rockingham beach foreshore master plan

part two

september 2015

city of Rockingham

where the coast comes to life

part two

detailed information

Part Two outlines the detailed information of the Rockingham Beach Foreshore Master Plan.

This includes beach access, furniture, elements and materials; wayfinding and signage, public art and interpretation, planting and a summary of traffic and parking and coastal vulnerability.

The complete Rockingham Beach Foreshore Master Plan includes:

- **Part One:** The Master Plan;
- **Part Two:** Detailed Information;
- **Appendix A:** Site Analysis and Background Information;
- **Appendix B:** Transport Assessment Report; and,
- **Appendix C:** Coastal Hazard Risk Management and Adaptation Plan.

contents

part two

6.0 the details

6.1 introduction

The Rockingham Beach Foreshore Master Plan includes three (3) areas:

- Area One – Bell and Churchill Parks including the Boardwalk, Rockingham Beach Road and Railway Terrace;
- Area Two – Palm Beach and Esplanade including Palm Beach Jetty and Val Street Jetty; and,
- Area Three – Wanliss Street to Governor Road Reserve including Naval Memorial Park.

The Master Plan proposes an updated palette of beach access, urban furniture and accompanying elements within each of the three study areas. These new items will progressively replace older stock. Items will include:

- beach access paths;
- standard and custom seating;
- picnic tables with benches;
- shade structures;
- bin enclosures;
- beach showers and bubblers;
- exercise equipment;
- bike racks and supporting infrastructure;
- bollards;
- balustrades, handrails; and,
- signage and wayfinding;
- fencing;
- toilet facilities;
- lighting; and,
- public art and interpretive elements.

6.1.1 key principles

There is a broad range of urban items spanning different timeframes and styles with a general underlying theme of the 'wedgewood blue' colour palette tying it all together. There has been no discernible prior strategy concerning existing furniture placement. This has the effect of undermining the spatial definition and visual quality of the parks and reserves.

For example, people tend to gravitate towards seating and shelters and take the path of least resistance to the nearest bin or bubbler. As such, the effect of furniture selection and positioning is critical to how a space is being used (or not used). The adage 'form follows function' is a useful starting point when considering an overall approach to furniture selection and layout. The following principles governing the design, selection, and positioning of furniture items have been identified as a guide and all detailed propositions for furniture inclusion should be measured against them.

1. 'Less is more' – every item should be questioned as to whether it's really needed. If an area turns out to be under-catered for, it can always be added to later with a better understanding of what is actually required and how best to incorporate it;
2. Do not cater for 'maximum capacities' as this will lead to elements that are under used most of the time, increase clutter and become a burden to maintain;
3. Furniture items and elements should be broadly complementary as a 'suite' or 'family' of items;
4. All items should be appropriate to a coastal context and align visually with a 'relaxed Rockingham atmosphere';
5. Items should be generally timeless in appearance and avoid accruements and ornamentation except where a commissioned piece is deployed;
6. Furniture selection and positioning to be undertaken on a space by space basis with a considered design approach. This begins by firstly understanding the function and purpose of the space and then matching items to that purpose;
7. Items are positioned and arranged for maximum effectiveness without adversely affecting the space in which they are servicing;
8. All furniture items are to be considered as a part of a detailed site design;
9. Most furniture items should be aligned with access and circulation (such as paths, streets etc);
10. Where furniture items are grouped to form 'nodes', a definitive understanding of the quantity and purpose of nodes needs to be considered as well as their relationship to each other;
11. Each node's layout must be designed within the broader context; and,
12. Items that can cater to universal access requirements should be incorporated.

image 6.1: [A]Beach Access Type A - example image, Cottesloe Beach

image 6.2: [A] Beach Access Type A - example image, Port Coogee Marina

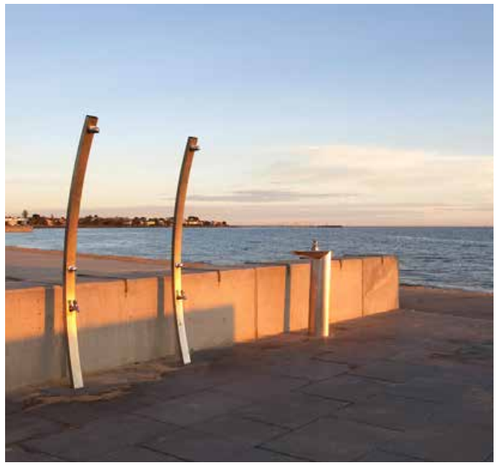


image 6.3: [B] Beach Access Type B - example image, Elwood Foreshore

image 6.4: [B] Beach Access Type B - example image, Frankston Foreshore Pier

image 6.5: [C] Beach Access Type C - existing

image 6.6: [C] Beach Access Type C - example image, Brunswick Heads Beach

6.2 beach access types

A series of 'beach access types' are identified in the Master Plan that cater to a specific purpose for end users of the Rockingham Beach Foreshore reserve and parklands. These consist of beach access types A, B and C.
A summary of the proposed beach access types are as follows:

[A] Beach Access Type A:

'Beach Access Type A' is a high amenity beach access which consists of:

- a complimentary beach amenity node (Refer 6.3 amenity nodes);
- a hardstand access to the beach incorporating universal and inclusive access;
- provision for universal access beach matting where possible/if required;
- provision of a grassed area where possible;
- fencing to dunes (Refer 6.5.2 Dune Fencing);
- inclusion of shade trees and/or shade structures; and,
- provision of additional amenity nodes adjacent or in the vicinity, including barbeque nodes, bin nodes, bike nodes and exercise nodes (Refer 6.3 amenity nodes).

[B] Beach Access Type B:

'Beach Access Type B' is a serviced beach access which consists of:

- a beach amenity node (Refer 6.3 amenity nodes);
- vehicle service access to the beach where possible;
- provision for universal access beach matting where possible;
- fencing to dunes (Refer 6.5.2 Dune Fencing);
- inclusion of shade trees where possible; and,
- provision of additional amenity nodes adjacent or in the vicinity, including barbeque nodes, bin nodes, bike nodes and exercise nodes (Refer 6.3 amenity nodes).

[C] Beach Access Type C:

'Beach Access Type C' is a fenced beach access which consists of:

- informal sand path to the beach;
- fencing to dunes (Refer 6.5.2 Dune Fencing); and,
- provision of additional amenity nodes adjacent or in the vicinity, including barbeque nodes, bin nodes, bike nodes and exercise nodes where possible (Refer 6.3 amenity nodes).

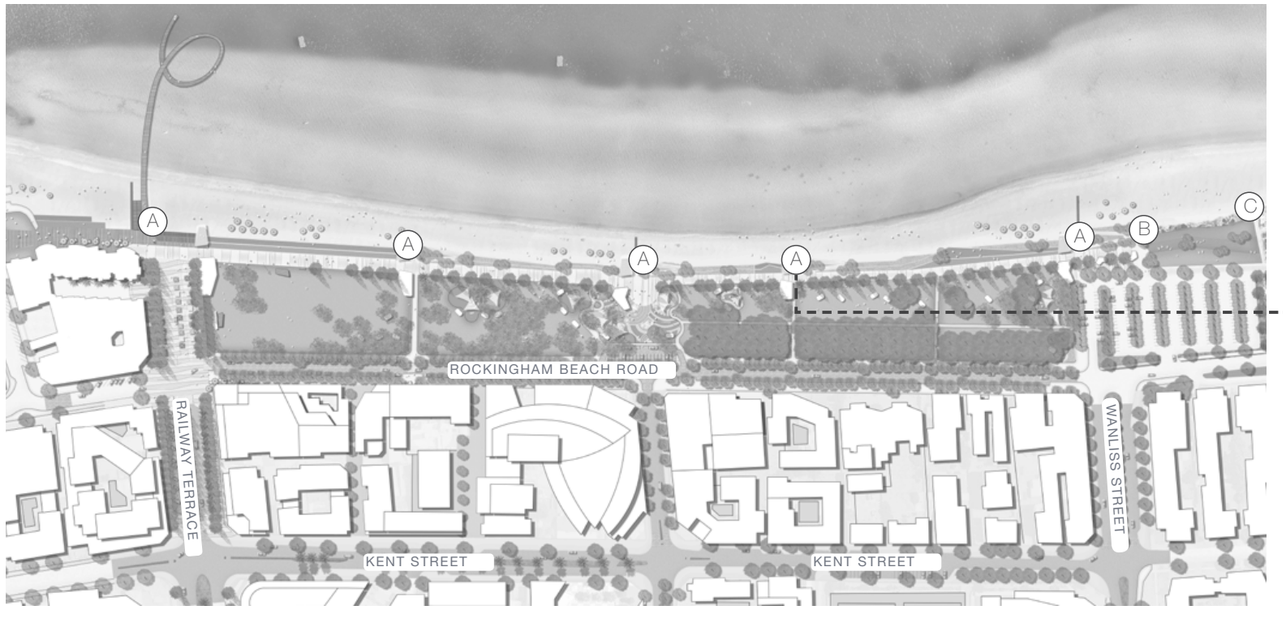


figure 6.1: area one - bell and churchill park - beach access types

figure 6.2: area two - palm beach and esplanade - beach access types

Ⓐ beach access type a

Ⓑ beach access type b

Ⓒ beach access type c

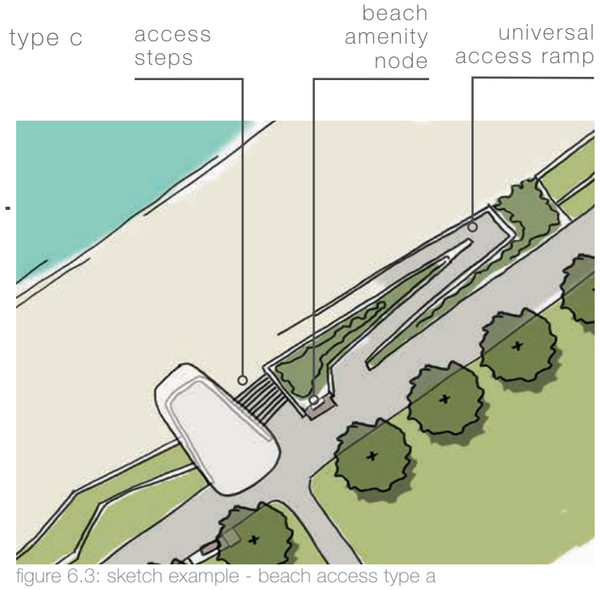


figure 6.3: sketch example - beach access type a

Ⓐ beach access type a

Ⓑ beach access type b

Ⓒ beach access type c

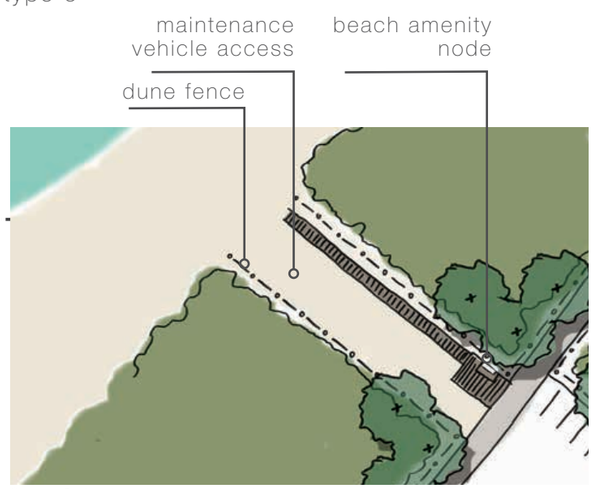


figure 6.4: sketch example - beach access type b

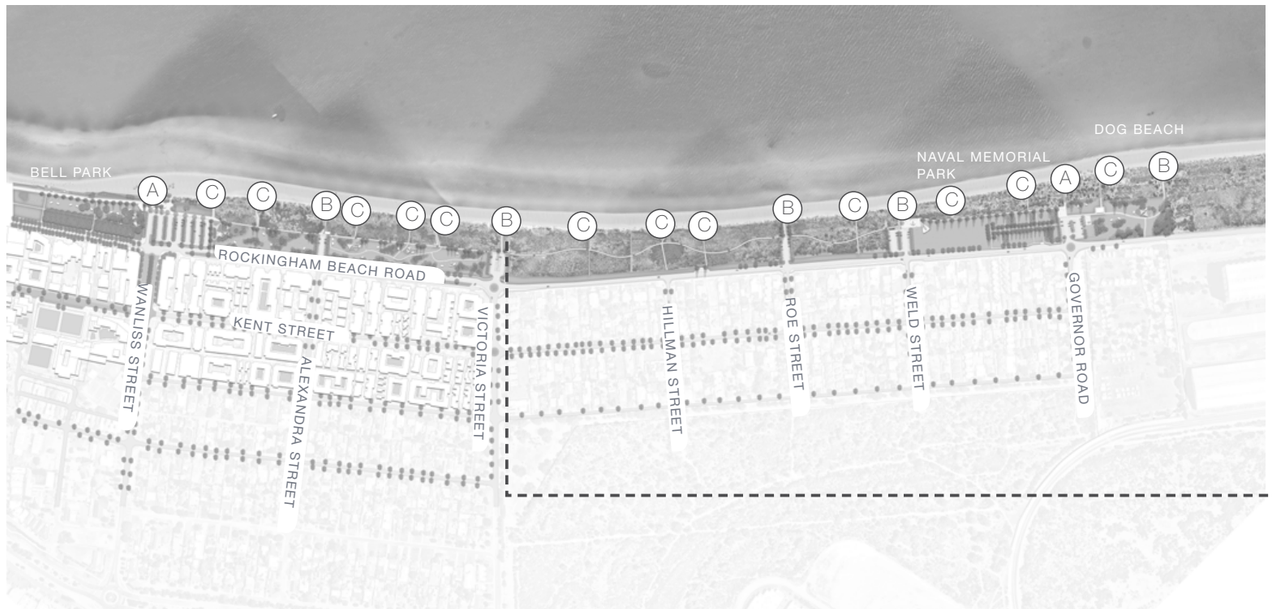


figure 6.5: area thee - wanliss street to governor road -beach access types

A beach access type a

B beach access type b

C beach access type c

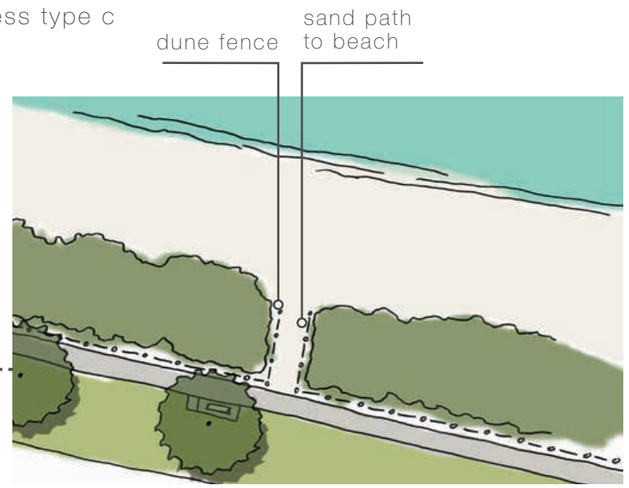


figure 6.6: sketch example - beach access type c

image 6.7: [PN] Picnic node example image, Esperance Foreshore

image 6.8: [BBQ] Barbecue node example image

image 6.9: [BIN] Bin Node example image, Waikiki Public Space

image 6.10: [BAN] Beach Amenity Node example image

image 6.11: [EBN] Enhanced Bike Node example image

image 6.12: [SBN] Standard Bike Node example image, South Hedland

image 6.13: [EXN] Exercise Node example image, Esperance Foreshore

6.3 amenity nodes

A series of functional 'amenity nodes' are identified in the Master Plan that cater to a specific purpose for end users of the Rockingham Beach Foreshore reserve and parklands. Each node is designed to perform a set function and is to be detailed so as to appear simple, robust yet attractive, and context appropriate. Most nodes will involve the arrangement of purpose selected furniture and items, but many will also include ground surface treatments and will benefit from integration into the surrounding landscape. On a case-by-case basis 'amenity nodes' may require the inclusion of low walls, mass plantings, trees, pole lighting, signage and so forth. Certain nodes will require shade structures which shall be purpose designed for the City of Rockingham. Figures 6.7, 6.8 and 6.9 indicate locations for different amenity node types. A summary of the proposed amenity nodes are as follows:

[PN] Picnic Node:

A picnic node consists of:

- textured concrete pad;
- shade shelter with lighting; and,
- picnic table and bench seating (provision for wheelchair access where possible).

