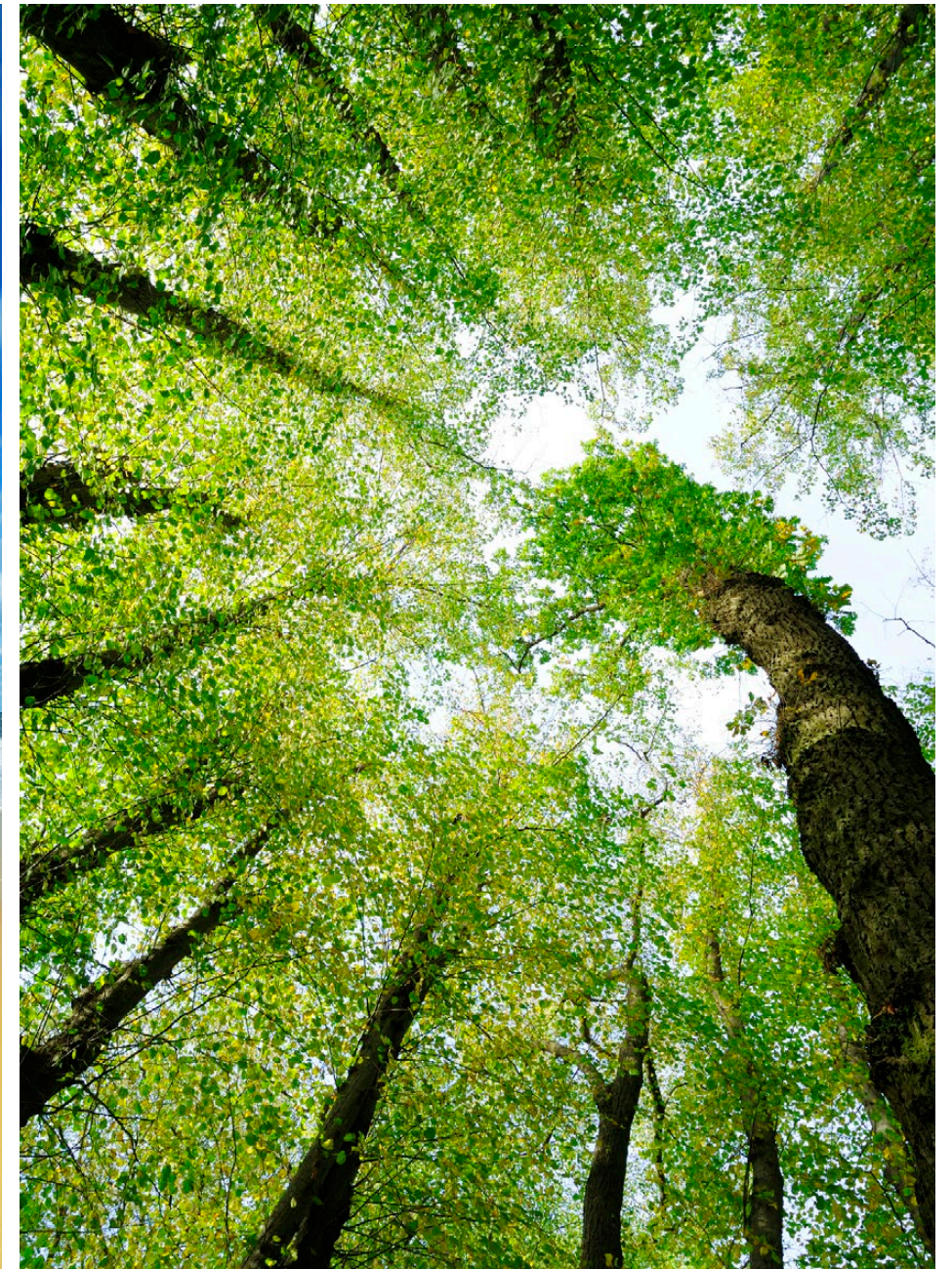


North Tuncurry Landscape Master Plan Report



Prepared for: Landcom

Context Landscape Design

Landscape Architecture + Master Planning

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Revision	Date	Description	By	Chk	App
-	31/03/14	Draft Issue	KP	HD	HD
A	17/04/14	Draft Issue	KP	HD	HD
B	24/04/14	Final Draft Issue	KP	HD	HD
C	09/05/14	Revised Final Draft Issue	BA	OC	OC
D	26/05/14	Final Issue	BA	OC	OC
E	28/05/14	Final Issue	CW	CW	OC
F	06/05/15	Revised Report Draft	BA	SL	HD
G	15/05/15	Revised Report	BA	SL	HD
H	07/12/18	Draft Issue	JS	DM	DM
I	22/02/19	Revised Report	JS	HP	HP
J	07/03/19	Final Report	JS	HP	HP

13524 | March 2019

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1.0 Introduction

1.1 Background

Landcom is seeking to create a sustainable, world class coastal development comprising of 2123 dwellings at North Tuncurry. The community will be supported by quality open space, recreational amenities, tourism, retail, commercial and community facilities. The development will enhance Forster Tuncurry as a coastal tourism destination and will be the location of choice for the NSW 'sea change' market.

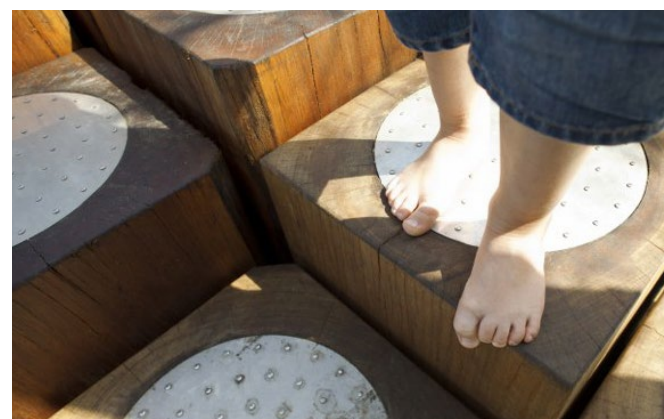
CONTEXT has been engaged by Landcom to prepare the Landscape Master Plan Report for the 615 hectare North Tuncurry Development Project (NTDP). The CONTEXT team has worked closely with Landcom, masterplanners Roberts Day and a team of sub consultants including SMEC (Site Hydrology), Elton Consulting (Social Sustainability) Merrima Design and the former NSW Government Architects in developing the Landscape Master Plan Report.

The Landscape Master Plan Report seeks to augment Landcom's development philosophy and aspirations for North Tuncurry by incorporating the following objectives:

- Create a model 21st century coastal community.
- Foster a diverse population with access to a variety of lifestyle choices.
- Create a memorable public realm and open space network with a contemporary village heart as the development centre piece.
- Celebrate and interpret the cultural heritage of the traditional owners of the land, the Worimi and Biripai People of Forster Tuncurry, in a collaborative and respectful manner.
- Integrate the unique landscape character of the site with the overall Landscape Master Plan, to enhance the place making 'look and feel' of the development and the surrounding natural assets.
- Provide the foundations for a robust and enduring landscape legacy.

Drawing from the site's natural setting of Blackbutt forests, Banksia Dry Heath scrubland and coastal dunes, the Landscape Master Plan proposes an interconnected network of open spaces, green links, water management basins and streetscapes that will encompass the existing golf course.

This Landscape Master Plan Report describes the landscape framework for the North Tuncurry Development from the existing natural assets and overall vision to the proposed open space elements including public domain areas, parks, streetscapes, water management basins and recommendations for planting.



2.0 Landscape Themes and Vision

2.1 Landscape Themes

The overall Landscape Master Plan Report has sought to determine the development footprint in a way that acknowledges the connection between the community and the natural environment. To this end, almost 60% of the site has been dedicated for conservation purposes.



ENVIRONMENT

- Protect and enhance
- Innovate and integrate
- Discover

The Environmental Setting

The NTDP site is set within beach dunes, coastal heath/scrub and forests against a backdrop of mountains belonging to the Great Eastern Ranges.

The Landscape Master Plan Report allows for the protection of the existing environment while enhancing the coastal systems. This will be achieved through the careful management and integration of the surrounding Banksia Dry Heath and Blackbutt forest into the parks and residential precincts.

An innovative water management system has been developed while creating attractive water management basins throughout the development.



COASTAL LIVING

- Well being and recreation
- Beach and relaxation
- Family and friends

Coastal Living as a Way of Life

The Landscape Master Plan Report provides for healthy living with an extensive and continuous pedestrian and cycleway network that cuts through both parkland and natural areas. Tracks in select locations will provide access to the beach through the dunes landscape.

A network of attractive parks with unique individual character and identities will provide recreational opportunities to encourage social interaction.

Endemic coastal species, as well as cultural coastal specimens including Norfolk Island Pines, have been recommended for use in the residential precincts. These species are reminiscent of other coastal settlements and will visually connect this development to its coastal location.



COMMUNITY

- Celebrate cultures
- Reconnect with site
- Engage and share knowledge

Engaged Community

The Landscape Master Plan Report builds upon the rich site history of the existing Worimi and Biripi people of Forster Tuncurry so that the new community will have the opportunity to connect with and respect the Indigenous heritage of the site.

The elemental themes of Air, Fire, Water and Earth that underpin many traditional values and practices will be interpreted as a suite of physically and culturally sensitive landscape settings or public art pieces. This may include community learning parks that will provide a suitable setting for further engagement and shared knowledge of the Indigenous community with the overall community of the development site.

2.2 Landscape Vision

As described previously, the landscape vision for the NTDP is based on three key themes - Environment, Coastal Living and Community.

The existing site character and landscape setting will be the focus of the proposed subdivision reinforcing the overall project vision of a residential development nestled within a restored and enhanced coastal landscape.

A framework of planted streetscapes and open spaces will provide a wide range of recreational experiences and environmental amenity to the development, further enriching the character and identity of the site.

The landscape vision seeks to:

- Establish an attractive coastal village character.
- Embrace the cultural values of the traditional owners, the Worimi and Birpai People of Forster Tuncurry and respecting the history of the site.
- Respect the natural environment and endangered species.
- Create a sustainable landscape as a model for future sensitive coastal development.
- Provide a range of parks of different sizes and styles, to meet neighbourhood needs and to create a diversity of recreation opportunities.
- Retain and enhance views and vistas.

Overall Landscape Objectives

- Ensure that the landscape design of the development is unified and sensitively integrated with the environmental conditions and geography of the site.
- Retain significant trees and vegetation, where possible, to further enhance the setting.
- Acknowledge and reflect the natural, Indigenous, and cultural heritage values of the site.
- Provide a high quality public domain with a rich variety of parks and green links that integrates with the new residential precincts.
- Provide a robust and attractive framework of landscaped streets to complement the development.
- Incorporate community values and provide appropriate recreational amenities for all age groups.
- Establish a safe and permeable pedestrian/cycle network throughout the development.
- Maximise views while minimising visual impact.
- Incorporate water sensitive urban design (WSUD) principles to manage the high water table and control runoff from the site.
- Reinforce the coastal town feel by using predominantly endemic coastal species in the public and private domain.
- Use materials that are robust and enduring in the coastal environment that also reflect the cultural values of the local Indigenous community.
- Establish landscape maintenance and management strategies for the public domain to ensure consistent standards and healthy vegetation cover throughout the year.



3.0 The Existing Landscape

3.1 The Site

The site lies approximately 2km north of the existing Tuncurry Town Centre. It is located on a coastal peninsula created by the egress of the Wallamba River to the west. It is a relatively low lying area of coastal vegetation types bordered by The Lakes Way to the west, 9 Mile Beach to the east, educational facilities to the south and the Tuncurry Waste Management Facility and Darawank Nature Reserve to the north.

The site is covered by predominately heath vegetation which currently filters easterly views to the beachfront and distant mountain ranges to the west. It is low lying (RL 3-6 metres AHD) and experiences a high water table. The undulating site topography reflects its coastal location and presence of a dunal system. The local microclimate is modified by on-shore breezes and south-east winds.

The existing development includes an operating 18-hole Golf Course and a 66kV power line that runs adjacent to The Lakes Way parallel with the western boundary. The site is dissected by numerous tracks, including some that extend from The Lakes Way to the dunes and the beach.

The site provides connectivity between Darawank Nature Reserve, coastal habitats and forested areas between The Lakes Way and the Wallamba River and Millers Mistake Creek, which are located beyond the western boundary of the site. The site is recognised as containing key fauna habitats and has been mapped as a part of a regional faunal corridor (DEC, 2004, Scott, 2003).



Image courtesy of Roberts Day and UrbanGrowth
Figure 3.1 Regional Context



Image courtesy of Roberts Day and UrbanGrowth
Figure 3.2 The Site

3.2 Site History

The site has many layers of history which have informed the development of the Landscape Master Plan Report. The reflections about the history were provided by meetings with representatives of the Worimi and Biripai People of Forster Tuncurry, community information days and Community Reference Group consultation sessions.

The following is an abbreviated history of land use on the site:

Aboriginal Land Use – Prior to the European settlement of the region, the land was used by the Worimi and Biripai People, who hunted and gathered in the area. Studies have confirmed this history and the location of two midden sites within the development area.

Pine Plantation – The dunal area of 9 Mile Beach was the site of the first commercial pine plantation in New South Wales. The plantation commenced in 1914 and was destroyed by wildfire in January 1939.

Prison Camp – In 1913, a prison camp was established on the land immediately to the north of the site, the now Darawank Nature Reserve. The inmates were used as labour for the pine plantation described above.

Airstrip – An airstrip was established at North Tuncurry primarily for the purposes of an aero club and limited commercial air services. Use of the airstrip ceased in the late 1970s or early 1980s.

Sand Mining – Various sand quarrying and mineral sand mining activities have occurred in the North Tuncurry area.

Golf Course – The existing 18 hole Forster Tuncurry Golf Course (Country Club) of approximately 60 hectares was established to the east of the site between 1983 and 1988. The course will be remodelled in conjunction with the proposed development.

School – In 2001, the existing high school and TAFE college were established on land immediately south of the site and a new access road, the Northern Parkway, from The Lakes Way was constructed.

The Landscape Master Plan Report seeks to draw from this varied and layered history in the design of the public domain, open spaces and through the development of an interpretative art strategy.



3.3 Vegetation

The site is predominantly characterised by re-growth coastal heath vegetation with Blackbutt Forest to the north. The condition of the current vegetation on the site varies from exotic pasture with negligible ecological value to areas of good condition vegetation with high recovery potential. The cleared portions of the site generally coincide with the golf course. Some stands of the former commercial forest of Slash Pine (*Pinus elliotii*) are also scattered throughout the site.

3.3.1 Vegetation Communities

Four main vegetation communities have been identified in the site,

- Banksia Dry Heath, including Burnt Heath
- Blackbutt Forest including Dry Blackbutt Forest (Bloodwood Variant)
- Tea Tree Shrubland
- Fore dune Complex

Small populations of the Tuncurry Midge Orchid, *Genoplesium littorale*, a threatened species listed as Critically Endangered under the Biodiversity Conservation Act 2016 and under the Environmental Protection and Biodiversity Conservation Act 1999, have been identified within the north and west of the site.

The distribution of the vegetation communities is indicated in the Figure 3.3.

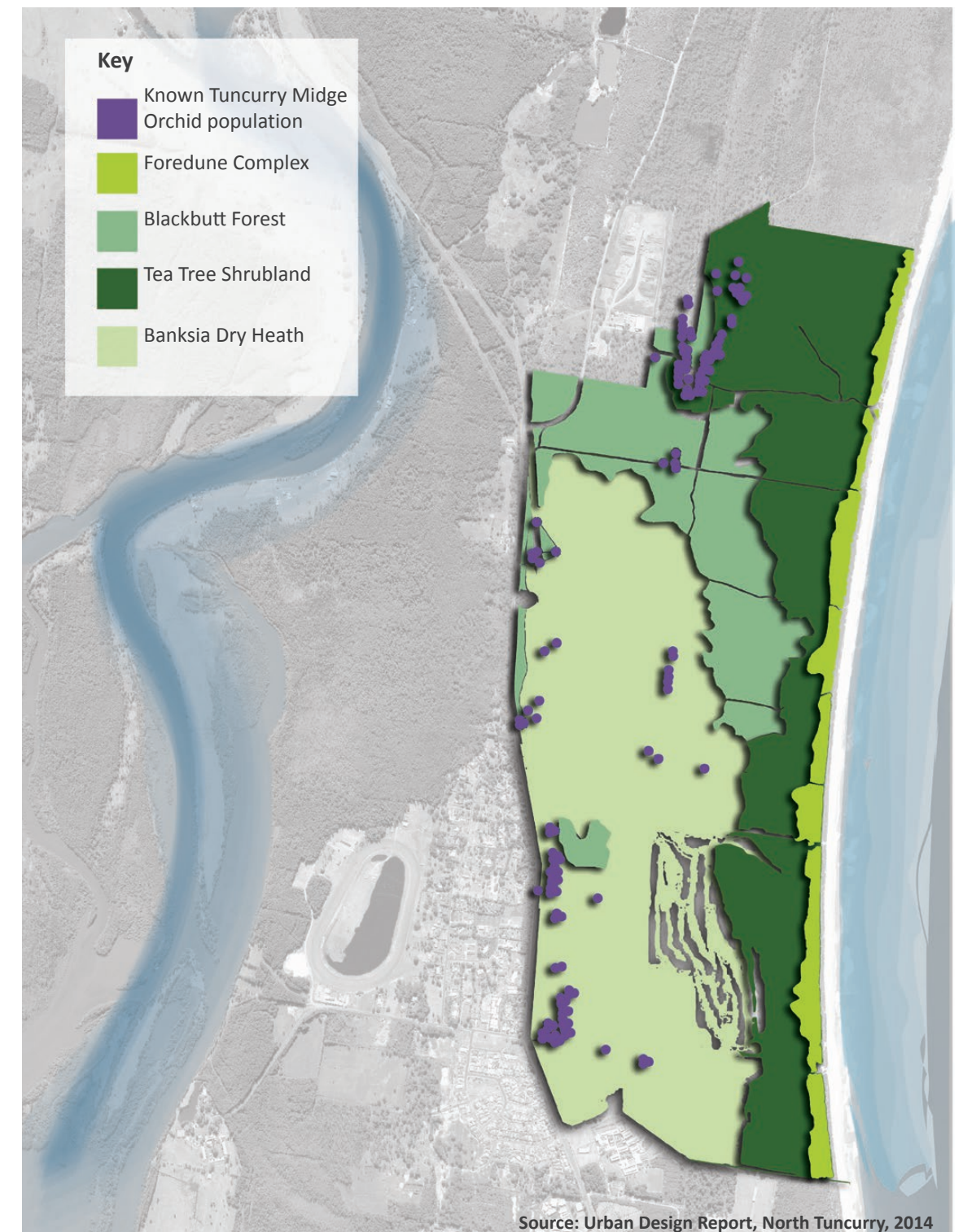
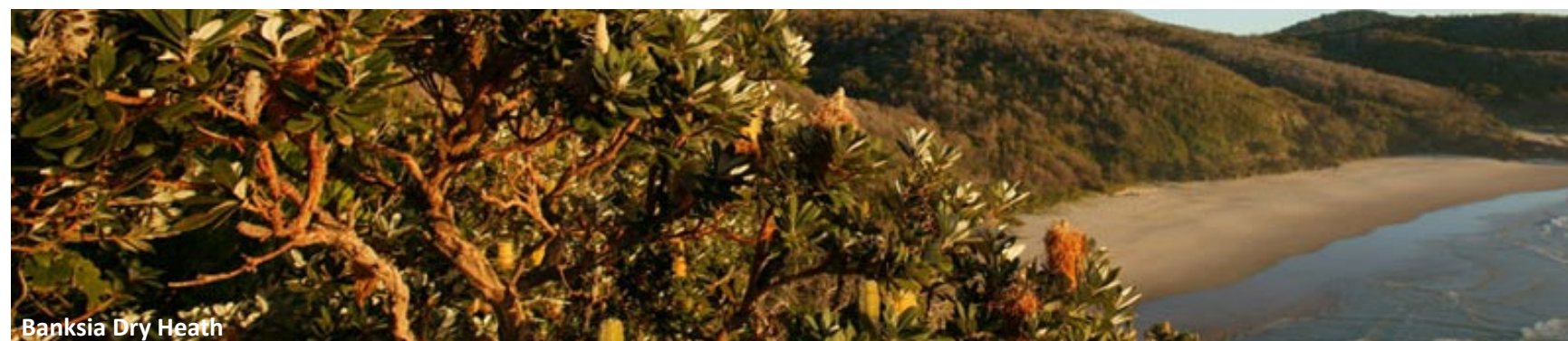
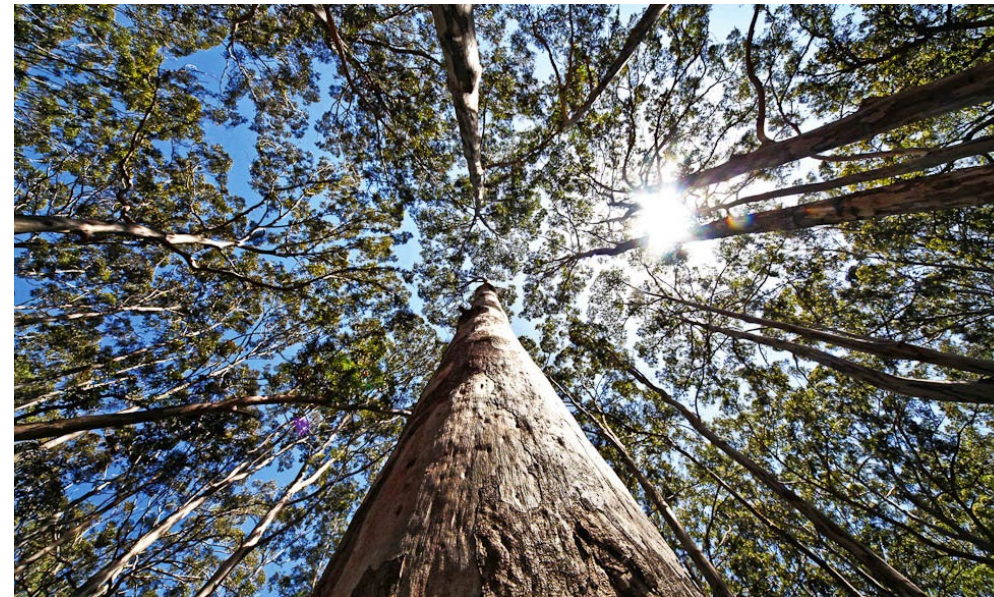


Figure 3.3 Existing Vegetation Communities

3.4 Existing Landscape Character

3.3.2 Blackbutt Forest

The forest areas are dominated by tall Blackbutts with an understorey stratum that creates an enclosed forest quality. The layers of understorey contain diverse species which are described in the Ecological Inventory Report, prepared by RPS Group, Newcastle.

