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Smiths 2014 Pty Ltd Foreshore Management Plan

Lot 4131 Smiths Beach Road Yallingup WA 6282

13 December 2021 JBS&G Australia Pty Ltd T/A Strategen-JBS&G

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Executive Summary

Smiths 2014 Pty Ltd (Proponent) is currently proposing to develop Lot 4131 Smiths Beach Road, Yallingup (the Site) to deliver a sensitive coastal village. This proposed development (the Proposal) incorporates an environmentally sensitive and landscape led design approach that prioritises the Site's unique natural elements and results in a built form proposal that integrates lightly into the landscape and is sympathetic to surrounding vegetation. The Proposal is located within the City of Busselton, Western Australia, approximately 23 km west of Busselton CBD, and covers an area of 40.53 ha.

The Foreshore Reserve comprises (refer Figure 1.1 and Figure 1.2):

- The existing foreshore reserve (part Lot 1409) and the adjacent Unallocated Crown Land (UCL) located to the north/northwest of the Site and extending west to Smiths Point;
- The proposed foreshore which is currently part of the Site; and
- The western foreshore that comprises part of the UCL and the whole of Lot 1410.

The Foreshore Reserve will complement and enhance the recreation experience at Smiths Beach and welcome the community with a strong emphasis on highlighting its Connection to Country. The reserve re-naturalises the foreshore into a sensitive rehabilitated coastal habitat forming an ecological corridor that connects to the National Park. Returning the Site to its more natural form is a main focus of the foreshore with a site-specific revegetation strategy.

The coastal environment adjacent to the Site is used for recreational walking. It is dominated by the Cape to Cape Track (refer Section 0) which offers long and medium distance walks between Cape Naturaliste and Cape Leeuwin.

Key facilities proposed within the Foreshore Reserve include (MCG 2021) (Figure 2.1):

- Lookout;
- Yarning Circle;
- Rock Pool and other nature play elements;
- Car parking;
- Universal Access Ramp (UAR) which also provides access for emergency services;
- Pathways to access the beach, headland and Cape to Cape Track; and
- Seating, beach showers and drinking fountain.

Adjacent to the Foreshore Reserve and located within the Community Scheme foreshore area (public use), the following proposed elements also contribute to the recreational purpose of the foreshore:

- Smith's Beach Surf Life Saving Club (SLSC);
- Cape to Cape Welcome Centre;
- Café, general store and hire shop; and
- Public Toilet/Shower Facilities; and
- Car parking and pedestrian access.

The Proponent provides this Foreshore Management Plan (FMP) to delineate the foreshore location, detail the proposed development within the foreshore, areas of retained vegetation and revegetation works and define how the Proposal will interface with the Foreshore Reserve. This



includes identifying opportunities to improve the current environmental, pedestrian movement and vehicular movement outcomes.

This Foreshore Management Plan (FMP) applies to (refer Figure 1.1 and Figure 1.2):

- The area defined as the Foreshore Reserve (above); and
- The National Park extension within the Site (i.e. Lot 4131 refer DGP Condition 16 (a)).

The Proponent will cede 17.35 hectares (ha) of the Site that is included within the FMP area to the Crown. This area is comprised of the National Park extension (16.8057ha) and proposed foreshore (0.55ha) – refer Figure 1.2.

This FMP has been prepared with reference to the Coastal Hazard Assessment prepared by MP Rogers and Associates (MRA) in accordance with State Planning Policy 2.6 State Coastal Planning Policy (SPP2.6). The objective of the Smiths Beach FMP is to define management requirements to achieve the following:

- Foreshore stability and erosion resilience;
- Improvement of native vegetation cover within the Foreshore Reserve and as covered by the FMP;
- Enhancement of public amenity within the Foreshore Reserve and as covered by the FMP;
- Improvement of pedestrian and vehicular movements; and
- Rehabilitation of uncontrolled access areas and existing tracks in the National Park extension.

The FMP will:

- Support planning and environmental assessment processes;
- Advise construction personnel, decision makers and future foreshore managers of the actions required to enhance the amenity value of the Foreshore Reserve for the community; and
- Mitigate potential impacts to the environmental values within and surrounding the Foreshore Reserve.

Implementation of the FMP will be to the satisfaction of the Department of Biodiversity, Conservation and Attractions (DBCA) and City of Busselton (CoB). Implementation of the FMP will be timed to occur with the construction of the Proposal.

The ultimate management responsibility of the FMP area is broken down within Figure 1.3. The proposed foreshore development works in the FMP area are isolated to the portion which will ultimately be under CoB management (existing foreshore and proposed foreshore). Note, there is a small northern section of the National Park extension included within CoB's management responsibility. This is due to the Cape to Cape Track crossing into the National Park extension and it being practical for the Track to be maintained by a single entity in this location and the delineator between management obligations as opposed to the cadastral boundary.

Once practical completion of the foreshore management works (as identified in this FMP) are completed, the Proponent will begin a five-year management program in accordance with the objectives, targets and completion criteria stated in this FMP.

Following the completion of this management program, ongoing management of the FMP area will be handed over to the CoB and DBCA as identified in Figure 1.3. Subject to a separate management agreement, the Community Corporation may however continue to manage the area under CoB responsibility.



1. Introduction

1.1 Background

Smiths 2014 Pty Ltd (Proponent) is currently proposing to develop Lot 4131 Smiths Beach Road, Yallingup (the Site) to deliver a sensitive coastal village. This proposed development (the Proposal) incorporates an environmentally sensitive and landscape led design approach that prioritises the Site's unique natural elements and results in a built form proposal that integrates lightly into the landscape and is sympathetic to surrounding vegetation. The Proposal is located within the City of Busselton (CoB), Western Australia, approximately 23 km west of Busselton CBD, and covers an area of 40.53 ha.

The Site is bound by Smiths Beach Road to the east, the Indian Ocean to the west, the existing foreshore reserve to the north and the Leeuwin Naturaliste National Park to the south.

The Foreshore Reserve comprises (refer Figure 1.1 and Figure 1.2):

- The existing foreshore reserve (part Lot 1409) and the adjacent Unallocated Crown Land (UCL) located to the north/northwest of the Site and extending west to Smiths Point;
- The proposed foreshore which is currently part of the Site; and
- The western foreshore that comprises part of the UCL and the whole of Lot 1410.

1.2 Purpose of the Foreshore Management Plan

This Foreshore Management Plan (FMP) applies to (refer Figure 1.2):

- The area defined as the Foreshore Reserve (above); and
- The National Park extension within the Site (i.e. Lot 4131 refer DGP Condition 16 (a)).

The extent of area to which this FMP applies and the ultimate management responsibilities are identified in Figure 1.1, Figure 1.2 and Figure 1.3.

The FMP area does not include the part of Lot 1409 which is due North of Canal Rocks Apartment and Smiths Beach Resort, this is the subject of a separate FMP (RPS Bishaw Bowman Gorham 2004).

The Proponent provides this FMP to delineate the foreshore location, detail the proposed development within the foreshore, areas of retained vegetation and revegetation works and define how the Proposal will interface with the Foreshore Reserve. This includes identifying opportunities to improve the current environmental, pedestrian movement and vehicular movement outcomes.

The FMP will support planning and environmental assessment processes.

1.3 Objectives

The FMP will guide construction and development activities to ensure existing environmental values within the Foreshore Reserve are retained and protected. The FMP will also guide rehabilitation initiatives and define management responsibility during and post construction.

The FMP details the management measures, planning considerations and risk mitigation strategies to be implemented during the construction and the subsequent management of the FMP area. Management of the FMP area as it relates to this FMP, will be the responsibility of the Proponent for the first five years after which responsibility reverts to the CoB and DBCA (Section 7.2).

Site specific objectives for this FMP include:

- Foreshore stability and erosion management;
- Mitigation of coastal inundation (caused by climate change and storm surges);
- Improvement of native vegetation cover within the FMP area;



- Protection of existing vegetation within the FMP area;
- Enhancement of public amenities;
- Reduce weed coverage; and
- Waste management within the FMP area.

1.4 Supporting documents

The following documents have been reviewed and used to support the development of this FMP:

- Smiths Beach Design Report 2021 (collaboration of project architects and planners);
- MP Rogers and Associates (2021); Smith Beach Coastal Hazard Assessment;
- Hyd20 (2021): Urban Water Management Plan (including Golders 2021 geotechnical investigation);
- Strategen-JBS&G (2021b): Foreshore vegetation assessment;
- Ethnosciences (2021): report of an ethnographic consultation and archaeological inspection of lot 4131 Smiths Beach;
- CoB Coastal Adaption Research (November 2018);
- CoB Draft CHRMAP (in progress);
- Traffic Impact Assessment Smiths beach Project (2021); and
- PGV Environmental/ EPCAD Draft FMP (December 2010).

Where relevant the location of the above source documents within the larger 2021 Development Application (DA) document as prepared by Taylor Burrell Barnett (TBB) is provided.



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2. Project Overview

2.1 Design Philosophy

The Smiths Beach Project vision is to create Australia's most sensitive coastal village deeply rooted in place and culture. The village, with natural elements unmatched in the region, is located on Wardandi land, bordered by spectacular coastline and National Park. The Cape to Cape Track, which spans between Cape Naturaliste and Cape Leeuwin, runs adjacent to the Site and is an integral element of the Proposal's regional and local tourism vision.

