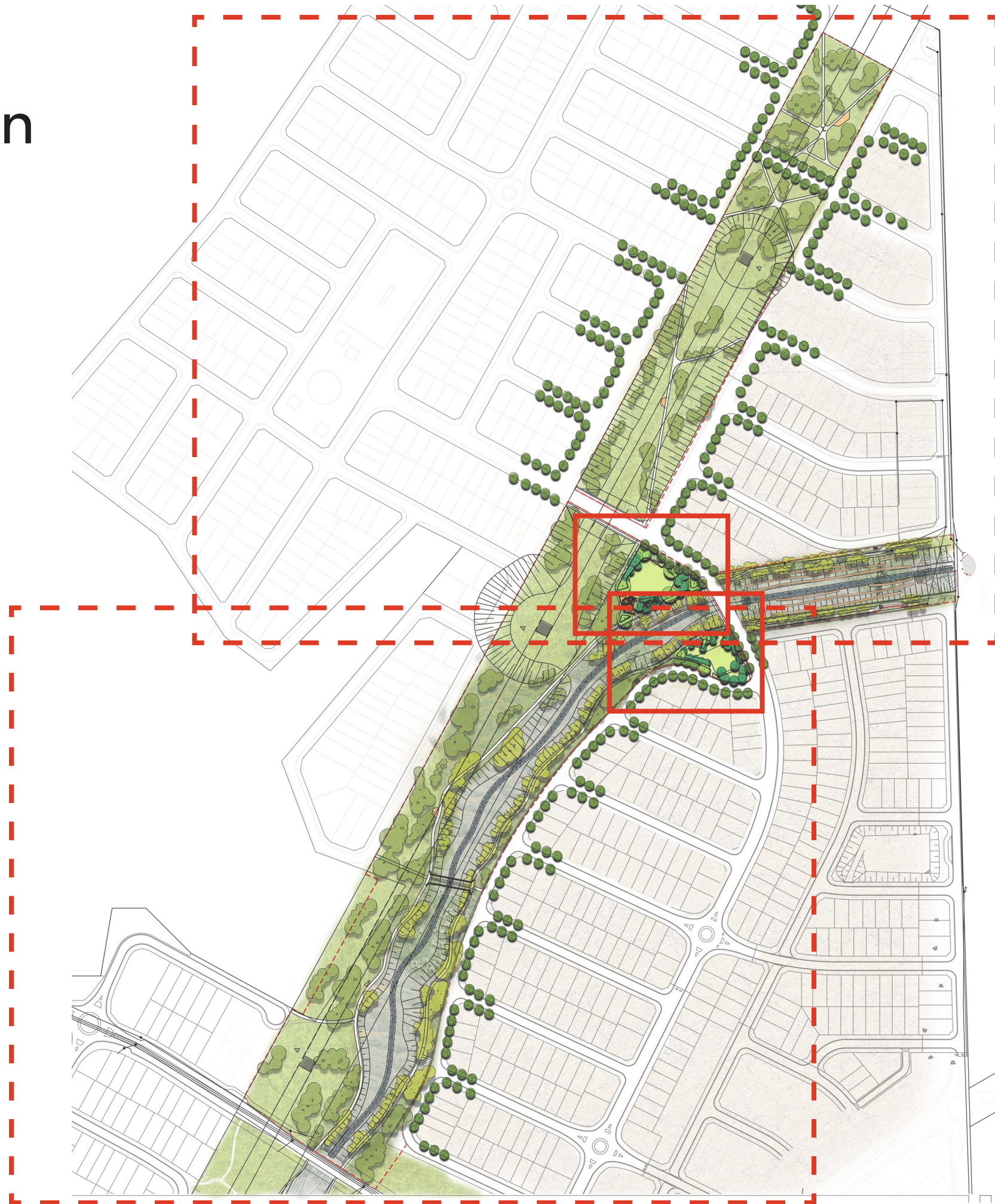
-  Application boundary
-  Riparian Corridor [native revegetation]
-  Transgrid Easement
-  Pedestrian bridge
-  Stormwater outlets
-  Overland flow path
-  Pocket parks: Native planting & turf with sections of ornamental planting
-  Transgrid Easement Parkland: Native grasses + low shrubs
-  Asset Protection zones