3.3.3 Banksia Dry Heath

The heath areas are characterised by small to medium dry heath and shrub species (predominantly Banksias and Tea Trees) creating a dense silvery green textured landscape averaging 2-5 metres in height.

3.3.4 Tea Tree Shrubland

This undulating dunal precinct is characterised by dense thickets of Tea Trees and understorey shrubs ranging up to 1.5-2m high.

3.3.5 Foredune Dune Complex

The dune landscape is characterised by a dense mat of low coastal dune species of about 1m tall *Lomandra longifolia* (Spiny-headed Mat-rush), *Spinifex hirsutus* (Hairy Spinifex), *Sporobolus virginicus* (Sand Couch), *Carpobrotus sp.* (Pigface) and *Dianella revoluta* (Blue Flax-Lily). With predominantly *Acacia longifolia sophorae*, *Leptospermum laevigatum*, *Casuarinas sp.* and *Monotoca scoparia* (Prickly Broom-heath) dominating the mid stratum (average 5m tall). There is a predominance of Banksia species on the lee side of the frontal dune.

Large tracts of Bitou Bush have invaded parts the foredune.

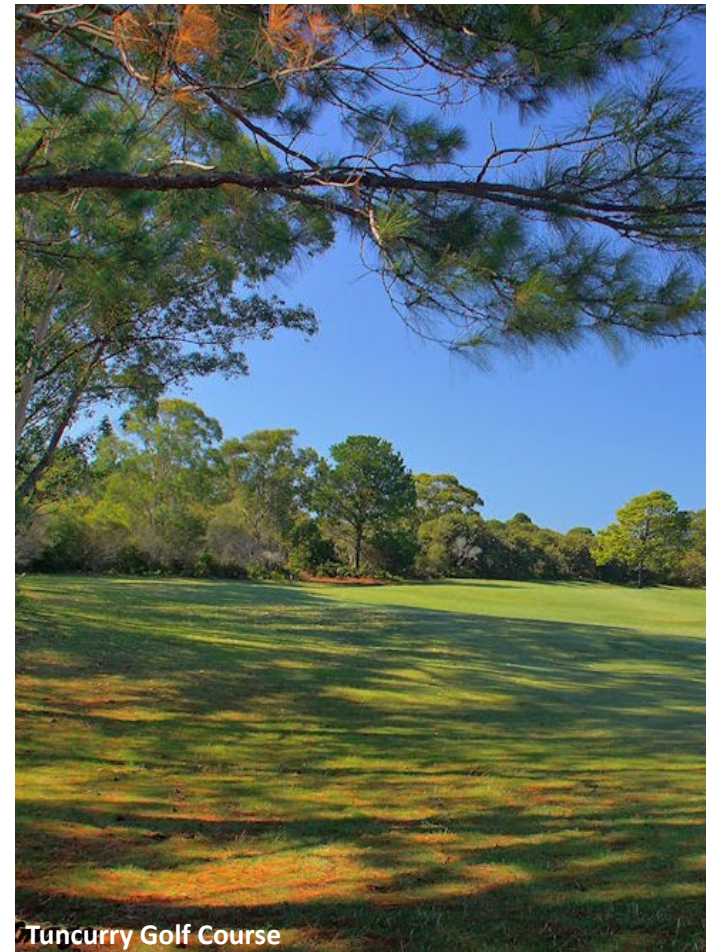
3.3.6 Golf Course Character

The 18 hole golf course has a parkland character made up of tree-lined fairways in a predominantly north-south alignment. The canopy trees consist of native and exotic species including remnant Pines, Banksias, Bottlebrushes (*Callistemon sp.*) and Paperbarks (*Melaleuca sp.*)

The golf course is proposed to be remodelled by the original designer Mike Cooper, to incorporate a new clubhouse and adjusted site boundaries as reflected in the proposed Master Plan.

3.3.7 Site Soils

The soils are predominately derived from the Hawks Nest soil landscape with a small area within the Frogalla Swamp soil landscape unit. Hawks Nest soils are characterised by well drained aeric podsols on older dunes with deep rudosols on younger seaward dunes. Frogalla Swamp soils comprise of poorly drained acid peats/siliceous sands or acid/peat/humic gley intergrades.



Tuncurry Golf Course



Fore Dune Complex



Blackbutt Forest

4.0 Landscape Constraints and Opportunities

4.1 Constraints

The following constraints have been identified through the analysis process and addressed in the Landscape Master Plan Report.

4.1.1 Indigenous Heritage

Existing sites of indigenous archaeological significance such as middens, have been identified on the site and will be protected within the conservation areas. (Refer Figure 4.1)

4.1.2 Hydrology Requirements

The development of the site will require water management basins to manage issues with fluctuating groundwater levels and water quality. SMEC has undertaken a number of hydrological and water sensitive urban design studies, which will shape the size and location of ephemeral zones, water management basins, rain gardens and swales. The water management basins will be ephemeral, open water or a mix of both depending on the ultimate ownership of the facility.

The Landscape design should respond to and guide the location, form and design of these water management basins and WSUD elements (SMEC, 2013).

4.1.3 Protection of Existing Vegetation

Consistent with the NTDP Guiding Environmental principles (Roberts Day Master Plan 2014), almost 60% of the site is to be retained as 'conservation lands'. All the vegetation communities outside the proposed development footprint will be protected, including the known populations of the Tuncurry Midge Orchid (RPS, 2010 and 2012).

A corridor of existing vegetation approximately 200 metres wide along the entirety of the beach frontage is proposed to be retained, to provide a buffer between the development and the beach. This will assist in the protection of the dunal vegetation community, while minimising beach erosion and regression due to climate change impacts.

4.1.4 Interface with Users and Site Entry

The existing entry to the site is shared with the TAFE and dominated by fencing and parking. Currently, pedestrian and cycle connections to Tuncurry are limited and need to be considered along with the enhanced interface with the proposed B2 Local Centre and remodelled golf course.

4.1.5 Bushfire Protection

Asset Protection Zones (APZ) for bushfire management have been identified for the Master Plan. APZs ranging from 15-24m are provided along the entire development footprint perimeter and as an interface between the development and conservation lands. A 15m APZ is required for Tall heath and 24m APZ is required for Forest on flat ground.



Figure 4.1 Site Design Constraints

4.2 Opportunities

The site offers a number of physical and cultural opportunities that can be incorporated into the Landscape Master Plan Report. These can be further developed and informed by consultation with the local Indigenous community, the Worimi and Birpai People.

4.2.1 Indigenous Cultural History and Values

Values expressed by the Worimi and Birpai representatives, indicate that there are site-wide opportunities for the interpretation and education of Indigenous cultural values. This can be combined with the potential for meeting places and community spaces for cultural celebrations.

A key opportunity is the 'Heritage Trail' which would thread through the full extent of the site, linking open spaces and key streetscapes. Interpretive art work, signage, materials and plantings associated with the trail, will reinforce the indigenous and cultural values of the site and region.

4.2.2 Existing Vegetation and Green Links

Together with the foredune complex, large areas of existing vegetation offer the opportunity to create a distinctive landscape character for the site. The location of the existing stands of vegetation will guide the position of reserves and parklands throughout the development site.

Almost 60% of the North Tuncurry site is to be retained as conservation land in the form of foreshore dunes, quality vegetation and known Tuncurry Midge Orchid habitat. The opportunity to integrate green links and habitat corridors within the park and street network will be a hallmark of the development.

4.2.3 Hydrology Strategy

The constraint of having porous sandy soils has allowed for opportunities to develop innovative WSUD initiatives (SMEC, 2013). The design, location and form of the proposed WSUD strategies, including water management basins offer opportunities to integrate amenity, recreation and ecological habitat into the heart development. The water management basins will be ephemeral, open water or a mix of both depending on the ultimate ownership of the facility.

4.2.4 Southern Boundary Interface and Site Entry

The development Master Plan offers numerous opportunities to

increase the visual and physical permeability of the southern boundary and to improve links to Tuncurry through landscaped streets and gateway enhancements.

4.2.5 Golf Course

The remodelled golf course will provide a valuable recreational open space, which can be integrated with other parklands and community areas. Although most of the perimeter of the golf course will be surrounded by water management basins, the northern boundary offers excellent opportunities for public access, focusing on the relocation of the clubhouse adjacent to the B2 Local Centre.

4.2.6 Site Links and Permeability

There are opportunities for improving some internal site links allowing for increased permeability and access to the beach. There are also opportunities to restrict existing east-west links to the south of the site to further protect the conservation land.

4.2.7 Scenic Amenity

The coastal setting of the development together with the remodelled golf course provides opportunities to establish an attractive landscape with internal views through to the golf course, parks and water management basins.

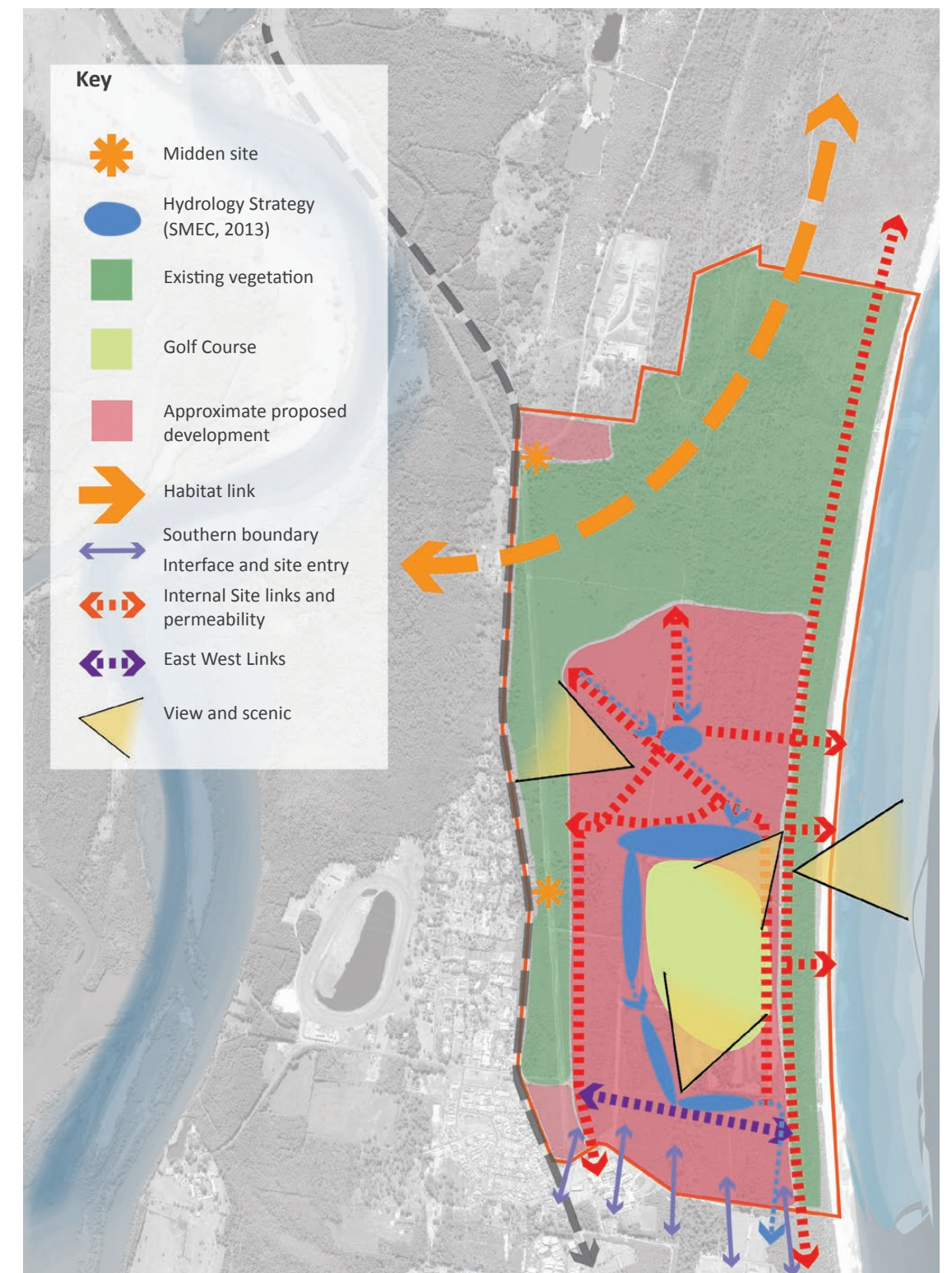
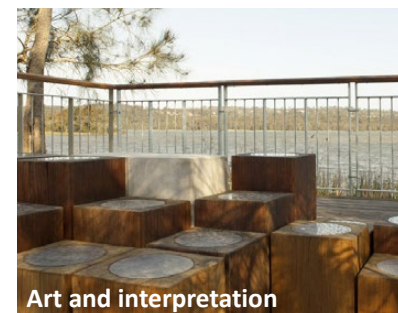


Figure 4.2 Site Design Opportunities

5.0 The Landscape Master Plan

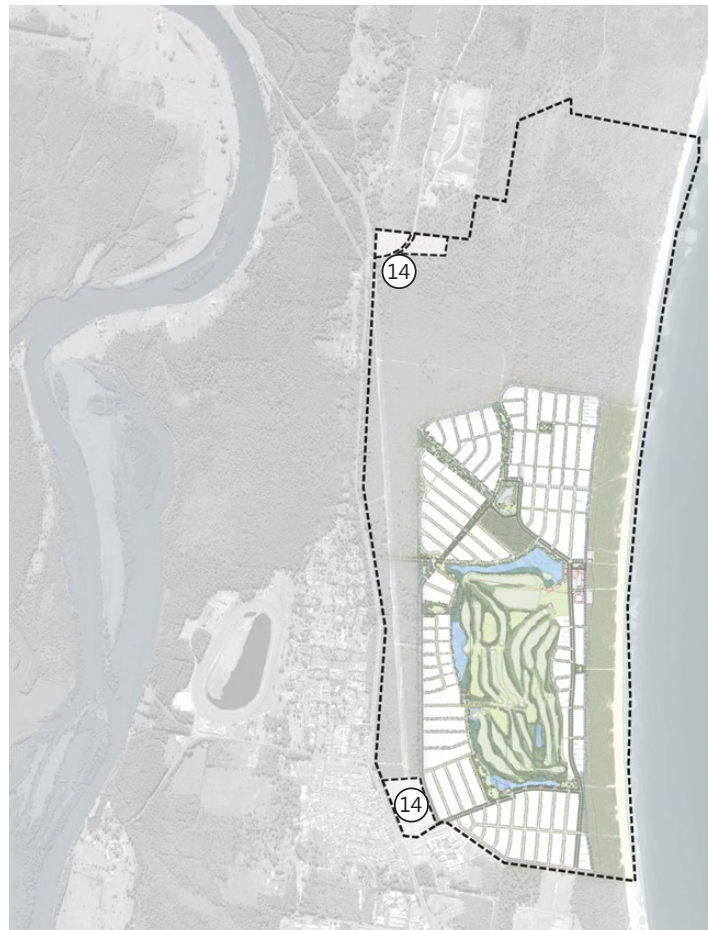
5.1 Landscape Master Plan

The proposed Landscape Master Plan is an interconnected network of open spaces, ecological buffers, green links, streetscapes and landscape elements. The Landscape Master Plan also includes a remodelled golf course encompassed by an arrangement of water management basins.

The structure of the plan and details of the elements have been informed by the three key themes;

- Environment
- Coastal Living
- Community

The public domain is made up of a number of landscape typologies and specific designs for various elements .



Legend

- ① Centre Green
- ② Mt Talawahl Park
- ③ Orchid Park
- ④ The Gateway Park
- ⑤ Community Dune Park
- ⑥ The 5th Hole Park
- ⑦ Waters Edge Park
- ⑧ Heritage Green
- ⑨ Eco-Green
- ⑩ B2 Local Centre
- ⑪ Golf Clubhouse
- ⑫ Surf Club & Community Centre
- ⑬ Golf Course
- ⑭ Employment Land
- Site Boundary
- Asset Protection Zone
- - - Heritage/Fitness Trail with Shared Bike/Pedestrian Paths
- * Midden Site
- * Indigenous Cultural Centre Location to be determined

Figure 5.2 Landscape Master Plan

5.2 Master Plan Description

The Landscape Master Plan draws from the natural setting of the coastal dunes, surrounding Blackbutt forests and Banksia scrubland to create a unified network of open spaces, parks, streetscapes, walkways and cycleways.

A number of residential precincts, each with a distinctive landscape character, surround the heart of the development, which is a remodelled golf course encircled by connected water management basins and landscaped parkland. The B2 Local Centre, including the Centre Green, is located nearby capitalising on the adjacent waterside landscape and is proposed to have a deck promenade with outdoor cafes, landscaped amenities and distant and local water views.

Descriptions of the proposed parks are provided in the following pages. It is anticipated that the final design of each park will result from further consultation with the community and relevant stakeholders.

The overall landscape character is relaxed, informal and colourful. Key environmental objectives of the development are exemplified by the retention of an approximately 200m wide dune buffer and the conservation of Blackbutt Forest, Banksia Dry Heath and 97% of the known site population of the threatened Tuncurry Midge Orchid.

The hierarchy of streets is reinforced by a selection of street trees chosen for their shape, flowering capacity and tolerance to the salty coastal environment. Feature coastal trees such as Norfolk Island Pines define a memorable avenue behind the dunes, extending the character of Beach Street into the development. Landscaped 'signature gateways' from The Lakes Way similarly strengthen the place making opportunities inspired by the site. A 'heritage trail', threading through the network of parks and streetscapes from south to north, offers opportunities to interpret the site's rich indigenous, natural and cultural heritage.

The management of storm water and groundwater is a hallmark of the landscape design. Best-practice Water Sensitive Urban Design strategies developed by SMEC are incorporated into the landscape in the form of interconnected rain gardens, bioretention swales and water management basins. A variety of edge treatments define these water management basins, details of which are outlined in the subsequent sections.

The Landscape Master Plan Report provides the setting for North Tuncurry as 'the coastal community' of the region, facilitating healthy living, diversity and respect for ecological and cultural values.