[BBQ] Barbeque Node:

Each picnic node will have a corresponding hotplate at a barbecue node. Each barbecue node will be provided within 30m of a picnic node.

A barbecue node consists of:

- textured concrete pad;
- minimum three hotplates; and,
- single bin enclosure.

[BIN] Bin Node:

A bin node will co-locate rubbish, glass, and plastic recycling in a space efficient cluster. They will be located in an accessible area off the N-S access paths and/or within the kiosk structures.

A bin node consists of:

- sealed concrete pad; and,
- 240L bin enclosures colour coded for rubbish, glass recycling, other recycling; and prominent signage.

[BA] Beach Amenity Node:

At each access point to the beach within Area One, a suite of elements is to be provided including the following:

- textured concrete pad with drainage;
- beach shower/foot wash;
- bubbler;
- grab rail; and,
- single bin enclosure.

[SBN] Standard Bike Node:

Bike nodes will be located in proximity of shared paths and areas accessible by bicycle at logical stop points such as beach access, retail areas, toilets, and the kiosk structures. The nodes are to have high visibility.

A standard bike node consists of:

- textured concrete pad;
- lockable bike racks (numbers determined on site by site basis); and,
- prominent signage.

[EBH] Enhanced Bike Node

An enhanced bike node will be located at major gateway areas (such as Rockingham Beach Plaza) and have enhanced provisions for cyclists consisting of:

- textured concrete pad;
- lockable bike racks (numbers determined on site by site basis);
- prominent signage; and,
- bicycle repair station - inclusive of hand pump, tools, and workbench.

[EXN] Exercise Node

Exercise nodes are to be provided at regular intervals along the shared path in Areas Two and Three. Collectively the nodes will function as a 'complete' fitness circuit. Individually each node will focus on a grouping of complementary exercises. An exercise node consists of:

- equipment from the same product family and appropriate to a coastal context;
- instructional signage;
- softfall where required;
- textured concrete pad where required;
- respite seat within 30m;
- bubbler within 30m of exercise node if practicable; and,
- bike rack(s) within 30m.

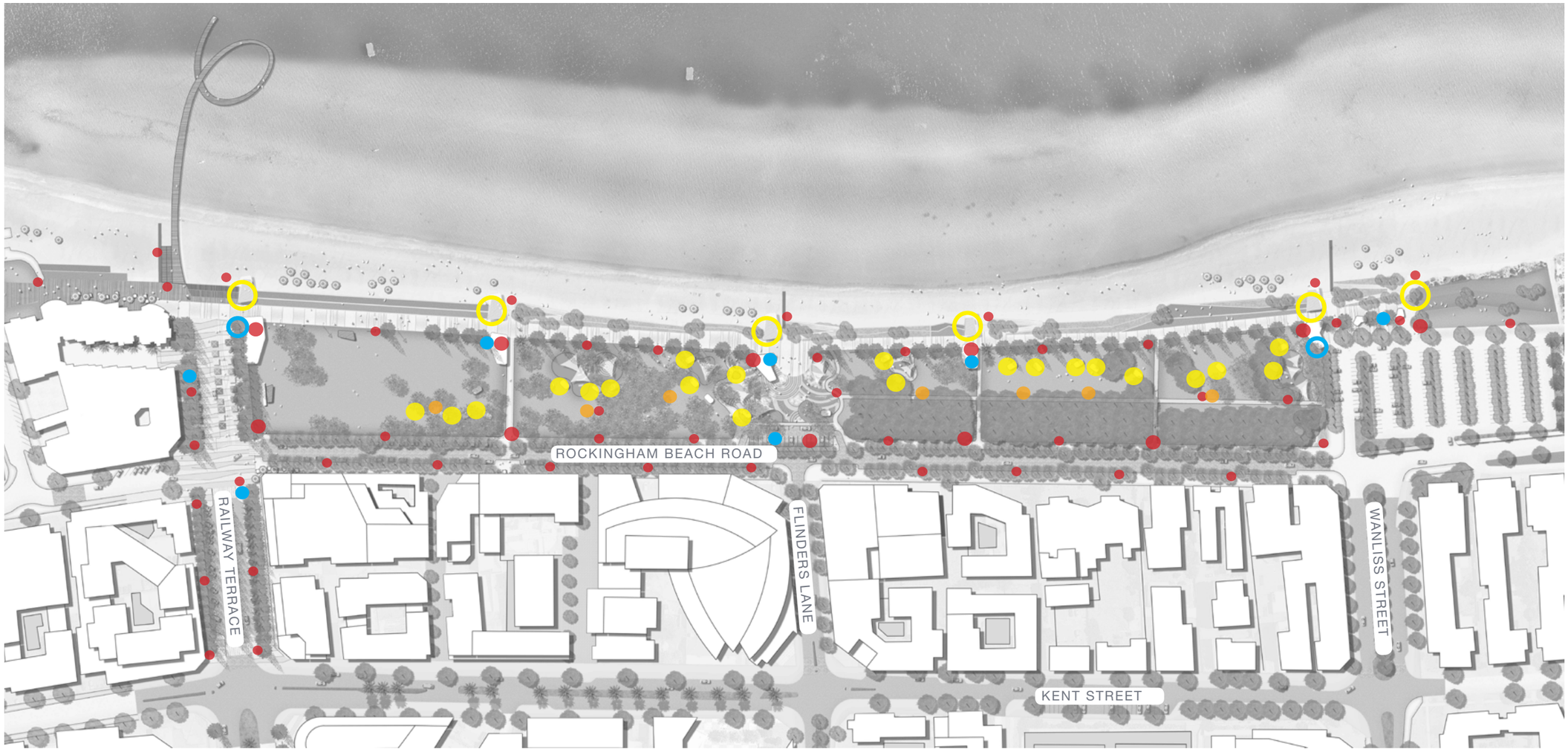


figure 6.7: area one - bell and churchill park - amenity nodes

- major bin node
- standalone bin
- barbecue node
- picnic node
- standard bike hub
- enhanced bike hub
- beach amenity node

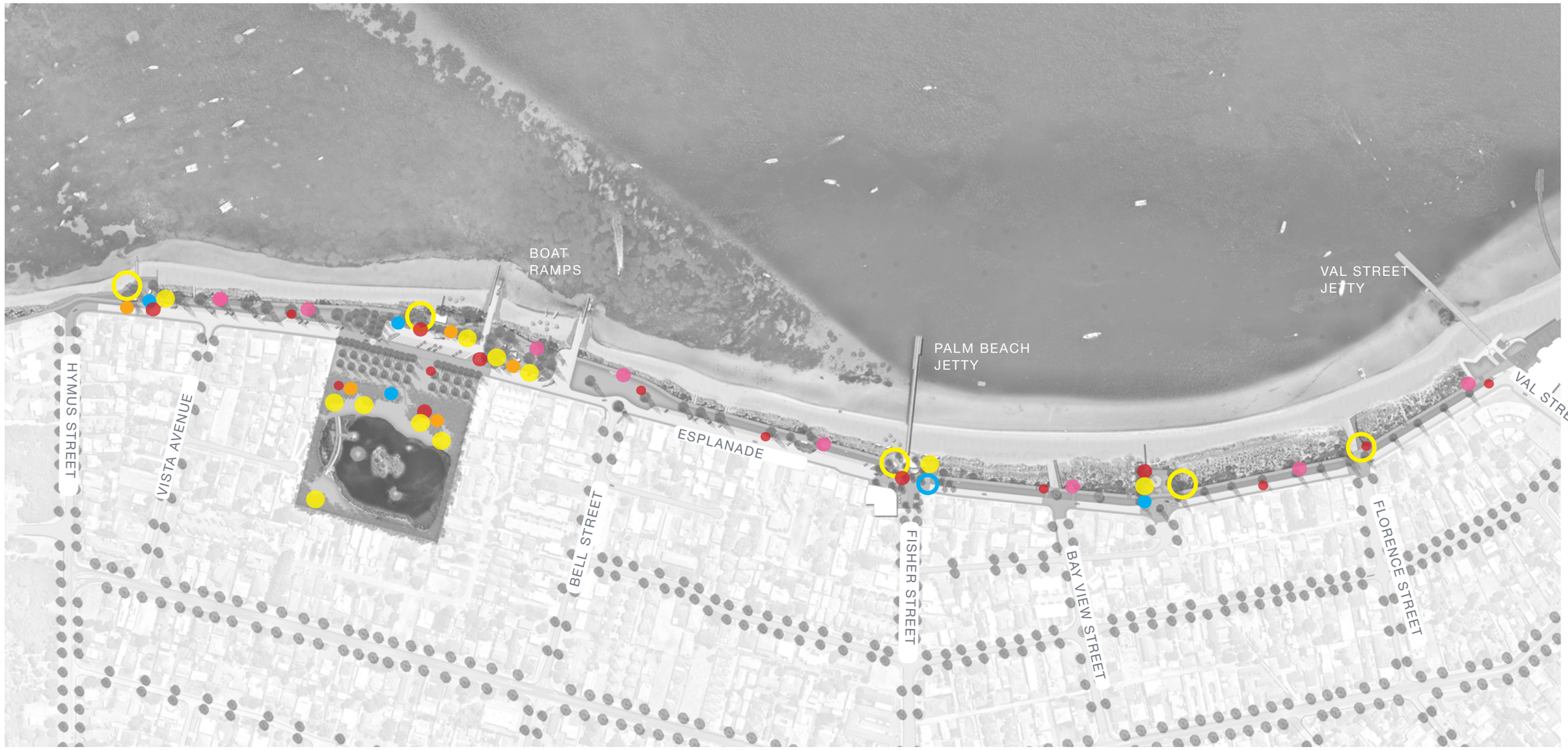


figure 6.8: area two - palm beach and esplanade - amenity nodes

- major bin node
- standalone bin
- barbecue node
- picnic node
- standard bike hub
- enhanced bike hub
- beach amenity node
- exercise node

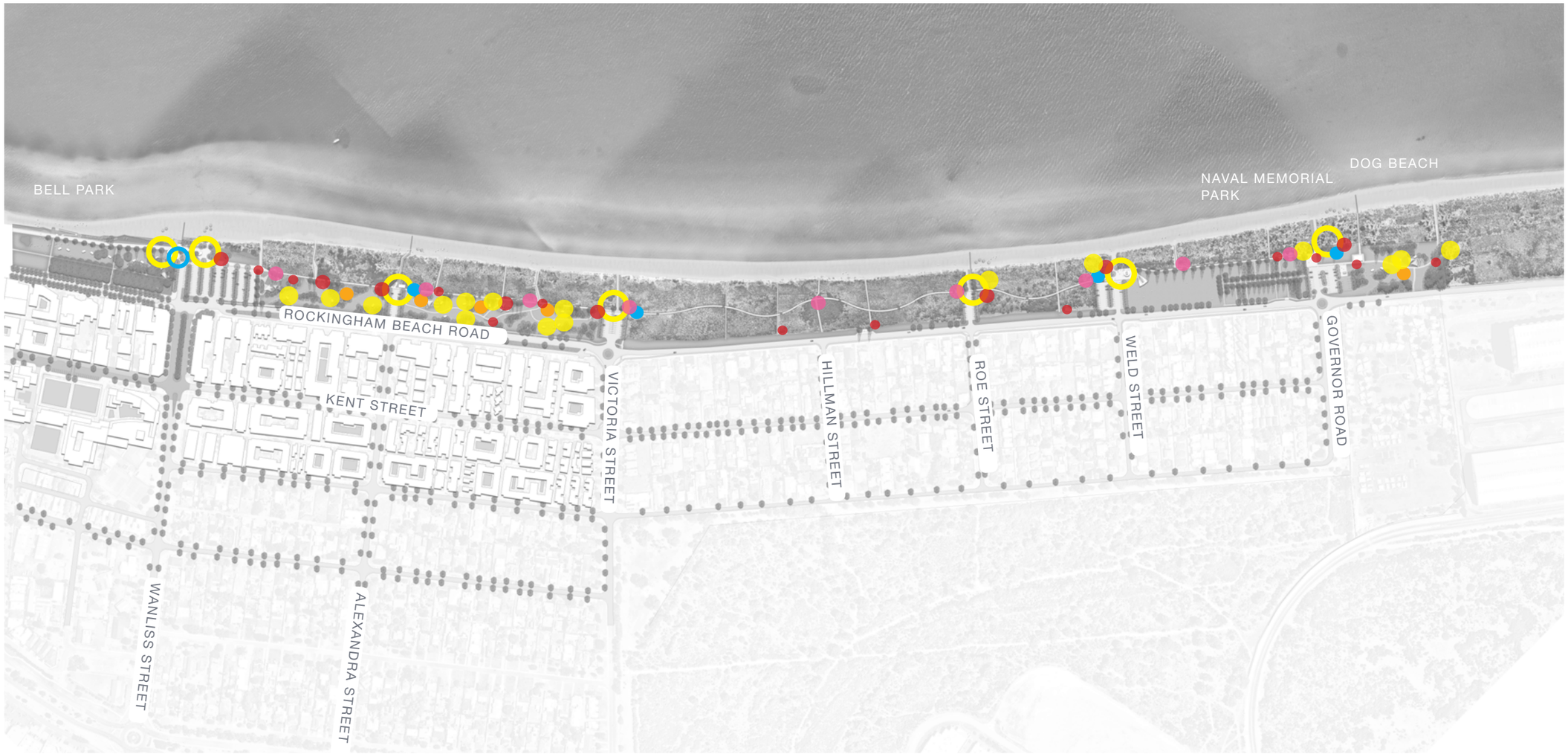


figure 6.9: area thee - wanliss street to governor road - amenity nodes

- major bin node
- standalone bin
- barbecue node x 2
- picnic node x 2
- standard bike hub
- enhanced bike hub
- beach amenity node
- exercise node

6.4 seating

Public seating is essential to any well used urban realm, park or reserve. To this end, the Master Plan presents the following strategy for seating design, selection and placement to ensure that it unfolds in a coherent manner responsive to the qualities of the site, the needs of the end user, and City's ongoing maintenance requirements.