03 CONCEPT DESIGN

3.1 Site Plan



3.2 Parkland_North: Concept Plan

LEGEND

- Garden Bed
- Turf
- Native Meadow
- Riparian Planting: Trees, Shrubs, Groundcovers & Grasses
- Feature Tree
- Park Trees
- Clumps of Native Trees / Shrubs
- Application Boundary
- Concrete Path
- Transgrid Easement
- Overhead Electrical Lines
- Electrical Stanchion Towers
- View Line

KEY

- 1. Concrete Shared Path (2.5m)
- 2. Concrete Path (1.8m)
- 3. Exercise Stations
- 4. South Creek Reserve: Refer LD-DA102
- 5. Picnic Shelter / BBQ
- 6. Indicative Location For Public Art / Markers/ Wayfinding Signage
- 7. Playground
- 8 Sandstone Gabion Baskets
- 9. 1:20 Walkways
- 10. Kick-A-Bout Lawn
- 11. Stepped Access



REFER LD-DA101



3.3 Parkland_South: Concept Plan

LEGEND

-  Garden Bed
-  Turf
-  Native Meadow
-  Riparian Planting: Trees, Shrubs, Groundcovers & Grasses
-  Feature Tree
-  Park Trees
-  Clumps of Native Trees / Shrubs
-  Application Boundary
-  Concrete Path
-  Transgrid Easement
-  Overhead Electrical Lines
-  Electrical Stanchion Towers
-  View Line

LEGEND

- 1. Concrete Shared Path (2.5m)
- 2. Concrete Path (1.8m)
- 3. Exercise Stations
- 4. South Creek Quarter: Refer LD-DA103
- 5. Indicative Location For Public Art / Markers/ Wayfinding Signage
- 6. Teenage Play / Outdoor table tennis
- 7. Pedestrian Bridge
- 8. Existing Turf Embankment
- 9. Overland Flow Path
- 10. Culvert Pedestrian Crossing



3.4 South Creek Reserve: Detail Plan



KEY

- 1. Concrete Shared Path (2.5m)
- 2. Concrete Path (1.8m)
- 3. Kick-A-Bout Lawn
- 4. Public Art / Gateway Marker
- 5. Low Flow Channel with Sandstone Rock Scour Protection
- 6. Bench Seating
- 7. Garden Beds
- 8. Native trees in Native Meadow
- 9. Wayfinding Signage
- 10. Feature Tress (Hoop Pines or Moreton Bay Figs)
- 11. Timber post & cable barrier



SCALE: 1:200 @A3



3.4.1 South Creek Reserve: Detail Inset Plan

KEY

1. Concrete Shared Path (2.5m)
2. Concrete Path (1.8m)
3. Kick-A-Bout Lawn
4. Garden Beds
5. Shade Structure
6. Picnic Table & Bench Seats
7. Electric BBQ
8. Dual Bin Enclosure
9. Riparian Corridor
10. Social Seating Space
11. Spinner
12. Boulders/ Informal Seating
13. Stepping Stones
14. River Sand Or Softfall Mulch
15. Waterplay Element
16. Small Bridge Crossing
17. Balance Logs
18. Play Table
19. Low Concrete Seating Wall
20. Shade Sails
21. Swings
22. Turf Mound
23. Wayfinding Signage
24. Timber post & cable barrier