The following sections in this report describe the key elements that define the principles and objectives of the Landscape Master Plan Report;

- 6.0 Sustainability
- 7.0 Placemaking and Cultural Values
- 8.0 Landscape Precincts
- 9.0 Parks
- 10.0 Circulation and Way-finding and Amenity
- 11.0 Streetscapes
- 12.0 Materials and Plant Species



Image courtesy of Roberts Day

Figure 5.1 Artist's Impression of the Town Centre

6.0 Sustainability

Best practice developments are resilient and underpinned by social, economic and environmental sustainability. In tandem with the Master Plan principles, the Landscape Master Plan Report focuses on key environmentally sustainable strategies, including the following;

- Retention of significant indigenous ecological communities.
- Protection of the coastal dune systems.
- Use of predominantly non-invasive indigenous plants with a long life cycle.
- Creation of wildlife corridors and green links throughout the development.
- Use of locally sourced and recycled materials.
- Selection of enduring materials tolerant of coastal environmental conditions.
- Protection and management of the water table.
- Water Sensitive Urban Design (WSUD).

6.1 Green Framework

The Green Framework, a key feature of the Landscape Master Plan Report, comprises all the conservation areas surrounding the development footprint. The Green Framework ensures the protection and enhancement of the existing environment in its wider setting and includes the following:

- 200m wide foreshore buffer corridor, which protects the dunes and the Foreduke Complex vegetation.
- 200-300m wide western corridor adjacent to The Lakes Way which protects existing Tuncurry Midge Orchid populations and Banksia Heathland
- The northern conservation area protects all the vegetation types and the core Tuncurry Midge Orchid population. This vegetation provides habitat for a range of threatened species recorded on the site and completes a wildlife corridor that connects Darawank Nature Reserve with Wallamba Reserve and Minimbah Nature Reserve.

The vegetation types within the Green framework inform the proposed plantings within the project public domain.

Principles

- Provide connectivity between Darawank Nature Reserve, coastal habitats and forested areas ensuring an important link in the regional habitat corridor and maintaining on-going cultural connectivity.
- Retain and protect the majority of known populations of the Tuncurry Midge Orchid which is currently listed as critically endangered under the BC Act and under the EPBC Act.
- Provide a habitat corridor to connect conservation areas outside the development.
- Conserve the local ecological and environmental values through the retention and revegetation of native vegetation communities.
- Observe the recommendations for bushfire protection including the Asset Protection Zones and provisions for appropriate edge treatments between the development and conservation zones.
- Observe all relevant State and local policies in relation to conservation areas.
- Provide sensitively designed pedestrian and cycle access in appropriate areas.

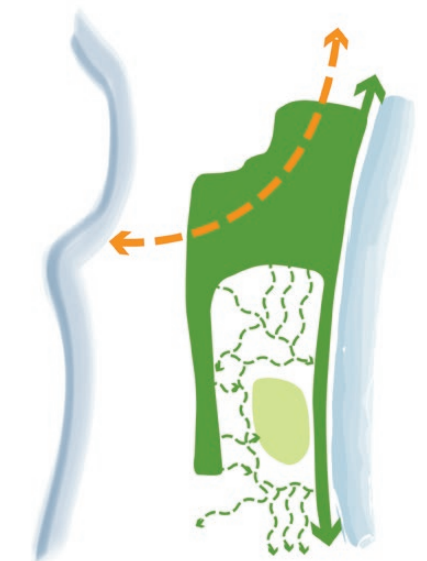


Figure 6.1 Green Framework

6.2 Water

Waterscapes are an important element of the Landscape Master Plan Report and are used to enhance the setting, character and amenity of the development. The management of the fluctuating water levels on the site is a key issue to be addressed within the landscape design.

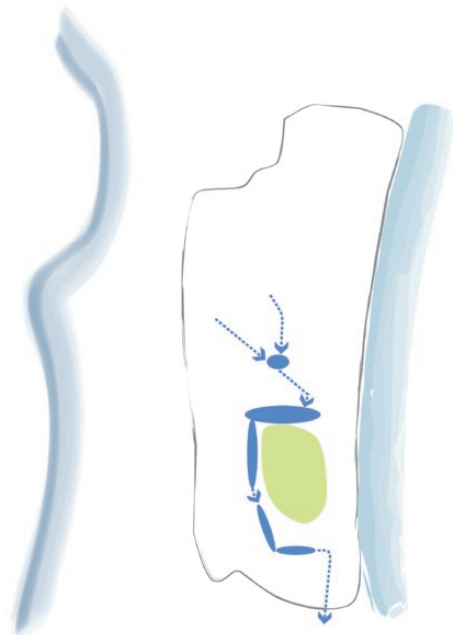


Figure 6.2 Water Body Connectivity

6.2.1 Integrated WSUD

An integrated urban stormwater and ground water management system has been proposed by SMEC. The system includes bio retention swales, rain gardens and ephemeral water management basins which are seamlessly integrated into the design of the parklands, streetscapes and green fingers.



6.2.2 Water Management Basins

Treated stormwater runoff will be directed into water management basins that will be ephemeral, open water or a mix of both depending on the ultimate ownership of the facility. The Landscape Master Plan Report incorporates the water management basins as ornamental features within the landscape, that will provide not only a unique recreational setting and environmental habitat but will also enable stormwater management and water filtration. The basin batters will vary in nature from grassed and planted to harder edge treatments such as decks, gabions and rock retaining walls. These harder edges will be located in areas of higher amenity, such as the B2 Local Centre, golf course and major parks.

6.2.3 Ephemeral Zones

The ephemeral zones will be planted with submerged and emergent species such as *Baumea articulata* (Jointed Twigrush), *Typha orientalis* (Bullrush) and Phragmites suited to surviving in fluctuating water level conditions.

The ephemeral zones will also include trees such as Paper Barks (*Melaleuca sp*), Casuarinas and Swamp Mahoganys; all endemic to the North Tuncurry area.

6.2.4 Green Fingers

Green fingers are feature avenues in the northern area of the site. The avenues have wide median areas that include tree and shrub planting, as well as reeds and sedges associated with rain gardens and bioretention swales.

6.2.5 Rain Gardens

Rain gardens are proposed in the green fingers and local streets to control and clean the stormwater runoff. These landscape elements are not only fundamental to the water sensitive design strategy for the site but also add to the visual interest and setting of the streetscapes and parklands.

6.2.6 Bioretention Swales

Bioretention swales lined with macrophytes form a network of landscaped 'green fingers' along the major street corridors.

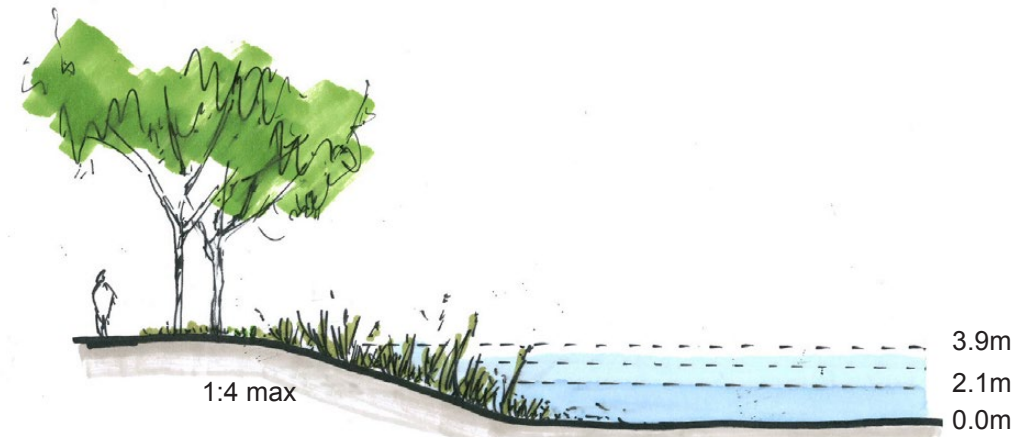
Examples of the proposed stormwater treatment elements and edges to the water management basins are illustrated on the following pages.



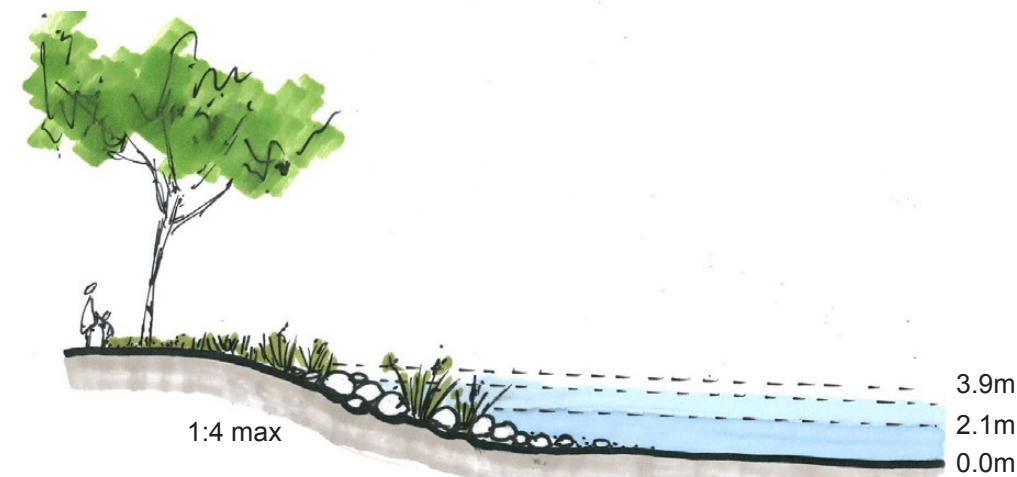
6.2.7 Edge Treatments

Edge treatments will allow for a range of WSUD and landscape objectives to be achieved and could be in the form of landscaped terraces, planted embankments, informal stone walls, decks and turfed amphitheatres. They can be summarised as the following;

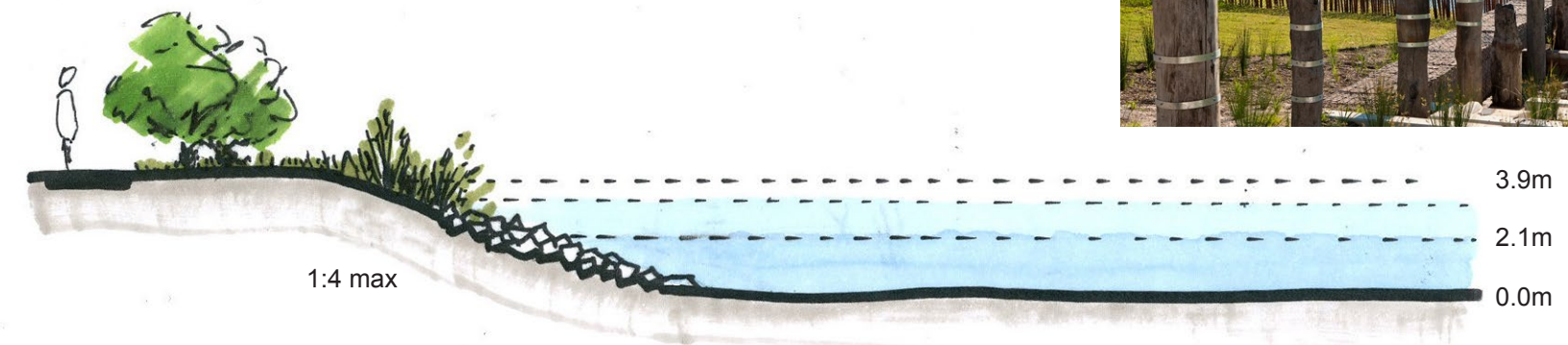
- Natural: Simple treatments incorporating a mix of planting or turf along banks.
- Transitional: Treatments comprising additional engineered elements such as rocks, rip-rap or informal stone walls.
- Urban: Formal treatments including landscaped terraces or steps, stone walls, decks and promenades for walking/cycling paths alongside or on top of banks with cantilevered walkways/lookouts across the water.



Naturalistic Planting



Naturalistic Engineered Rock and Planting

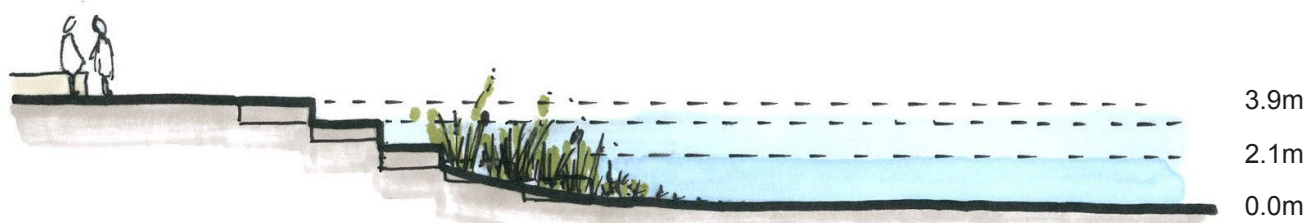


Naturalistic Engineered

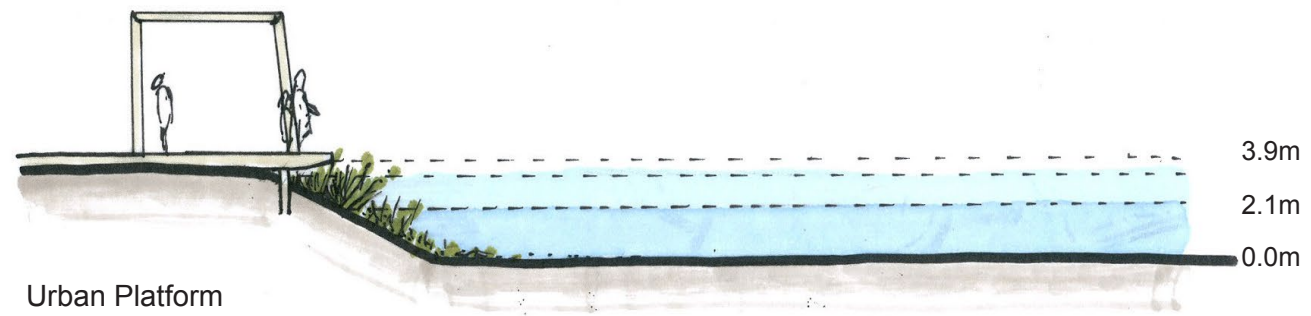


Naturalistic Planting at Ephemeral





Urban Terrace



Urban Platform



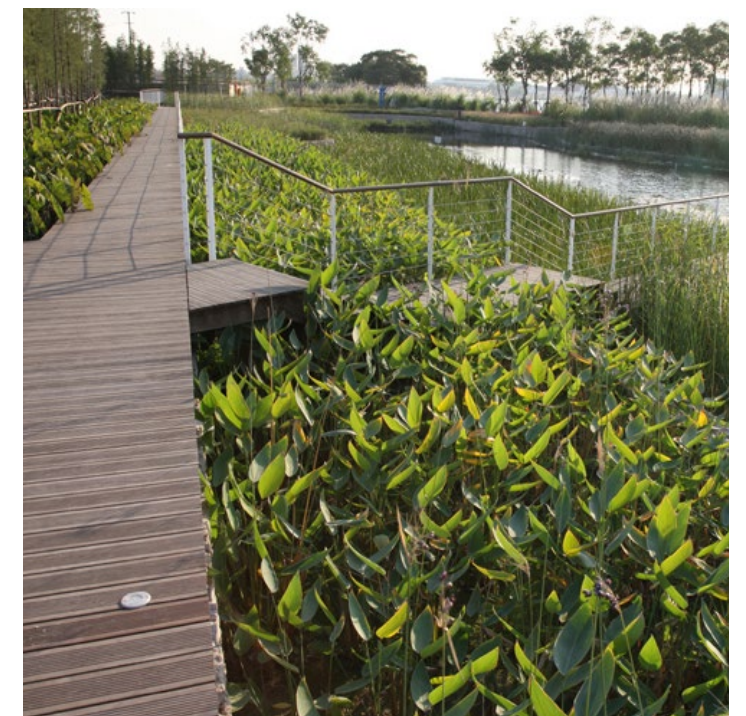
27



Water Design Principles

In developing the water strategies, the following principles should inform the design development.

- Ensure issues relating to ground water level fluctuations and water quality are integrated into the landscape design. This can be through such measures as bio-filtration systems including rain gardens and/or roadside swales.
- Incorporate water elements into the landscape design of open spaces and public domain areas to create water features, places of recreation, environmental habitats or specific facilities to increase amenity and place-making.
- The design of the water features will enhance site entries, green links and pedestrian routes.
- The water features should take into account the local topographical and environmental constraints.
- The overall scheme is to include a series of interconnected water management basins which surround the remodelled golf course. The water management basins generally create a soft, naturalistic edge to assist in integrating them into the surrounding residential areas.
- Water Sensitive Urban Design (WSUD) and the management of stormwater to be based on principles prepared by SMEC.



7.0 Place-making and Cultural Values

As a result of the site's strategic location at the confluence of salt water and fresh water, where the River meets the Ocean, the area has great physical and spiritual significance to the Worimi and Birpai people. The 'abundant sea life', connections to the River, genius loci and shared knowledge of the site are sources of strong spiritual and cultural connection for the 'water people'.

Opportunities exist to celebrate and integrate the traditional owners' cultural traditions and identity into the proposed landscape setting. To ensure these opportunities are embraced, the Landscape Master Plan Report includes cultural design principles to deepen the place-making enriched by cultural values.

7.1 Design Principles

- Protect known sites of archaeology and artefacts.
- Make connections to the greater site reference to the physical and spiritual significance of the confluence of the sea and river for the Worimi and Birpai people through the design of the open space and the art strategy.
- Respect and acknowledge the traditional values and use of the site.
- Locate meeting points close to the water and central community areas of the development, yet to be determined.
- Continue consultation with stakeholders and the Indigenous community to ensure an on-going respect, suitability and appropriateness is considered throughout all of the design phases.
- Facilitate opportunities to promote and connect with the culture and traditions of the younger generation in the open space designs.
- Ensure history and shared cultural values are incorporated into the landscape design by weaving the themes through the design of various elements in the public domain.
- Celebrate key natural elements such as water, fire and wind through the site as well as informing the future public art strategy.



7.2 Community Presence

As a result of consultations with the Indigenous Design Unit, the former NSW Government Architects Office, the community presence of the Worimi and Birpai people could be enhanced by the location of a meeting point near the dunes (in the centre and to the north) where the Indigenous community and locals can camp and cook bush food (Catch and Cook program), this is yet to be explored.

The site could incorporate a 'Learning Circle', bush food trail, canoe building activities for men and women and be the focus of special commemorations and festivals including NAIDOC Week, Fresh Water Salt Water festival. This meeting point would be a centre of gravity for the Indigenous community and developed on sustainable principles, yet to be explored.



7.3 Cultural Themes

The elemental themes of Air, Fire, Water and Earth underpin many traditional values and practices. These themes could be interpreted as a suite of physically and culturally sensitive landscape settings and elements, enriching the site experience for the whole community.

Earth

- Significant sites and natural vegetation communities protected and managed
- Relationship between the natural vegetation communities, river and beach front strengthened
- Use of natural materials and natural landforms incorporated into the design

Air (Wind)

- The coastal wind conditions harnessed as inspiration for music, musical sounds, musical instruments and wind sculpture

Fire

- Opportunity to introduce fire places and appropriate examples of traditional fire management in the landscape
- Use of fire as a symbol of renewal rather than of destruction

Water

- Revealing the different qualities of water (both fresh and salt water) and levels of engagement with water
- Evoking the spiritual qualities associated with water eg. sacred lakes, water holes.



7.3.1 Celebrating the Seasons

Marking the phenomenological qualities of the site and seasonal changes (4 seasons) through enhancement of the Indigenous landscape, special traditional plantings, seasonal pairings of animals and plants (eg. wattle and fish) Flower festivals, NAIDOC (National Aborigines and Islanders Day Observance Committee) Week.

7.3.2 Shared cultural elements

The use of shared cultural elements such as the Norfolk Island Pines, which have historically been used by both the indigenous community and the settlers as place markers to assist with way-finding on the land yet to be located .

7.4 Art + Interpretation

Place-making and cultural values can inform an art strategy that facilitates community identification with the North Tuncurry development. The art strategy needs to include ways to celebrate and educate residents and visitors about the history of the site. This includes ensuring that known sites of archaeology and artefacts are protected.

Environmental, Indigenous and cultural history of the area can be interpreted in many forms including,

- Weaving these themes through the design of various elements in the public domain.
- The use of materials and planting.
- Integration of art in public spaces.
- Way-finding and signage.
- Informal and formal play spaces.
- Street furniture.
- Interpreted in the forms and use of public space.

The art strategy and its intended outcomes will be developed in consultation with key stakeholders and the indigenous community to ensure respect, suitability and appropriateness is considered.



Integration of cultural themes into forms and public space

8.0 Landscape Precincts

The proposed landscape character of the North Tuncurry development will be enriched by a number of distinctive landscape precincts, inspired by the site's natural assets, place making and cultural themes.