The South West has been identified as a key priority for the State Government, acknowledging tourism's economic contribution to the region and the State. The State Government has further identified the need to enhance the Cape to Cape Track as an iconic tourism attraction and a priority project of significance. A well-coordinated and multifaceted approach to address the opportunities is required, comprised of government initiatives and facilitation, and coupled with private investment. Limited private investment in tourism, particularly short stay accommodation, has been made in the past decade, resulting in aging hotel stock and amenities that do not meet the expectations of high value tourist demand. The Smiths Beach Project is perfectly positioned to address the needs of meaningful growth in tourism demand in the region, and deliver a benchmark project that provides tourism, community and economic benefits to the South West region, develop Smiths Beach as a regional tourism node which will provide a significant leadership role for the whole of the Cape to Cape Track.

The Proposal incorporates an environmentally sensitive and landscape led design approach that prioritises the Site's unique natural elements. Behind the project is a leading team of experts who share design leadership in delivering a best-practice, environmentally sensitive, development outcome. The result is a built form proposal that integrates lightly into the landscape and is sympathetic to surrounding vegetation.

The proposed Foreshore Reserve is a multifaceted design response that will improve the ecological condition of the currently environmentally degraded foreshore and provide a welcoming destination for the community that is both functional and aesthetically sensitive to the surrounding coastline. The current foreshore design is shown in Figure 2.1.

The Foreshore Reserve will complement and enhance the recreation experience at Smiths Beach and welcome the community with a strong emphasis on highlighting its Connection to Country. The reserve re-naturalises the foreshore into a sensitive rehabilitated coastal habitat forming an ecological corridor that connects to the National Park. Returning the Site to its more natural form is a main focus of the foreshore with a site-specific revegetation strategy.

Functionally, the Foreshore Reserve incorporates a number of elements which foster a centralised community node and defines the recreational purpose of this area.

Features of the foreshore, all of which are within the FMP area, include the following:

- Universal Access Ramp (UAR) providing safe access to the beach for all community members and facilitates beach access for the SLSC and emergency services as required;
- Yarning Circle informal seating area allowing the community to gather and converse. Inspired by Aboriginal story/knowledge sharing;
- Rockpool Nature Play low point of the site acting as a localised informal drainage area. Locally sourced boulders will be incorporated into the design to allow a nature play element; and



 Path Access and Lookout Nodes - dedicated path access which ensures protection of surrounding vegetation and also facilitates emergency vehicle access and low speed public vehicle access.

The Community Hub, Smiths Common and parking in Smiths Lane, which are all part of the Community Scheme are located adjacent to the Foreshore Reserve and improve the public use of the foreshore. These elements are external to the FMP area and include:

- Cape to Cape Welcome Centre providing a curated selection of experiences for all visitors on the track and to the region, including immersive Aboriginal cultural experiences, tourism operators etc;
- Surf Life Saving Club (SLSC) surf club facilities being provided to allow Smiths Beach SLSC to
 provide for a boat shed, club rooms, associated beach showers, public toilets and changeroom
 facilities, first aid/emergency services and to enable emergency responders safe and
 immediate access to the beach;
- Café and General Store food and drink provided in a relaxed indoor and outdoor seating area spilling out onto terraced grassland;
- Hire Shop fostering improved recreational ability for the community bike riding, snorkelling, surfing etc;
- Car Parking located in an existing firebreak and sleeved behind existing development to reduce visual impact and also ensure the foreshore is safe and pedestrian focused;
- Public Toilet/Shower Facilities includes changing room and also outdoor shower facilities; and
- Bushfire Refuge Facility located as part of the Community Hub/Hotel building, this onsite refuge will provide for last resort shelter in the event of an emergency bushfire. This refuge is a significant benefit to the local community as it sized to accommodate adjoining property owners.

The integrated foreshore offering is a considered design response that appropriately welcomes all visitors to this sustainable tourism village. It aims, through the application of sensitive design (for example environmental, architectural, landscape, water management) and provision of community amenities (as above), to improve the ecological condition of the existing foreshore whilst providing recreational functionality that is underpinned by the Connection to Country and the Cape to Cape Track.

Foreshore Masterplan

- 1. Cape to Cape Track
- 2. National Park Extension (currently private land)
- 3. Ocean Lookout
- 4. Informal Headland Access
- 5. Emergency Vehicle Access
- 6. Seating and Viewing Deck
- 7. Smiths Point Access & Parking
- 8. Informal Foreshore Access
- 9. Foreshore Revegetation Area
- 10. Alfresco Terrace
- 11. Outdoor Showers / Drinking Fountain
- 12. Universal Access Ramp
- 13. Naturalised Seawall
- 14. Smiths Common
- 15. Stair Access to Beach
- 16. Cape to Cape Welcome Centre

Legend





Figure 2.1a

Foreshore Masterplan – Extract of Detailed Concept Plan





Figure 2.1b



View west along Foreshore from Smiths Beach Road to Smiths Point.

Figure 2.1c



Key







Figure 2.1d: Cross section

Smiths Beach 54









Figure 2.1e: Cross section

Smiths Beach 56







Figure 2.1f: Cross section



3. Statutory and policy context

Key statutory and policy documents relevant to the Site are described in detail in the following sections.

3.1 Strategic context

The requirement to prepare and implement an FMP is established by the following statutory and policy mechanisms at the Commonwealth, State and Local Government levels:

- Environmental Protection Act (EP Act) 1986;
- *Planning and Development Act* (PD Act) 2005;
- State Planning Policy 2.6 Coastal Planning (SPP2.6) and associated Coastal Planning Policy Guidelines;
- State Planning Policy 6.1 Leeuwin-Naturaliste Ridge;
- Leeuwin-Naturaliste Sub-Regional Planning Strategy; and
- Leeuwin-Naturaliste capes area parks and reserves management plan 81.

3.2 State Government

The following sections provide further detail on key State Government policy and planning documents.

3.2.1 The State Planning Policy 2.6: State Coastal Planning

The planning, development, and management of the coast in regional areas of Western Australia is guided by the State Planning Policy 2.6: *State Coastal Planning Policy* (Department of Planning, Lands and Heritage, 2021) (SPP 2.6).

The objectives of the policy are to:

- Ensure that development and the location of coastal facilities takes into account coastal processes, landform stability, coastal hazards, climate change and biophysical criteria;
- Ensure the identification of appropriate areas for sustainable use of the coast for housing, tourism, recreation, ocean access, maritime industry, commercial and other activities;
- Provide for public coastal foreshore reserves and access to them on the coast; and
- Protect, conserve, and enhance coastal zone values, particularly in areas of landscape, biodiversity and ecosystem integrity, indigenous and cultural significances.

SPP 2.6 requires that at subsequent development stages an FMP is prepared and implemented for the coastal foreshore reserve. The SPP 2.6 guidelines (WAPC 2020) state that the FMP guides the planning, development, rehabilitation, and long-term management of a localised coastal foreshore reserve area.

SPP 2.6 includes methods for calculating appropriate setbacks to allow for coastal processes.

3.2.2 The State Planning Policy 6.1: Leeuwin-Naturaliste Ridge

The Leeuwin-Naturaliste Ridge Statement of Planning Policy was prepared by the Western Australian Planning Commission Section 5AA of the *Town Planning and Development Act, 1928.* The policy promoted sustainable development, conservation, and seeks to provide greater planning consistency between the two local governments within the region (City of Busselton and Shire of Augusta-Margaret River).

The objectives of the policy are to:



- Conserve and enhance the special benefits arising from landscape elements that form the fabric of the region;
- Respect and conserve its outstanding natural and cultural heritage and environmental values;
- Cater for population growth consistent with the objectives of the policy and provide a range of settlement options located to enhance the economic, social and environmental functions, while promoting quality and innovation in urban design and built form;
- Protect agricultural land for its economic, landscape, tourism and social values;
- Encourage a mix of compatible land uses while separating conflicting land uses;
- Facilitate a robust, diverse and sustainable economy; and
- Foster a sense of community and creativity for the benefit of all residents and visitors for future generations.

3.2.3 Leeuwin-Naturaliste – Sub-regional Strategy

The Leeuwin-Naturaliste Sub-regional Strategy has been prepared for the Leeuwin-Naturaliste subregion, which comprises the land and coastal waters within the CoB and the Shire of Augusta-Margaret River. The purpose of the Strategy is to manage this change by guiding growth and development to achieve positive social, economic and environment outcomes. The Strategy provides guidance to assist local governments implement State strategic priorities, and to inform local planning strategies and schemes so that robust planning decision are being made. The Leeuwin-Naturaliste – Sub-regional Strategy has adopted the Settlement hierarchy from SPP 6.1 Leeuwin-Naturaliste Ridge which identifies Smiths Beach as a tourist node.

3.2.4 Environmental Protection Act 1986

The Proposal, which occupies an area of 40.53 ha, will be referred to the Environmental Protection Authority (EPA) for assessment in accordance with the requirements of s38 of the EP Act. This is a function of the potential impact to the following environmental factors: flora and vegetation, terrestrial fauna, landforms and social surrounds.