3.5 South Creek Quarter: Detail Plan

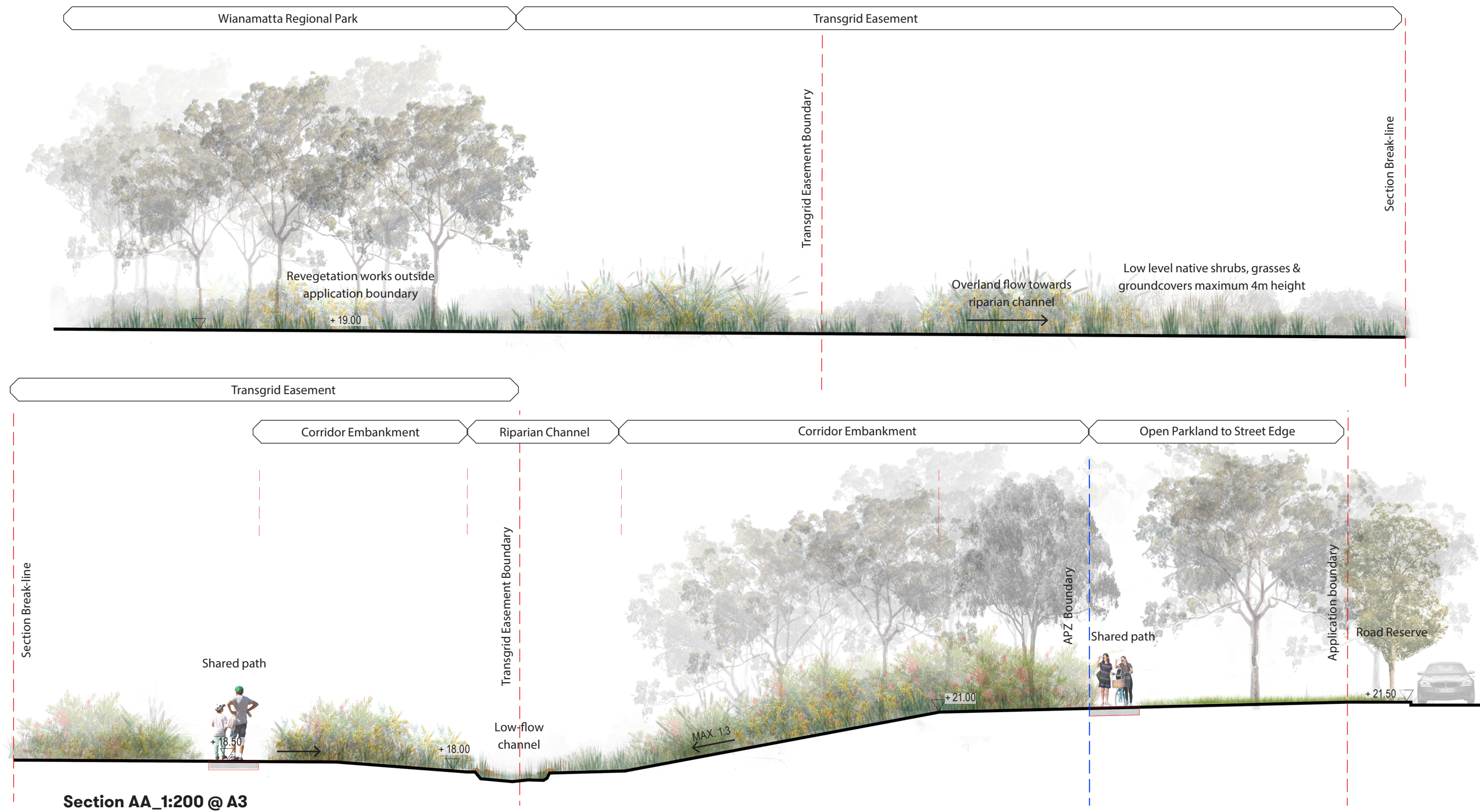


KEY

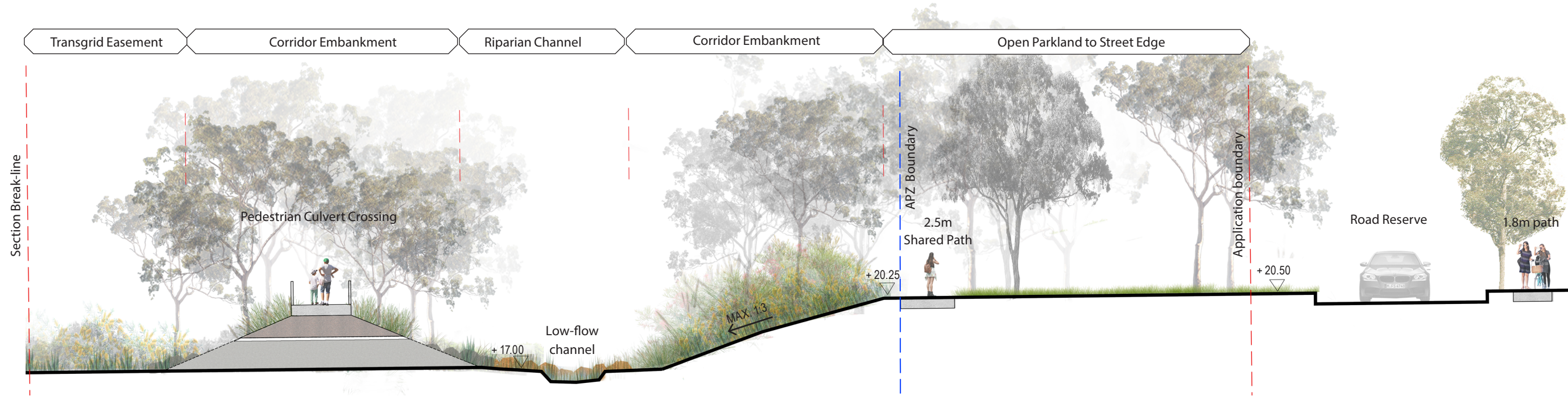
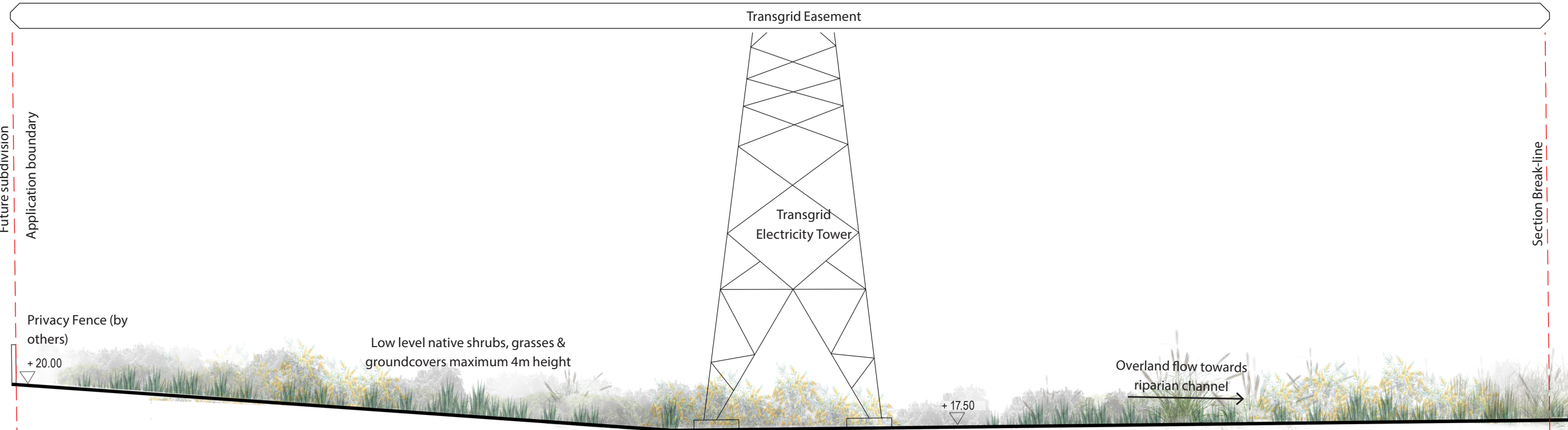
1. Concrete Shared Path (2.5m)
2. Concrete Path (1.8m)
3. Kick-A-Bout Lawn
4. Social Seating Space in Crushed Gravel Paving
5. Outdoor Table Tennis
6. Low Flow Channel with Sandstone Rock Scour Protection
7. Park Bench Seating
8. Garden Beds
9. Native Entrance Feature Trees
10. Wayfinding Signage
11. Low Concrete Seating Wall
12. Timber Post & Cable Barrier
13. Public Art / Gateway Marker
14. Feature Trees
15. Gateway Trees
16. Informal Sandstone Seat Walls
17. Lawn Embankment