8.0.1 The B2 Local Centre Precinct

The B2 Local Centre is a vibrant hub comprising of community and cultural facilities, social gathering places, commercial, retail and residential buildings. It also includes the new golf clubhouse to the west and a surf club adjacent to the dunes. The landscape will feature Norfolk Island Pines (*Araucaria heterophylla*) as tall signature street trees, with smaller coastal trees such as Tuckeroo (*Cupaniopsis anacardioides*), Old Man Banksia (*Banksia serrata*) as well as red flowering NZ Christmas Bush (*Metrosideros excelsa*) and yellow flowering *Hibiscus tileaceus* (Sea Hibiscus). These trees will provide colour along the pedestrian promenades and an edge to the water management basin adjacent to the golf clubhouse. Plantings linking the surf clubhouse will feature Banksias and *Leptospermum* species as the predominant canopy, extending the adjacent dune landscape character into the precinct.

8.0.2 Entry Precincts

The landscape character of the two western entry precincts is proposed to stand out from the environmental zones of Banksia Dry Heath by the use of contrasting plant species and materials.

Northern Entry from the Lakes Way

The landscape character of the northern entry is proposed to be open and welcoming, framing views to the water management basins and the B2 Local Centre beyond. Taller Eucalypts and Palm species (*Archontophoenix alexandrae*, *Archontophoenix cunninghamiana*, *Livistona australis*) are proposed to distinguish the entry from the finer texture of the Banksia Dry Heath conservation land, and will visually connect to the informal Eucalypt plantings in Orchid Park.

South-West Entry from The Lakes Way

The landscape character of the South-west entry is proposed to be more urban than the Northern Entry, achieved by the use of unique signage and lighting. The precinct will be defined

by a memorable avenue of Fig species (*Ficus spp.*) and Red Ash (*Alphitonia excelsa*), spaced to allow for views to the water management basin and golf course landscape in the mid distance.

The Southern Gateway

The southern gateway is proposed to have a strong coastal landscape character marked by the continuous avenue of Norfolk Island Pines (*Araucaria heterophylla*) extending from Beach Road.

8.0.3 Residential Precincts

There are four key residential precincts, each with its own distinctive character related to its adjacent contextual setting.

9 Mile Beach Foreshore Precinct – Colourful Coastal Resort

This precinct is proposed to adjoin the frontal dune and along the back of the golf course landscape, the character is to reflect a coastal resort ambience. The Norfolk Island Pines (*Araucaria heterophylla*) along Beach Street are proposed to be extended along the foreshore as landscape markers and way finding features. The pines will highlight and celebrate the coastal character of the development and will be a reference to other memorable seaside destinations along the Eastern Seaboard.

Smaller street trees along the east west streets include *Cupaniopsis anacardioides* (Tuckeroo) *Hibiscus tileaceus* (Sea Hibiscus), *Acmena smithii* (Lilli Pilly), *Backhousia citriodora* (Lemon Myrtle), *Albizia julibrissin* (Persian Silk Tree), *Tristanopsis laurina* (Water Gum). These streets will be terminated by views to the golf course. This precinct will include Waters Edge Park, and will incorporate coastal dune shrubs, which connects to the beach via designated tracks.

Northern Residential Precinct – Forest and Water

This precinct is proposed to straddle the width of the development footprint and will provide long views to the adjacent natural vegetation of the dunes, forest and heath.

The landscape character proposed for this precinct reflects a sense of informal coastal living. This will be achieved by the integration of wide 'green finger' avenues of rain gardens and tall

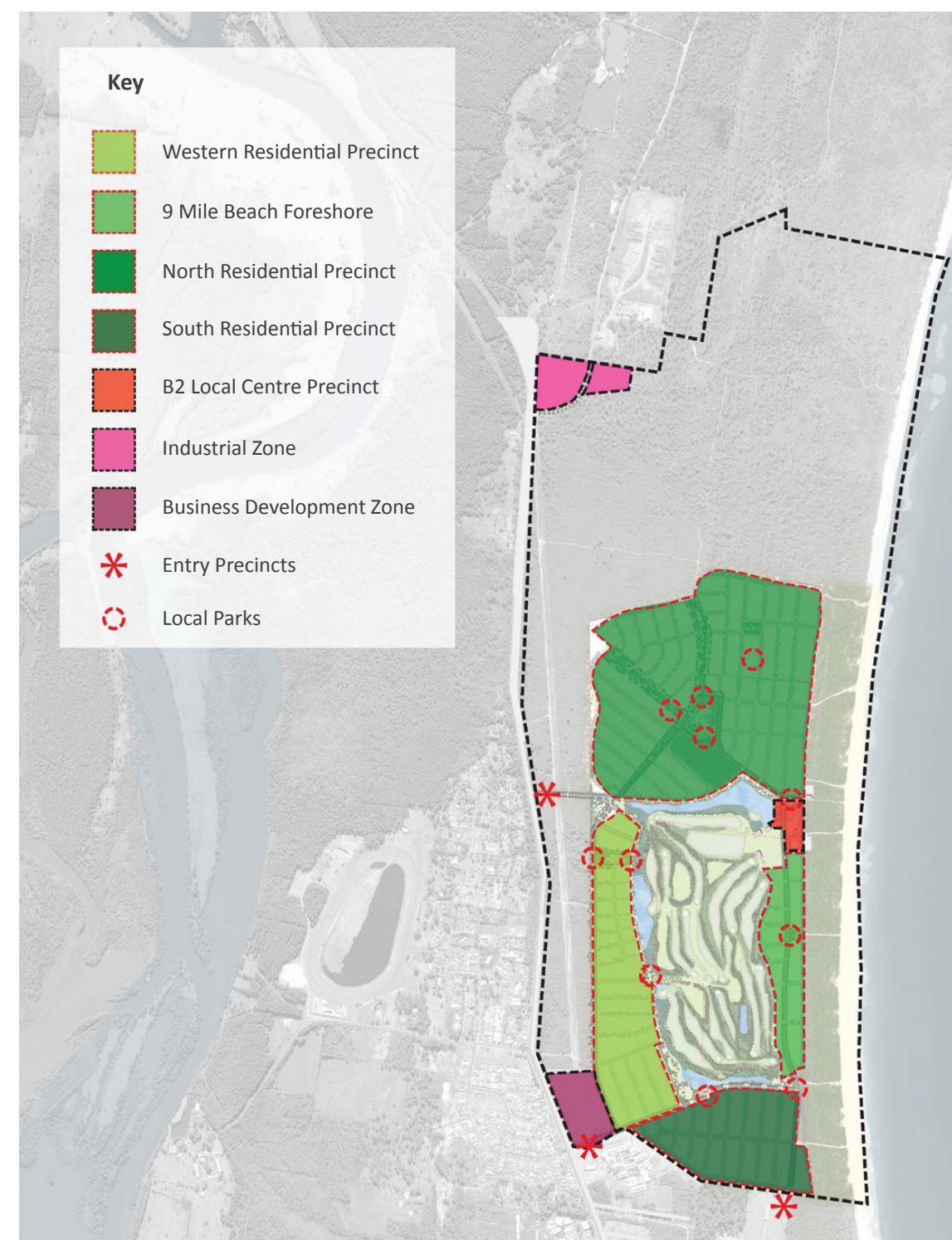


Figure 8.1 Urban Character Precincts

Eucalypt street trees connecting to the conservation areas. The water theme will be carried through the precinct and reflected in the water management basins around the golf course and town centre. The local streets are proposed to intersect with two of the parks; Mt Talawahl Park and Eco-Green Park (both described in the next section) and will be informally planted with predominantly smaller indigenous trees such as *Banksia serrata* and *Cupaniopsis anacardioides*.

Western Residential Precinct – Heath and Golf Course

The western corridor buffer will provide a strong landscape character to this precinct. This will be created and strengthened by the terminating of streets with views through to the Banksia Dry Heath as well as eastern mid water views framed by the golf course. Streets are proposed to be informally planted with *Banksia serrata*, *Banksia integrifolia*, *Callistemon viminalis* and *Melaleuca leucodendron* which will provide continuity with the landscape character of the conservation areas.

Southern Residential Precinct – Urban Avenues

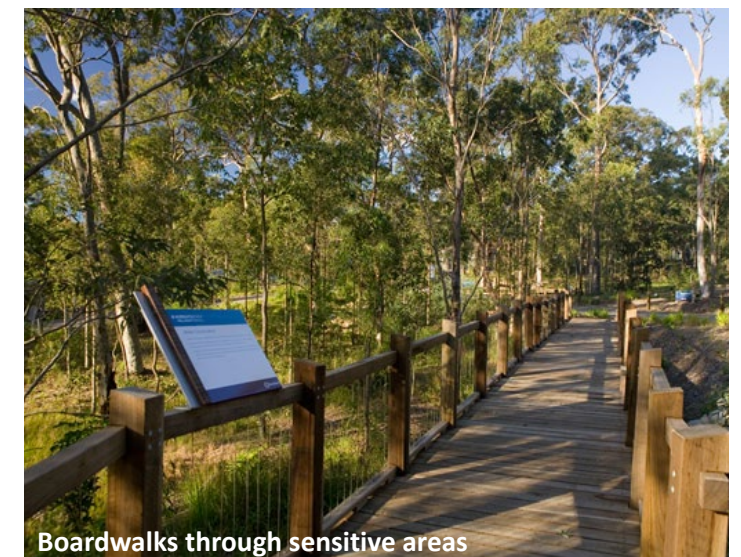
This precinct is proposed to continue the semi-urban character established by the TAFE College and the existing residential developments north of Tuncurry. It will be bound to the north by the collector

road with its avenue of Figs and *Alphitonia excelsa* with intermittent views through to the golf course. Local streets are proposed to be informally planted with evergreen, glossy-leaved, native trees such as *Cupaniopsis anacardioides* (Tuckeroo), *Acmena smithii* (Lilli Pilly), *Backhousia citriodora* (Lemon Myrtle) and *Podocarpus elatus* (Plum Pine). Two parks are proposed to be located at the eastern and western corners of the golf course and water management basins; Gateway Park and Community Dune Park (described in the next section) will provide an attractive accessible parkland character to the overall precinct.

8.0.4 Employment Precinct

The north-west and south-west employment precincts provide for a range of employment opportunities in an environmentally sensitive setting.

The north-west employment precinct comprises of 6.6 ha of land for industrial uses and is located adjacent to the Tuncurry Waste Management Centre. 6.7 ha of land used for business development will be located within the south-west corner in the vicinity of Northern parkway.



Boardwalks through sensitive areas



Recreation trails through Eco Buffers



Kerb free streets

9.0 Parks

The parks form part of the overall open space network and will reinforce place-making and environmental amenity for the development. The following pages describe each individual park and their general provisions. Further design development will be in consultation with the stakeholders and representatives of the Worimi and Biripai communities.

9.1 Centre Green

The Centre Green is located on the northern side of the B2 Local Centre and connects the coastal buffer zone with the large water management basin at the north end of the golf course. The southern edge of the green is defined by retail outlets which activate the public domain. This is augmented by raised timber deck platforms ideal for cafés or as performance spaces. A children's playground under shade trees occupies a portion of the site near the retail and cafe decks. The remainder of the site consists of a large open green bordered by wide axial concrete paths leading to the B2 Local Centre. Interpretative art marks the entry to the Green.

Location Plan



LEGEND

- ① Raised Seating Platforms
- ② Shelter with Seating
- ③ Interpretive Artwork
- ④ Centre Green
- ⑤ Play Area
- ⑥ Thematic Garden
- ⑦ Seating
- ⑧ Surf Club & Community Facility
- ⑨ Dunal Footpath
- ⑩ Retail, Centre Green
- ⑪ Beach St
- ⑫ Heritage Trail

Centre Green
Area: 2, 636m ²
Suite of Elements
Concrete pathways
Raised timber deck seating areas
Shelters with seating
Cafe break out space
Lighting/Furniture
Playspace with shade
Structural Tree Planting
Centre Green
Public Art



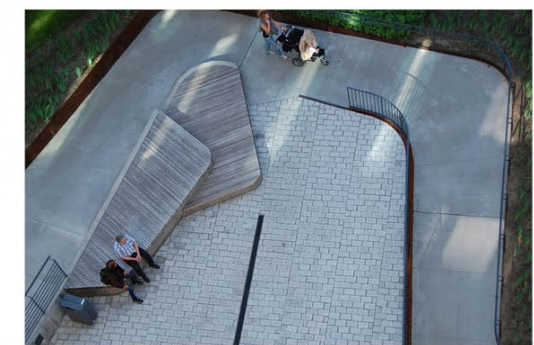
Container Kiosks



Interpretive artwork



Thematic garden



Raised timber deck seating

9.2 Mt Talawahl Park

Named because of its view to Mt Talawahl, the park comprises of an informal grass area, water management basin with viewing decks and water steps, BBQ facilities, pavilions, pathways and a children's play space framed by informal landscaped surrounds. The water management basin will be ephemeral, open water or a mix of both depending on the ultimate ownership of the facility.

Integrated with the street tree planting, the park is defined by structural tree planting which defines and shades the picnic facilities in the open grass area.

An interpretative art work is located centrally in the lake and is connected to the north edge by a boardwalk.

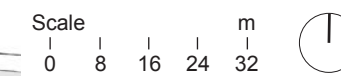
Location Plan



LEGEND

- ① Community Pavilion
- ② Water Steps
- ③ Interpretive Artwork
- ④ Wildlife Refuge
- ⑤ Informal Lawn Space
- ⑥ Shelter/BBQ facilities
- ⑦ Play Area
- ⑧ Forecourt
- ⑨ Forest Walk
- ⑩ Board Walk
- ⑪ Ephemeral Water Feature
- ⑫ Water Management Basin
- ⑬ Tuncurry Midge Orchid Reserve Area

Mt Tatawahl Park
Area: 8,657m ²
Suite of Elements
Concrete pathways
Shelters with seating
BBQ facilities
Interactive WSUD water feature
Public Art
Furniture and lighting
Water Management Basin
Wildlife Refuge
Community gathering space/forecourt
Coastal display garden
Structural tree planting
Informal turfed open space



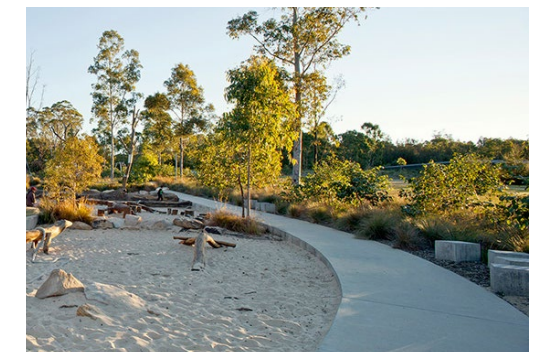
Interpretive artwork



Informal lawn space



Board walk



Play area

9.3 Orchid Park

Orchid Park is the signature green entry to the development. The park acknowledges nearby populations of the Tuncurry Midge Orchid (*Genoplesium littorale*) and its habitat. The main tree lined entry avenue from The Lakes Way passes through the landscaped park before turning north-east to connect to Mt Talawahl Park. South of the main entry, the park becomes a large lawn with views to the golf course, the central water management basin and the B2 Local Centre.

Location Plan



LEGEND

- ① Thematic Garden
- ② Play Area
- ③ Interpretive Artwork
- ④ Informal lawn space
- ⑤ Shelter/BBQ facilities
- ⑥ Informal Play
- ⑦ Seating
- ⑧ Banksia Dry Heath Buffer

Orchid Park
Area: 7,026m ²
Suite of Elements
Concrete pathways
Shelters with seating
BBQ facilities
Informal play space
Informal open space with turf mounding
Structural tree planting
Interpretative signage
Thematic garden
Lighting/furniture
Formal space

Scale m
0 3 6 9 12



Interpretive art



Banksia dry heath



Play area



Woodland edge pathway

9.4 Gateway Park

The Gateway Park is a signature entry park which terminates the view from the southern entry off the The Lakes Way. It is located in the south-western corner of the golf course and consists of turf areas bound by mounding to create large informal open spaces as well as an ‘amphitheatre’ adjoining the water.

The ‘Heritage Trail’ pathway and cycleway, connecting the Community Dune Park and 5th Hole Park, passes through the site linking various landscape features, interpretative elements and fitness equipment. A community pavilion with a forecourt plaza space and outdoor cafe is an arrival feature at the eastern edge. The children’s play area, surrounded by tree plantings and interpretative artwork is sited nearby a generous deck which cantilevers over the water management basin. Structural tree planting loosely defines the areas within the park.

The water management basin incorporates a number of edge treatments including ephemeral edge plantings for water quality habitats, informal turf edges and urban hard edges. As a feature a projecting boardwalk and jetty has been included to encourage further engagement with the water.

Location Plan



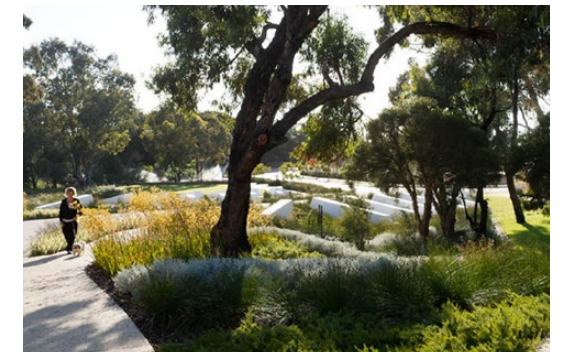
LEGEND

- ① Community Pavilion
- ② Decking
- ③ Interpretive Artwork
- ④ Ephemeral Landscape Zone
- ⑤ Informal lawn space
- ⑥ Shelter/BBQ facilities
- ⑦ Play Area
- ⑧ Heritage Trail
- ⑨ Board Walk
- ⑩ Waters Edge
- ⑪ Water Management Basin

Gateway Park
Area: 20, 891m ²
Suite of Elements
Concrete pathways
Shelters with seating
BBQ facilities
Informal turf ed open space
Structural tree planting
Playground with shade
Community facilities with decking over pond
Forecourt/plaza space
Dog off-leash area
Lighting/Furniture
Timber boardwalk and lookout



Shelters with Facilities



Heritage Trail



Play area



Water Edge

9.5 Community Dune Park

Dune Park is the key entry park when arriving from the south and will provide a welcoming vista for the Beach St extension. The park also marks the southern entry of the Heritage Trail. Coastal dunes will form the backdrop to the park and the predominance of foredune vegetation will provide a feature complementing the plantings of the proposed water management basins. A generous lawn provides open space for community gatherings with a number of picnic shelters scattered throughout the park. An informal play space is also proposed and will be shaded by the structural tree planting.

Dune Park will be the first special place to be created as the development is staged from the south.

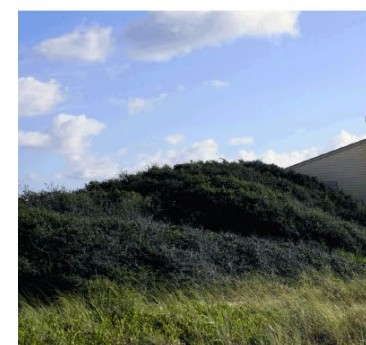


- LEGEND**
- ① Shelters/BBQ facilities
 - ② Seating
 - ③ Informal Lawn Space
 - ④ Heritage Trail
 - ⑤ Dunal Planting
 - ⑥ Ephemeral Landscape Zone
 - ⑦ Golf Course
 - ⑧ Water Management Basin
 - ⑨ Entry and Access

Community Dune Park
Area: 4, 956m ²
Suite of Elements
Concrete pathways
Shelters with seating
Dunal planting
Structural tree planting
Informal playspace
Signage
Informal open space
Lighting/Furniture



Location Plan



Dune planting



Heritage trail



Seating



Shelter

9.6 The 5th Hole Park

The 5th Hole Park marks the western entry into the golf course and acts as a 'land bridge' separating the two large water management basins. It provides a relaxing pause for the Heritage Trail. The park consists of a central turfed area surrounded by native grasses under the structural tree planting which defines three sides of the park. A timber jetty juts out through the reeds into the water management basin as a potential for bird watching. The park also provides picnic shelters and informal play spaces for children.

Location Plan



LEGEND

- ① Shelter/BBQ facilities
- ② Informal lawn space
- ③ Play Area
- ④ Lighting/furniture
- ⑤ Signage
- ⑥ Golf course buffer planting
- ⑦ Structural tree planting
- ⑧ Feature trees
- ⑨ Decking
- ⑩ Water Management Basin
- ⑪ Future development
- ⑫ Heritage Trail

5th Hole Park
Area: 2, 079m ²
Suite of Elements
Concrete pathways
Shelters with seating
Structural tree planting
Signage
Informal open space
Informal play space
Lighting/Furniture



Signage



Shelter



Informal play



Golf course buffer

9.7 Waters Edge Park

The Waters Edge Park is located on the west side of the foredune close to an existing track indicating a desire line to the beach. It links the beach to the main collector road and the residential precinct around the golf course. The entry from the beach is an open paved plaza which accommodates the shared Heritage Trail and APZ passing through it at the eastern edge. The western edge of the paved plaza is a shallow water feature with showers for swimmers and a potential for a water play area for children. A generous central lawn is surrounded by a path of varying widths and some structural tree planting. Picnic shelters are located within the shade of coastal feature trees. In keeping with the environmental objectives, the northern and southern boundaries are planted with low heathland and include interpretative signage. Landmark coastal trees, Norfolk Island Pines, are located at the eastern entries.