As the Proposal will also be referred to the Department of Agriculture Water and the Environment (DAWE) for assessment under the EPBC Act, consideration may be given to the use of the accredited assessment process.

3.2.5 Aboriginal Heritage Act 1972

The Aboriginal Heritage Act 1972 (AH Act) is in place to protect, recognise and preserve Aboriginal sites in Western Australia. Aboriginal sites are defined by Section 5 of the Act and have been determined by the Department of Planning, Land and Heritage (DPLH). In accordance with the AH Act, a register of Aboriginal Sites is maintained by the Registrar of Aboriginal Sites. Furthermore, under Section 19 of the AH Act a declaration may be made that Aboriginal sites of outstanding importance are Protected. There are currently 80 Protected Areas in Western Australia (DPLH 2021).

Section 17 (s. 17) of the AH Act explains that the cause of destruction, damage or alterations to an Aboriginal site as outlined above, is a breach of the Act and therefore a criminal offence.

Where the project may impact on (a) known Aboriginal site(s) and it is not possible to modify the proposal to avoid this impact, the Proponent is required to apply for consent under Section 18 (s. 18) of the *Aboriginal Heritage Act* (AH Act) *1972* to impact the site and proceed with the intended land use.

A request for consent under s. 18 is sent to the Aboriginal Cultural Material Committee (ACMC) who assess the importance and cultural significance of a site that has been submitted. The ACMC submits



this notice to the Minister with a written recommendation as to whether consent to the use of land should be given.

A s. 18 in relation to the Site has been lodged with the ACMC.

3.2.6 Native Title Act

The *Native Title Act 1993* (Commonwealth) (the "Act") creates an Australia-wide native title scheme, the objectives of which include:

- Providing for the recognition and protection of native title;
- Establishing a mechanism for determining claims to native title; and
- Establishing ways in which future dealings affecting native title (future acts) may proceed.

The Act establishes the Tribunal as an independent body with a wide range of functions. The Act is, itself, a 'special measure' for the advancement and protection of Aboriginal peoples and Torres Strait Islanders (Indigenous Australian peoples). The Act is intended to advance the process of reconciliation among all Australians.

The Site is located in an area that is subject to two native title claims as follows:

- WC2006/004 South West Boojarah #2
- WC1996/041 Harris Family

A portion of the FMP area is Unallocated Crown Land (UCL) and is subject to the above native title claims. It is understood these claims are now settled and vesting to the relevant authorities (DBCA and CoB) is due to occur shortly.

3.3 Local government

3.3.1 City of Busselton

The CoB as the local government authority responsible for the Site has a critical role in the local planning and management of the coast within its jurisdiction. The CoB is responsible for the formal management of lands vested in the local government, and the provision of informal management assistance for other public lands, for example unvested reserves. The local government authority is generally responsible for on-the-ground management of the coastal areas, including public infrastructure on the beachfront, including parks, toilets, and recreational facilities.

3.3.1.1 City of Busselton Local Planning Scheme No. 21 (LPS)

The LPS sets out the way land is to be used and developed, classify areas for land use and includes provisions to coordinate infrastructure and development within the local government area. The local government area is divided into zones and identifies land reserved for public purposes and recreation. The Site is currently identified under the LPS as a combination of Tourism Zone and Recreation Reserve. The site is also affected by Additional Use Site No. 36 which provides for residential development in accordance with the residential zone. Schedule 8 of the City of Busselton Local Planning Scheme No. 21 outline the provisions applied to the Site. Provision 2 (f) of Schedule 8 stipulates that as part of the Structure Plan submission, a FMP must be prepared in accordance with SPP 2.6 – State Coastal Planning Policy.

3.3.1.2 Coastal Hazard Risk Management and Adaptation Plan

The CoB has prepared a Coastal Hazard Risk Management and Adaptation Plan (CHRMAP) for the Geographe and associated coastal areas. The Draft CHRMAP was released in mid 2021 (for public comment) and has been used by MRA to assist in the completion of their work in relation to the Foreshore Reserve and FMP.



The CHRMAP identifies areas that could potentially be impacted by coastal erosion and flooding hazards, over the next 100 years, due to storm events and the estimated rise in sea level. The purpose of the CHRMAP is to consider potential hazards, and together with feedback through community consultation, will recommend management responses for the future.



4. Existing Environment

The following sections provide a description of the existing receiving environment across the larger Site and for the Proposal based on a series of studies and surveys completed between 2019 and 2021. Where relevant and applicable, the information has been used to describe the area that is covered by the FMP (refer Section 1.2).

4.1 Historical, current and surrounding land use

Historically the area was used for low-intensity sheep grazing. Farming of the site was discontinued in the mid-1990s.

Historical aerial imagery from 1996 to 2019 shows the site supporting intact native vegetation (Emerge 2019). There is evidence of use of the area as an informal access point for the coast, beaches, Cape to Cape Track and Aquarium with numerous tracks originating from existing roads.

The Leeuwin-Naturaliste Ridge (EPA Redbook Recommended Conservation Reserve) borders the Site to the north and to the west, the Leeuwin-Naturaliste National Park borders the Foreshore Reserve to the south (incorporating Canal Rocks) and the Ngari Capes Marine Park is located approximately 100 m to the north and the west of the Foreshore Reserve. The National Park also includes land to the north-east of the site including Smiths Beach and the Torpedo Rocks scenic lookout.

Immediately to the east of the site is a tourist development (Chandler's Chalets) and cleared rural land. Immediately adjacent on the north-eastern side of the Site is the Canal Rock Beachfront Apartments and Smiths Beach Resort (formerly the Smiths Beach Caravan Park site).

4.2 Geology and soil

The geology of the Site is described in the Yallingup Sheet of the Environmental Geology Map Series produced by the Geological Survey of Western Australia (Leonard 1991). Generally, the geology of the Site consists of Quaternary sand derived from Tamala Limestone overlying Archaean gneiss (Golder 2020).

- SAND derived from Tamala Limestone white to pale and olive-yellow, medium to coarse grained, sub-angular quartz; moderately sorted;
- TAMALA LIMESTONE variably cemented calcareous limestone; and
- GNEISS medium grained mesocratic gneiss.

According to Planning Bulletin 64 Acid Sulfate Soils (WAPC, 2009) the Site is classified as no risk of actual or potential acid sulfate soils (ASS) within 3m of natural surface (Golder 2021 in Hyd2o 2021).

4.2.1 Sussex Location 4131

The Site lies in the Jarrah Forest bioregion and within the Southern Jarrah Forest subregion, as defined by the *Interim Biogeographic Regionalisation of Australia* (IBRA) (Environment Australia 2000). The Southern Jarrah Forest subregion extends from Collie in the north to Yallingup in the west and Albany in the south east. This subregion comprises the southern part of the Darling Plateau, where it broadens and slopes gently to the southern coastline, being dissected by multiple rivers (Beard 1990). Generally, the soils within the Southern Jarrah Forest subregion comprises a combination of limestone and granites as it lies on the northern tip of the Leeuwin-Naturaliste Ridge (Emerge 2019).

Based on mapping by the Department of Primary Industries and Regional Development (DPIRD) the Site generally comprises four broad soil landscape units which are described in Table 4.1.



Name	Description	
Gracetown exposed slopes Phase	Moderate slopes (gradients 10-15%) on the west coast exposed to prevailing wind directly off the ocean, with deep and shallow yellow brown siliceous sands over limestone (i.e. Spearwood Sands).	
Wilyabrup granitic headland Phase	Areas on the west coast dominated by granitic outcrop.	
Wilyabrup exposed slopes Phase	Low slopes (gradients generally 5-10%) exposed to strong winds off ocean.	
Wilyabrup gentle slope Phase	Gradients 5-10%	

Table 4.1: Soil Landscape mapping over the Site (DPIRD 2019).

4.2.2 FMP area

An assessment of the geology and soils was completed for the Proposal of which boreholes BH1 to BH4, BH6 to BH8 and hand auger holes (HA20 to HA27) were located within the FMP area. The following summary of possible subsurface conditions may be inferred across the FMP area from the results of the Golders 2021 investigation of the Site (refer Figure 4.1):

- SAND/Silty SAND/Clayey SAND (SP/SM/SC), fine to coarse grained sand, with some Gneiss boulders, extending to depths of between about 1.5 m and 7.2 m; overlying
- Clayey SAND/Sandy CLAY/CLAY (SC/CI), medium plasticity, very stiff to hard, variably cemented with iron cementation, encountered at BH4 and BH6 only, extending to a depth of 4.5 m at BH6 and the depthinvestigated of 16.5 m at BH4; overlying
- GNEISS, medium to coarse grained, mottled pale red, brown, grey and pale blue, distinctly weatheredand very low to low strength in parts near the surface of the unit, becoming slightly weathered to fresh and medium to very high strength, extending to the depths investigated of between 6.5 m and 12.0 m; and
- A seasonally saturated soak is located adjacent to the current coastal path.

4.3 Topography and landform

The Site has two major landform components: a gently sloping eastern section that rises to the south away from the beach, a ridgeline in the western sector that extends seaward in a north westerly direction. The ridgeline forms a slightly raised headland with elevation up to 58m AHD (refer Figure 4.2).