3.6 Site Sections



3.6 Site Sections



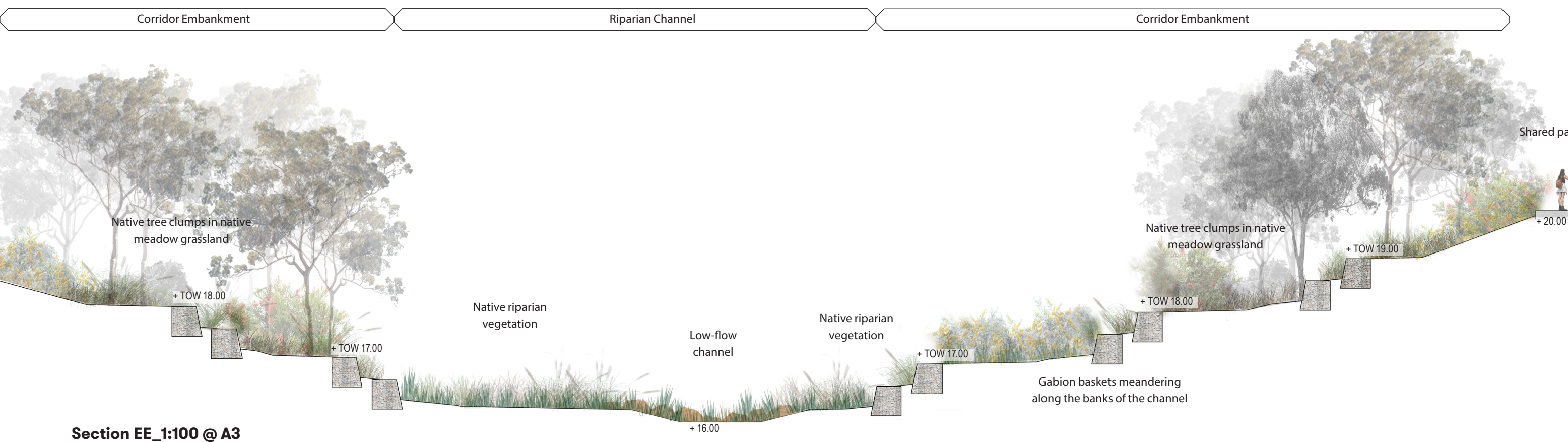
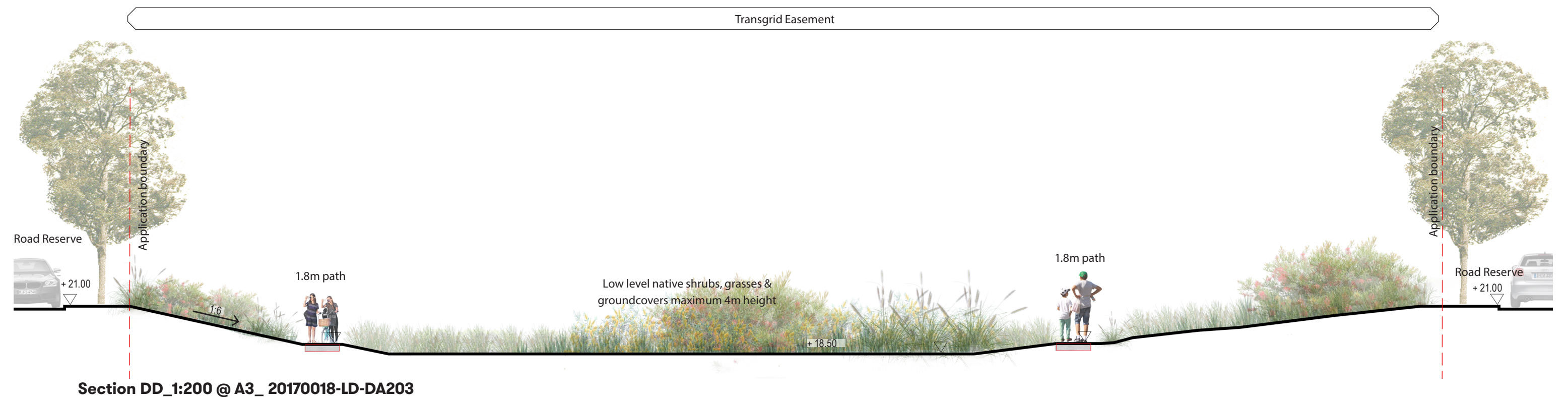
Section BB_1:200 @ A3