Location Plan



LEGEND

- ① Shelter with seating
- ② Water feature
- ③ Dunal planting
- ④ Feature trees
- ⑤ Informal lawn space
- ⑥ Seating
- ⑦ Shared Heritage Trail and bushfire access
- ⑧ Forecourt with water jets
- ⑨ Access to beach
- ⑩ Norfolk Island Pines
- ⑪ Beach St
- ⑫ Future Development

Waters Edge Park
Area: 3, 068m ²
Suite of Elements
Concrete pathways
Shelters with seating
Structural tree planting
Signage
Informal open space
Dunal planting
Lighting/Furniture



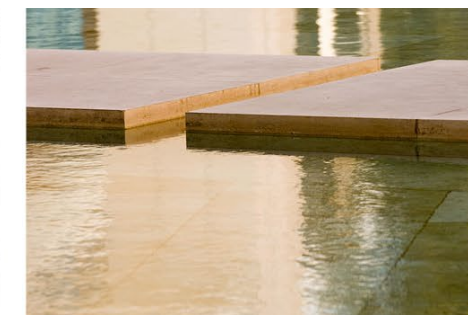
Dunal planting



Lawn space



Seating



Water feature



Shelter

9.8 Heritage Green

The Heritage Green, a focal point for the western residential precinct, provides strong visual connection to the adjoining conservation area. This small but significant park, links the water management basin to the western Banksia Dry Heath ecological buffer. Its location reflects layers of indigenous heritage; environmental considerations and pine plantations. The Aboriginal heritage is evident in the site alignment with, but not connected to, an Aboriginal midden. The pine plantation heritage is referred to the interpretative art works and tree planting.

The main focus of the park is bushland education, where the western two thirds of the site is allocated to bush gardens and interconnected pathways. The park includes picnic shelters and a children's play area in a central open lawn. The eastern end of the park features a wide boardwalk encompassing a living artwork of thematic plantings as it leads up to a small community pavilion.

The materials used in this park enhance the local indigenous heritage and character through the use of locally sourced materials, such as stone walls, driftwood and revegetation, through the planting of native species and bush foods.

Location Plan



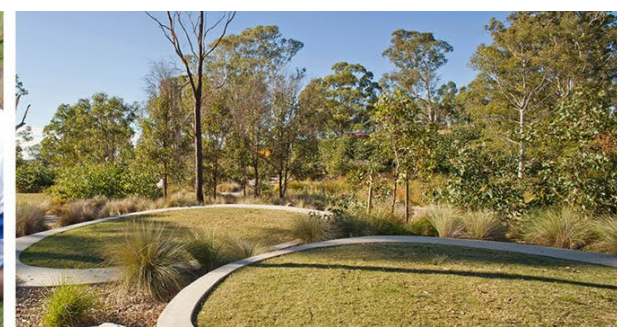
LEGEND

- ① Raised Walkways
- ② Shelter and BBQ facilities
- ③ Play area
- ④ Bushland Education
- ⑤ Informal Lawn Spaces
- ⑥ Pavilion
- ⑦ Courtyard Gardens
- ⑧ Boardwalks
- ⑨ Water Edge
- ⑩ Heritage Trail
- ⑪ Water Management Basin
- ⑫ Midden Site
- ⑬ Future Developments

Heritage Green
Area: 9, 292m ²
Suite of Elements
Concrete pathways
Timber boardwalks
Shelter with seating
BBQ facilities
WSUD water features
Water Management Basin
Community gathering space/forecourt
Lighting/Furniture
Structural tree planting
Informal turfed open space
Regenerated bushland conservation area enhanced with raised boardwalk pathways



Bushland education



Informal lawn space



Play area



Shelter/BBQ Facilities

9.9 Eco-Green

The Eco-green is a small pocket park located within the north east residential precinct. Simple directional paths link the park to the surrounding streets. Street trees, augmented with smaller trees within the park, act as structural shade elements. A linear display bed of selected indigenous shrubs with feature rocks borders one side of the main diagonal path. Picnic shelters are provided for community gatherings.



- LEGEND**
- ① Shelter with seating
 - ② Play area
 - ③ Bio-swale
 - ④ Informal lawn space
 - ⑤ Wildlife garden

Waters Edge Park
Area: 3,478m ²
Suite of Elements
Concrete pathways
Shelters with seating
Informal play space
Lighting/Furniture
Structural tree planting
Informal open space

Location Plan



Acacia longifolia



Display garden



Informal lawn space



Play

10.0 Employment Precinct

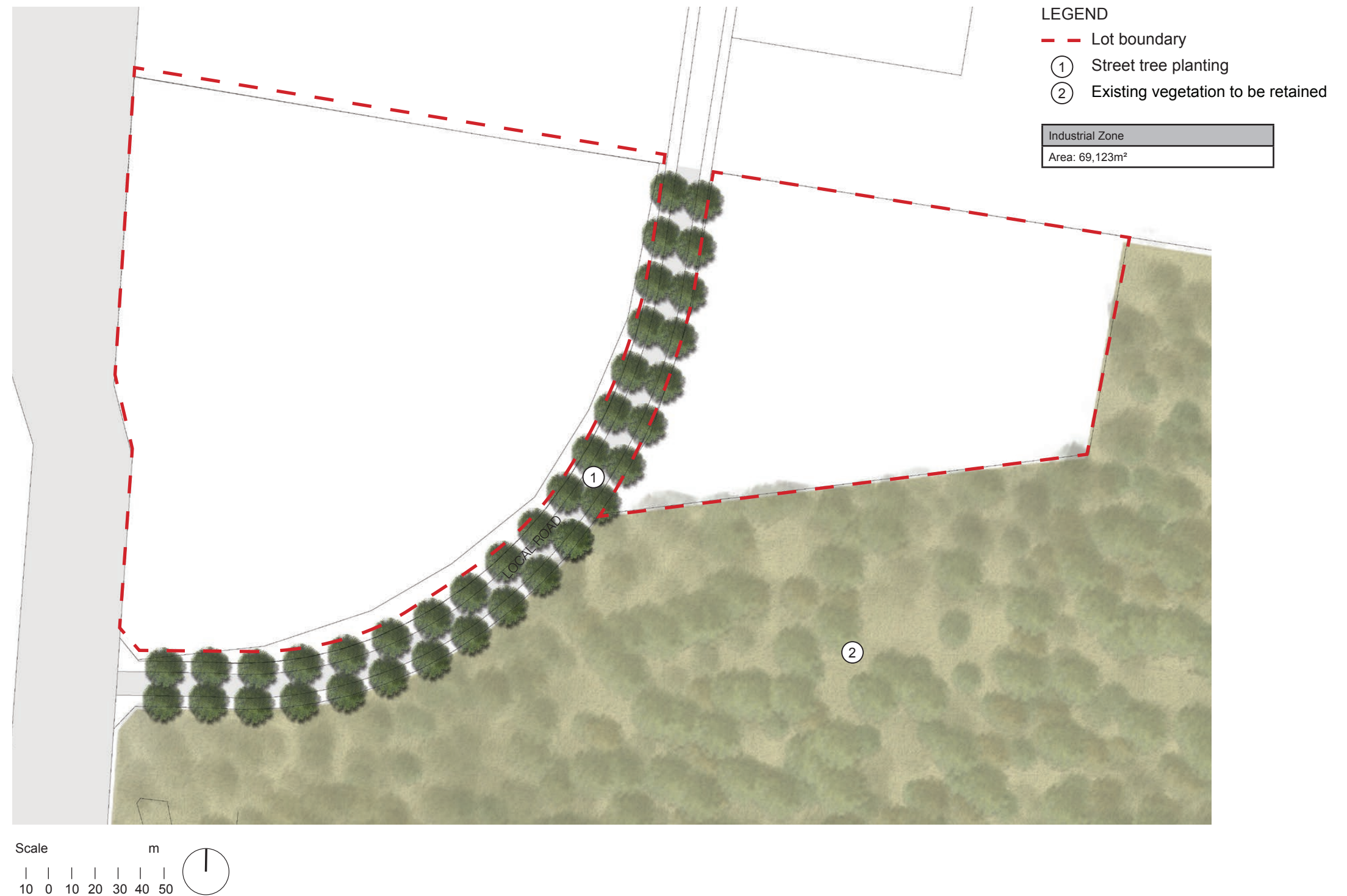
The north-west and south-west employment precincts provide for a range of employment opportunities in an environmentally sensitive setting.

10.1 Industrial Zone

The north-west employment precinct comprises of 6.6 ha of land for industrial uses and is located adjacent to the Tuncurry Waste Management Centre.

Street tree planting will be provided on the access road through the industrial zone.

Location Plan



10.2 Business Development Zone

6.7 ha of land used for business development will be located within the south-west corner in the vicinity of Northern parkway. Flexibility is provided to allow for a wide range of employment uses.

A formal avenue of street trees will be provided on the eastern and southern boundaries of the business development zone.

Location Plan



11.0 Circulation, Way Finding and Amenity

11.1 Objectives

- In consultation with the Worimi and Biripai people, explore indigenous cultural identity as possible way-finding signatures.
- Establish precinct identities and provide clear entries to the site, with signature landscapes including the extension of the Norfolk Island Pine avenue along Beach St.
- Permeability - to maintain the connection from the river to the beach retain only the existing east west walking trail in the southern precinct.
- Walkability - preference to walking and cycling over cars.
- Discourage access to western Banksia Dry Heath conservation areas.

11.2 Principles

- Provide pedestrian comfort.
- Create a high quality pedestrian/cycle route within the development which connects to the regional transport networks in adjacent areas.
- Provide specific characters to these connections, incorporating seating, lighting, and stop off points.
- Connectivity to amenities.
- Inclusion of shared pedestrian/cycleways which connect major streets and open spaces.
- Variety of experiences including shared paths, fitness walks and other recreational opportunities.
- Maintain views to dunes & foreshore, particularly at Beach St extension.
- Provide additional amenities to enhance existing recreational value such as 'play on the way' provisions and fitness equipment.

11.3 Access and Connections

- Provide feature entries with signature landscape elements and signage in accordance with the Social Plan.
- Provide strong 'green links' which connects the Darawank Nature Reserve to the various open spaces through the development and with the golf course and existing open spaces to the south of the development.
- Ensure the 'green link' is expressed as the main north-south street for the development and that the trees reflect a strong coastal town character.
- Maintain existing walking trails as appropriate through the ecological buffers for pedestrians only, but not in the western corridor and areas for TMO protection.
- Tracks to be surfaced with chain-linked hardwood planks and bordered each side with timber and post fencing to minimize 'edge effects'.

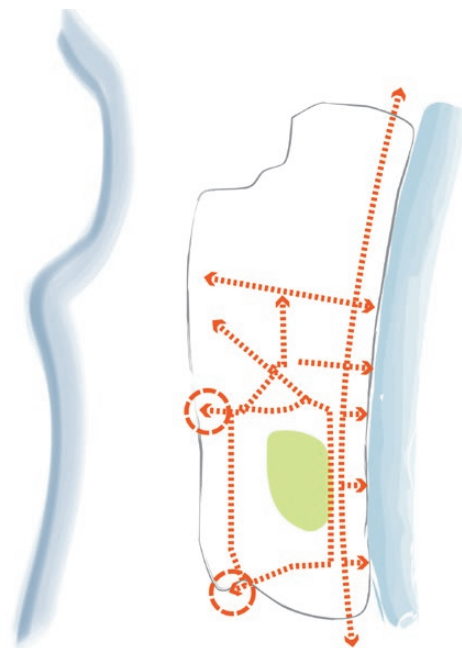
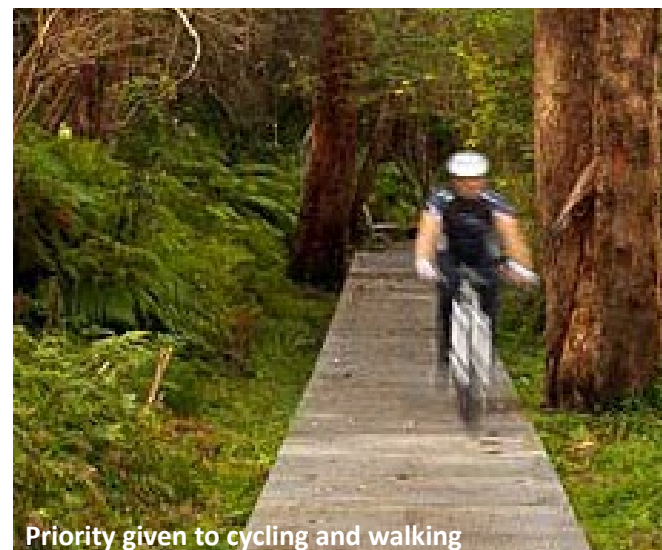


Figure 11.1 Access and Connections



Feature Entry with signage



Priority given to cycling and walking



Fitness trails

11.4 Way-finding

- Use of public art to assist in way-finding and precinct identity.
- Use feature street planting in key community precincts to assist with way-finding.
- Use of coastal landmark trees in key locations.

11.5 Amenity

- Provide shade tree planting along pedestrian paths within the streetscape.
- Provide seats, picnic tables and shelters in parks.
- Locate children's play areas near picnic tables and shelters in parks.
- Locate jetties over water management basins in select locations for bird-watching.

11.6 Pedestrian Links

- Provide pedestrian comfort and connections to amenities.
- Create high quality pedestrian/cycle routes within the development which connect to the regional network in adjacent areas.
- Provide specific characters to the connections and incorporating seating lighting and stop off points.
- Shared pedestrian/cycleways are included in major streets and connect open spaces.
- Views to the ocean foreshore and golf course are maintained.
- Additional amenities to enhance existing recreational values such as 'play on the way' provisions and fitness equipment are provided.

11.7 Green Links/Heritage Trail

- A green link between Darawank Nature Reserve, coastal habitats and forested areas between Lakes Way and the Wallamba River and Millers Mistake Creek beyond the Western boundary of the site have been provided.
- A green link in the form of a heritage trail and shared bike/pedestrian path encircles the water management basin connecting parks and water bird habitats to the B2 Local Centre and the green link along the inland side of the foredune.

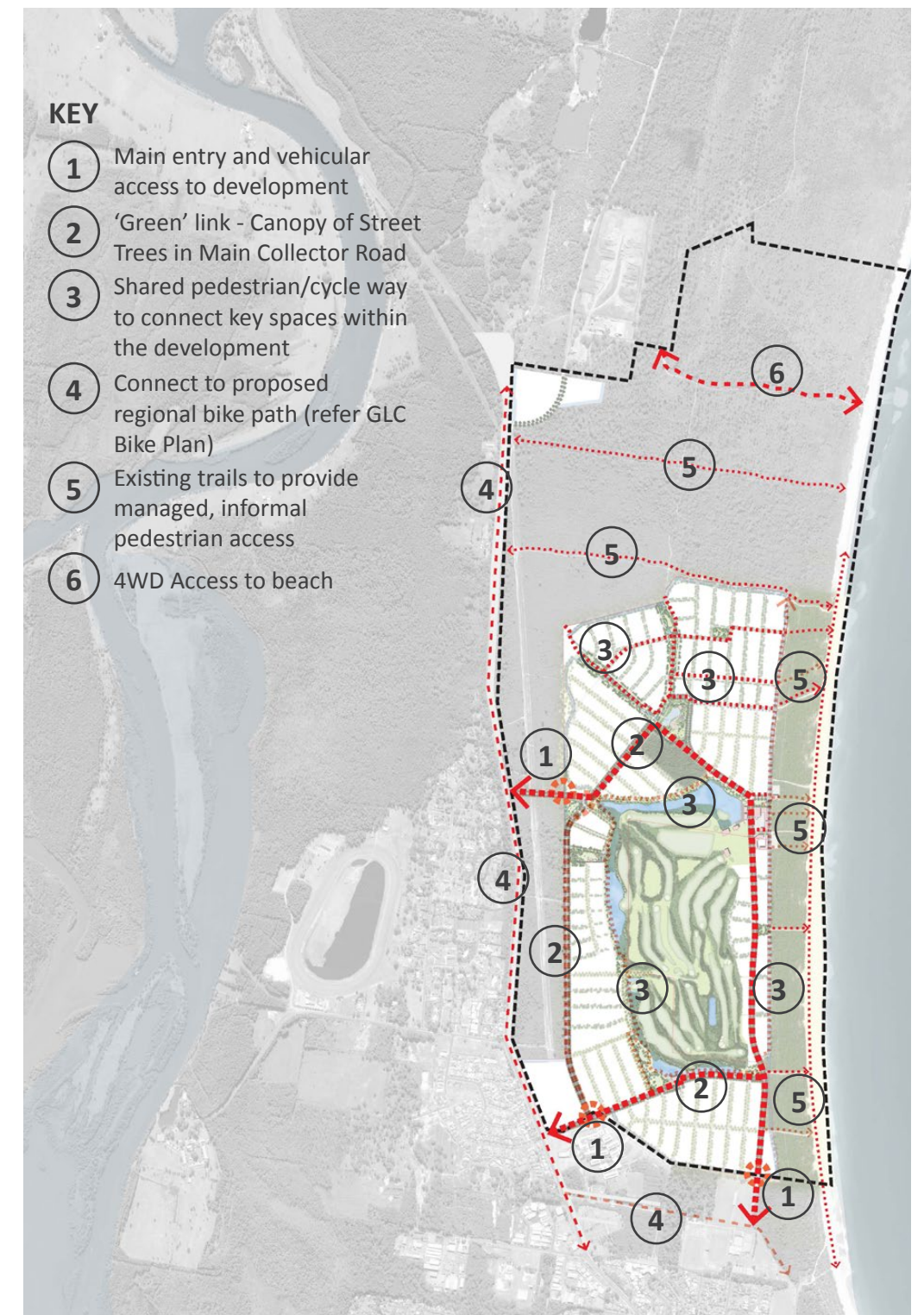
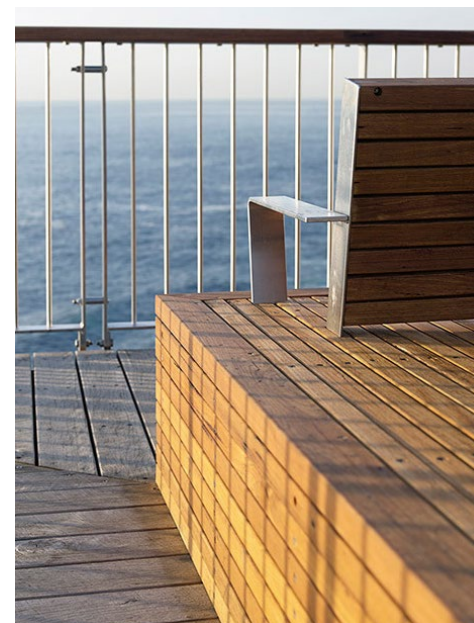


Figure 11.2 Site Circulation

12.0 Streetscapes

North Tuncurry Landscape Master Plan Report will provide a range of street types that consider traffic capacity combined with place character and function. The street network is also critical to the hydrology of the site, accommodating intermittent rain gardens and swales. A variety of streets and pedestrian paths are located along the perimeter of the development to assist with bushfire risk, coastal regression, access and surveillance.