6.4.1 seating principles

The seating strategy broadly involves:

1. detailed assessment and audit of existing seats including condition, type, function, location and orientation to determine whether the seat is to be:
    a. deleted entirely;
    b. replaced in same or nearby location;
    c. retained as is;
    d. new seat in new location; or
    e. identified as 'special' – such as memorial seating, artist designed seating, custom/interpretive seating.
2. incremental replacement of existing seats as required over short, medium and long term time frames;
3. when replacement is to occur, an assessment of positioning, purpose and performance will determine if a more optimal configuration can be achieved;
4. all options to be assessed against the goal of reduced clutter, reduced obstruction, and improved accessibility by using a minimum number of elements (consider placing on an as-needs basis); and,
5. in areas where significant improvement works are to take place, the detailed design of the area will determine the most effective seating arrangements.

6.4.2 seating selection

This Master Plan recommends that most seats be selected from a consistent product line ('family') of seats by a single manufacturer (except for unique or custom pieces). A number of quality product lines already exist that can be utilised directly or adapted, or alternatively the City could develop a completely new suite of furniture with a manufacturer. Either way, a seating family should have the following attributes:

- generally appropriate to a coastal context;
- non obtrusive simple design and 'timeless' contemporary appearance;
- complementary with other furniture items;
- robust 20+ year lifespan;
- wedgewood blue powdercoat finish over aluminium frame;
- multiple configurations within the same family: backless, back rest, arm rest, wheelchair accessible;
- battened seating surface interchangeable between hardwood timber, aluminium extrusion, recycled plastic;
- surface mounted and sub-surface fixture option; and,
- cost effectiveness over entire lifecycle.

image 6.14: Vista Seating example image, Esperance Foreshore

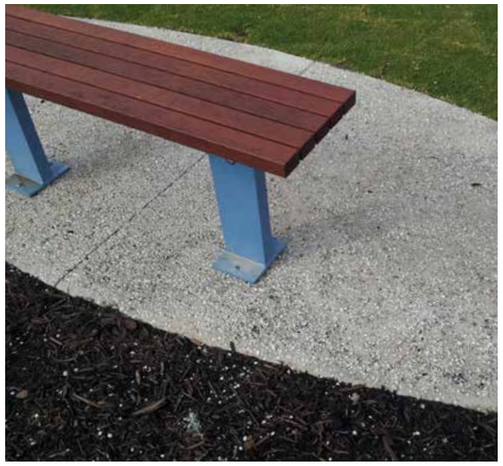


image 6.15: Parkland Seating example image, Waikiki Public Open Space

image 6.16: Respite Seating example image, Northlake Public Open Space

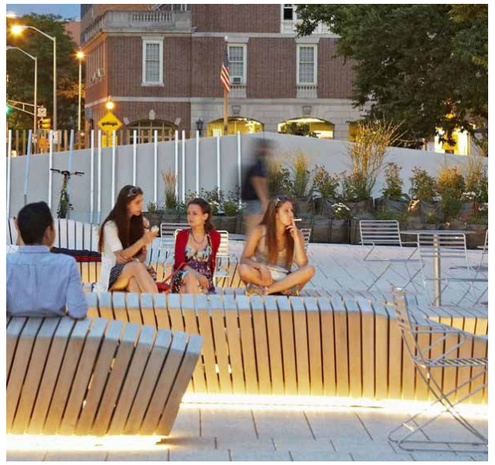


image 6.17: Social Seating example image, Harvard Plaza

image 6.18: Social Seating example image, Brighton, UK

image 6.19: Custom Seating, example image, Place de la Republique

image 6.20: Memorial Seating (existing), Rockingham Beach Foreshore

6.4.3 seating typologies

In order to assist with correct selection and placement, most seating will generally fit in one or more of the following typologies. Where a requirement for seating is identified, its corresponding typology should also be determined. The following applies to Areas One, Two and Three.

Vista Seating:

- seating positioned with an unobstructed outlook over Cockburn Sound;
- generally located under a shade tree; and,
- seat to incorporate a back rest and arm rests.

Parkland Seating:

- seating within a parkland space;
- solitary seating e.g. – under a tree, with a view, nearby to amenity;
- grouped seating – arranged to promote interaction;
- a mix of bench seats, seats with back rests, and seats with back and arm rests depending on configuration; and,
- ensure wheelchair accessibility in accessible locations such as adjacent to a path.

Respite Seating:

- seating located along a pedestrian route at approximately 150m intervals;
- seat to incorporate back rest;
- positioned 600mm back from path;
- textured concrete pad large enough to accommodate wheelchair alongside where accessible;
- where feasible, a bubbler and/or bin enclosure can be provided nearby; and,
- 'vista' and 'respite' seating can be at times interchangeable (i.e. a seat can potentially perform both functions).

Social Seating:

- seating grouped together to facilitate social interactions;
- use of backless benches allows the user to face either direction;
- seating type combinations should cater for expected primary user groups (eg. where elderly users are expected the seat should have both a back rest and arm rest);
- space for wheelchairs should be incorporated where the seating location can be accessed; and,
- seating should be located where afternoon shade is available such as a purpose built shade shelter or trees.

Custom Seating:

'Special' spaces to have hard wearing custom designed seat elements. These spaces include:

- Rockingham Beach Plaza – dressed hardwood timber logs (interpretive of Jarrahdale – Rockingham railway);
- new Rockingham Beach Jetty - dressed hardwood timber logs (interpretive of Jarrahdale – Rockingham railway); and,
- Bell and Churchill Maritime Playground – themed seating design as part of overall playground design.

Memorial Seating:

- no new memorial seats within the study area;
- existing seats are to be maintained in a serviceable condition for the duration of their designed lifespan or retired after 25 years whereby they are returned or disposed of as per the families wishes; and,
- where improvement works necessitate the removal of a memorial seat, all effort to contact the relevant families is to be made and an alternative location for the seat to be jointly agreed using the principles identified under this strategy.

6.4.4 seating placement

Placement is critical to the success of public seating as it must respond to how the seating is envisaged to be used. In this respect, a 'Seating Typology' as described above should be identified as a starting point and the following principles where relevant applied:

1. locate seating nodes near tourist attractions, meeting places, retail uses, playgrounds, artworks, etc;
2. seats should generally be aligned with paths of travel or oriented towards a view or outlook;
3. consider proximity to shade trees and account for unobstructed sightlines when locating vista and respite seating;
4. groupings of seats should be arranged to promote social interactions between people;
5. locate seats clear of building entrances, emergency access points and service covers;
6. where close to a street, shared path or carpark, locate seats a minimum of 600mm back from the edge to avoid collisions by vehicles; and,
7. space seats a minimum of 1m apart to allow for easy access.

image 6.21: [MHB] Maritime Handrails and Balustrade (existing)

image 6.22: [PPB] Pioneer Promenade Balustrade example image, Punggol, Singapore

image 6.23: [HSR] Handrails to Stairs and Ramps example image, Subiaco Square

image 6.24: [UB] Urban Bollard example image

image 6.25: [DF] Dune fencing (existing)

image 6.26: [SB] Standard bollard example image

6.5 fencing, balustrades and bollards

Generally fencing and balustrades should be used sparingly with the following principles as a guide:

1. Vegetated dunes are to be protected via fencing;
2. Accessible stairs and ramps are to have handrails;
3. Where sudden falls exceeding 1m (such as retaining walls) are present, the preferred scenario is to 'design out the fall' to reduce it to under 1m if possible; and,
4. Bollards should not be used as a decorative feature and generally only be deployed as a means of limiting vehicular access.

6.5.1 area one items

[MHB] Maritime Handrails and Balustrade

It is recommended that the existing balustrade treatment be retained to Area One where required, as follows:

- 'Monowills' style Handrail and Stanchion system painted white

[PPB] Pioneer Promenade Balustrade

Where required, should be custom designed with the following principles in mind:

- simple and unadorned suitable for a coastal context;
- visually permeable;
- stainless Steel or similarly non corrosive stanchions; and,
- timber top horizontal member suitable for leaning against.

[HSR] Handrails to Stairs and Ramps

Where new ramps and stairs are proposed:

- simple unadorned stainless steel rail and stanchion compliant with AS 1428.1.

[UB] Urban Bollard

Bollards might be required in the Bell and Churchill Park precinct in the following areas:

- Rockingham Beach Plaza entry area;
- Rockingham Beach Road (Shared Road); and,
- service entry points.

Generally they should be a simple unadorned high quality stainless steel post of approx. 120mm diameter from the same 'family' of products.

The following variations from the same supplier should be considered:

- Standard Bollard
- Security Bollard
- Retractable Bollard

6.5.2 area two and three items

[MHB] Maritime Handrails and Balustrade

Where handrails or balustrades are required in Areas Two and Three, such as for ramps, stairs or level changes, the following should be used:

- 'Monowills' style Handrail and Stanchion system painted white (urban/jetty context) or as galvanised finish (dune/low key context).

[DF] Dune Fencing

All dune fencing in Areas Two and Three is to be of a single type as per the following:

- Dune fencing is to be low key and visually recessive;
- It will consist of treated pine logs up to 1m high with 4 strands of tensioned fencing wire; and,
- Beach entry points through dunes will have a horizontal top member.

[SB] Standard Bollard

Where it is determined that bollards are required - such as in the vicinity of car parks, road/path interfaces, or where a low key visual 'signal' is needed, the following should apply:

- Bollards are to be low key, simple and free of ornamentation;
- Bollards to be treated pine with chamfered tops and single rebate; and,
- Finishes to be: a) natural treated pine b) black treated pine.

image 6.27: [SS1] Beach Overlook and Kiosk Shelter example image, Waikiki Public Open Space

image 6.28: [SS2] Picnic Node Shelter example image, Waikiki Public Open Space

image 6.29: [SS2] Playground Shelter example image 1, Malibu Lagoon

image 6.30: [SS2] Playground Shelters example image 2, Shanghai Houtan Park, China

image 6.31: [SS2] Playground Shelter example image 3, Oculus

image 6.32: [SS2] Playground Shelter example image 4, Toronto, Canada

6.6 shade shelters

Shade shelters are to be custom designed specifically for the Rockingham Beach Foreshore with the following properties:

[SS1] Beach Overlook and Kiosk Shelters (Area One)

- Beach overlooks and kiosks are to be detail designed together as a ‘pair’;
- Shelters to be steel frame with extruded colour anodised aluminium battens providing shade; and,
- Colour anodised battens to be from an ombré tonal range forming a unique colour scheme to each overlook/kiosk to improve way finding.

[SS2] Picnic Node Shelters (Areas One, Two and Three)

The design of picnic node shelters is to be broadly consistent, however finishes/colours will relate to each area.

- Picnic Node Shelters are to be lightweight battens over aluminium uprights;
- Battens are to be a colour gradient ombré or spectrum of tonal shades of mildly de-saturated colours reminiscent of “Rockingham”; and,
- Picnic Shelters in each area to have a particular colour spectrum:
  - Area One – hardwood timber battens over charcoal powder coat aluminium upright
  - Area Two – powder coated aluminium batten in ombré shades from greenish to yellow over charcoal powder coat aluminium upright
  - Area Three - powder coated aluminium batten in ombré shades from blueish to white (incorporating wedgewood blue) over charcoal powder coat aluminium upright

[SS3] Playground Shelters (Areas One, Two and Three)

Playground Shelters are to be uniquely designed for each play environment.

6.7 surface materials

The material palette is to be simple, complementary of existing material finishes in Rockingham and suitable for a foreshore application. The following material intent provides a guide.

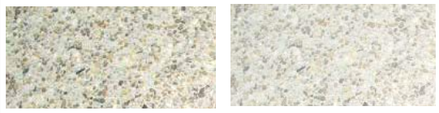
TYPE	DESCRIPTION	AREA	IMAGE
1	In-situ concrete with high quality exposed aggregate	Area One, Area Two, Area Three	
2	In-situ concrete with broomed finish	Area One, Area Two, Area Three	
3	In-situ concrete with shell grit finish	Area One, Area Two, Area Three	
4	In-situ concrete with high quality exposed aggregate with interpretive inlays	Area One	
5	Hardwood timber decking	Area One	
6	Dimensioned granite setts	Area One	
6a	Natural stone unit paving	Area One	
7	Natural treated pine decking	Area Two, Area Three	
8	Red gravel asphalt	Area Two, Area Three	
9	GFC meshing	Area Two, Area Three	
10	Poured limestone with troweled finish	Area Two, Area Three	

figure 6.10: surface materials table

6.7.1 area one materials

Pioneer Promenade

- (Type 1) In-situ concrete with high quality exposed aggregate (2 colours);
- engineered to support service vehicles;
- 'beachy' colours/feel – not too bright to reduce glare;
- Interpretive inlays/words to side of path;
- Joints to be consistent and of a high quality; and,
- Surface to be suitable for low speed bicycles.

'The Boardwalk'

- (Type 5) Hardwood Timber Decking

Rockingham Beach Plaza

Surface to be custom designed. The following principles are a guide:

- (Type 1) In-situ concrete with high quality exposed aggregate; and/or,
- (Type 6a) Natural stone paving;
- Suitable for vehicle traffic ability;
- Coastal appropriate paving pattern to be developed;
- Interpretive inlays (Jarrahdale – Rockingham Railway to be considered in design); and,
- Jarrah timber 'seating steps' to beach.

Rockingham Beach Road – Shared Space

Surface to be custom designed. The following principles are a guide:

- (Type 6) Dimensioned granite setts to road surface; and/or,
- (Type 6a) natural stone unit paving to footpaths; and,
- Service pit lids to be infilled with stone setts.

Minor Paths

- (Type 2): In-situ concrete with broomed finish; or,
- (Type 3): In-situ concrete with shell grit finish.

Concrete Pads and Small Hardstands

Continue adjacent material under, or if standalone pad required, then finish is to be:

- (Type 2): In-situ concrete with broomed finish; or,
- (Type 3): In-situ concrete with shell grit finish.

Retaining Walls

- Limestone Block

Beach Access Steps and Ramps

- (Type 2): In-situ concrete with broomed finish; and,
- include tactile indicators and nosings to AS 1428.1 where required.

Beach Overlooks

- (Type 4) In-situ concrete with high quality exposed aggregate with interpretive inlays; and/or,
- (Type 4) Hardwood Timber Decking.

6.7.2 area two and three materials

Shared Path

- (Type 8) Red gravel asphalt with AC5 wearing course bound by flush kerbs; and,
- Lane and Distance markings and graphics applied with thermoplastic paint.

Boardwalks, Decks and Lookouts

- (Type 7) Natural treated pine decking or,
- (Type 9) GFC meshing.