The highest point of the Site is located midway along the southern boundary of the Site having an elevation of 60m AHD. The eastern half of the site slopes downwards to the north towards the beach to a level of 4m AHD. The general slope is moderate, descending approximately one metre in every seven. At the base of this slope is a low-lying area.

A dunal ridge, rising up to 18m AHD in places, separates this low-lying area from the beach. Further west the dunal ridge decreases in height to sea level.

The site encompasses a low coastal fragmented rock shoreline, steep rocky cliffs and a small discrete enclosed sandy cove. The foreshore is the rocky shore line of the peninsular and ridge that forms the western side of the Smiths Beach bay. The foreshore is a west, north and north eastern facing marine environment.



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TITLE PRELIMINARY GEOTECHNICAL AREAS

PROPOSED SMITHS BEACH DEVELOPMENT

CLIENT SMITHS 2014 PTY LTD

PROJECT

NOTE: 1. COORDINATE SYSTEM: GDA 1994 MGA ZONE 50 REFERENCES: 1. CADASTRE AND AERIAL IMAGERY BASED ON INFORMATION PROVIDED BY AND WITH THE PERMISSION OF THE WESTERN AUSTRALIAN LAND INFORMATION AUTHORITY TRADING AS LANDGATE (2020). 2. SITE LAYOUT OVERLAY PROVIDED BY CLIENT (PDF FORMAT). DRAWING FILE: SMITHS DRAFT MASTERPLAN DECEMBER 2020.PDF

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# 4.4 Climate

The Naturaliste-Leeuwin coastline experiences a Mediterranean climate with warm to hot, dry summers and mild, wet winters. High-pressure cells dominate climatic patterns during summer and the passage of cold fronts and associated low-pressure cells dominate during winter. Strong sea breezes dominate during late November to early March with much of the site being exposed to strong winds during winter storms.

The mean maximum temperature generally occurs in February and varies between 23°C at Cape Leeuwin and 25.6°C at Cape Naturaliste. Rainfall averages are 833mm at Cape Naturaliste and 994mm at Cape Leeuwin. Approximately 60% of the annual rainfall is received between May and August (Bureau of Meteorology 2020).



# Figure 4.3: Long term and current climatic data for Cape Naturaliste (station # 9519)

(Source Bureau of Meteorology (BoM) 2020)

# 4.5 Surface and Groundwater

# 4.5.1 Surface water

The following is based on the work completed by Hyd2o (2021) in respect to the preparation of the Urban Water Management Plan (UWMP) for the proposed development (presented as Appendix P of the TBB DA).

There are no mapped Geomorphic Wetlands for the Leeuwin Naturaliste Ridge and Donnybrook to Nannup dataset (DBCA) present within the site. The nearest mapped site is a Palusplain wetland located approximately 1 km to the east of the Site adjacent to Gunyulgup Brook (Hyd2o 2021).

The Gunyulgup Brook, a seasonally flowing stream, is located approximately 200m to the northeast of the Site, at its closest point. The Brook flows in a north westerly direction past the Site before meandering to the northeast prior to discharging into Smiths Beach Bay.



A seasonal expression of groundwater is located within the Foreshore Reserve. There is evidence that this soak was previously enhanced for stock watering purposes, however it is likely that the soak is a natural expression of groundwater flow during the wetter months.

The surface topography has been locally impacted by the construction of a farm dam circa 1962. The construction of the dam involved the excavation of the natural depression in which the dam is located to achieve an approximate depth of 1 m. The dam is set in the underlying granite bedrock and it is considered likely that the dam receives water by seepage of rainwater along the interface between soil and bedrock along with direct rainfall. No external drainage into the Site has been observed.

The catchment for the Site covers a total area of approximately 55.7 ha. Of this 28.2 ha is located within the Site and 27.5 ha is located upstream of the Site (Figure 4.4).

Surface water (stormwater) from the adjacent Canal Rocks Apartments and Smiths Beach Resort are managed on the respective land areas through infiltration in accordance with the City of Busselton stormwater management guidelines (CoB 2021).

# 4.5.2 Groundwater

The Site is located west of the Dunsborough Fault and within the area known as the Leeuwin Complex which is classified as a fractured rock aquifer, where groundwater is restricted to fractures in the crystalline basement rocks (bedrock) and to thin weathered zone sand overlying surficial deposits.

Groundwater levels at the Site are also controlled by its proximity to the coast and are therefore located generally well below natural surface in permeable areas.

Groundwater has not been encountered during a series of investigations completed at the Site since 2007 (Douglas Partners 2001, ATA 2007, Golders 2021 all in Hyd2o 2021).

With reference to the geology and soils across the site and the recent works by Hyd2o and Golder (2021) it is anticipated that groundwater observed in the soak at the site is due to the presence of impermeable strata leading to the development of a perched water table at this location.

Hyd2o estimated, based in the 2021 investigation, that groundwater would be encountered at 3 m Australian Height Datum (AHD) at the site. This concurs with work completed by Douglas Partners and MP Rogers and Associates. It also reflects the changes in groundwater levels in relation to changes (ie. a reduction) in rainfall across the South West of the State over the past 20 years.

The results of an analysis of a sample of groundwater taken in 2021 (Hyd2o 2021) may be summarised as follows:

- pH is slightly basic (alkaline) but falls within the ANZECC guideline range of 6.5 8.0 forwet and ecosystems in south-western Australia;
- The EC of 3.6 ms/cm was above the ANZECC guideline range of 0.30 1.50. This EC equates to a salinity of approximately 1,800 mg/L;
- TN of 6.6 mg/L was relatively high exceeding the ANZECC guideline value of 0.75 mg/L;
- TP of 0.08 was above the ANZECC guideline value of 0.06 mg/L; and
- In relation to metals, Cadmium, Chromium, Lead, Mercury, and Nickel concentrations were all below the level of detection. Arsenic, Copper, and Zinc were below the recreational waters guideline values, and only Copper and Zinc were above the 95% target for 95% protection of freshwater species (Zinc within 90% protection level).

With respect to nutrient concentrations, TN and TP concentrations are typical of the expected water quality range in previously rural areas (ANZECC 2000).





# 4.6 Aboriginal heritage

A desktop search of the DPLH Aboriginal Heritage Inquiry System (AHIS) was undertaken to clarify potential Aboriginal heritage requirements (Ethnosciences 2021). The desktop search identified the following sites are located within or in close proximity to the Site (Figure 4.5):

- One registered site (ID 15080) is located within the northeast of the Site comprising scattered artefacts (seven locations);
- One registered site (ID 15081) is located to the west of the Site;
- One Other Heritage Site (ID 15993) associated with Canal Rocks was mapped as overlapping the Site, however, ethnographic evidence indicates the site is not located within the Site and as such will not be impacted by the proposed development. (Note: Canal Rocks is located approximately 1km south-west of the Site); and
- One Lodged Other Heritage Site (ID 4561) associated with Wyadup Brook, depicted as a 1x1 km polygon which touched the southern boundary of the Site (the actual site is located approximately 900 m south of the Canal Rocks Boat Ramp and therefore will not be impacted by the Proposal).

ID 15080 is located on a firebreak and artefacts were observed during the 2021 site visit (i.e. the site is still extant). The site may have been a traditional camping area because of the local topography (hollow). In addition, the Cultural Working Group (CWG) indicated that additional archaeological material may be found in the area around ID 15080 including burial remains/artefacts.

A potential soak was identified by the CWG during the study field work at the junction of the existing firebreak and Smiths Beach Road towards the north of Lot 4131 (Ethnosciences 2021). It is understood that this area is to be incorporated in the Rockpool Natureplay area in the Foreshore Reserve.

The Other Heritage Place (15993), which is associated with Canal Rocks, will not be impacted by the proposed development including the Foreshore Reserve. ID 15993 Canal Rocks was not identified by the CWG during the 2021 study and inspection (Ethnosciences 2021).

The 2021 study concluded that the Proposal should be modified to avoid site ID 15080 and incorporate the potential soak into the design. In anticipation that it may not be possible to avoid potential impacts to this Aboriginal site (ID 15080), a s. 18 Notice for Ministerial consent has been lodged (as described in Section 3.2.5).

Ongoing consultation with the CWG and engagement of the group is recommended to provide monitoring during initial ground disturbance to ensure any burial or skeletal material is handled in accordance with Wardandi customs, traditions and relevant legislation. A Cultural Heritage Management Plan is to be prepared to provide a management strategy to ensure the appropriate handling of heritage artefacts should they be discovered during development.

The foreshore area comprises areas of UCL which are subject to a native title claim. It is understood this claim is now settled and vesting to the relevant authorities is due to occur shorty.

The Ethnosciences 2021 report is provided as Appendix K of the TBB DA.

# 4.7 European Heritage

A search of the Government of Western Australia Heritage Council inheritance search tool determined that there are no National or Commonwealth Heritage Places listed under the *EPBC Act* within the site (Strategen-JBS&G 2021b).

A search of the Heritage Council of Western Australia *InHerit* database determined that there is no European heritage sites located within the Site. The closest historic State Register Place is Millbrook Farm (P429) located approximately 3.1 km away.





# 4.8 Vegetation and flora

The following description of the vegetation and flora across the Site and Foreshore Reserve is based on two surveys that have been completed to support the development of the Site.

In 2019 Emerge undertook a detailed flora and vegetation survey of Lot 4131 (ie. the Site). The area surveyed was 40.53 ha.