3.6 Site Sections



Section CC_1:200 @ A3

3.6 Site Sections



3.7 Bridge Concept

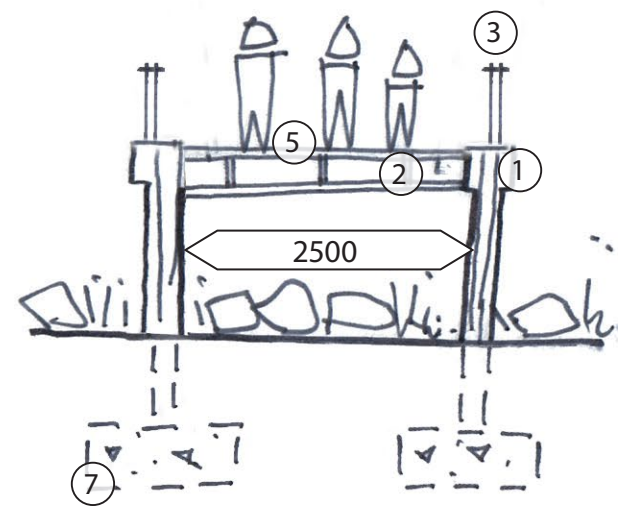
Pedestrian Bridge Design

A pedestrian creek crossing is proposed approximately halfway between the road crossings along the northern Riparian Corridor. This crossing will improve pedestrian & cycle connectivity within the precinct, linking with recreation destination, open space corridors and adjacent Regional Open Space.

The concept sketch (see following page) for the bridge references the surrounding natural landscape and the existing pedestrian bridge which crosses the riparian corridor further to the south. The materials used for the bridge, posts and handrail are carefully selected to reduce the visual impact of the bridge, resulting in an understated and elegant structure that sits comfortably within the landform. The informal groupings of large sandstone blocks placed on the approach to the bridge deck help create a sense of place and integrate the design into the wider landscape.

It is proposed that the pedestrian bridge will be further developed under a Design & Construct contract, including engineering certification. The final bridge design will comply with all relevant standards including NSW Office of Water: Guidelines for Watercourse Crossings on Waterfront Land.





Pedestrian Bridge Section 1:100 @ A3

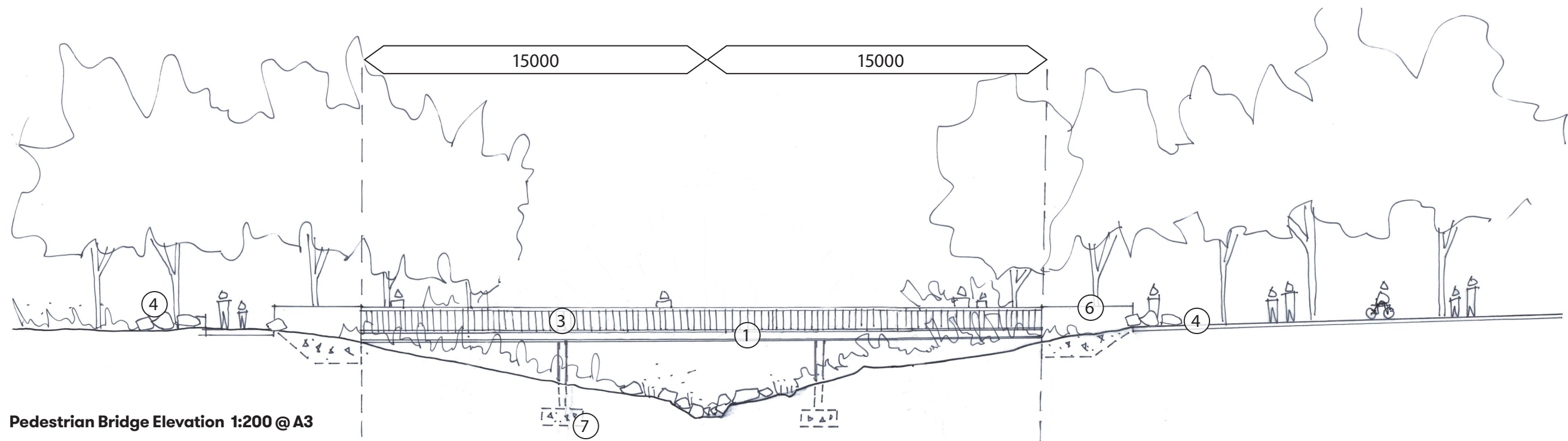


Image: Indicative rendering of proposed bridge



KEY

- | | |
|---|--|
| 1. Hot Dipped Galvanised Steel Frame and C channel | 4. Sandstone Feature Boulders for Place-Making |
| 2. Australian Hardwood Joists | 5. FRP Micromesh Deck with Silent Fixings |
| 3. Timber Top Rail with Timber Clad Post & Steel Rope Infill Balustrade | 6. Concrete Blade Walls to Bridge Abutment |
| | 7. Concrete Footing at 11m maximum span |