Parkland Paths

- (Type 1): In-situ concrete with broomed finish;
- (Type 2): In-situ concrete with shell grit finish; or,
- (Type 10): Poured limestone with troweled finish.

Concrete Pads and Small Hardstands

- (Type 2): In-situ concrete with broomed finish;
- (Type 3): In-situ concrete with shell grit finish; or,
- (Type 10): Poured limestone with troweled finish.

Retaining Walls

- Limestone Block.

image 6.33: Toilet facility existing

image 6.34: Toilet facility existing

image 6.35: Toilet facility existing

image 6.36: Toilet facility existing

image 6.37: Toilet facilities example image , Lizard Log Park

image 6.38: Toilet facilities example image , Lizard Log Park

6.8 toilet facilities

Proposed toilet facilities should generally align with other commercial opportunities such as beach kiosks or cafes. The following principles are a guide as to the locations, materials, themes and functions of toilet facilities within the Rockingham Beach Foreshore area:

1. detailed assessment and audit of existing toilet facilities including condition, type, function, and location to determine whether the facility is to be:
    a. removed entirely;
    b. replaced in same or nearby location;
    c. retained as is; and,
    d. new facility in new location.
2. Toilet facilities are not to obstruct views and are to be located in key locations only;
3. Integrated facilities with other uses such as beach kiosks/cafes and change rooms;
4. toilets are to be well lit at night;
5. toilets are to be designed for universal accessibility;
6. where in proximity to significant playgrounds, toilets can include parenting facilities;
7. toilets to be positioned according to CPTED principles,avoiding hiding spots and with high visibility/ surveillance; and,
8. toilet facilities to be designed to appear visually sympathetic to the coastal location and consistent with the aims of the Master Plan.

image 6.39: [SL] Street lighting existing

image 6.40: [PL] Park lighting existing

image 6.41: [PL] Park lighting example image, Elwood Foreshore

image 6.42: [UL] Up-lighting example image

image 6.43: [FL] Feature lighting example image, William Buckley Bridge

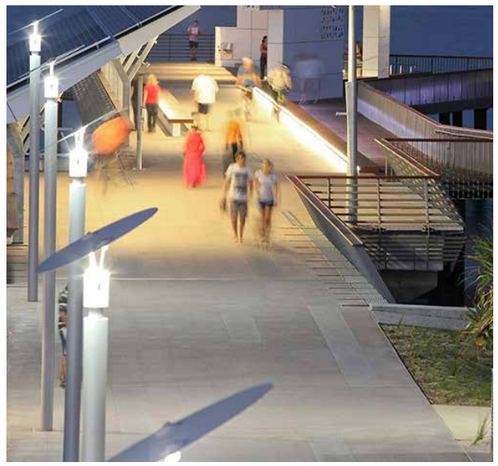


image 6.44: [FL] Feature lighting example image, Southport Broadwater Parklands

image 6.45: [LW] Low wash lighting example image, The Plaza at Harvard

image 6.46: [EL] Event lighting example image, South Perth Fiesta

6.9 lighting

Lighting is essential to any well used urban realm, park or reserve. The challenge is to encapsulate the unique qualities of Rockingham Beach Foreshore by day and transfer these into a night time environment to cater for residents, workers, tourists and visitors alike. To this end, the Master Plan presents the following strategy for lighting design, selection and placement to ensure that it unfolds in a coherent manner responsive to the qualities of the site, the needs of the end user, and City's ongoing maintenance requirements.

6.9.1 lighting principles

The lighting strategy broadly involves:

1. detailed assessment and audit of existing lighting including condition, type, function, and location to determine whether the light is to be:
    a. deleted entirely;
    b. replaced in same or nearby location;
    c. retained as is; or,
    d. new light in new location.
2. incremental replacement of existing lights as required over short, medium and long term time frames;
3. when replacement is to occur, an assessment of positioning, purpose and performance will determine if a more optimal configuration can be achieved;
4. in areas where significant improvement works are to take place, the detailed design of the area will determine the most effective lighting arrangements;
5. use of efficient lighting sources and techniques;
6. use of light to define the gateways to the Rockingham Beach Foreshore;
7. improved illumination of the foreshore to ensure public safety and enjoyment and consideration of CPTED principles in all detailed lighting design; and,
8. reduce clutter by incorporating other urban elements such as signage banners etc. onto poles where appropriate.

6.9.2 lighting selection

The Master Plan recommends that most street and park lights be selected from a consistent product line ('family') of lighting by a single manufacturer (except for unique or custom pieces). A lighting family should have the following attributes:

- generally appropriate to a coastal context (aluminium or composite material);
- non obtrusive simple design and 'timeless' contemporary appearance;
- complementary with other furniture items;
- robust 20+ year lifespan;
- charcoal powder coat finish over galvanised steel poles to Area One and wedgewood blue powdercoat finish to Areas Two and Three ;
- energy efficient fixtures;
- cost effectiveness over entire lifecycle; and,
- ease of maintenance/repair.

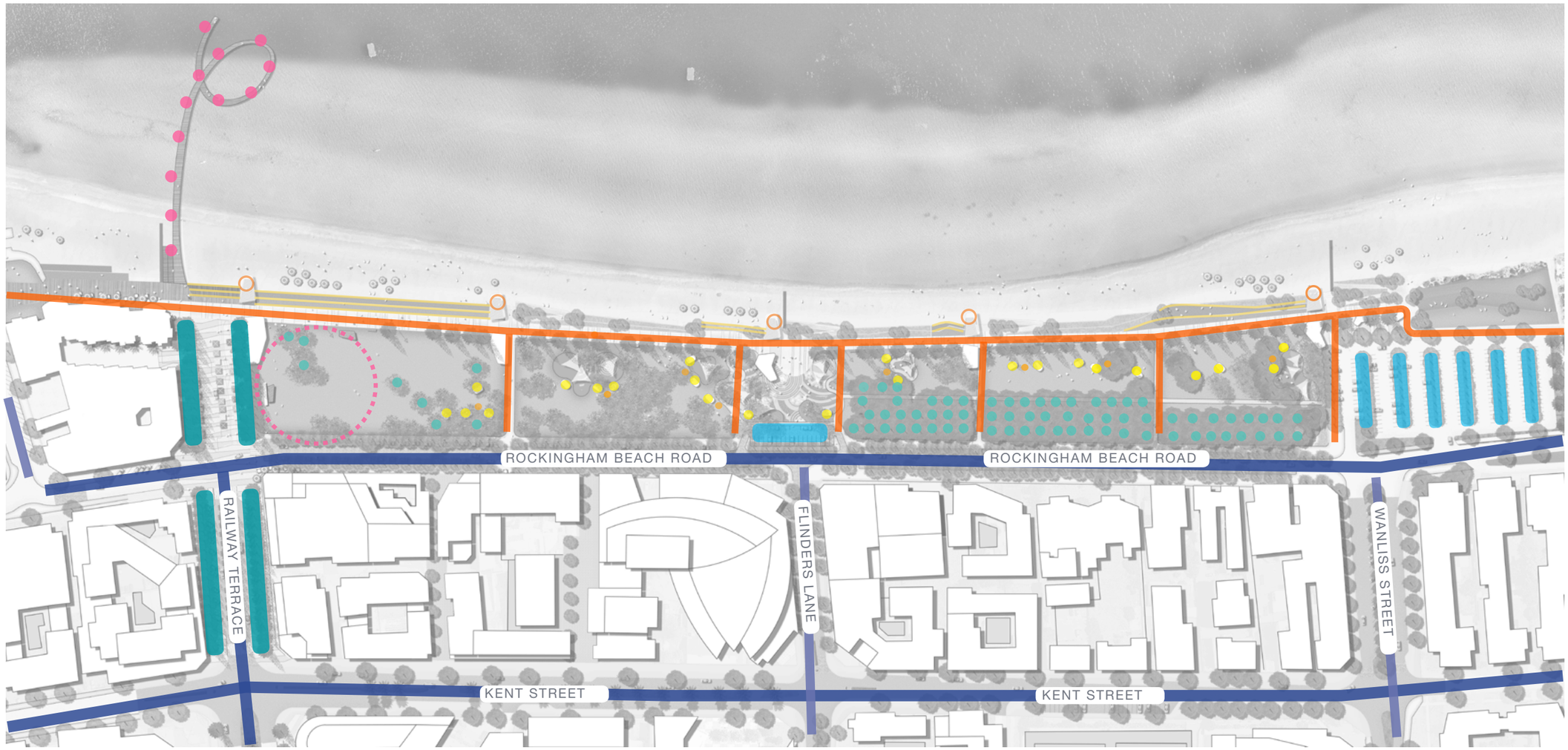


figure 6.11: area one - bell and churchill park - lighting strategy

- [SL] major road lighting
- [SL] minor road lighting
- [GL] gateway lighting
- [CL] carpark lighting
- [PL] path lighting
- [PL] barbecue node lighting
- [PL] picnic node lighting
- [PL] beach amenity node lighting
- [FL] feature lighting
- [EL] events lighting
- [UL] uplighting for feature trees
- [LL] low wash lighting

6.9.3 lighting typologies

In order to assist with correct selection and placement, most lighting will generally fit in one or more of the following typologies. Where a requirement for lighting is identified, its corresponding typology should also be determined. The following applies to Areas One, Two and Three.

[SL] Street Lighting:

- road and street lighting planning to define street hireachy is required; and,
- a photometric analysis to determine lighting requirements in accordance with relevant Australian Standards. This will determine spacing, quality and luminaire fixture types.

[GL] Gateway Lighting:

- gateway lighting to be used to define entries to Rockingham Beach Foreshore from Railway Terrace to the Rockingham Beach Plaza; and,
- lighting is to conform with relevant Australian Standards for pedestrian safety.

[PL] Park Lighting:

- park lighting is to be of a consistent palette and form;
- lighting is to be aligned with pedestrian access including paths, steps and ramps;
- lighting is to be incorporated within nodes such as shade shelters, picnic nodes and barbecue nodes; and,
- lighting is to conform with relevant Australian Standards for pedestrian safety.

[FL] Feature Lighting:

- special feature lighting can be incorporated into specific areas such as:
  - Rockingham Beach Plaza;
  - Rockingham Beach Jetty;
  - Palm Beach Jetty Precinct; and,
  - Naval Memorial Park
- lighting is to conform with relevant Australian Standards for pedestrian safety.

[EL] Events Lighting:

- permanent and temporary lighting solutions can be utilised for special events;
- lighting is to further illuminate specific areas such as the Churchill Events Lawn and the Active Node for only a given time; and,
- where feasible, a permanent solution can be integrated into the design of these spaces to allow for future use during events.

[LL] Low Wash Lighting:

- low wash lighting incorporated into furniture/walls etc;
- lighting fixture is not visible and creates a 'light wash' effect at low level; and,
- lighting is to conform with relevant Australian Standards for pedestrian safety.

[UL] Up-Lighting:

- up-lighting for feature trees including existing and future mature trees; and,
- lighting is to conform with relevant Australian Standards for pedestrian safety.

[CL] Carpark Lighting:

- carpark lighting to define carparking area and ensure pedestrian safety is required; and,
- a photometric analysis to determine lighting requirements in accordance with relevant Australian Standards. This will determine spacing, quality and luminaire fixture types.

6.9.4 lighting placement

Placement is critical to the success of public lighting to ensure safe and enjoyable use of spaces after dark. In this respect, a 'lighting typology' as described above should be identified as a starting point and the following principles where relevant applied:

- primarily locate lighting adjacent to streets and pedestrian access ways including plazas, paths, ramps and steps;
- consider proximity to other elements and account for unobstructed sightlines from seating, kiosks etc.; and,
- locate lighting well clear of building entrances, emergency access points and service pit covers.