A subsequent survey was completed in 2021 by Strategen-JBS&G to examine the Foreshore Reserve area as relevant to this FMP (Figure 1.1) (Strategen-JBS&G 2021b). The survey covered the section of the Foreshore Reserve between Smiths Point in the north-west and the eastern boundary of the reserve within Lot 1409 and the adjacent UCL (Figure 1.1). The area surveyed was 5.13 ha.

Lot 1410 will be incorporated into the National Park extension. No work, other than the required Cape to Cape Track upgrades (Section 6.3) will be undertaken in Lot 1410. On this basis no flora and vegetation or terrestrial fauna surveys have been completed for Lot 1410. This area is excluded from the descriptions and area calculations presented in the following sections (for vegetation type and condition and fauna habitat).

With reference to the outcomes of the two surveys above, it is considered that the vegetation types and condition are similar to that observed in the western portion of the Site. The associated fauna habitats are likewise similar to those observed in the Site.

# 4.8.1 Regional vegetation

The Site falls within the Southern Jarrah Forest IBRA subregion (JF2) (Hearn et al., 2002; Beard 1990). The vegetation of this subregion comprises jarrah-marri forest in the west grading to marri and wandoo woodlands in the east (McKenzie et al., 2002). The south-east portion of the Site includes areas of swamp vegetation dominated by paperbarks and swamp yate (Hearn et al., 2002).

# 4.8.2 Pre-European vegetation

Beard et al. (2013) mapping of pre-European vegetation shows the following vegetation associations in the Site:

- 'Chapman 37' over the majority of the site, which is described as 'shrublands, teatree thicket' (Beard et al. 2013);
- 'Chapman 990' in very small areas in the eastern and western portions of the site, which is described as 'low forest: peppermint (Agonis flexuosa) (Beard et al. 2013); and
- 'Chapman 1180' in the south eastern and north western portions of the site, which is described as 'shrublands, *Calothamnus quadrifidus* and *Hakea trifurcata*' (Beard et al. 2013).

'Chapman 37' has 50.38% of its pre-European extent remaining on the Southern Jarrah Forest subregion with 17.77% protected for conservation purposes (Government of Western Australia 2018). 'Chapman 990' has 77.14% of its pre-European extent remaining on the Southern Jarrah Forest subregion with 76.28% protected for conservation purposes (Government of Western Australia 2018). 'Chapman 1180' has 94.03% of its pre-European extent remaining on the Southern Jarrah Forest subregion with 76.28% protected for conservation purposes (Government of Western Australia 2018). 'Chapman 1180' has 94.03% of its pre-European extent remaining on the Southern Jarrah Forest subregion with 76.28% protected for conservation purposes (Government of Western Australia 2018). The percentage remaining of the three regional vegetation associations mapped in the site exceeds 30%. However, less than 30% of the pre-European Chapman 37 and Chapman 990 vegetation associations are protected for conservation.

# 4.8.3 The Site and Foreshore Reserve

# 4.8.3.1 Vegetation Types

Emerge (2019) recorded 13 vegetation types (VT) across the Site. A description and the area of these plant communities is provided in Table 4.2.


Table	4.2:	Vegetation	types	within	the	Site
TUDIC		vegetation	<b>Upc</b> 3	****	the	Site

Vegetation Type	egetation Type Description		
AfPe	Low open forest Agonis flexuosa over fernland Pteridium esculentum subsp. esculentum over open herbland mixed non-native species such as *Lysimachia arvensis and *Asparagus asparagoides.	8.06	
AhHe	Shrubland Allocasuarina humilis over low sparse herbland over low sparse grassland Austrostipa mollis and Rytidosperma occidentale over low open rushland Hypolaena exsulca.	1.23	
AsDc	Shrubland Acacia saligna and Dodonaea ceratocarpa over low herbland Trachymene pilosa over low sparse grassland Rytidosperma occidentale.	3.31	
AsHh	Shrubland Acacia saligna over low open shrubland Hibbertia hypericoides over grassland non-native species such as *Vulpia bromoides.	0.60	
BaMrXp	Low open forest <i>Banksia attenuata</i> and occasional <i>Agonis flexuosa</i> over open shrubland <i>Macrozamia riedlei</i> and <i>Xanthorrhoea preissii</i> over open mixed herbland.	4.13	
CcHh	Low forest <i>Corymbia calophylla</i> over open shrubland <i>Xanthorrhoea preissii</i> and over low shrubland <i>Hibbertia hypericoides</i> over sparse low herbland <i>Scaevola calliptera</i> .	0.67	
DciDcL	Shrubland Darwinia citriodora and Dodonaea ceratocarpa over low sedgeland Lepidosperma spp. over low open grassland of native and non-native species over low open herbland Crassula spp.	0.85	
KcSg	Closed shrubland Kunzea ciliata and Spyridium globulosum over low open shrubland Eutaxia myrtifolia over sparse sedgeland over low sparse herbland.	8.37	
КсDсРр	Low open shrubland <i>Kunzea ciliata</i> and <i>Darwinia citriodora</i> over low sparse herbland <i>Stypandra glauca</i> over low sparse grassland <i>Poa poiformis</i> on granite.	0.23	
MhGl	Low woodland to low open forest <i>Melaleuca huegelii, M. lanceolata</i> and <i>Guichenotia ledifolia</i> over tall open shrubland <i>Hakea oleifolia</i> over shrubland <i>Hibbertia cuneiformis</i> over low open herbland <i>Stylidium adnatum</i> .	3.80	
MIDr	Low closed forest <i>Melaleuca lanceolata</i> over sparse shrubland <i>Melaleuca</i> systena and Spyridium globulosum over low open herbland Dianella revoluta var. revoluta over low open sedgeland Lepidosperma spp. (understorey absent in areas of dense canopy cover).	1.57	
MIKc	Closed shrubland <i>Melaleuca lanceolata</i> and <i>Kunzea ciliata</i> over occasional grasses and herbs.	3.41	
NvCcXp	Low open forest Nuytsia floribunda and Corymbia calophylla over open shrubland Xanthorrhoea preissii over low open mixed herbland over low open grassland native and non-native species.	0.63	
Non-native vegetation	Heavily disturbed areas comprising tracks and non-native vegetation with occasional native plants.	3.60	

(Source Emerge 2021).

Strategen-JBS&G recorded ten VTs within the Foreshore Reserve area. One of the ten VTs was not described by Emerge (2019) as it was recorded outside the 2019 survey area. Vegetation Type AsScSI was mapped by Strategen-JBS&G (2021b) on the foredunes and can be described as 'Open shrubland *Acacia saligna* over low shrubland *Scaevola crassifolia* over open grassland *Spinifex longifolius*'.

A description and the area of these plant communities is provided in Table 4.3

Table 4.3: Vegetation types within	n the Foreshore Reserve area
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Vegetation Type	Description	Area (ha)	Percentage of the surveyed FMP area
AfPe	Low open forest <i>Agonis flexuosa</i> over fernland <i>Pteridium esculentum</i> subsp. <i>esculentum</i> over open herbland mixed non-native species	0.31	6.03%
AsDc	Shrubland Acacia saligna and Dodonaea ceratocarpa over low herbland Trachymene pilosa over low sparse grassland Rytidosperma occidentale	0.34	6.63%



Vegetation Type	Description	Area (ha)	Percentage of the surveyed FMP area
AsHh	Shrubland Acacia saligna over low open		
	shrubland Hibbertia hypericoides over grassland		
	non-native species such as *Vulpia bromoides	0.38	7.44%
AsScSI	Open shrubland Acacia saligna over low		
	shrubland Scaevola crassifolia over open		
	grassland Spinifex longifolius	0.08	1.53%
BmMrXp	Low open forest Banksia attenuate and		
	occasional Agonis flexuosa over open shrubland		
	Macrozamia riedlei and Xanthorrhoea preissii		
	over open mixed herbland	0.02	0.36%
DciDcL	Shrubland Darwinia citriodora and Dodonaea		
	ceratocarpa over low sedgeland Lepidosperma		
	spp. over low open grassland of native and non-		
	native species over low open herbland	0.03	0.52%
KcDcPp	Low open shrubland Kunzea ciliata and Darwinia		
	citriodora over low sparse herbland Stypandra		
	glauca over low sparse grassland Poa poiformis		
	on granite	0.13	2.57%
KcSg	Closed shrubland Kunzea ciliata and Spyridium		
	globulosum over low open shrubland Eutaxia		
	myrtifolia over sparse sedgeland over low sparse		
	herbland	0.73	14.26%
MIKc	Closed shrubland Melaleuca lanceolata and		
	Kunzea ciliata over occasional grasses and herbs	0.002	0.04%
CL	No native vegetation present	3.11	60.63%
Grand Total		5.13	100%

(Source Strategen-JBS&G 2021b).

# 4.8.3.2 Vegetation condition

Emerge (2019) determined the most intact native vegetation was in the western areas of the Site, containing vegetation types **KcDcPp, KcSg, MIDr** and **MIKc.** These were mapped as being in an 'Excellent' condition.