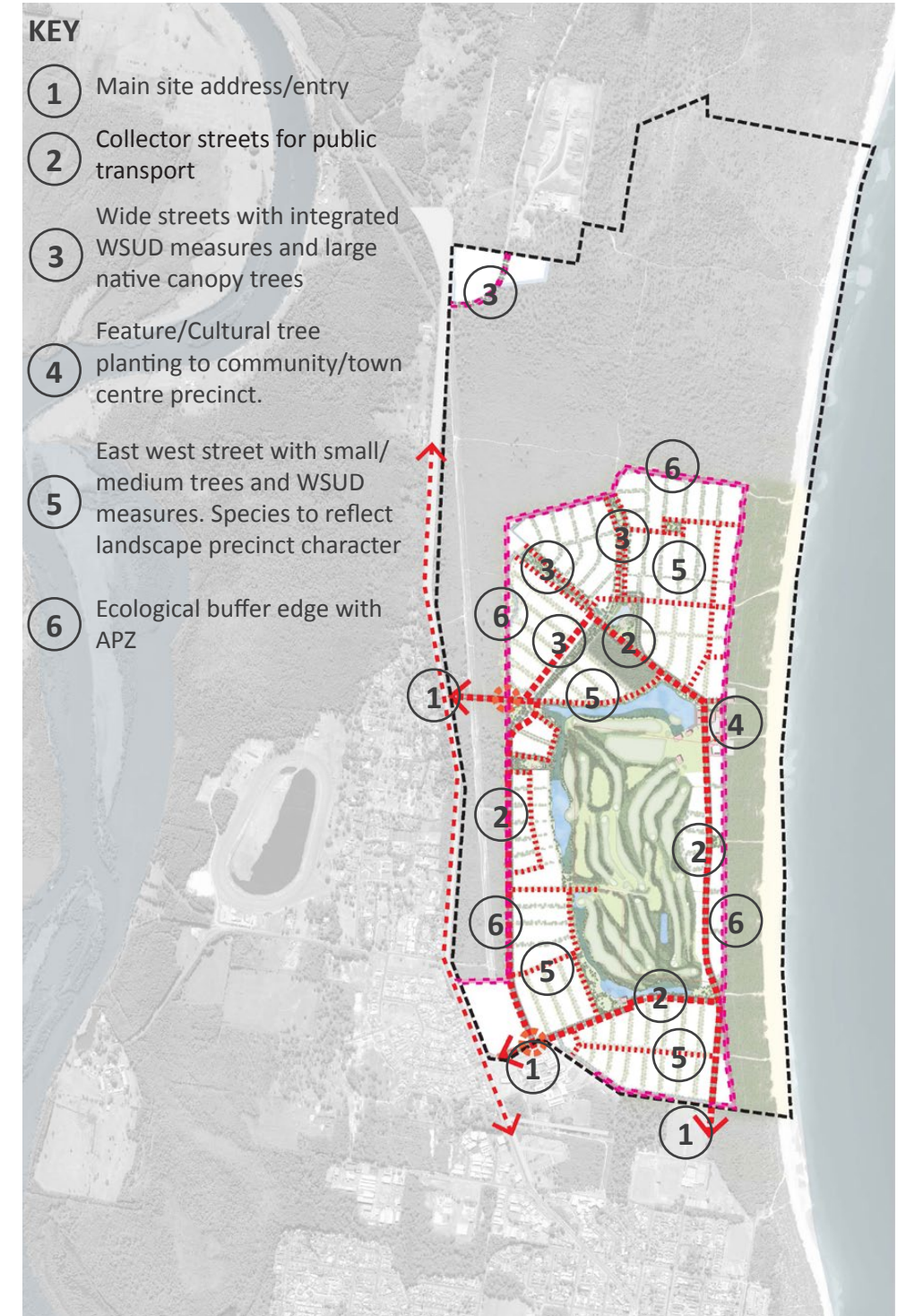
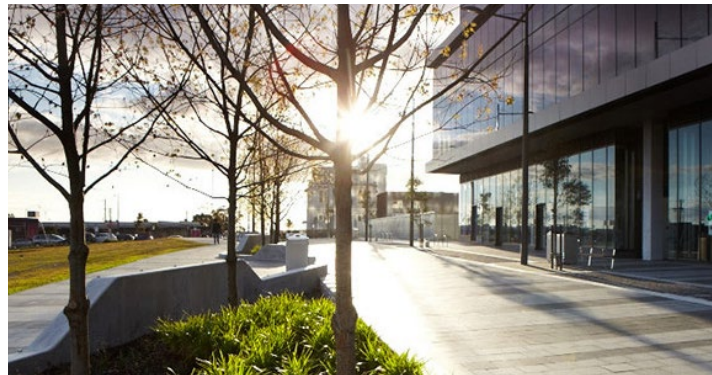


Figure 12.1 Streetscape Features

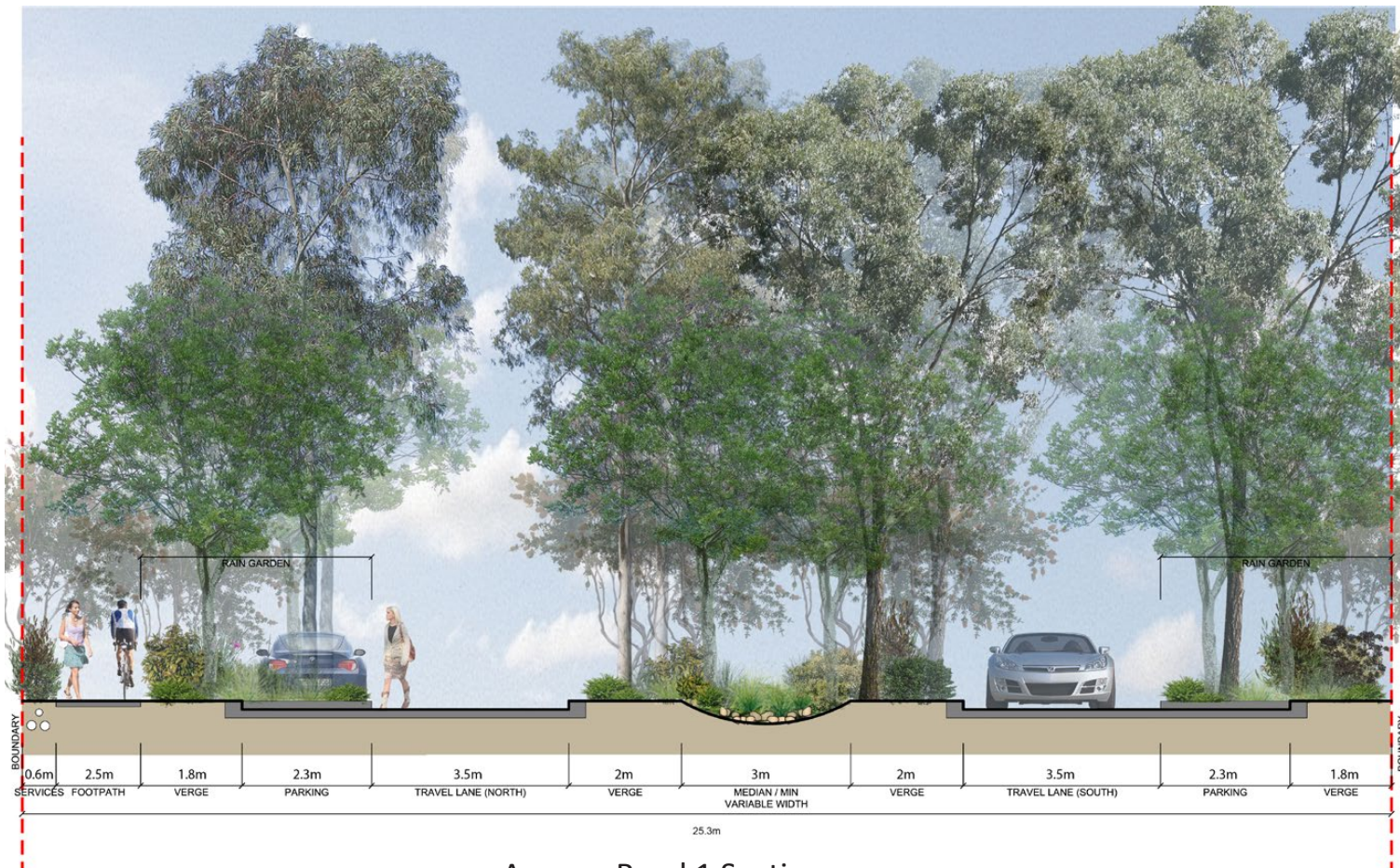
12.1 Street Hierarchy | Avenue

Avenue 1

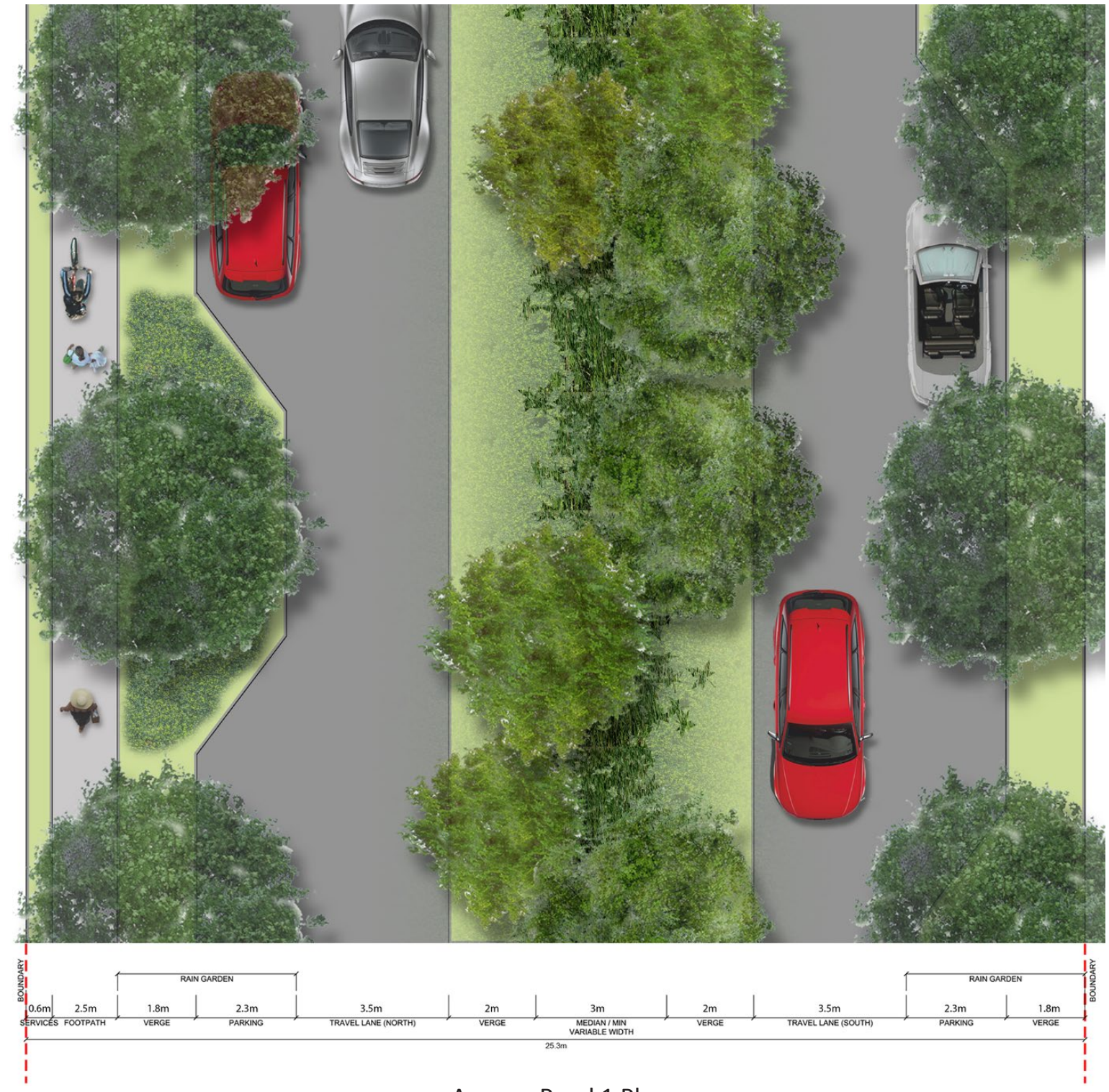
- 25.3m minimum width.
- Parking spaces provided on both sides of the street.
- Footpath on one side with shared cycleway.
- Rain gardens.
- Opposing tree arrangement, native species under-planting,
- Central median with swale/ephemeral zone.

Tree planting to include:

- *Eucalyptus microcorys*
- *Eucalyptus tereticornis*
- *Eucalyptus botryoides*
- *Ficus rubiginosa*
- *Elaeocarpus obovatus*
- *Melaleuca quinqernervia*.



Avenue Road 1 Section



Avenue Road 1 Plan

12.1 Street Hierarchy | Avenue

Avenue 2

- 40.3m minimum width.
- Parking spaces provided on both sides of the street.
- Footpath on one side with shared cycleway.
- Rain gardens.
- Opposing tree arrangement, native species under-planting,
- Central median with swale/ephemeral zone.

Tree planting to include:

- *Eucalyptus microcorys*
- *Eucalyptus tereticornis*
- *Eucalyptus botryoides*
- *Ficus rubiginosa*
- *Elaeocarpus obovatus*
- *Melaleuca quinqernervia*.



Avenue Road 2 Section



Avenue Road 2 Plan

12.1 Street Hierarchy | Collector

Collector Road

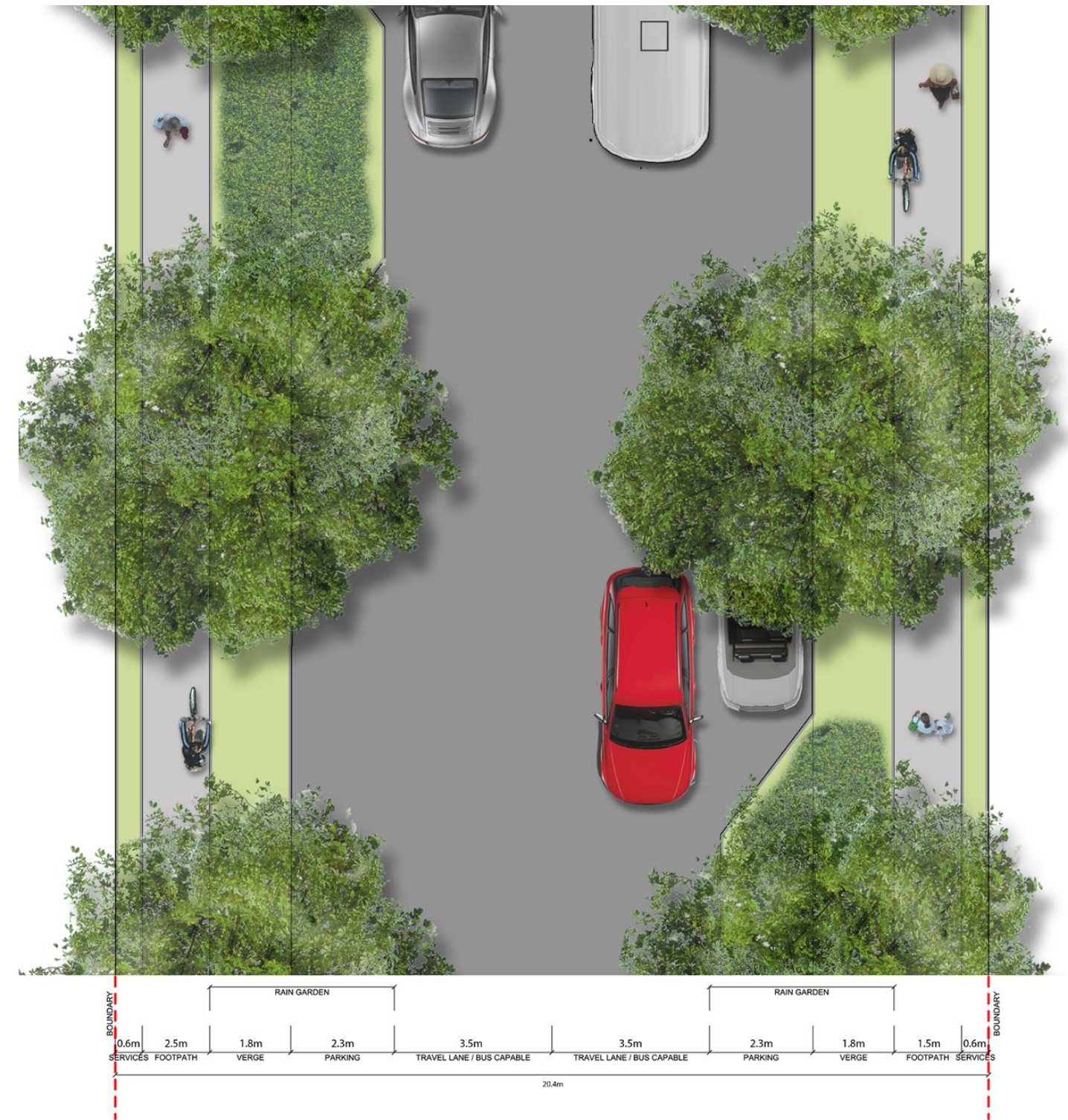
- 20.4m minimum width.
- Bus capable travel lanes.
- Parking spaces provided on both sides of the street.
- Footpath on both sides with shared cycleway.
- Rain gardens.
- Opposing tree arrangement.
- Large canopy trees, native species with under-planting.

Tree planting to include:

- *Eucalyptus microcorys*
- *Eucalyptus tereticornis*
- *Eucalyptus botryoides*
- *Araucaria heterophylla*
- *Podocarpus elatus*
- *Ficus rubiginosa*
- *Alphitonia excelsa*