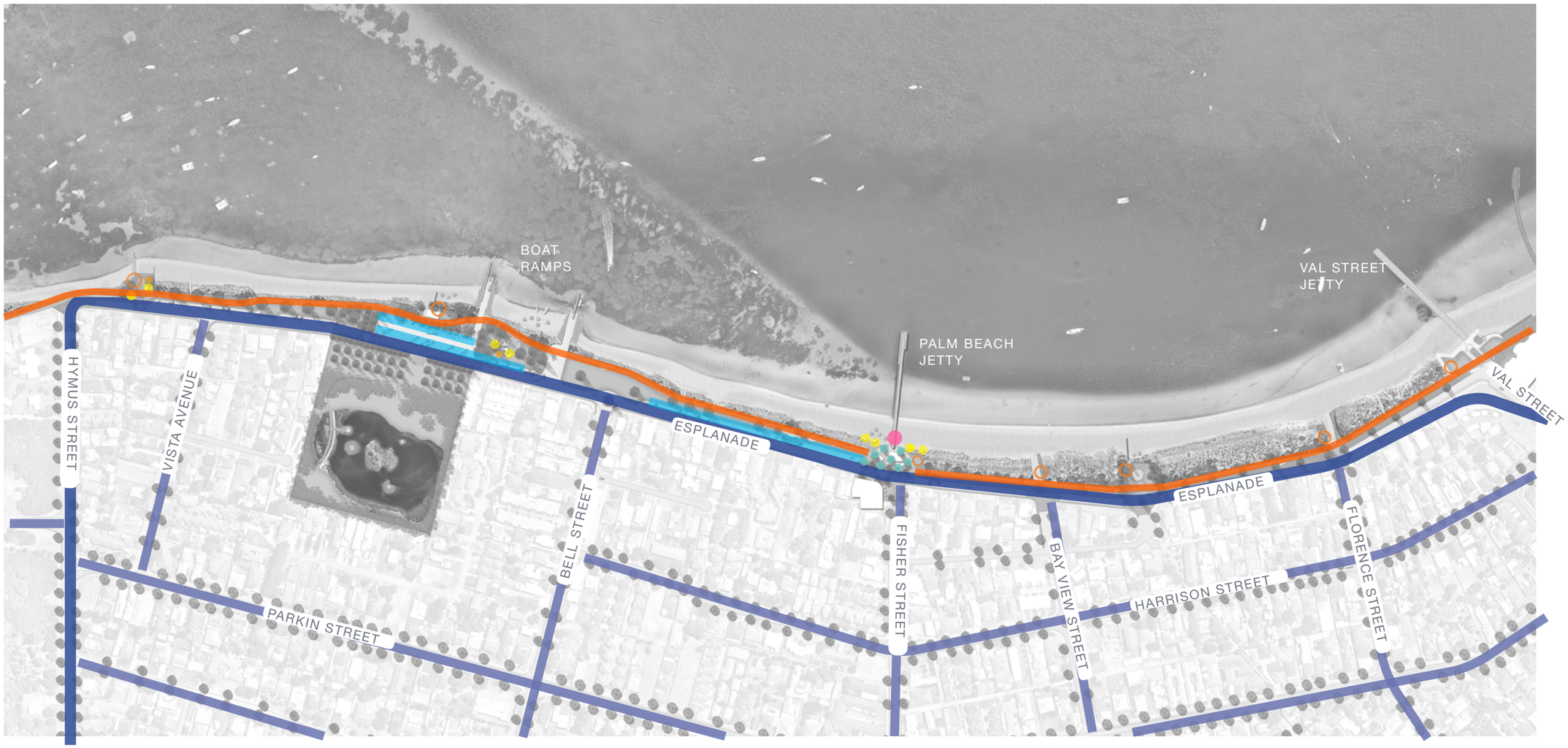


figure 6.12: area two - palm beach and esplanade - lighting strategy

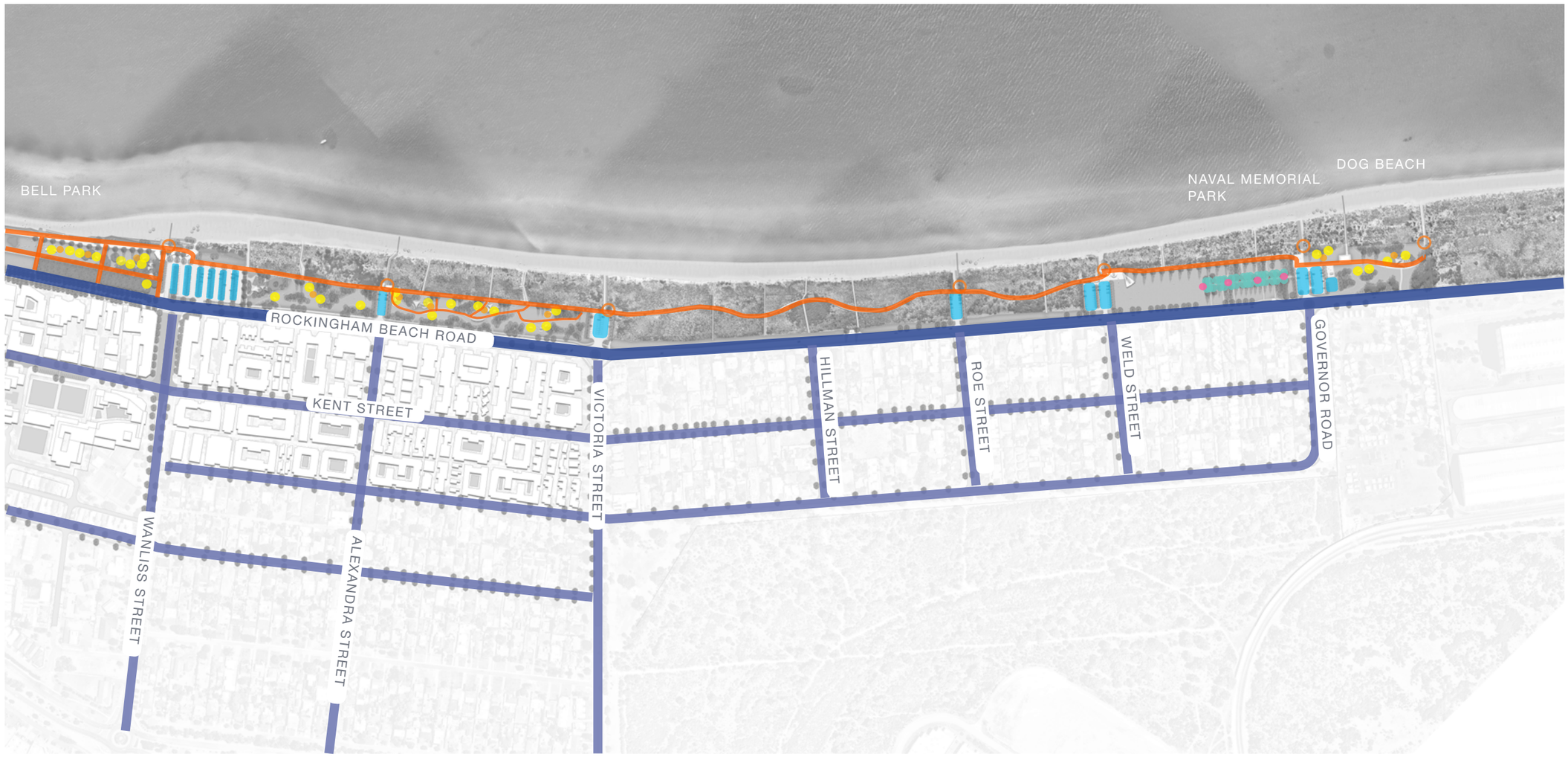


figure 6.13: area thee - wanliss street to governor road - lighting strategy

- [SL] major road lighting
- [SL] minor road lighting
- [GL] gateway lighting
- [CL] carpark lighting
- [PL] path lighting
- [PL] barbecue node lighting
- [PL] picnic node lighting
- [PL] beach amenity node lighting
- [FL] feature lighting
- [UL] uplighting for feature trees

7.0 signage and wayfinding

7.1 signage strategy

Public information and wayfinding signage is an important aspect of the development of the Rockingham Beach foreshore. Residents and visitors alike rely on clear and effective signage to wayfind as well as inform them about their local community and the value of their foreshore. Emergency services rely on the same for easy location and access to those needing help.

7.1.1 current signage snapshot

Current signage across the Rockingham Beach Foreshore is disjointed and could more effectively reflect the City of Rockingham brand and sense of place.

Some of the existing signage is damaged or faded and there is a lack of interpretive signage.

7.1.2 observations and ideas

The foreshore signage should function as a cohesive system with a clear hierarchy of information. Signage needs to be legible and functional and the structures must complement the environment. A redesign will bring the area together with a cohesive and co-ordinated brand style.

The signage style and design could also incorporate 'zoning' to differentiate the different areas. This could be done through colour-coding, symbols and/or graphics. Differentiating the areas will enable easy location, navigation and referencing. This will also be useful for emergency services being easily guided to the right location, when required.

Additional signage could also be designed and installed to give further and more detailed information about the features and history of the foreshore.

The recommendations and proposed themes need to be further resolved and incorporated into a signage strategy for the Rockingham Beach Foreshore.

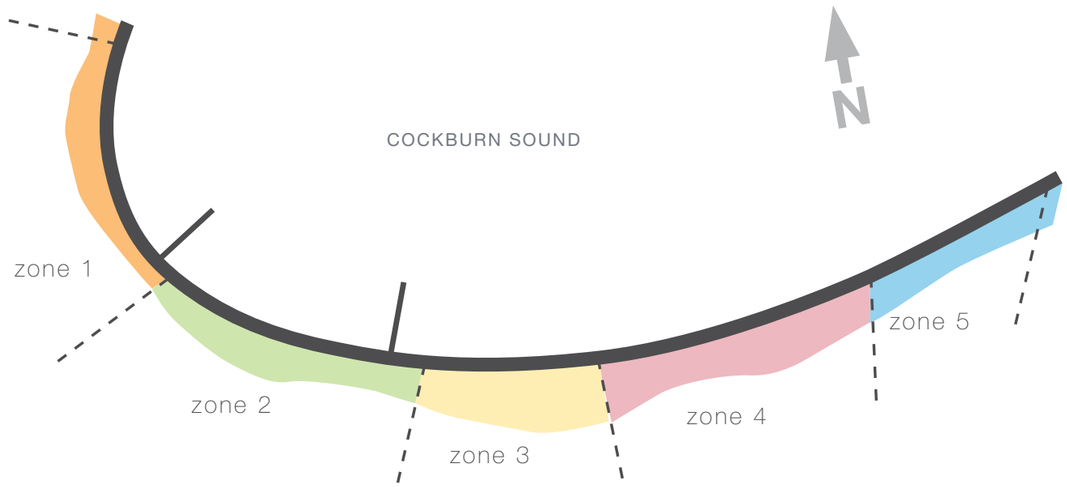


figure 7.1: signage zones

7.2 signage examples

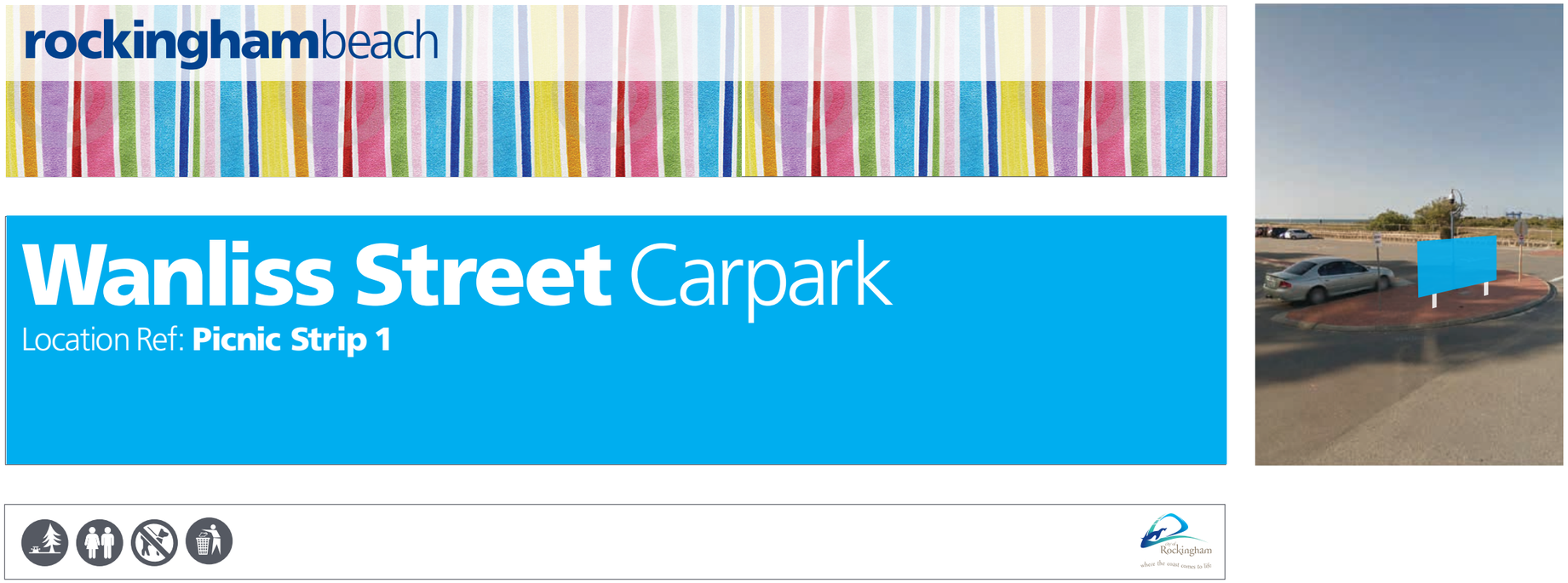


figure 7.2: carpark entry point sign

figure 7.3: main carpark entry point/location sign

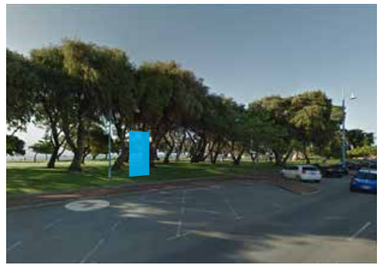


figure 7.4: location sign

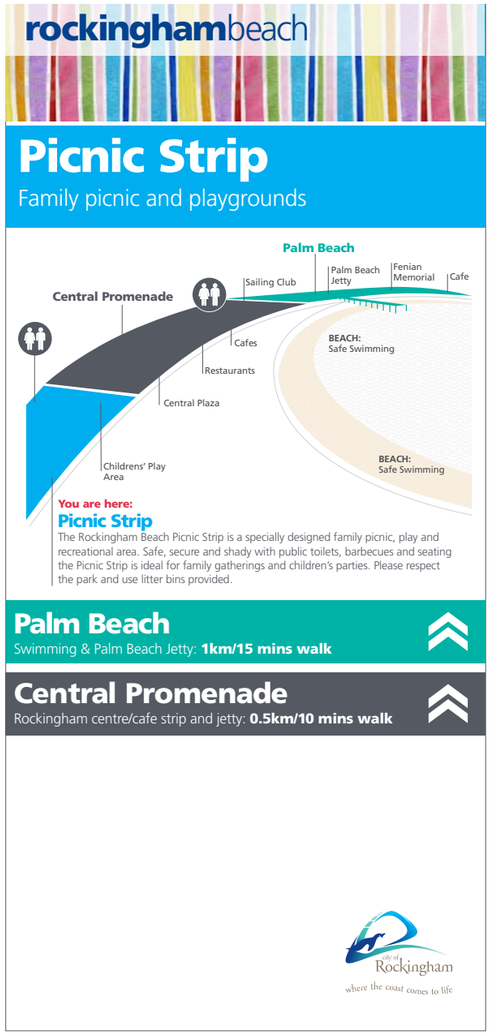
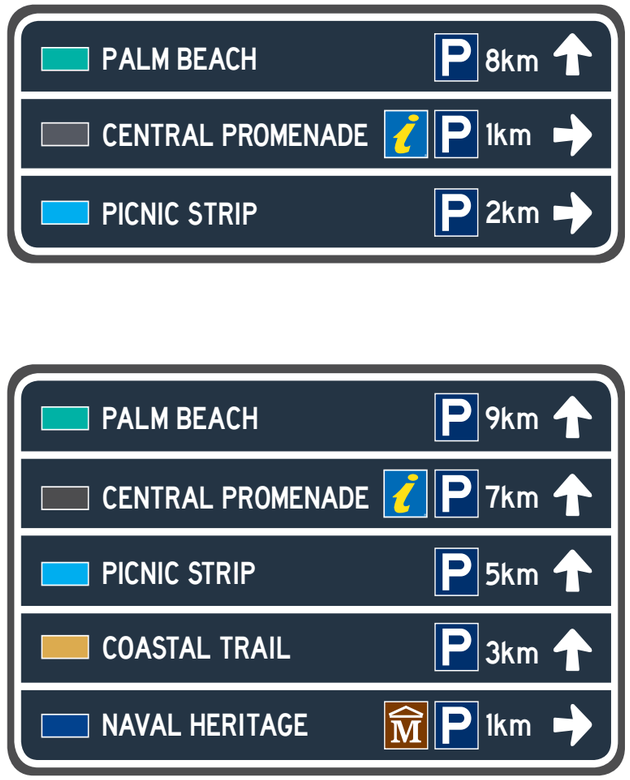


figure 7.5: isometric map displayed for wayfinding

figure 7.6: example of a potential Nyungar interpretive signage concept. Note: any signage relating to Nyungar culture is to be developed with and approved by the Rockingham Reconciliation Action Group.

figure 7.7: main wayfinding signage



8.0 planting

8.1 tree planting strategy

Trees within the public domain are a legacy for the community. They are a vital asset to the environment and are a key ingredient of green infrastructure. Benefits include:

- Creation of habitat;
- Improving comfort and amenity;
- Definition of spaces and destinations;
- Beautification;
- Stabilisation of landforms and reduction of erosion;
- Reducing stormwater runoff into drainage areas;
- Carbon storage and sequestration;
- Pollution and dust reduction;
- 'Leafy' areas tend to have knock-on economic benefits;
- Reduction of heat island effect on hardstand areas; and,
- Asphalt surfaces, when shaded, can have an improved lifespan exceeding 30% and reduce maintenance costs.