Vegetation in the central northern portion of the Site contained vegetation types **AsDc** and **AsHh**, ranging from 'Degraded' by cleared access tracks, to 'Good' and 'Very Good' condition. Vegetation in the eastern portions of the Site including **BaMrXp**, **AfPe and DciDcL** were mapped as being in 'Very Good' and 'Very Good- Good' condition.

Remaining areas in the Site were mapped as being in 'Completely Degraded' condition and consist primarily of bare areas of ground such as tracks, as well as scattered native and non-native vegetation.

Strategen-JBS&G (2021b) identified that areas of dense shrubland within the Foreshore Reserve showed little disturbance, with structure remaining similar to that expected without disturbance. Elsewhere and closer to the water's edge, disturbance from walkers has created some small, cleared areas, with weed invasion present. As such, vegetation condition within the Foreshore Reserve area ranged from Completely Degraded to Excellent. (EPA 2016; Figure 4.7).

#### 4.8.3.3 Native flora

A total of 164 native and 50 non-native (weed) species were recorded within the Site during the field survey (Emerge 2019).

A total of 29 native vascular plant taxa from 17 plant families and 26 genera were recorded within the Foreshore Reserve survey area (Strategen-JBS&G 2021b).



## 4.8.3.4 Conservation significant flora

No Threatened flora species as listed under section 178 of the EPBC Act or section 19(1) of the BC Act were recorded within the two Survey Areas (the Site and Foreshore Reserve) (Emerge 2019, Strategen-JBS&G 2021b).

## 4.8.3.5 Conservation significant vegetation

The species present within vegetation type KcSg are consistent with those described as common within the 'Low shrublands on acidic grey-brown sands of the Gracetown soil-landscape system' Priority Ecological Community (PEC). While the Site is not mapped as occurring within the Gracetown soil-landscape system, the soils within this Site can be described as acidic grey-brown sands and are therefore considered to be consistent with the description. Given this, the entire mapped extent of vegetation type KcSg is considered to represent the Low shrublands on acidic grey-brown sands of the Gracetown soil-landscape system' PEC.

## 4.8.3.6 Introduced (exotic) taxa

A total of nine introduced (exotic) taxa were recorded within the Site and Foreshore Reserve, as follows:

- *Briza maxima;
- *Euphorbia peplus;
- **Hypochaeris glabra;*
- *Lagurus ovatus;
- *Limonium sinuatum;
- *Lotus subbiflorus;
- *Pelargonium capitatum;
- *Poaceae sp.;
- *Schinus terebinthifolia; and
- *Tetragonia decumbens.

None of these species are Declared Plant species in Western Australia pursuant to section 22 of the *Biosecurity and Agriculture Management Act 2007* (BAM ACT) according to the Western Australian Department of Agriculture and Food (DPIRD 2021).

#### 4.8.4 FMP

The following description of the vegetation within the FMP has been compiled using the findings of the two surveys described in Section 4.8.3.

#### 4.8.4.1 Vegetation Types (VT)

Nine VTs (Table 4.4) were recorded within the FMP area (excluding Lot 1410) based on mapping of the Foreshore Reserve (Strategen-JBS&G 2021b) and the Site (Emerge 2019). These are described in Table 4.4 and presented in Figure 4.6: and Figure 4.7). The total area mapped within the FMP was 29.62 ha.

Table 4.4: Vegetation	types	within	FMP	area
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Vegetation Type	Description	Area (ha)	Percentage of the surveyed FMP area
AsDc	Shrubland Acacia saligna and Dodonaea ceratocarpa over low herbland Trachymene pilosa over low sparse grassland Rytidosperma occidentale	0.61	2.84



Vegetation Type	Description	Area (ha)	Percentage of the surveyed FMP area	
AsHh	Shrubland Acacia saligna over low open	0.55	2.54	
	shrubland Hibbertia hypericoides over grassland			
	non-native species such as *Vulpia bromoides			
AsScSI	Open shrubland Acacia saligna over low	0.08	0.36	
	shrubland Scaevola crassifolia over open			
	grassland Spinifex longifolius			
BaMrXp	Low open forest Banksia attenuate and	0.02	0.10	
	occasional Agonis flexuosa over open shrubland			
	Macrozamia riedlei and Xanthorrhoea preissii			
	over open mixed herbland			
KcDcPp	Low open shrubland Kunzea ciliata and Darwinia	0.65	2.99	
	citriodora over low sparse herbland Stypandra			
	glauca over low sparse grassland Poa poiformis			
	on granite			
KcSg	Closed shrubland Kunzea ciliata and Spyridium	9.83	45.41	
	globulosum over low open shrubland Eutaxia			
	myrtifolia over sparse sedgeland over low sparse			
	herbland			
MhGl	Low woodland to low open forest Melaleuca	2.28	10.53	
	huegelii, M. lanceolata and Guichenotia ledifolia			
	over tall open shrubland Hakea oleifolia over			
	shrubland Hibbertia cuneiformis over low open			
	herbland Stylidium adnatum			
MlDr	Low closed forest Melaleuca lanceolata over	1.74	8.04	
	sparse shrubland Melaleuca systena and			
	Spyridium globulosum over low open herbland			
	Dianella revoluta var. revoluta over low open			
	sedgeland Lepidosperma spp. (understorey			
	absent in areas of dense canopy cover)			
MIKc	Closed shrubland Melaleuca lanceolata and	2.27	10.47	
	Kunzea ciliata over occasional grasses and herbs			
Non-native	No native vegetation present	3.62	16.73	
vegetation and CL				
Grand Total		29.62	100	

#### 4.8.4.2 Vegetation condition

Table 4.5 provides a numerical breakdown of the area occupied by each vegetation condition rating within the area covered by the FMP (excluding Lot 1410). Areas mapped as cleared are grouped as 'no native vegetation present'. This information has been compiled from the survey reports as completed by Emerge (2019) and Strategen-JBS&G (2021b).

#### Table 4.5: Vegetation condition within the FMP area

Vegetation Condition	Area (ha)	Percentage of the FMP area
Excellent	16.0	73.85
Very Good - Good	0.04	0.19
Very Good	1.13	5.21
Good	0.70	3.22
Degraded	0.13	0.62
Completely Degraded	0.03	0.18
Cleared – no native vegetation present	3.62	16.73
Total	21.65	100

#### 4.8.4.3 Native flora

Please refer to Sections 4.8.3.3 to 4.8.3.5.





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## 4.9 Fauna

Reference should be made to Sections 0 to 4.8.4.2 for information with respect to the general receiving environment. The following sections are based on the survey completed in 2020 by Biologic Environmental Survey of the Site (attachment to Appendix L of the TBB DA).

### 4.9.1 Fauna habitat

Seven broad fauna habitats were recorded and mapped across the FMP area (Figure 4.8) (excluding Lot 1410). These are described in Table 4.6 and the locations are shown in Table 4.6.

	Distinguishing habitat	Veg. Code	Conservation	
Habitat	characteristics (Emerge,	(Emerge,	Significant Species	Photo
	2019)	2019)		
Kunzea and	Closed shrubland Kunzea	KcSg, MIKc	quenda - primary	
Melaleuca	ciliata and Spyridium		breeding, foraging	
Closed	globulosum over low		and dispersal	
Shrubland	open shrubland Eutaxia			A REAL PROPERTY AND A REAL
12.15 ha,	myrtifolia over sparse			The second second
56.13%	sedgeland over low			Martin Commence States of the
	sparse herbland as well			
	as closed shrubland			
	and Kunzeg ciligta over			
	and Kunzed Childle over			
	herbs on a hillslone of			
	granite outcronning			
Melaleuca	Low woodland to low	MIDr MhGl	Baudin's – primary	
over Hakea	open forest <i>Melaleuca</i>	Wildly Wildl	foraging habitat (High	had and have the
Shrubland	hueaelii. M. lanceolata		Quality)	All A contraction of the second
3.97 ha.	and Guichenotia ledifolia		Carnaby's – primary	X Dex Zord
18.35 %	over tall open shrubland		foraging habitat	Carlos and the second sec
	Hakea oleifolia over		(Quality)	
	shrubland Hibbertia		quenda - primary	State of the second sec
	cuneiformis over low		breeding, foraging	
	open herbland Stylidium		and dispersal	
	<i>adnatum</i> on a sandy		Ctenotus ora -	ALL ALL THE
	midslopes. Progresses		primary breeding,	
	westward to a low		foraging and dispersal	
	closed forest Melaleuca		barking owl – primary	
	lanceolata over sparse		foraging and dispersal	
	shrubland Melaleuca			
	systena and Spyridium			
	globulosum over low			
	open herbland Dianella			
	revoluta var. revoluta			
	over low open sedgeland			
	Lepidosperma spp.			
	aroas of donso canony			
	cove			
Onen	Variable Shrubland	AsHh AsDc	Baudin's - low quality	
Coastal	nrogressing from a	Asini, Asbe,	foraging habitat	
Shrubland	granitic stony plain to a		quenda - primary	
1.23 ha.	sandy plain (southward)		breeding, foraging	and the second second
5.66 %	on a hillslope.		and dispersal	
	Vegetation comprises		Ctenotus ora -	
	distinct associations of		primary breeding,	and the second s
	Acacia saligna over low		foraging and dispersal	
	open shrubland		'	and the second second second second
	Hibbertia hypericoides			
	over grassland non-			