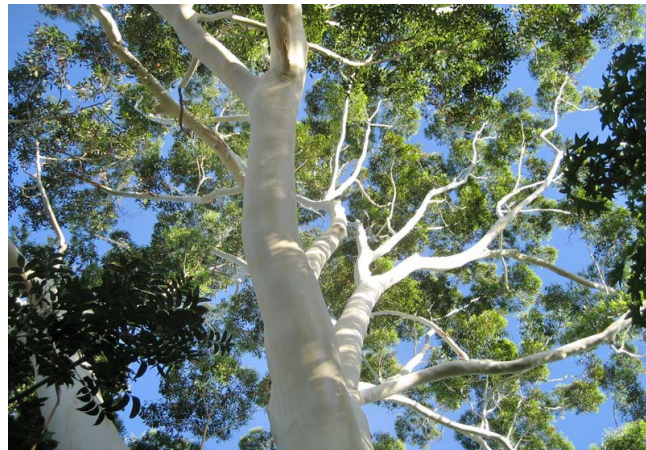


Pedestrian Bridge Elevation 1:200 @ A3



04 PLANTING PALETTE

4.1 Planting Character



Corymbia citriodora



Banksia integrifolia



Pennisetum alopecurides



Anigozanthus flavidus



Westringia fruticosa



Lomandra multiflora



Myoporum parvifolium



Hedera canariensis

4.2 Planting Schedule

Botanical Name	Common Name	Native/ Exotic	Mature Height
Trees & Palms			
Araucaria bidwillii	Bunya Pine	Native	45m
Ficus macrophylla	Australian banyan	Native	35m
Bursaria spinosa	Blackthorn	Native	10m
Casuarina glauca	Swamp Oak	Native	20m
Melaleuca styphelioides	Prickly Paperbark	Native	20m
Angophora costata	Smooth Barked Apple	Native	30m
Araucaria cunninghamli	Hoco Pine	Native	30m
Corymbia citriodora	Lemon Scented Gum	Native	20m
Corymbia maculata ‘Little Mac’	Spotted Gum	Native	15m
Eucalyptus amplifolia	Cabbage Gum	Native	30m
Eucalyptus crebra	Narrow Leaved Ironbark	Native	20m
Eucalyptus moluccana	Grey box	Native	20m
Eucalyptus tereticomis	Forest Red Gum	Native	30m
Ficus rubiginosa	Port Jackson Fig	Native	30m
Shrubs			
Breynia oblongifolia	Coffee Bush	Native	3.5m
Casuarina glauca ‘Cousin It’	Swamp Oak ‘Cousin It’	Native	0.3m
Daviesia ulicifolia	Gorse Bitter Pea	Native	2m
Dillwynia sieberi	Sieber’s Parrot Pea	Native	2.5m
Dodonaea viscosa subsp.cuneata	Sticky Hoobush	Native	3m
Indigofera australis	Australian Indigo	Native	2.5m
Olearia viscidula	Wallaby Weed	Native	2.5m
Ozothamnus diosmifolius	Rice Flower	Native	2m
Pultenaea microphylla	Spreading Bush Pea	Native	2m
Medium Shrubs			
Goodenia ovata	Hop Goodenia	Native	2m
Grevillea rosmarinifolia	Rosemarv Grevillea	Native	2m
Pultenaea parviflora	Sydney Bush Pea	Native	1.8m
Westringia fruilcosa	Native Rosemarv	Native	1.5m
Banksia integrifolia	Coastal Banksia	Native	4m
Banksia serrata	Old Man Banksia	Native	3m
Grevillea rosmarinifolia	Rosemary Grevillea	Native	2m
Grasses			
Dichelachne crinita	Lona-hair Plume-grass	Native	1.5m
Dichelachne micrantha	Short-hair Plume-grass	Native	1.2m
Lomandra filiformis	Wattle Mat-rush	Native	0.4m
Lomandra multiflora	Many-flowered Mat-rush	Native	0.4m
Poa labillardieri ‘Eskdale’	Tussock Grass	Native	1m
Themeda australis	Kangaroo Grass	Native	1.2m
Anigozanthus flavidus	Kangaroo Paw	Native	1m
Arthropodium milleflorum	Pale Vanilla Lily	Native	1.3m
Bothriochloa macra	Red Grass	Native	1m
Pennisetum alopecurcides	Fountain Grass	Native	1.5m