8.1.1 tree planting approach

The approach to tree planting is to complement and enhance existing tree planting by interpreting and enhancing the character of the place. To this end, the Master Plan seeks to work with existing tree species and spatial typologies rather than transform or replace them. The following overarching principles have been considered in the tree planting approach:

- Protect, maintain and manage existing tress;
- Increase the total canopy;
- Provide better definition to streets and frame views;
- Prioritise protection and maintenance of existing trees;
- Increase shade in the foreshore precinct generally;
- Assist with way finding and the establishment of destinations within a large and sparse foreshore realm; and,
- Supplement and enhance the character of the area.

8.1.2 species selection

Species selection and positioning is based on the following broad considerations:

- Spatial Characteristics: creation and definition of landscape spaces;
- Tree form: Height, habit, and canopy form fit for purpose and context;
- Shade: form and habit of trees selected for creation of shady spaces;
- Coastal Environment: Species selected based on ability to not only withstand but grow well in a coastal context;
- Soils: Species selected based on ability to perform in sandy well drained soils;
- Character: Tree selection complements and work with existing; and,
- Purpose: Trees should be planted with a purpose as this will go a long way to determining species selection, and overall configuration. Within the Rockingham Beach Foreshore precinct, the following broad typologies have been identified:
  - Street Trees – define and shade the streetscape;
  - Landmark Trees – assist with wayfinding and define character of a destination;
  - Specimen Trees – provide variety, texture and seasonal difference in a parkland context;
  - Shade Trees – principally to create shady environments;
  - Historic Trees – Reinforce historic and cultural landscape values and aspirations; and,
  - Native Trees – endemic to the area and provide habitat for native fauna.

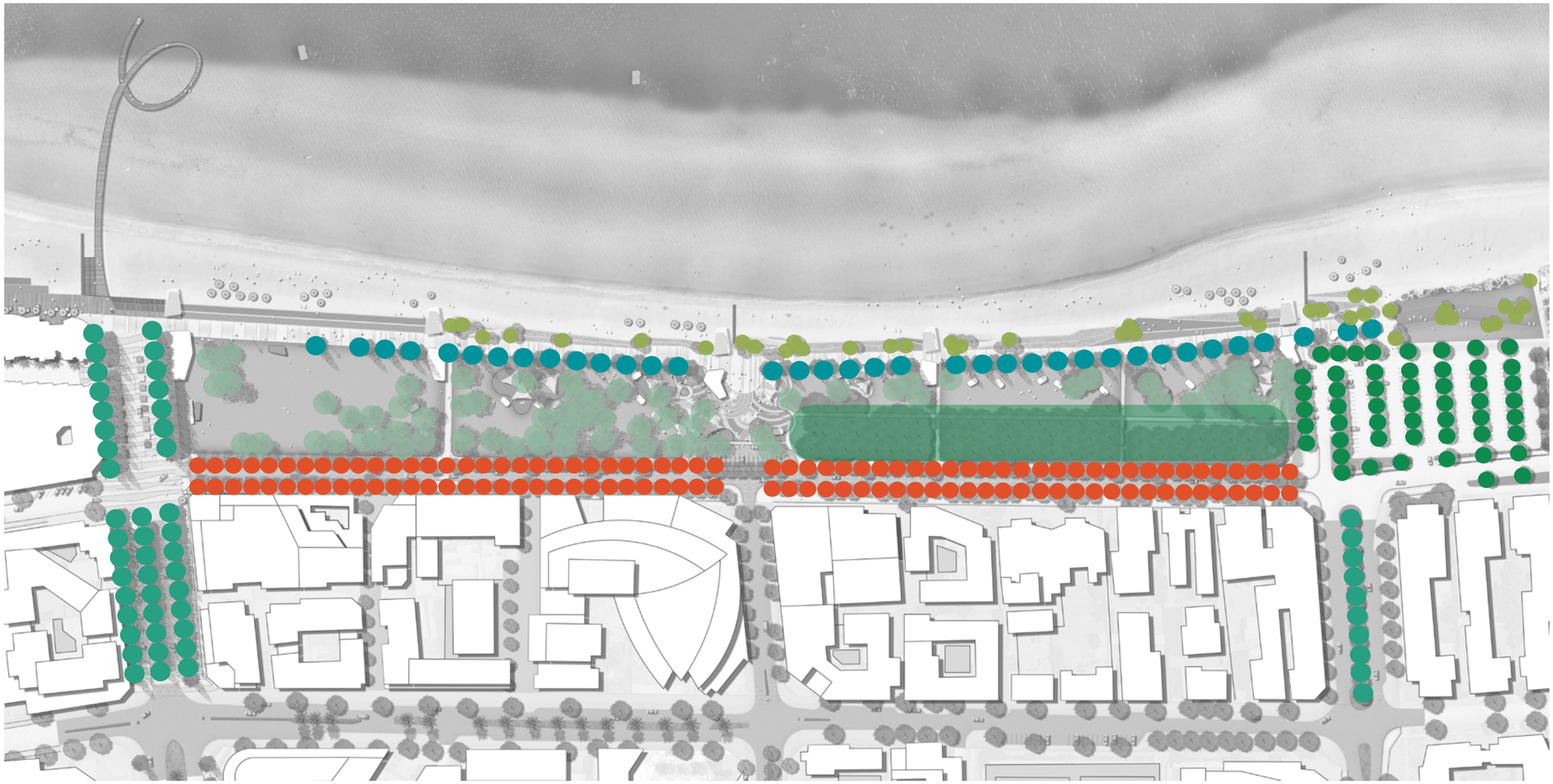


figure 8.1: area one - bell and churchill park - planting strategy

- *Araucaria columnaris / Araucaria heterophylla*
- *Erythrina indica* (supplement existing)
- *Agonis flexuosa*
- *Araucaria heterophylla* (supplement existing)
- *Melaleuca lanceolata and Agonis flexuosa*
- Retain, protect and manage existing parkland Tuarts and specimen trees
- Retain, protect and supplement peppermint tree avenue

8.2 area one - bell and churchill park

This section of the foreshore has high value existing amenity in the numerous established mature shade trees throughout both parks. Development in these areas should protect and preserve these existing trees as a priority. In addition to their aesthetic value, these trees are culturally significant to the local Nyungar people.

Coastal Vegetation (Foredune)

The existing coastal vegetation in this area is of low ecological value as it has been established over the man made revetment structures as a temporary solution to coastal defence. Due to this, a permanent revetment structure under lawn terraces will protect the significant amenity of Bell and Churchill Park while providing additional open lawn space for recreation on the foreshore.

Coastal Shade Trees

Additional small shade tree planting is included to the to the lawn terrace nodes, picnic spaces and carparks in Area One while still allowing views to the ocean.

Landmark Trees

Norfolk Island Pines down Railway Terrace and into the Rockingham Beach Plaza will create an iconic sense of arrival. Norfolks along Wanliss Street and at key beach access locations support this theme.

Significant Native Shade Trees

The existing grove of local mature Peppermint trees are an asset to Bell Park which will be retained to make use of their dense shade, shelter and visual amenity.

The existing Tuart trees in Churchill Park will also be retained and protected.

Lawn

The large areas of lawn are to be retained and improved for passive recreation,festivals and events.

image 8.1: mature peppermint trees in Bell Park (existing)

Scientific Name	Common Name	Description	Primary Use
Landmark Trees			
Araucaria columnaris	Cook Island Pine	Iconic large, tall, elegant tree with whorled branches and dark green, needle-type foliage. Height: Up to 35 m	Iconic feature entry tree to define the Railway Terrace and Rockingham Beach Plaza. Define beach access at key locations. 'Clean trunking' the trees retains views and allows for pedestrian activity underneath.
Araucaria heterophylla	Norfolk Island Pine	Iconic tall, pine tree. Height: 20-60m	Iconic feature entry tree to densely line the Railway Terrace entry road. 'Clean trunking' the trees retain views and allows for pedestrian activity underneath.
Small Coastal Shade Trees			
Melaleuca lanceolata	Rottnest Teatree	Dense coastal shrub or small tree suitable providing dense shade and wind protection. Height: 3 to 8m	Attractive, small shade tree to lawn terrace nodes and picnic spaces.
Agonis flexuosa	WA Peppermint Tree	Native to West Australian coastal areas. Round-headed tree with distinctive weeping branches. Height: Up to 12m	Attractive, small shade tree to lawn terrace nodes, picnic spaces and car parks.
Street Tree			
Erythrina indica	Coral Tree or Flame Tree	Attractive deciduous tree with spectacular red flowers. Height: Up to 18m	The street trees along Rockingham Beach Road

figure 8.2: area one - bell and churchill park - planting strategy table

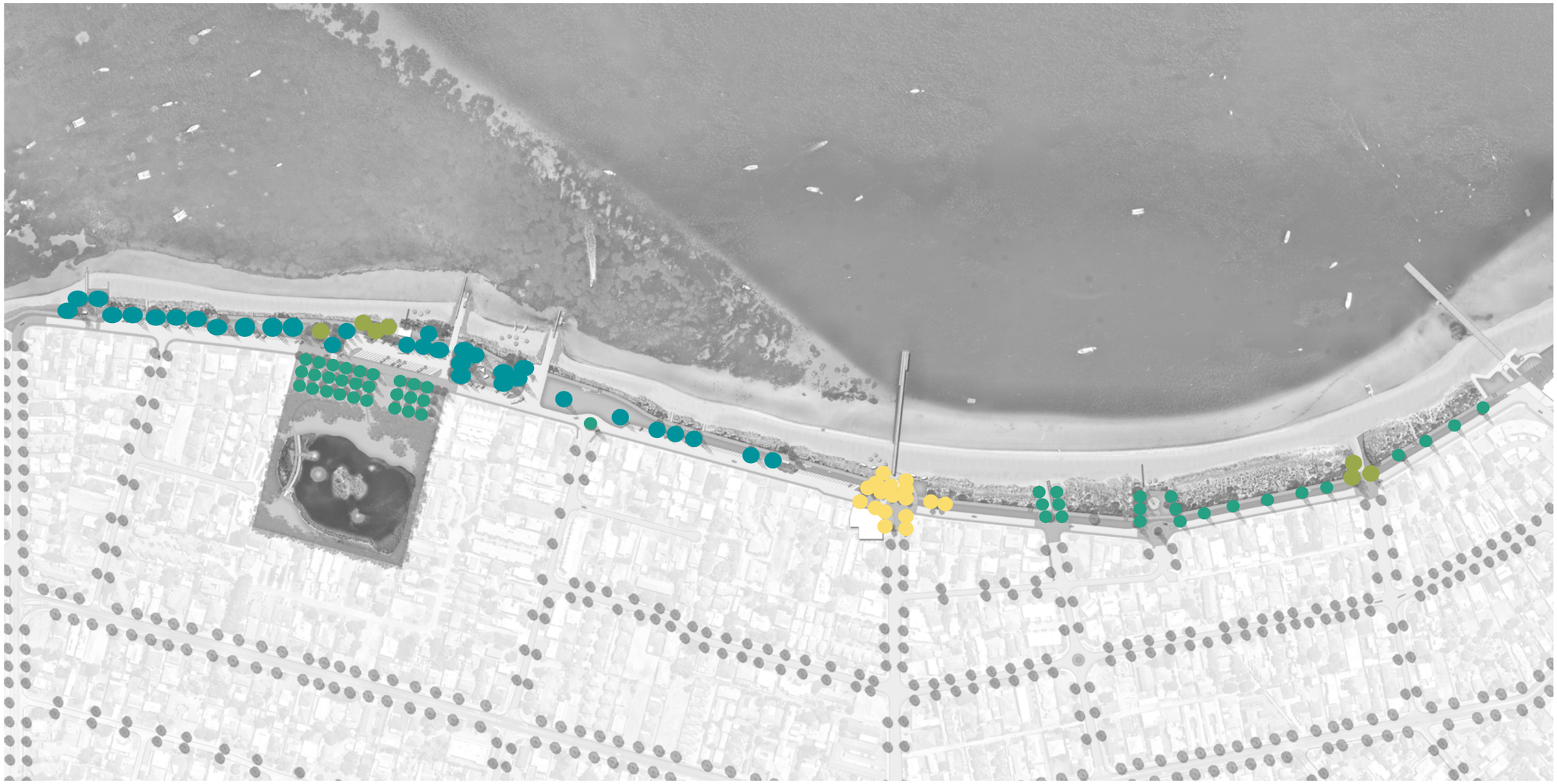


figure 8.3: area two - palm beach and esplanade - planting strategy

N

- *Araucaria heterophylla* (existing - retain, protect and supplement)
- *Araucaria heterophylla* (new)
- *Phoenix canariensis*
- *Melaleuca lanceolata and Agonis flexuosa*

8.3 area two - palm beach and esplanade

This section of the foreshore has a range of significant vegetation including coastal foreshore vegetation, landmark shade trees, significant mature tuart trees and smaller coastal trees.

Coastal Vegetation (Foredune)

The Master Plan notes the significance of the coastal vegetation in this area which is relatively healthy and well established. Existing areas of coastal vegetation will be retained and supplemented as an ongoing program. The formalisation of beach access ways, improved revegetation fencing and edging between lawn and dune areas will assist in preventing erosion and the spreading of weeds.

Coastal Shade Trees

Additional shade tree planting is included to the east end of Palm Beach Jetty at the street intersections to define beach access while still allowing residential views to the ocean.

Landmark Trees

The Master Plan reinforces the Norfolk Island Pine as a primary landmark tree to this area which provides good shade where they are densely planted. The Norfolks are visible from Governor Road and identify Palm Beach.

The Master Plan includes dense palm tree planting around the Jetty Plaza to create a visual landmark at this destination and to respond to it's name 'Palm Beach'.