Table 4.6: Broad	fauna	habitats	occurring	within	the	FMP	Area
Table 4.0. Divau	iauna	nabitats	occurring	WILIIII	uic	IIVIE	AI Ca

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Habitat	Distinguishing habitat characteristics (Emerge, 2019)	Veg. Code (Emerge, 2019)	Conservation Significant Species	Photo
Open Banksia Forest 0.02 ha, 0.10 %	native species, shrubland Acacia saligna and Dodonaea ceratocarpa over low herbland Trachymene pilosa over low sparse grassland Rytidosperma occidentale, shrubland Allocasuarina humilis over low sparse herbland over low sparse grassland Austrostipa mollis and Rytidosperma occidentale over low open rushland Hypolaena exsulca and low open forest Nuytsia floribunda and Corymbia calophylla over open shrubland Xanthorrhoea preissii over low open mixed herbland over low open grassland native and non-native species Low open forest Banksia attenuata and occasional Agonis flexuosa over open shrubland Macrozamia riedlei and Xanthorrhoea preissii over open mixed herbland on a sandy hillslope	BamMrXp	western ringtail possum – secondary breeding, foraging and dispersal habitat black cockatoos – potential breeding habitat and secondary roosting habitat Baudin's and Carnaby's primary foraging habitat (Very High and High Quality respectively) wambenger brush- tailed phascogale - primary breeding, foraging and dispersal habitat quenda - primary breeding, foraging and dispersal habitat western brush wallaby - primary breeding, foraging and dispersal habitat Western brush wallaby - primary breeding, foraging and dispersal habitat Ctenotus ora - primary breeding, foraging and dispersal habitat	

![](_page_44_Picture_0.jpeg)

Habitat	Distinguishing habitat characteristics (Emerge, 2019)	Veg. Code (Emerge, 2019)	Conservation Significant Species	Photo
Rocky Outcrop 2.02 ha, 9.34 %	Granite outcropping and boulders with low open shrubland <i>Kunzea ciliata</i> and <i>Darwinia citriodora</i> over low sparse herbland Stypandra glauca over low sparse grassland Poa poiformis on granite	KcDcPp		
Cleared/ Disturbed 2.26 ha, 10.42 %	No native vegetation			

![](_page_45_Picture_0.jpeg)

![](_page_46_Picture_0.jpeg)

## 4.9.2 Recorded fauna

A total of 78 vertebrate fauna species, comprising 15 mammal species (13 native and two introduced), 39 bird species (37 native and two introduced), 20 reptile species and four amphibian species were recorded from the Site.

## 4.9.3 Conservation significant fauna

Seven species of conservation significance were recorded within the Site and the adjacent area during the current survey (Biologic 2020). However, the survey did not record any of the seven species within the FMP area (as defined in Section 1.2). Consideration of the possible presences of mobile species such as the Quenda (P4- DBCA Priority List) and Whimbrel (Migratory- EPBC/BC Act) within the FMP area has been considered in the development of this FMP and the measures as outlined in Section 8.4.

## 4.9.4 Black Cockatoo habitat

No foraging habitat was recorded in the FMP area for the species.

## 4.10 Coastline

The coastline within the Foreshore Reserve may be divided into two sections:

- Rocky granite and granitic gneiss headland to the west and north-western boundary; and
- A sandy beach towards the north-eastern boundary.

The current status of Smiths Beach is illustrated in Figure 4.9

![](_page_46_Picture_12.jpeg)

Figure 4.9: Smiths Beach looking east (Photo Jarrad Seng 2021)

![](_page_47_Picture_0.jpeg)

### 4.10.1 Horizontal Shoreline Datum

As per the SPP2.6, the Horizontal Shoreline Datum (HSD) is defined as the active limit of the shoreline under storm activity and should be determined against the physical features of the coast. The storm activity should be based on ocean forces and coastal processes, which have a one percent or one-in-one hundred probability of being exceeded in any given year over the planning timeframe.

MP Rogers & Associates (MRA 2021) calculated the HSD for the Site by simulating the one in one hundred year storm and the extent of erosion expected at the Site. Full details of the methodology used to determine the HSD are provided in the MRA report (presented as Appendix N of the TBB DA).

The HSD is presented in Figure 1.2 in relation to the Foreshore Reserve, current development and the Proposal.

![](_page_48_Picture_0.jpeg)

# 5. Key Threats to the Foreshore Management Plan Area

Table 5.1 presents the key threats that have informed the design of the FMP area. These threats are a result of either past land uses and legacy environmental conditions, natural processes, and activities during and after construction.

Key Threat	Description	Section addressed
Vegetation		
Unauthorised access	Unauthorised vehicle and pedestrian access during and post construction can have the potential to result in impacts to native vegetation and habitat.	Refer to Section 8.3
Weeds and disease	Historical land uses have resulted in a significantly degraded environment with a high percentage of weeds. Construction activities have the potential to introduce and/or spread weeds and disease	
Unauthorised clearing	Unmanaged clearing activities have the potential to result in the inadvertent clearing of native vegetation designated for retention, leading to a degradation of native vegetation within the FMP area.	
Fauna		
Vehicle strikes Removal of habitat	Construction activities have the potential to cause vehicle collisions with native animals. Inadvertent and unmanaged clearing outside of	
	designated clearing boundaries may result in the loss of fauna habitat.	Refer to Section 8.4
Feral animals	Construction personnel and public during and post-construction may attract feral animals through improper waste disposal.	
Trapping fauna within clearing areas	Inappropriate clearing has the potential to result in native animals being trapped within retained vegetation that is surrounded by construction activities.	
Water quality		
Sediment runoff and erosion	Unmanaged clearing and earthworks have the potential to result in increased sediment entering Smiths Beach Bay reducing water quality.	Refer to Section 8.3 and 8.6
Stormwater	Direct stormwater discharges into Smiths Beach Bay have the potential reduce water quality by increasing sediment and nutrient loading.	
Climate Change		
Coastal inundation and erosion	Climate change has resulted in rising sea levels that may cause damage to coastal infrastructure and communities.	Refer to Section 8.9
Bushfire		
Fires	Construction activities have the potential to start fires.	Refer to Section 8.5
Public amenity		
Waste	Improper storage and dumping of waste can attract excessive pets, feral animals, and nuisance insects.	Section 8.10
Public usage		
Public access	Unrestricted access of people in the FMP area can impact existing vegetation and exacerbate erosion of sensitive coastal features.	Refer to section 8.8

Table	5.1:	Kev	threats	within	the	FMP	area
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# 6. Foreshore Design and Function

## 6.1 Design Vision

The coastal environment adjacent to the Site is used for recreational walking and access to Smiths Point and Smiths Beach. It is part of the Cape to Cape Track (refer Section 6.3.1.3) which offers long and medium distance walks between Cape Naturaliste and Cape Leeuwin. As a result, the design vision ensures the foreshore remains a pedestrian focused, naturalised and non-urban space to enhance the experience of the Cape to Cape Track walkers and visitors. The design response aims to improve the ecological condition of the currently environmentally degraded foreshore and provide a destination for the community that is both functional and aesthetically sensitive to the surrounding coastline. The design will complement and enhance the recreation experience at Smiths Beach through improved access and amenity for the community.

Access to the FMP area is currently not formally managed, in some areas this is causing damage to the environment and potential risks to users. The proposed foreshore design will formalise access which will improve pedestrian safety and assist with the revegetation of the currently degraded areas through implementation of this FMP. The foreshore will be completed to integrate with the existing resorts and facilities so as to avoid the unnecessary duplication of infrastructure and reduce (minimise) the need for disturbance of the existing environment where possible.

## 6.1.1 Objectives for the FMP area

The following objectives have been defined for the FMP area to achieve the above design philosophy (Section 2.1) and vision:

- Enhance public amenity through the provision of key facilities;
- Provide universal access to Smiths Beach whilst controlling access points to the larger coastal area;
- Provide for foreshore stability, erosion resilience and rehabilitation (with suitable species);
- Reduce weed coverage;
- Protect remnant native vegetation; and
- Present low maintenance recreational amenities to on-going land managers.

#### 6.2 Functions, values and uses

With reference to the SPP 2.6 guidelines (WAPC 2020), the Proposal has been completed to address the following elements.

#### 6.2.1 Ecological values and natural landscape

The Foreshore Reserve has two major landform components; a gently sloping eastern section that rises to the south away from the beach and a ridgeline in the western sector that extends seaward in a north westerly direction. The key ecological values that have been identified across the FMP area include:

- The extensive area of native vegetation, described as being in Excellent condition, that is located within the Priority Ecological Community (PEC) (Emerge 2019) which is to form part of the proposed extension to the Leeuwin-Naturaliste National Park;
- Native vegetation which provides habitat for conservation significant flora and fauna (Sections 4.8.3.4 and 4.8.3.5); and
- The coastal area including the rocky coast and headland to the west and sandy beach to the east (MRA 2021).

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The natural landscape is considered to be representative of the coast between Cape Naturaliste and Cape Leeuwin with rocky headlands comprised of igneous rocks separated by sandy beaches.

The Foreshore Reserve will include design (built and natural) elements that protect and enhance the above values and natural landscape. Areas of native vegetation will be rehabilitated to improve native vegetation cover and/or included in separate conservation areas to ensure their long term protection.