Botanical Name	Common Name	Native/ Exotic	Mature Height
Macrophyte Vegetation			
Baumea articulata	Jointed Twig Rush	Native	2m
Baumea juncea	Bare Twig Rush	Native	0.9m
Baumea rubiginosa	Soft Twig Rush	Native	1.1m
Bolboschoenus fluviatilis	Marsh Club Rush	Native	2m
Carex appressa	Tall Sedge	Native	1m
Cyperus exaltatus	Common Reed	Native	1.8m
Eleocharis sphacelata	Common Spike Rush	Native	5m
Entolasia stricta	Wiry Panic	Native	1.5m
Isolepis nodosa	Knobby Club Rush	Native	1m
Phragmites australis	Common reed	Native	6m
Schoenoplectus mucronatus	Boa Bulrush	Native	1m
Schoenoplectus validus	River Club Rush	Native	2m
Turf			
Srenotaohrum secundatum ‘55100’	Palmetto Buffalo Turf	Native	N/A
Prostrate			
Acacia myrtifolia	Myrtle Wattle	Native	3m
Grevillea lanigera 'Mt Tambontha'	Wooly Grevillea	Native	0.5m
Grevillea 'Royal Mantle'	Grevillea	Native	0.2m
Myoporum parvifolium	Creeping Boobialla	Native	0.5m
Pimelea linifolia	Flax-leafed Riceflower	Native	1.5m
Climbers			
Hardenbergia violacea	Mini Haha	Native	N/A
Hedera canariensis	Native Ivy	Native	N/A
Littoral Vegetation			
Carex appressa	Tall Sedge	Native	1m
Cyperus exaltatus	Common Reed	Native	1.8m
Isolepsis nodosa	Knobby Club Rush	Native	1m
Juncus usitatus	Netted Shaggy Pea	Native	1.2m
Groundcovers			
Aristida vagans	Threeawn Speargrass	Native	0.8m
Chrysocephalum apiculatum	Yellow Buttons	Native	0.7m
Dichondra repens	Kidney Weed	Native	0.3m
Helichrysum petiolare	Liquorice plant	Exotic	0.6m
Helichrysum scorpioides	Button Everlasting	Native	0.5m
Pelargonium australe	Native Storksbill	Native	0.5m
Ozanthamnus diosmilolium	Rice flower	Native	0.1m

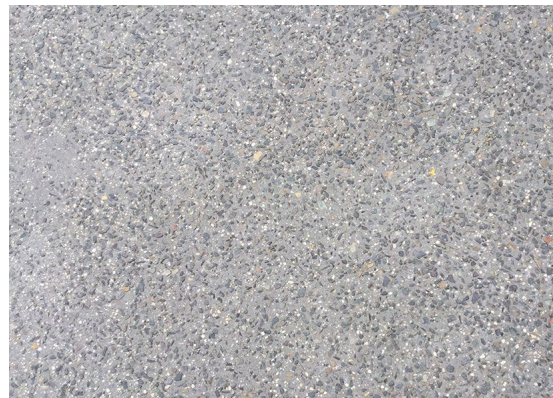




05

MATERIALS PALETTE

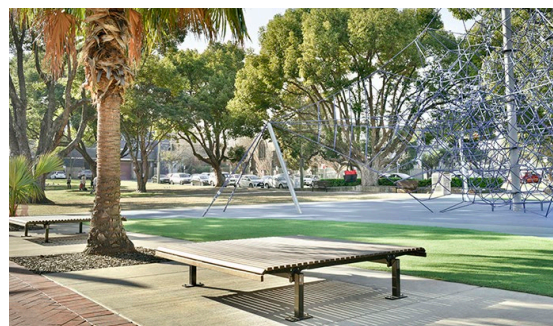
5.1 Materials Palette



Exposed Aggregate Concrete Paving



Deco Gravel Paving



Park Bench



Picnic Table



Park Seat



Cycle Stands



Picnic Shelter

5.1 Materials Palette



Exercise Stations



Nature Play



Teenage Play



Teenage Play



Swings



Spinning Disc

5.1 Materials Palette



Public Art/ Entry Marker



Native Meadow



Bin Enclosure



Wayfinding Signage



Gabion Baskets



Insitu-Concrete Seating Walls