Collector Road Section



Collector Road Plan

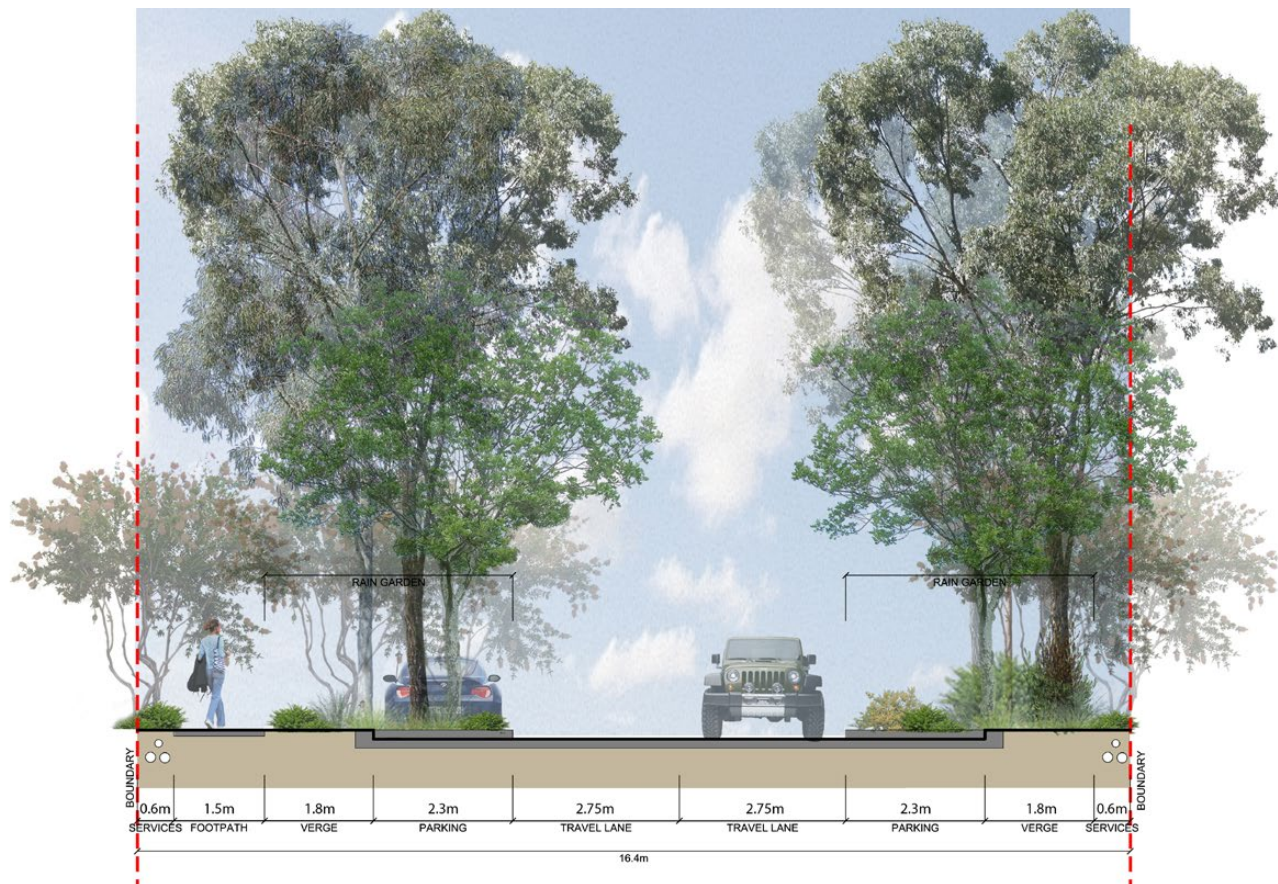
12.1 Street Hierarchy | Local

Local Road

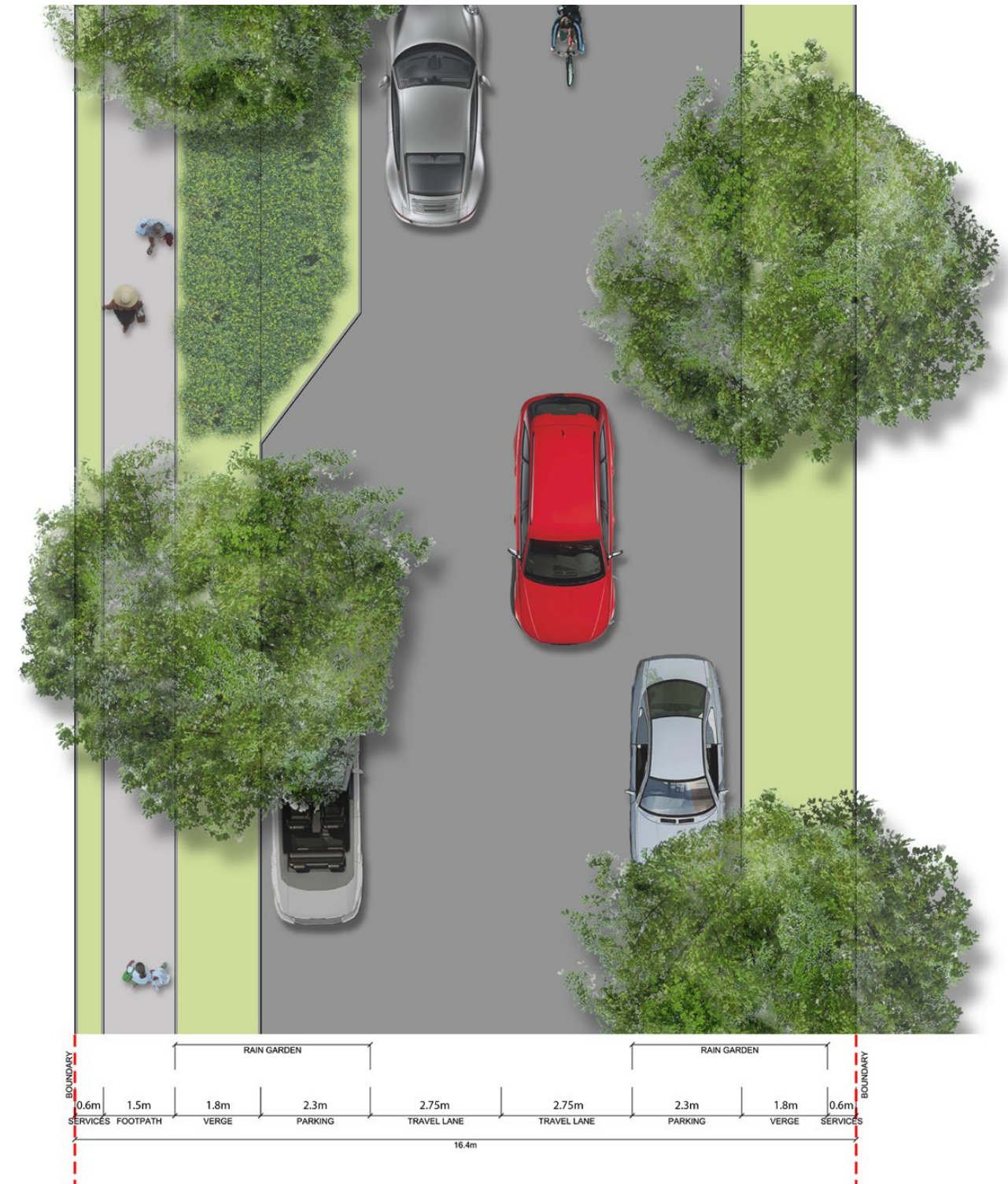
- 16.4m minimum width.
- Parking spaces provided on both sides of the street.
- Footpath on one side.
- Rain gardens or swales.
- Alternate tree arrangement with native species under-planting.

Tree planting to include:

- *Acmena smithii*
- *Podocarpus elatus*
- *Cupaniopsis anacardioides*
- *Hibiscus tiliaceus*
- *Tristaniopsis laurina*
- *Backhousia citriodora*
- *Abizia julibrissin*



Local Road Section



Local Road Plan

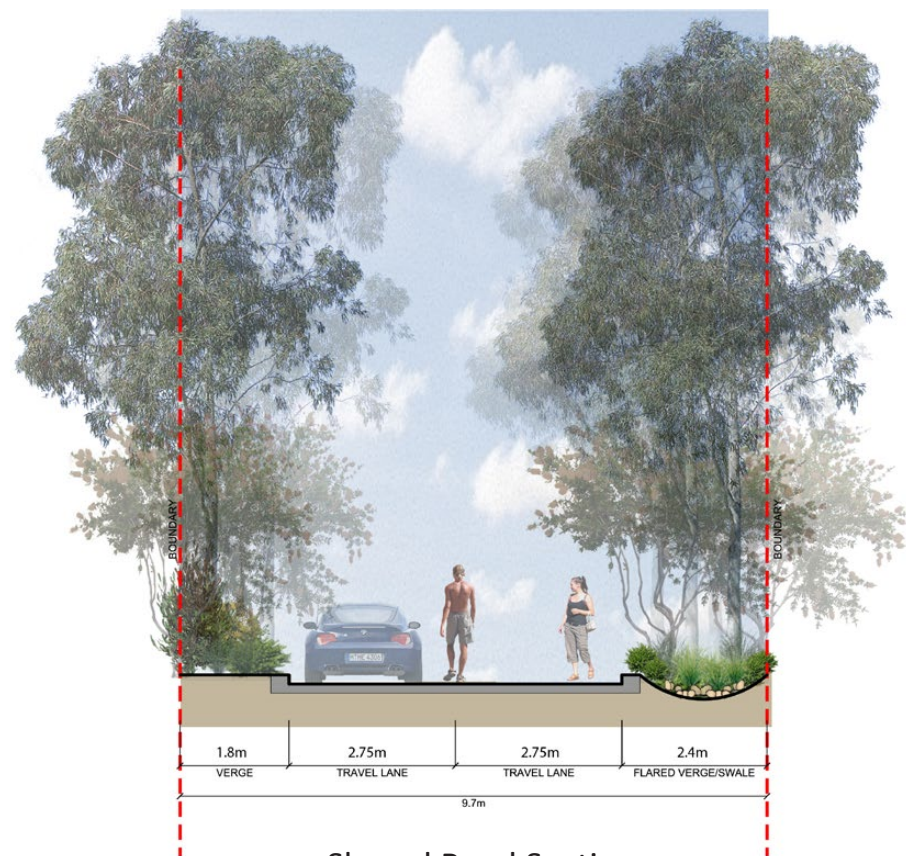
12.1 Street Hierarchy | Shared

Shared Road

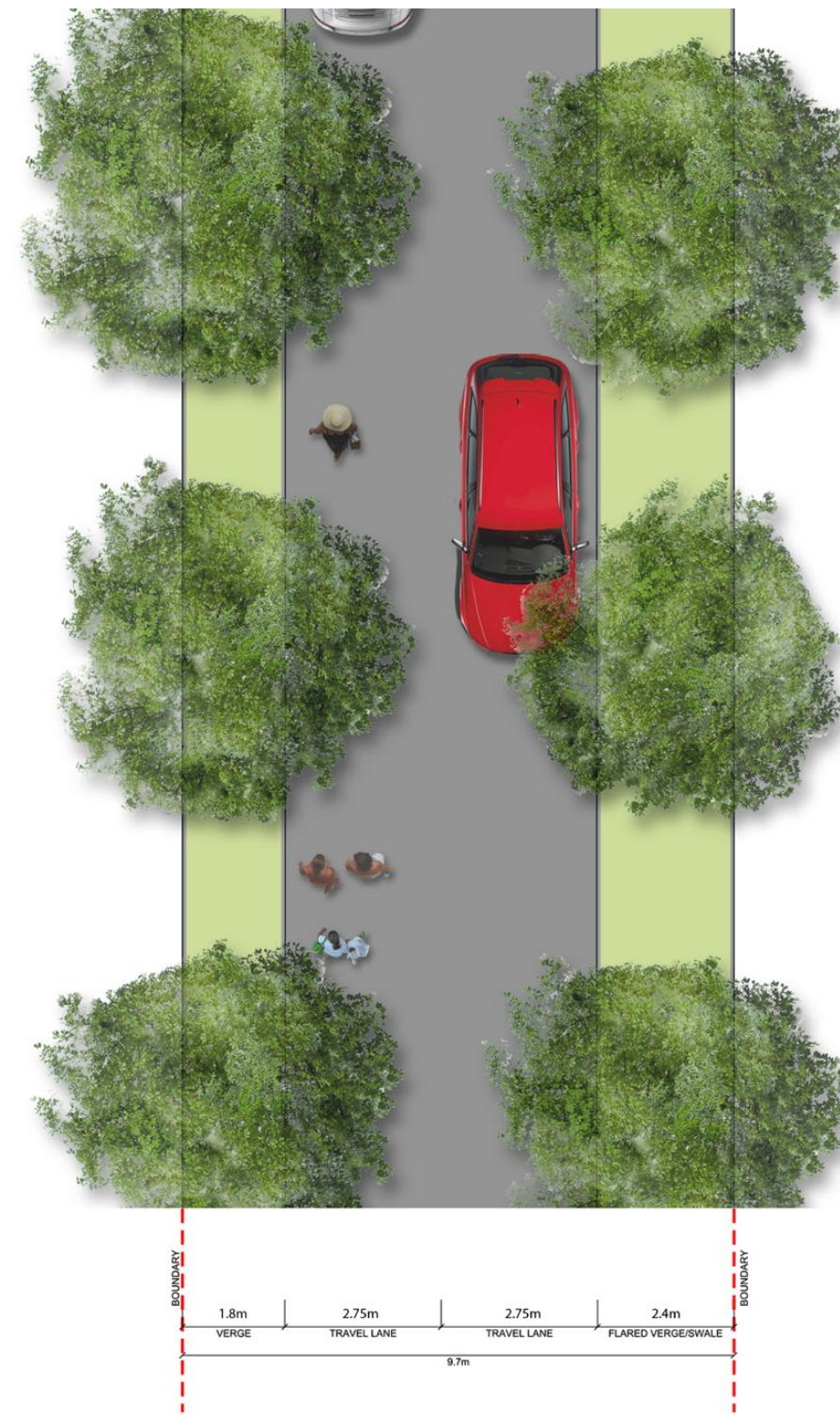
- 9.7m minimum width.
- Shared pedestrian/cycle and bushfire vehicular passage.
- Verge or swale.
- Opposing tree arrangement, native species with under planting.

Tree planting to include:

- *Banksia integrifolia*
- *Banksia serrata*
- *Callistemon viminalis*
- *Cupaniopsis anacardioides*
- *Metrosideros excelsa*
- *Melaleuca leucodendron*



Shared Road Section



Shared Road Plan

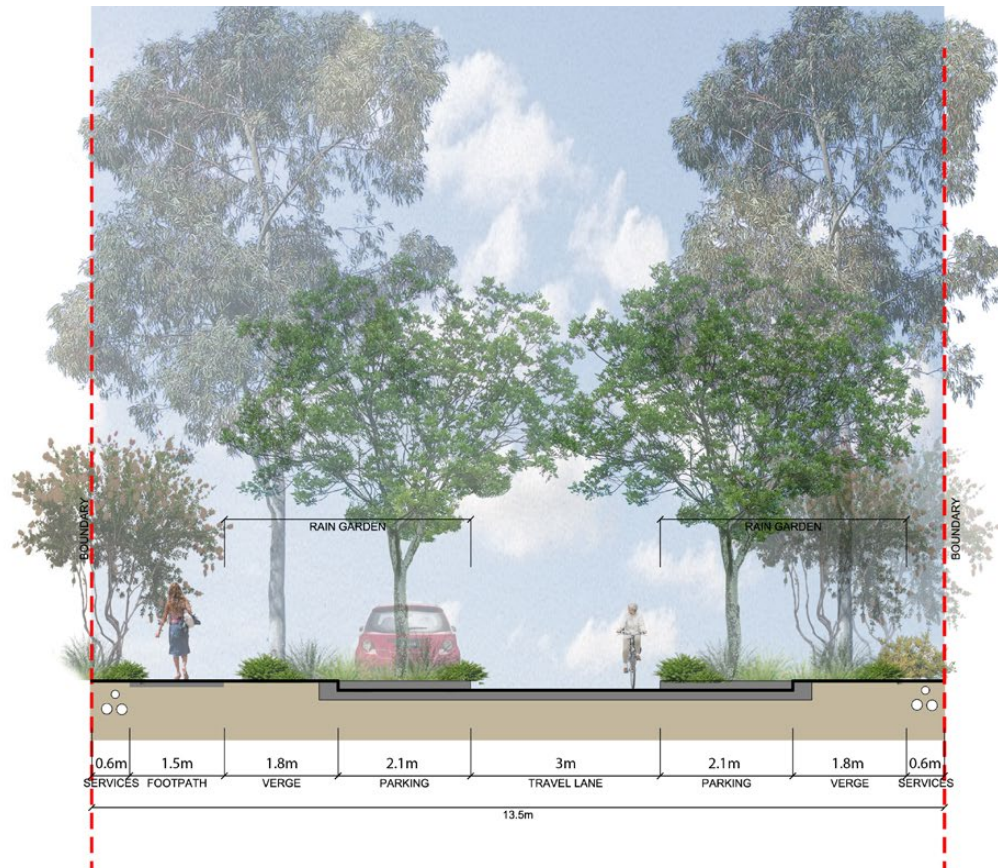
12.1 Street Hierarchy | Yield

Yield Road

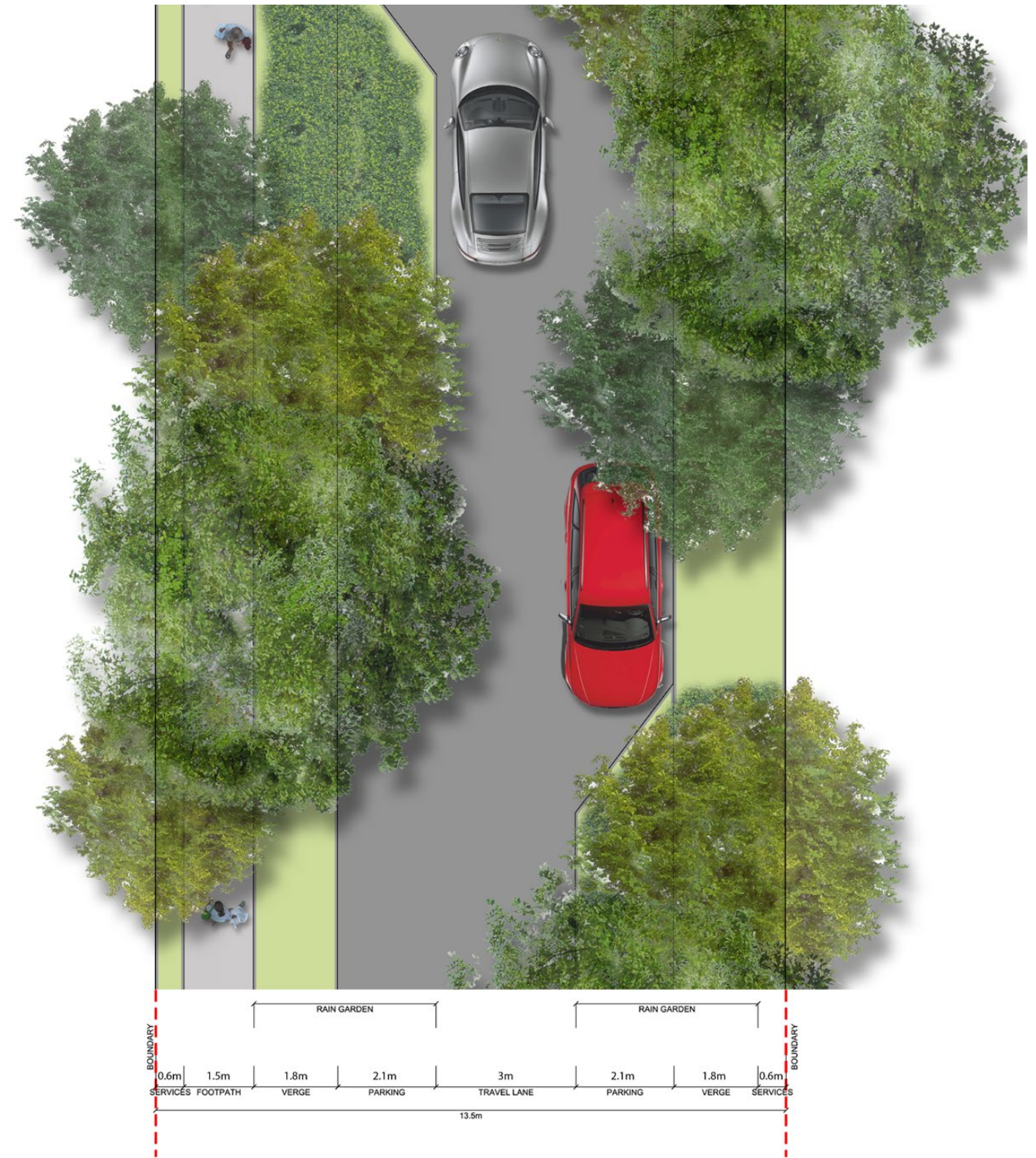
- 13.5m minimum width.
- Parking spaces provided on both sides of the street.
- Footpath on one side.
- Rain gardens or swales.
- Random tree arrangement, native species with under-planting.

Tree planting to include:

- *Podocarpus elatus*
- *Banksia integrifolia*
- *Eucalyptus botryoides*
- *Cupaniopsis anacardioides*
- *Hymenospermum flavum*
- *Tristaniopsis laurina*



Yield Road Section



Yield Road Plan

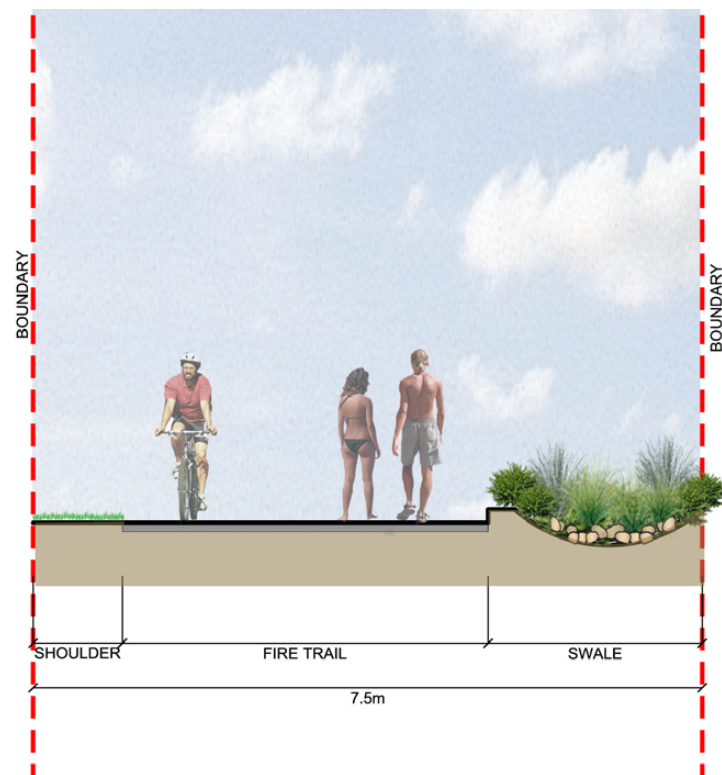
12.1 Street Hierarchy | Pedestrian Passage Fire Trail

Pedestrian Passage Fire Trail

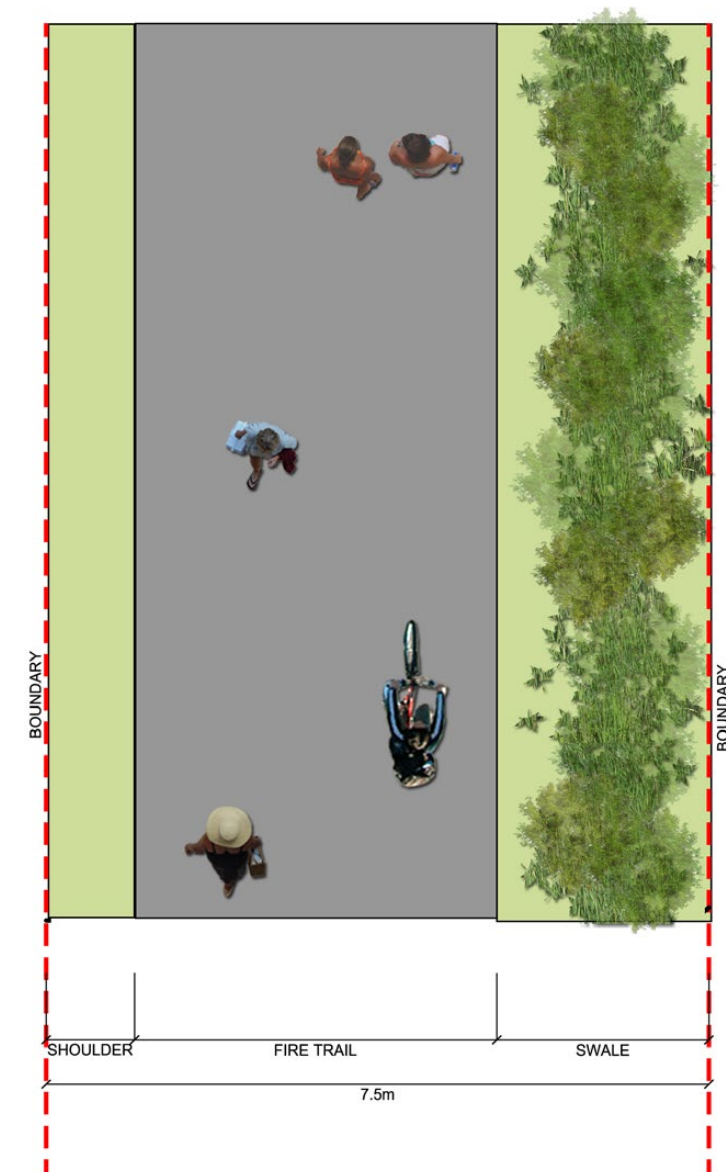
- 7.5m minimum width.
- Shared footpath.
- Rain gardens or swales with native low shrub/ groundcover planting.
- Lawn shoulder.