Significant Native Shade Trees

The mature Tuart trees are a significant amenity and this theme is retained and supplemented where possible in the boat ramp area node.

image 8.2: coastal vegetation and norfolk island pines (existing)

Scientific Name	Common Name	Description	Primary Use
Landmark Trees			
Araucaria columnaris	Cook Island Pine	Iconic large, tall, elegant tree with whorled branches and dark green, needle-type foliage. Height: Up to 35 m	Landmark tree along the recreation footpath and Esplanade. Define beach access along the foreshore. Continue existing theme of planting in close groupings for dense shade. 'Clean trunking' the trees to two meters retains views.
Araucaria heterophylla	Norfolk Island Pine	Iconic tall, pine tree. Suitable for coastal esplanades, avenues, parks and streetscapes. Height: 20-60m	Landmark tree along the recreation footpath and Esplanade. Define beach access along the foreshore. Continue existing theme of planting in close groupings for dense shade. 'Clean trunking' the trees to two meters retains views.
Eucalyptus gomphocephala	Tuart Tree	A large hardy tree occurring naturally in sandy and limestone soils in WA. Height: 20-60m	Landmark coastal tree around the Boat Ramp area. Additional planting in this area will reinforce to this area's identity.
Phoenix canariensis	Canary Island Date Palm	Majestic large single trunk palm tree. Height: Up to 20m	The Master Plan includes dense palm tree planting around the Jetty Plaza to create a visual landmark at this destination and to respond to it's name 'Palm Beach'.
Small Coastal Shade Trees			
Agonis flexuosa	WA Peppermint Tree	Native to West Australian coastal areas. Round-headed tree with distinctive weeping branches. Height: Up to 12m	Attractive and small shade tree for Hymus Street park.
Metrosideros excelsa	NZ Christ-mas Tree	Evergreen tree with umbrella shaped canopy and showy flowers. Height: Up to 12m	Attractive small shade tree option for Picnic nodes
Melaleuca lanceolata	Rottnest Teatree	Dense coastal shrub or small tree suitable providing dense shade and wind protection. Height: 3 to 8m	Attractive small shade tree option for where picnic nodes meet the dunes and to define the Florence Street Beach access.

figure 8.4: area two - palm beach and esplanade - planting strategy table

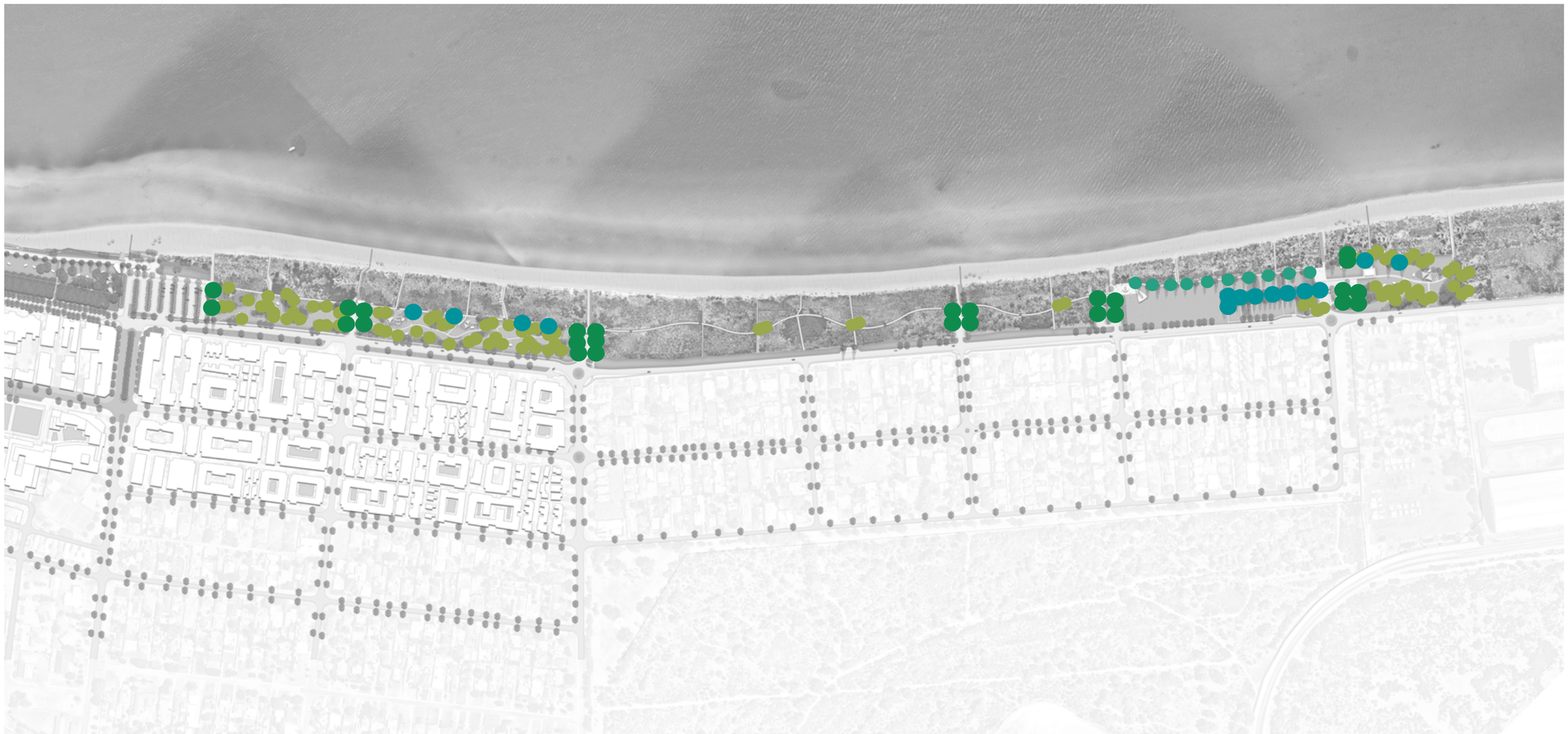


figure 8.5: area three - wanliss street to governor road - planting strategy

- *Araucaria heterophylla* (existing - retain, protect and supplement)
- *Araucaria heterophylla* (new)
- *Agonis flexuosa* to carparks
- small coastal shade trees

8.4 area three - wanliss street to governor road

The Master Plan looks to retain and supplement the existing large areas of coastal dune vegetation and also create more shaded picnic nodes for families and beach goers.

Coastal Vegetation (Foredune)

The existing low coastal shrub and dunes are an asset to this precinct as it serves as a natural solution to coastal inundation. There are primary dunes in this area that, along with the vegetation, will be retained and protected against erosion. Revegetation fencing and defined pedestrian beach and dune access ways will assist in rehabilitation of this expansive dune and coastal vegetation conservation area.

Coastal Shade Trees

The Master Plan includes the increase of shaded and protected picnic nodes. The improved picnic precinct will have garden beds with coastal shrub planting and small shade trees in defined garden beds that will be well maintained.
The shade trees have aesthetic forms and are bird attracting to create an enjoyable experience for all users and assist in blocking the wind.

Landmark Trees

Cook Island Pines are infill planted at the Naval Memorial Park and create an iconic feature to bookend the foreshore area. These trees can be seen from Hymus Street.

Significant Native Shade Trees

Peppermint trees are used to shade the car parks along this portion of Rockingham Beach Road as they produce dense shade, shelter and the visual amenity links back to that in Bell Park.

Lawn

The existing areas of lawn will be retained and improved to create the new picnic space and passive recreation area adjacent the Wanliss Street car park.

image 8.3 : cook island pine in the Naval Memorial Park (existing)

Scientific Name	Common Name	Description	Primary Use
Landmark Trees			
Araucaria columnaris	Cook Island Pine	Iconic large, tall, elegant tree with whorled branches and dark green, needle-type foliage. Height: Up to 35 m	Iconic feature tree to be infill planted in Naval Memorial Park as a landmark feature to terminate the foreshore precinct.
Araucaria heterophylla	Norfolk Island Pine	Iconic tall, pine tree. Height: 20-60m	Supplementary planting to key locations amongst the picnic nodes.
Feature Coastal Shade Trees			
Casuarina cunninghamiana	River Sheoak	Medium sized local tree with attractive form. Height: 15 to 35m	Supplementary planting to maintained garden beds throughout the picnic nodes.
Casuarina equisetifolia spp incanat	Horse-tail Sheoak	Attractive, small to medium sized tree tolerant of drought, exposed sites, sandy soils and salty conditions. Height: 6 to 12m	As above
Small Coastal Shade Trees			
Agonis flexuosa	WA Peppermint Tree	Native to West Australian coastal areas. Round-headed tree with distinctive weeping branches. Height: Up to 12m	Attractive and small shade tree to be densely planted at the car parks along Rockingham Beach Road.
Small Coastal Shade Tree Mix			
Banksia attenuata	Candlestick Banksia	Small tree or dense shrub, bright yellow flower spikes that provide bird habitat. Height: Up to 10m	Attractive small shade tree to plant in maintained garden beds throughout the picnic parks between Wanliss Street and Victoria Street and to selected revegetation garden beds.
Banksia integrifolia	Coast Banksia	Upright Banksia suitable for urban areas where space is limited to narrow beds. Height: Up to 15m	As above
Eucalyptus leucoxylon rosea	Pink Flowering Gum	Small Australian native tree with long flowering period that attracts birds. Height: 5 to 7m	As above
Eucalyptus platypus heterophylla	Coastal Moort	Small, fast growing tree with a rounded dense, spreading crown which is retained to near ground level. Good for windbreaks. Height: 4 to 6m	As above
Eucalyptus rudis	Flooded Gum	Fast growing species suitable for areas with salinity and suitable for windbreaks. Height: 10 to 20m	As above
Melaleuca lanceolata	Rottnest Teatree	Dense coastal shrub or small tree suitable providing dense shade and wind protection. Height: 3 to 8m	As above
Metrosideros excelsa	NZ Christ-mas Tree	Evergreen tree with umbrella shaped canopy and showy flowers. Height: Up to 12m	As above

figure 8.5: area three - wanliss street to governor road - planting strategy table

9.0 public art and interpretive elements

9.1 public art and interpretive elements

Public art and interpretation are an essential element of the public realm to reference the history and significance of a site and tell a story of its people and their connection to place. The Master Plan presents the following strategy for design of future public art and interpretation as well as a strategy for existing elements within the Rockingham Beach Foreshore area.

9.1.1 public art and interpretive elements strategy

This strategy broadly involves:

1. detailed assessment and audit of existing public art and interpretive elements including condition, type, significance, and location to determine whether the element is to be:

   a. moved to an alternative location;

   b. retained as is; or,

   c. removed entirely.

2. when movement of an element is to occur, an assessment of positioning and purpose will determine the appropriate location;

3. where an artist has been previously commissioned, they are to be consulted concerning the placement or modification of artworks prior to any works taking place;

4. in areas where significant improvement works are to take place, the design of public art and interpretive elements are to be incorporated within the detailed design of the space;

5. memorial seats are to be retained or re-located as per the guidelines set out in section 6.3.3; and,

6. A general principle is to reduce clutter where possible.

See Figures 9.1, 9.2 and 9.3 for a strategy for existing and future public art and interpretation within the Rockingham Beach Foreshore Area.

9.1.2 public art and interpretive elements principles

This Master Plan recommends that any proposed public art and interpretive elements follow these general design principles:

- generally appropriate to a coastal context in materiality, form and themes;
- interpretive elements relating to Nyungar culture are to be developed with and approved by the Rockingham Reconciliation Action Group; and,
- ease of maintenance/repair.

9.1.3 public art and interpretive elements typologies

The following typologies apply to Areas One, Two and Three.

Public Art:

- Includes significant public artworks to be commissioned to an artist and integrated within a specific space.

Nyungar Interpretation:

- Includes Nyungar specific interpretation which is to be developed with and approved by the Rockingham Reconciliation Action Group.

Community Art:

- Includes opportunities for community artworks eg. mosaic walls.

Interpretive elements/signage:

- Includes interpretation elements and signage to be integrated within the areas eg. story boards, historical signage.

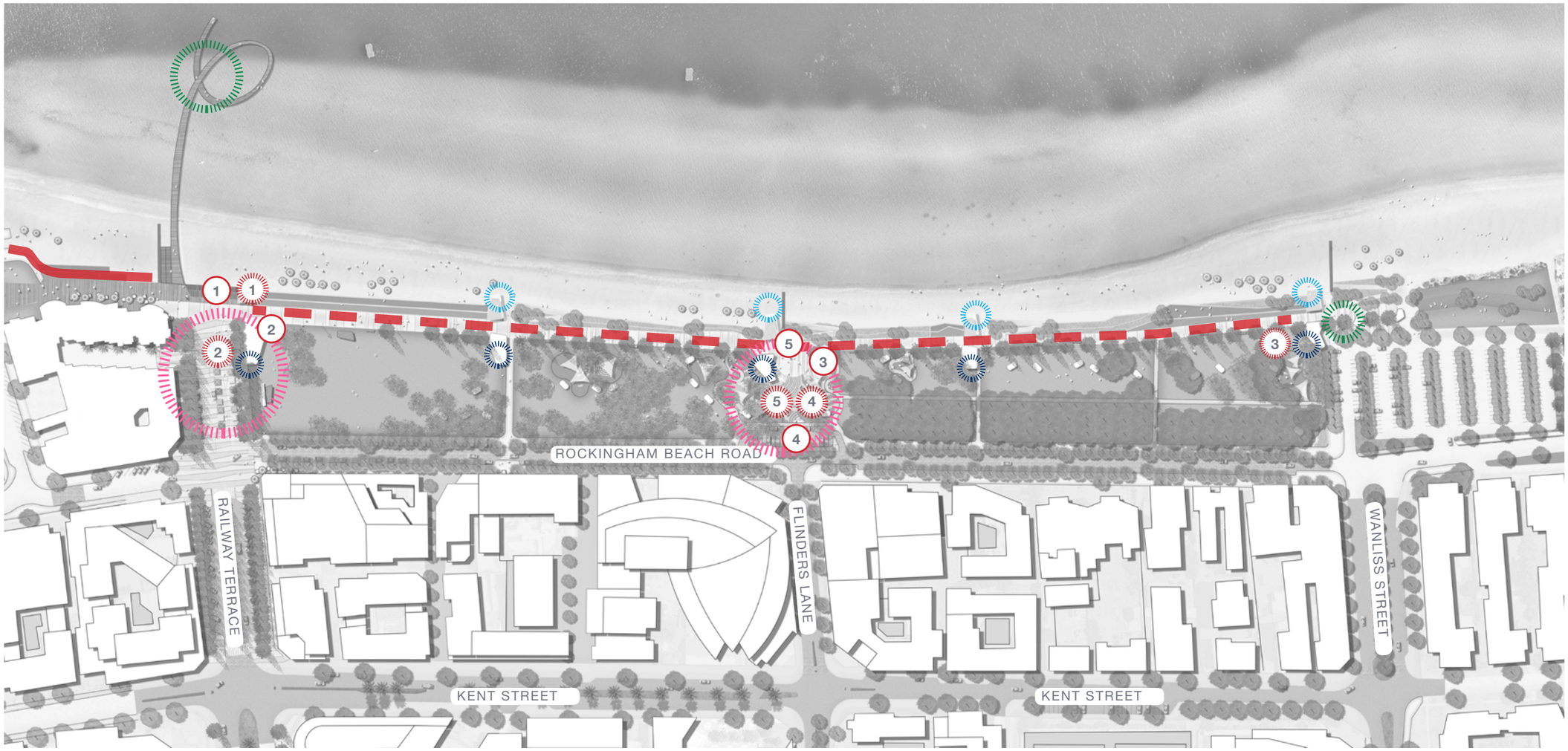


figure 9.1: area one - bell and churchill park -public art and interpretive elements

1 Existing Peace Pavilion to be replaced

1 Proposed New Peace Pavilion/ Overlook

2 Existing Dato Anchor and Jarrahdale Memorial

2 Proposed Location - Dato Anchor and Jarrahdale Memorial

3 Existing toilet with interpretive wall

3 Proposed Location - Existing Toilet to be relocated

4 Existing Flinders Lane Dolphin Statues

4 Proposed Location - Dolphin Statue

5 Existing Millennium Sphere

5 Proposed Location - Millennium Sphere to be integrated into playground design

Existing Rockingham Memorial Basalt Wall to be retained under Boardwalk area -

Memorial Plaques to be moved to new Memorial Wall in Area Two

Existing heritage trail signage and memorial plaques to be incorporated/re-interpreted in new Pioneer Promenade walk

Opportunity for significant Public Art/Interpretation

Opportunity for Nyungar specific Interpretation

Opportunity for Community Artwork

Opportunity for Interpretive element/signage

9.1.4 area one - existing and proposed public art and interpretation

Area One includes a number of existing public artworks and interpretive elements. The strategy for retaining or relocating elements is shown in Figure 9.1 and listed below:

1. Existing Peace Pavilion - to be removed and a new pavilion/overlook to be designed and implemented;
2. Existing Dato Anchor and Jarrahdale Memorial - to be relocated and integrated within the design of the Rockingham Beach Plaza;
3. Existing toilet block with interpretive wall - to be relocated to specified location in Area Three;
4. Existing Flinders Lane Dolphin Statues to be removed or relocated and integrated within Churchill and Bell Maritime Playground where possible;
5. Existing Millennium Sphere to be relocated and integrated within Churchill and Bell Maritime Playground where possible;
6. Existing Rockingham Memorial Basalt Wall - to be retained under proposed Boardwalk and plaques to be relocated to new memorial wall in Area Two; and,
7. Existing heritage trail signage and plaques - to be incorporated/ re-interpreted in new Pioneer Promenade.

The strategy for proposed locations for future public art and interpretive signage are shown in Figure 9.1 and discussed below:

1. Opportunity for a significant public artwork in Rockingham Beach Plaza to be integrated within detail design of the space;
2. Opportunity for a significant public artwork within the Churchill and Bell Maritime Playground;
3. Opportunity for Nyungar Interpretation integrated within the design of the Rockingham Beach Jetty;
4. Opportunity for Nyungar Interpretation within the pedestrian area adjacent to the Wanliss Street beach access point;
5. Opportunities for community artwork within some of the proposed beach overlooks eg. mosaics on the inner walls; and,
6. Opportunities for interpretive elements and signage integrated within the proposed kiosks along the Pioneer Promenade.

image 9.1: Existing Millennium sphere

image 9.2: Existing Dato Anchor

image 9.3: Interpretive paving, example image

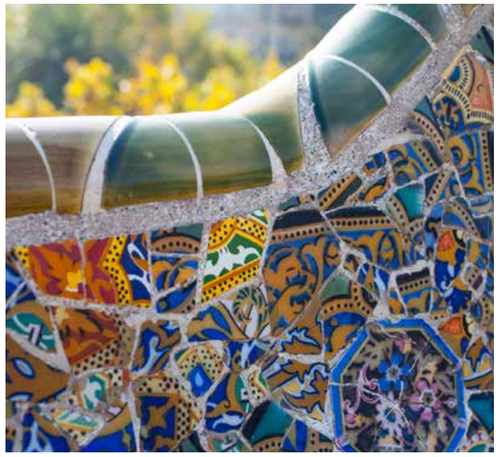


image 9.4: Mosaic wall, example image

figure 9.2: area two - palm beach and esplanade - public art and interpretive elements

N

1 Z Force Memorial benches and interpretation to retain

2 Catalpa Memorial to retain and enhance

3 New Memorial Wall to incorporate memorial plaques from existing Basalt Wall in Area One

Opportunity for significant Public Art/Interpretation

Opportunity for Nyungar specific Interpretation

Opportunity for Community Artwork

Opportunity for Interpretive element/signage

9.1.5 area two - existing and proposed public art and interpretation

Area Two includes several existing public artworks and interpretive elements. The strategy for retaining or relocating these elements is shown in Figure 9.2 and listed below:

1. Existing Z Force Memorial benches and interpretation - to be retained; and,
2. Existing Catalpa Memorial - to be retained and the area and beach access surrounding it to be enhanced.

The strategy for proposed locations for future public art and interpretive signage are shown in Figure 9.2 and discussed below:

1. Opportunity for a significant public artwork within the Palm Beach Jetty Precinct eg. an interactive 'playful' element;
2. Opportunity for a New Memorial Wall incorporating relocated plaques from the Basalt Wall in Area One; and,
3. Opportunity for Nyungar Interpretation integrated within Rotary Park.

image 9.5: Existing Z Force Memorial

image 9.6: Existing Catalpa Memorial

image 9.7: Memorial wall, example image

figure 9.4: area thee - wanliss street to governor road -public art and interpretive elements

1. Existing HMAS Derwent Memorial
2. Existing HMAS Orient Submarine Fin
3. Existing HMAS Perth 1 and USS Houston Memorial
4. Existing Korean War Roll of Honour
5. Existing Naval Memorial Park - Entry Signage
6. Existing Naval Memorial Park Rock Wall

- Opportunity for significant Public Art/Interpretation
- Opportunity for Nyungar specific Interpretation
- Opportunity for Community Artwork
- Opportunity for Interpretive element/signage

9.1.6 area three - existing and proposed public art and interpretation

Area Three includes several existing public artworks and interpretive elements within the Naval Memorial Park. The strategy for this Master Plan is to retain these existing elements and enhance the Naval Memorial Park with further interpretation.

The strategy for proposed locations for future public art and interpretive signage are shown in Figure 9.2 and discussed below:

1. Opportunity for enhanced public artwork and interpretive elements within the Naval Memorial Park; and,
2. Opportunity for a significant public artwork/interpretative element within the New Active Node.

image 9.8: Existing Naval Memorial Park

image 9.9: Existing Naval Memorial Park

image 9.10: Memorial interpretive element, example image

10.0 traffic and parking

10.1 traffic and parking

Refer Appendix B “Transport Assessment Report” for a detailed breakdown of vehicle movements and volumes, intersection designs, road upgrades, car parking, and alternative transport initiatives. Figure 10.1 provides a summary of the key issues and proposals across the study area.

Recommendations include:

- Diverting traffic from Railway Terrace and Rockingham Beach Road by increasing use of Kent Street and Wanliss Street;
- Upgrading Rockingham Beach Road to a two way pedestrian prioritised Shared Space with reduced vehicle speeds;
- The use of Kent and Harrison Streets will increase as vehicles find an alternate route to avoid the busy pedestrian areas (e.g. Rockingham Beach Road); and,
- Installing contrasting pavement at selected nodes to slow vehicles and allow for easier crossing of the road e.g. along Esplanade at Rotary Park and Palm Beach Jetty.

car parking

The overview of the proposed parking strategy for Area One is shown in Figure 10.2.

In summary, the existing off-street car park to the north-west of Rockingham Beach Road, at Railway Terrace, is proposed to be removed to promote increased pedestrian activity in the form of the ‘Beach Plaza’. It is proposed to maintain access for drop-off, universal access and servicing.

The car park at the north-west end of Flinders Lane is proposed to be re-configured to allow for the Bell and Churchill Park Maritime Playground.

The existing angled parking bays along Rockingham Beach Road, between Railway Terrace and Wanliss Street, are proposed to be replaced with parallel parking. The provision of parallel parking provides space to widen the existing footpath to the north-west of the parking bays. In addition, parallel parking is also deemed to be safer than angled parking as vehicles have a clearer view of traffic when reversing, particularly considering cyclists.

The existing parking along Railway Terrace, between Kent Street and Rockingham Beach Road, is proposed to be reconfigured comprising angled parking adjacent to each footpath and a central median.

The parking strategy seeks to maintain a net increase in parking bay numbers throughout Area One. Additional parking locations include the duplication of the existing parking area at the end of Wanliss Street and potential decks over the Gary Holland Centre, The Cruising Bay Yacht Club (subject to negotiation) and Rockingham Museum car parks.

shared space

It is proposed that Railway Terrace together with Rockingham Beach Road, between Railway Terrace and Wanliss Street, are provided as a Shared Space. The speed restriction is proposed to be 20 km/h, with the road surfacing flush with the footpath area. As there is still planned to be parking within the Shared Space area, it is envisaged there will be markings to indicate where vehicles are permitted to park.

Traffic signage and road markings will be minimised within the Shared Space. There will be clear entry statements at all of the boundary locations, together with a constant, high quality finish within the Shared Space which is differentiated from the surrounding road network.

ROCKINGHAM ROAD (NORTH)
Designed capacity veh/day: 3000
Existing weekend veh/day: 2500
Proposed veh/day: 2631

KENT STREET (EAST OF FLINDERS)
Designed capacity veh/day: 7000
Existing weekend veh/day: 2900
Proposed veh/day: 4629

ROCKINGHAM BEACH ROAD (EAST)
Designed capacity veh/day: 3000
Existing weekend veh/day: 2900
Proposed veh/day: 1481

KENT STREET (WEST OF FLINDERS)
Designed capacity veh/day: 7000
Existing weekend veh/day: 4600
Proposed veh/day: 8531

ROCKINGHAM BEACH ROAD (WEST)
Designed capacity veh/day: 3000
Existing weekend veh/day: 5600
Proposed veh/day: 2981

WANLISS STREET
Designed capacity veh/day: 7000
Existing weekend veh/day: 2700
Proposed veh/day: 2962

FLINDERS LANE
Designed capacity veh/day: 7000
Existing weekend veh/day: 5600
Proposed veh/day: 5649

RAILWAY TERRACE (NORTH)
Designed capacity veh/day: 7000
Existing weekend veh/day: 5,800
Proposed veh/day: 3241

RAILWAY TERRACE (SOUTH)
Designed capacity veh/day: 7000
Existing weekend veh/day: 10,800
Proposed veh/day:11,456

Key
- entry main road
- road over-capacity
- road under-capacity
- roundabout

N

figure 10.1: diagram - traffic study overview

area one proposed parking scenario

- (A) wanliss street carpark extension
- (B) railway terrace upgrade
- (C) rockingham beach road upgrade
- (D) gary holland centre carpark deck
- (E) museum carpark deck
- (F) val street private carpark

+ total of approximately 399 car bays

figure 10.2: diagram - traffic study - area one proposed parking scenario

11.0 coastal vulnerability

11.0 coastal vulnerability

Master-planning for the redevelopment of the Rockingham Beach Foreshore needs to consider the impacts of potential shoreline movement that is driven by the action of physical coastal processes.

The vulnerability, both present and into the future, of the various assets that are proposed in the Master Plan therefore needs to be considered in the context of the longevity of the asset and/or its future adaptive capacity.

An assessment of the potential future change in shoreline position has previously been completed along the Rockingham Beach Foreshore as part of a broader Coastal Vulnerability Study (CVS) which covered the shorelines of Owen Anchorage and Cockburn Sound. The results of this CVS have been applied along the Master Plan area in order to give an indication of the potential vulnerability of the site. The following is a brief summary of the findings of the Coastal Hazard Risk Management and Adaption Plan for the Master Plan. The full report is included as Appendix C.

- The new terracing for Bell and Churchill Parks will require structural design to incorporate protective elements to ensure it functions as a defensive edge;
- Hymus Street area will be protected with an improved revetment structure;
- Both the Palm Beach Esplanade and Wanliss to Governor Road Foreshore areas will be monitored and managed in the short term and,
- Possible holistic protection measures could also be considered in order to try and maintain the beach in its current location and minimise the potential for future shoreline retreat.

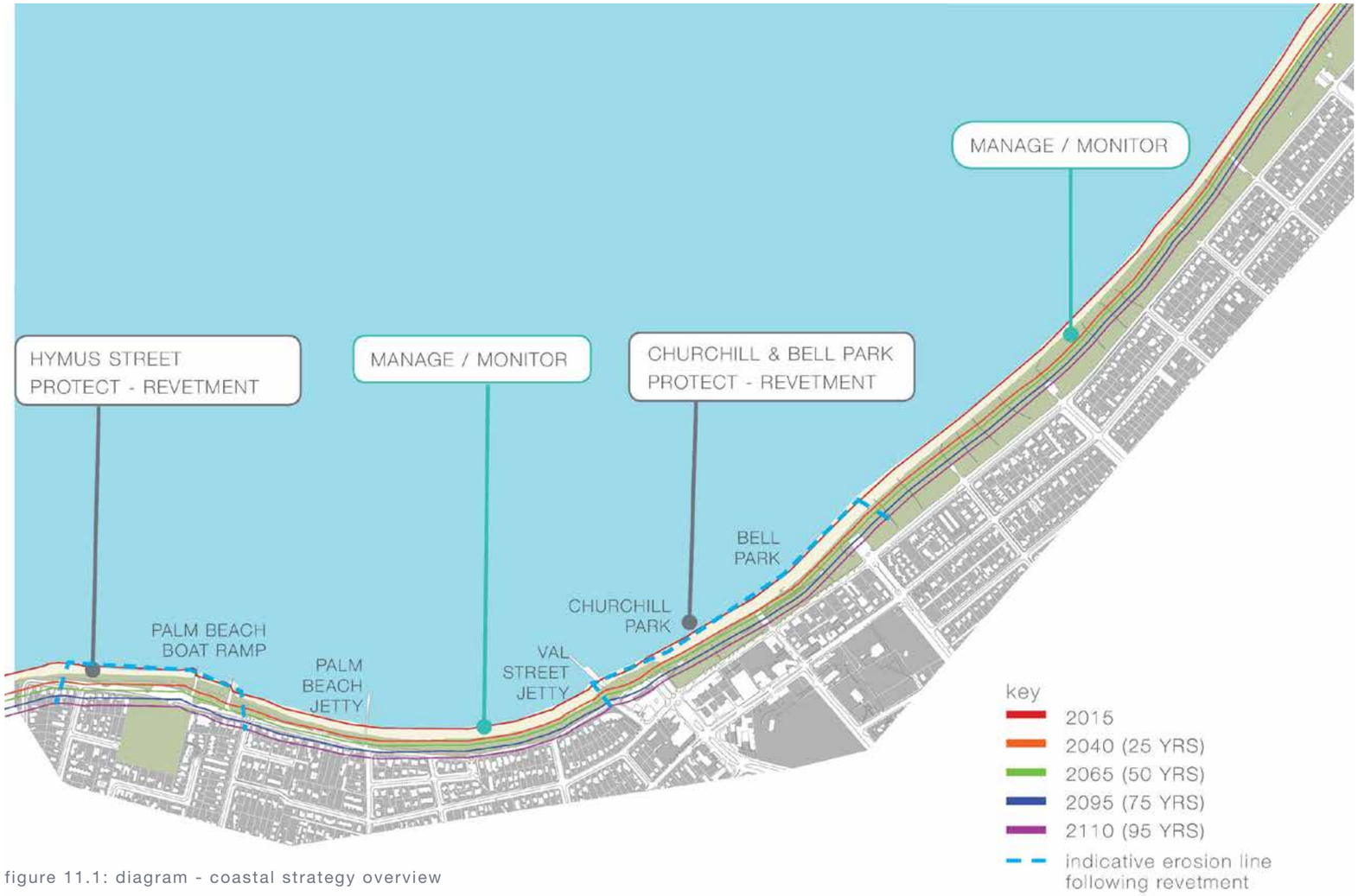


figure 11.1: diagram - coastal strategy overview

image glossary

part two