Shrub planting to include:

- *Poa labillardieri*
- *Scaevola albida*
- *Westringia fruticosa*
- *Hibbertia scandens*
- *Lomandra tanika*



Pedestrian Passage Fire Trail Road Section



Pedestrian Passage Fire Trail Plan

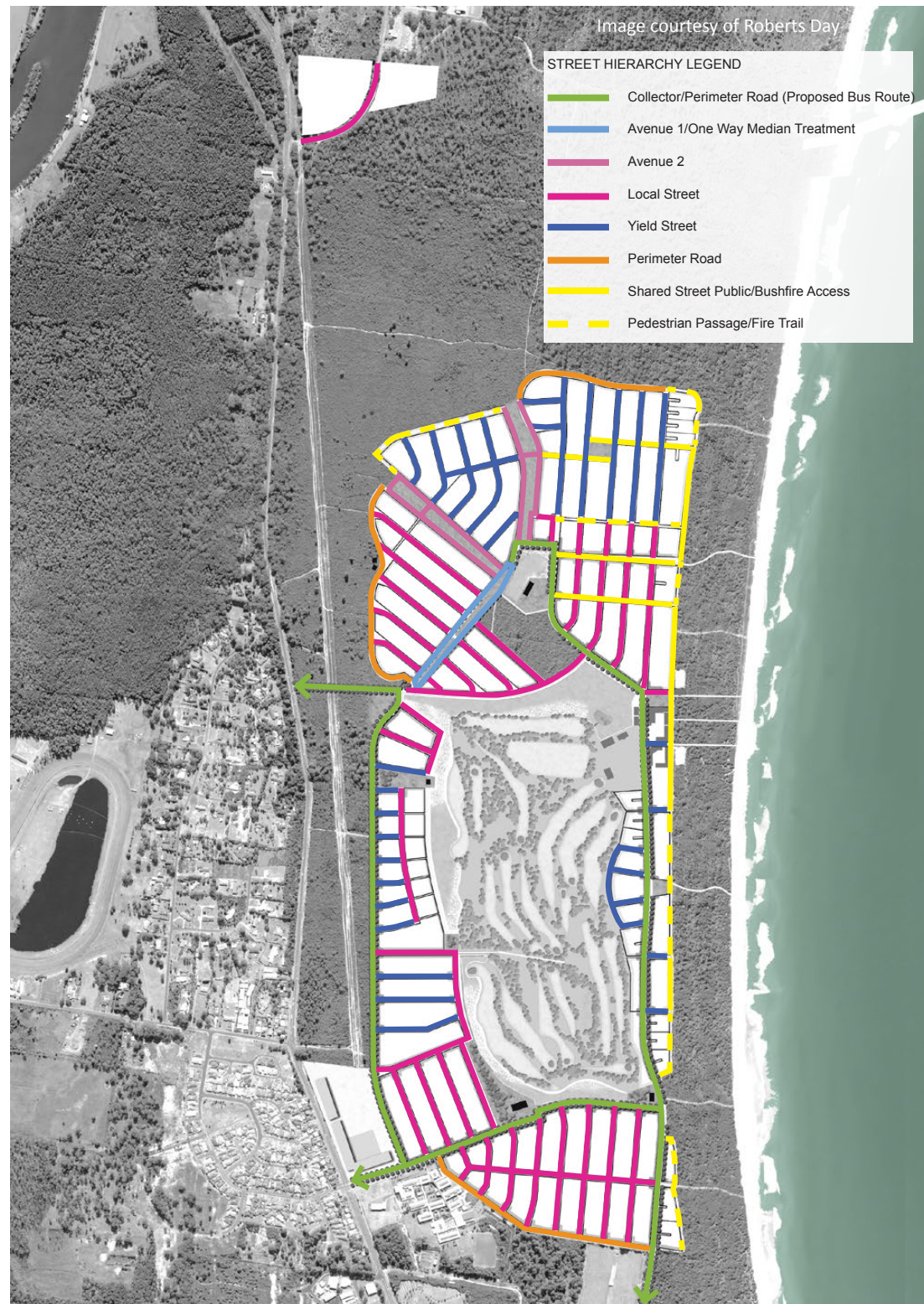


Figure 11.2 Streetscape Heirarchy

12.2 Street Principles

- Street tree hierarchy to be respected.
- Integrate WSUD into most streets including streets from Eco-village to Mt Talawahl Park which have central parkland with drainage swales.
- Link shared paths to adjacent open spaces providing a recreational and local commuter cycleway which connects to a greater regional network.
- Accommodate public transport in the Collector street loop.
- Integrate trees in streets along the Banksia Dry Heath within the buffer zone, while allowing for an APZ.
- Feature planting occurs in key community precincts to assist with way-finding.
- The materials, furniture and finishes selection reinforce the character of a contemporary coastal town.



12.3 Street Tree Selection Principles

- Selection of tree species to reflect the street hierarchy including signature trees at gateways and park entrances.
- Select a range of street trees of appropriate scale to screen and soften the development from key locations.
- Use indigenous and exotic trees which will tolerate local coastal conditions, including the high water table.
- Use indigenous trees to connect tracts of native vegetation and to provide potential wildlife corridors
- Species selection is to be in collaboration with MidCoast Council and should establish the desired landscape character of each precinct, as described in section 8.0. Refer to Council's Street Tree Lists as a guide (Appendix A and B).



13.0 Materials and Plant Species

13.1 Materials

A fundamental premise of the Landscape Master Plan Report is the selection of materials for the public domain. For the NTDP materials such as concrete, stone and timber are recommended as they reflect the coastal setting and are able to withstand salt laden winds.

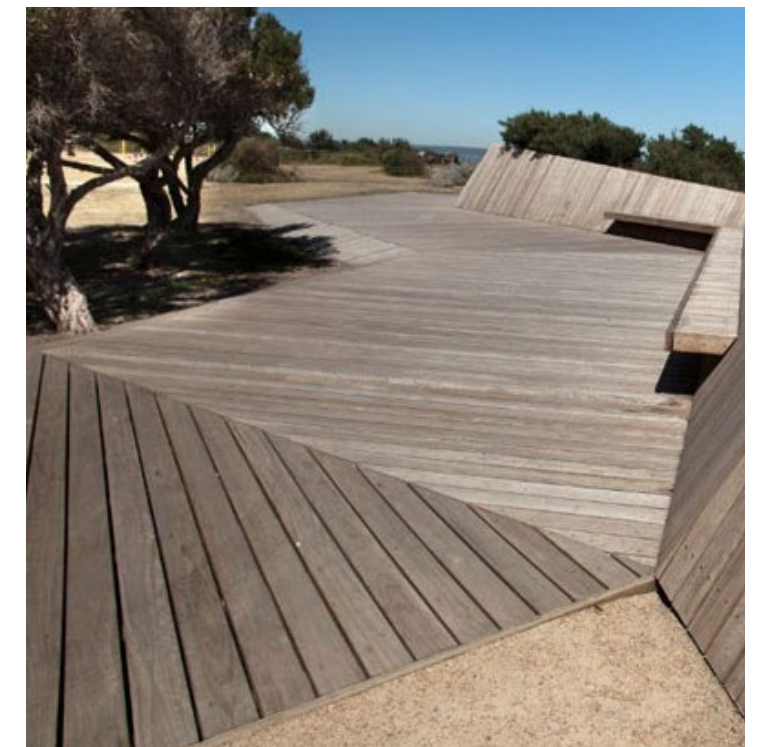
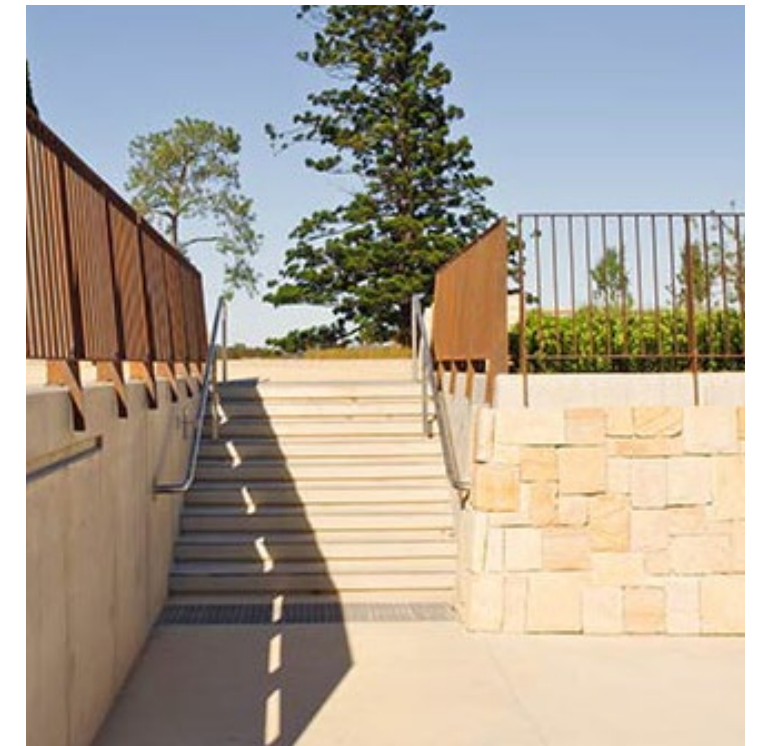
Materials should be selected to provide consistency throughout the development as well as to bring out the cultural values enriching the themes of open spaces.

The material selection should be culturally sensitive throughout the public domain. The combination of grasses, trees and shrubs which are traditionally part of the country of the Worimi and Birpai People, as well as rock, sand, timber and ochre should be explored and integrated into the public realm.

The material selection should reflect on-going consultations with local indigenous community representatives.

In culturally sensitive spaces such as the Heritage Green, the local indigenous heritage should be enhanced through the use of locally sourced materials, such as stone walls, driftwood, as well as revegetation through the planting of native species and bush foods.

Materials should be enduring and robust, have a low carbon footprint and be low maintenance.



13.2 Plant Species

The plant palette used for the site should reinforce all the themes as previously discussed.

The environmental theme requires that the planting palette draw from the existing vegetation communities. The species selected should be tolerant of the high water table conditions and salt-laden winds. There are opportunities to select trees that will provide Koala habitat and to minimise bushfire risks, species with low flammability (see Appendix A: Great Lakes DCP 2014 - Draft Amendment Plant Lists).

The tree selection should strengthen the coastal living theme and be a reflection of the culture and character typical of NSW coastal towns. This can be achieved by the integration of landmark trees, particularly Norfolk Island Pines, into the landscape setting.

The cultural theme plantings should include plants traditionally used by the Worimi and Biripai People as well as provide opportunities for bush food.

In general;

- Street trees should respond to the street hierarchy and Council's street tree list (Appendix A and B).
- Ephemeral water management basin edge species will reflect wetland sedges and rushes.
- Shrub species for parks will reflect the foredune mid stratum species in eastern locations and mid stratum Banksia heath species for other parks and open spaces
- Park trees will be select species of the upper stratum of the Blackbutt forest and Banksia Dry Heath
- Orchid Park could include Tuncurry Midge Orchid (*Genoplesium littorale*) subject to availability for propagation.



Eucalyptus pilularis



Angophora costata



Corymbia gummifera



Banksia serrata



Cupaniopsis anacardioides



Araucaria heterophylla



Leptospermum laevigatum



Banksia aemula



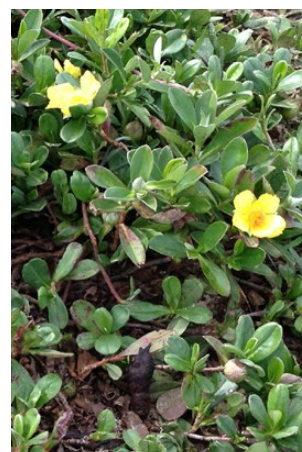
Acacia suaveolens



Ficinia nodosa



Themeda australis



Hibbertia scandens



Allocasuarina defungens



Persoonia lanceolata



Pandorea pandoreana



Lomandra lonfifolia

Appendix

Appendix A: Recommended Plant List

Source: Great Lakes Development Control Plan 2014 - Draft Amendment, Chapter 16: Landscaping Schedule, prepared by MidCoast Council

Trees & Palms

Indicative Plant Species (LF = Low Flammability) (K = Koala)

Botanical Name	Common Name
<i>Acmena smithii</i>	Lilly Pilly (LF)
<i>Alphitonia excelsa</i>	Red Ash (LF)
<i>Banksia integrifolia</i>	Coast Banksia
<i>Banksia serrata</i>	Old Man Banksia
<i>Casuarina glauca</i>	Swamp Oak
<i>Casuarina torulosa</i>	Forest She Oak
<i>Cupaniopsis anacardioides</i>	Tuckeroo (LF)
<i>Elaeocarpus reticulatus</i>	Blueberry Ash (LF)
<i>Eucalyptus amplifolia</i>	Cabbage Gum (K)
<i>Eucalyptus eugenioides</i>	Thin-leaved Stringybark (K)
<i>Eucalyptus robusta</i>	Swamp Mahogany (K)
<i>Eucalyptus microcorys</i>	Tallowwood (K)
<i>Eucalyptus tereticornis</i>	Forest Red Gum (K)
<i>Eucalyptus botryoides</i>	Bangalay (K)
<i>Eucalyptus grandis</i>	Flooded Gum (K)
<i>Eucalyptus globoidea</i>	White Stringybark (K)
<i>Eucalyptus saligna</i>	Sydney Blue Gum (K)
<i>Eucalyptus capitellata</i>	Brown Stringybark (K)
<i>Eucalyptus parramattensis</i> subsp. <i>decadens</i>	Drooping Red Gum (K)
<i>Eucalyptus patentinervis</i>	Swamp Mahogany x Forest Red Gum (K)
<i>Eucalyptus punctata</i>	Grey Gum (K)
<i>Eucalyptus propinqua</i>	Grey Gum (K)
<i>Eucalyptus canaliculata</i>	Grey Gum (K)
<i>Eucalyptus nicholii</i> (not endemic)	Narrow-leaved Black Peppermint (K)
<i>Ficus coronata</i>	Creek Sandpaper Fig (LF)
<i>Ficus rubiginosa</i>	Port Jackson Fig (LF)
<i>Glochidion ferdinandi</i>	Cheese Tree (LF)
<i>Hymenosporum flavum</i>	Native Frangipani (LF)

<i>Livistona australis</i>	Cabbage Palm
<i>Lophostemon confertus</i>	Brush Box (LF)
<i>Melaleuca quinquenervia</i>	Broad-leaved Paperbark (K)
<i>Synoum glandulosum</i>	Scentless Rosewood (LF)

Note: Use fire resistant species in bushfire prone areas

Shrubs

Indicative Plant Species (LF = Low Flammability) (K = Koala)

Botanical Name	Common Name
<i>Acacia longifolia</i>	Sydney Golden Wattle
<i>Acacia longifolia</i> var. <i>sophorae</i>	Coastal Wattle
<i>Backhousia myrtifolia</i>	Grey Myrtle
<i>Banksia robur</i>	Swamp Banksia
<i>Callistemon pachyphyllus</i>	Wallum Bottlebrush
<i>Callistemon salignus</i>	Willow Bottlebrush
<i>Cordyline stricta</i>	Cordyline (LF)
<i>Hakea dactyloides</i>	Broad-leaved Hakea
<i>Leptospermum laevigatum</i>	Coastal Tea Tree
<i>Leptospermum polygalifolium</i>	Lemon Scented Tea Tree
<i>Ceratopetalum apetulum</i>	NSW Christmas Bush
<i>Omalanthus populifolius</i>	Bleeding Heart (LF)
<i>Persoonia levis</i>	Broad leaved Geebung
<i>Syzygium australe</i>	Brush Cherry (LF)
<i>Syzygium</i> "Aussie Southern"	Lilly Pilly cultivar (LF)
<i>Syzygium</i> "Cascade"	Lilly Pilly cultivar (LF)
<i>Westringia fruticosa</i>	Coastal Rosemary (LF)

Note: Use fire resistant species in bushfire prone areas Groundcovers & Vines

Indicative Plant Species (LF = Low Flammability) (K = Koala)

Botanical Name	Common Name
<i>Alpinia caerulea</i>	Native Ginger
<i>Crinum pedunculatum</i>	Swamp Lily
<i>Dianella caerulea</i>	Flax Lily
<i>Hardenbergia violacea</i>	False Sarsaparilla

Hibbertia dentata	Twining Guinea Flower
Hibbertia scandens	Snake Vine
Lomandra longifolia	Mat Rush
Melaleuca thymifolia	Giant Mondo
Lomandra hystrix	Thyme Honey Myrtle
Lomandra Tanika	Mat Rush cultivar
Pandorea pandorana	Wonga Vine
Poa labillardieri	Poa
Scaevola albida	Fan Flower
Themeda australis	Kangaroo Grass

Note: Use fire resistant species in bushfire prone areas

Appendix B: MidCoast Council Preferred/Recommended Theme Trees

Source: MidCoast Council Parks Tree Officer

Species	Common Name	Arterial Roads Signature Plantings	Local Roads	Residential Roads	Suitable under power lines
<i>Araucaria heterophylla</i>	Norfolk Island Pine	✓			
<i>Ficus rubiginosa</i>	Rusty Leaf Fig	✓			
<i>Backhousia citriodora</i>	Lemon Scented Myrtle		✓	✓	
<i>Banksia integrifolia</i>	Coast Banksia	✓			
<i>Callistemon viminalis</i>	Weeping Bottlebrush	✓	✓	✓	Yes
<i>Cupaniopsis anacardioides</i>	Tuckeroo	✓	✓	✓	Yes
<i>Elaeocarpus reticulatus</i>	Blueberry Ash	✓	✓	✓	Yes
<i>Elaeocarpus obovatus</i>	Hard Quandong	✓			
<i>Melaleuca quinqernervia</i>	Broad Leaved Paper Bark	✓			
<i>Melaleuca leucodendron</i>	Weeping Paperbark	✓	✓	✓	
<i>Metrosideros excelsa</i>	NZ Christmas Bush			✓	
<i>Podocarpus elatus</i>	Plum Pine	✓	✓		
<i>Tristaniopsis laurina</i>	Water Gum	✓	✓	✓	Yes
<i>Archontophoenix alexandrae</i>	Alexander Palm	✓			
<i>Archontophoenix cunninghamiana</i>	Bangalow Palm	✓			
<i>Livistona australis</i>	Cabbage Tree Palm	✓			

Appendix C: Glossary

Acronym/Shortened Term	Description
BCAA	Biodiversity Certification Assessment Area
BCAM	Biodiversity Certification Assessment Methodology
DPI – Crown Lands and Water	Department of Industry - Crown Lands and Water
DPE	Department of Planning and Environment
EP&A Act	Environmental Planning and Assessment Act 1979
FLALC	Forster Local Aboriginal Land Corporation
HRP 2036 Council	Hunter Regional Plan 2036 MidCoast Council
NTDP	North Tuncurry Development Project
OEH	Office of Environment and Heritage
RMS	Roads and Maritime Services
State Significant Precincts SEPP	State Environmental Planning Policy (State Significant Precincts) 2005