# 6.2.2 Heritage

Two registered Aboriginal sites are known from the area (Section 4.6). The design for the Proposal has been undertaken with guidance from and in consultation with Wardandi Traditional Owners.

A s. 18 has been lodged with the ACMC in relation to site ID 15080 and outcomes of the s. 18 are likely to consider:

- Landscape, architectural and placemaking design;
- Bushfire management (incorporating traditional fire management practices into the future management of the Site); and
- Tourism and hospitality programming.

## 6.2.3 Amenity

Key to the success of the Proposal is the maintenance of existing amenity and the provision of longterm improved amenity across the Foreshore Reserve. This will be achieved by the Proposal as described below.

## 6.2.3.1 Foreshore Reserve

The following features are located within the Foreshore Reserve and are covered by this FMP (refer Section 2.1):

- UAR: the existing main access path to the beach will be enhanced to form a universal access way to allow pedestrian and suitable wheelchair access. This will also be suitable for small 4WD emergency vehicles (for example quad buggies and vehicles up to 9 m in length, 3 m width);
- Yarning Circle informal seating area allowing the community to gather and converse. Inspired by Aboriginal story/knowledge sharing;
- Rockpool Nature Play low point of the site acting as a localised informal drainage area. Locally sourced boulders are to be incorporated into the design to allow a nature play element; and
- Path Access and Lookout Nodes dedicated path access which ensures protection of surrounding vegetation and also facilitates emergency vehicle access and low speed public vehicle access.

#### 6.2.3.2 Community Scheme foreshore

The Community Hub, Smiths Common and parking in Smiths Lane, which are all part of the Community Scheme, are located adjacent to the Foreshore Reserve and facilitate improved amenity and access to enhance the safety and recreational ability of the foreshore. These elements include:

- Cape to Cape Welcome Centre providing a curated selection of experiences for all visitors on the track and to the region, including immersive Aboriginal cultural experiences, tourism operators etc;
- SLSC surf club facilities being provided to allow Smiths Beach SLSC to provide for a boat shed, club rooms, associated beach showers, public toilets and changeroom facilities, first

![](_page_51_Picture_0.jpeg)

aid/emergency services and to enable emergency responders safe and immediate access to the beach;

- Café and General Store food and drink provided in a relaxed indoor and outdoor seating area spilling out onto terraced grassland;
- Hire Shop fostering improved recreational ability for the community bike riding, snorkelling, surfing etc;
- Car Parking located in an existing firebreak and sleeved behind existing development to reduce visual impact and also ensure the foreshore is safe and pedestrian focused;
- Public Toilet/Shower Facilities includes changing room and also outdoor shower facilities; and
- Bushfire Refuge Facility located as part of the Community Hub/Hotel building, this onsite refuge will provide for last resort shelter in the event of an emergency bushfire. This refuge is a significant benefit to the local community as it sized to accommodate adjoining property owners.

#### 6.2.3.3 Coast and beach access, views and vistas

The Cape to Cape Track, as shown Figure 1.1, commences (in relation to the Site) at the northwestern boundary of Lot 1409 and traverses the coastline to Canal Rocks. Responsibility for the upgrading of the Track within the Foreshore Reserve (only the area to be under CoB management) by the Proponent is provided for and management measures are included in Section 8.8. Ongoing management of the Cape to Cape Track would be the responsibility of DBCA/CoB.

Considerations have been made in the design of the foreshore and wider development area to ensure the protection of views and vistas that currently exist. Examples include a carpark that has been strategically placed out of sight from the beach and foreshore and a new viewing platform (Lookout) and associated access track.

Other informal access tracks that currently exist along the coast and within both lots 1409 and 1410 will be selectively improved or closed as per DBCA management plans for the National Park (Section 3.1). Appropriate control of access and targeted rehabilitation (of closed tracks) will be used to prevent unmanaged access and allow recovery of the coastal vegetation.

# 6.2.3.4 Assessment of coastal erosion hazard and stability

As identified by MRA (2021) the majority of the shoreline surrounding the Site is a rocky coast, which provides excellent protection against coastal erosion, and will continue to do so for the coming centuries. The northern and western sides of the Site are more susceptible to erosion due to exposure to the ocean. However, these areas are also rocky, thus mitigating coastal erosion and providing significant shelter to the adjacent sandy beach (MRA 2021).

The Coastal Hazard Assessment has been completed, in accordance with the requirements of SPP 2.6, of the coastal erosion hazard and coastal stability (MRA 2021).

The western and northern rocky coastlines of the development site have durable igneous rock, fully exposed behind the HSD (refer Section 4.10.1).

The Hotel and Community Hub is near the junction of the rocky coastline and the sandy beach of Smiths Beach. The proposed design includes the provision of UAR to the beach for emergency purposes. The UAR to the sandy beach extends from the exposed rocky shore to east of the Proposal and is located seaward of any rock in the sandy dunes.

The provision of the UAR to the beach provides suitable protection to the Proposal, whereby the eastern portion of the Proposal, near the shoreline, would be fully protected by the upgraded ramp. This outcome is in accord with the CHRMAP that is currently being prepared by the CoB, which

![](_page_52_Picture_0.jpeg)

recommends to protect coastal assets. The UAR is one of the options for coastal protection along this portion of the coast.

To provide the necessary level of protection to the proposed development, both along the rocky coastline and adjacent beach, a 50 m wide Foreshore Reserve from the HSD should be adopted. This is dependent on the UAR to the sandy beach being constructed (MRA 2021).

![](_page_53_Picture_0.jpeg)

## 6.3 Foreshore Access

Access is of high importance both to residents and visitors of the foreshore and must be managed in a manner that preserves the ecological integrity of the foreshore environment. Formalising access can attract increased use of the area that may, without proper and considered management, result in degradation of environmentally sensitive areas. Entry points need to be formalised to limit the impact of increased traffic on the vegetation.

The proposed access infrastructure for the Proposal as described below will be developed to integrate with and complement the existing resorts and road infrastructure.

Appropriately controlled access will be established to CoB and DBCA specifications to manage access and prevent access to areas of native vegetation, rehabilitation areas and areas of coast that may be assessed as being unsafe.

Uncontrolled and unmanaged access to the area covered by this FMP (and adjacent areas) can result in impacts to the integrity of the foreshore vegetation, including the promotion of weeds and increased erosion. Impacts as a result of unmanaged access to the existing foreshore are already evident, largely due to uncontrolled traversing of the coastal area outside of designated (formal) paths and access ways.

Access will be managed through the establishment of formal access ways with appropriate surface treatments that include dual use paths, beach access ways and the UAR. Existing informal access ways will either be converted into formal access ways as shown on the proposed design or closed and revegetated to prevent access.

#### 6.3.1.1 Foreshore Reserve

Key access infrastructure proposed within the Foreshore Reserve (Figure 1.1) includes:

- Shared paths and pedestrian access: this comprises a number of beach access points (from existing and future paths) located across the Foreshore Reserve, adjacent areas, the Cape to Cape Track and existing public roads to Smiths Beach and Smiths Point. This includes the UAR and access for emergency vehicles; and
- Public Vehicles; vehicle access is to be provided via Smiths Beach Road and Smiths Point accessway with car parking at both locations (refer Section 6.3.3 and Section 6.3.3). Provision of ACROD parking, and disability access to facilities will be included.

#### 6.3.1.2 Community Scheme Foreshore access

Trails and tracks throughout the Proposal will provide access to the Community Scheme foreshore elements including:

- Smith's Beach Surf Lifesaving Club;
- Café, general store and hire shop;
- Cape to Cape Track Welcome Centre;
- Public Toilet/Shower Facilities; and
- Bushfire Refuge.

#### 6.3.1.3 Walk trails and lookout points

Proposed management measures relevant to each section of the Cape to Cape Track that passes though the FMP area are presented in Table 6.1.

![](_page_54_Picture_0.jpeg)

The Proponent will be responsible for undertaking management measures for those sectors of the Track located within the FMP area as defined in Table 6.1 and Figure 6.1. Improvements to the sectors of the Track identified outside of this will remain the responsibility of the DBCA.

The following measures apply to the section of the Cape to Cape Track within the FMP area.

|--|

SECTOR	PROPOSED MANAGEMENT MEASURES	FUNDING AND MANAGEMENT RESPONSIBILITY	MONITORING AND TIMING
Section 1 Smiths Point Access, Parking and Lookout	<ul> <li>Align the location of the Trail Head with the Smiths Point carpark. This allows for passive surveillance of the trail head and reinforces the change from a settlement to a natural area.</li> <li>Remodel existing road converting to a universal access path with a width of 4.0 m with 1 m wide shoulders on both sides of the track.</li> <li>Appropriately controlled access and associated signage from development interface to the Track.</li> <li>Public vehicle access is permitted with limited parking to be included along access road and at the Point.</li> <li>Signage – National Park information - No Dogs, no bicycles - Keep to trail - Distance and directional information- signage relevant to cultural values.</li> <li>Managed access to rocks at the Point to be considered.</li> <li>Look out to be created at ground level not elevated with no shade structure.</li> <li>Incorporate a space for viewing and separate seating.</li> </ul>	<ul> <li>Proponent funded.</li> <li>Proponent monitored and managed for the first five years post construction.</li> <li>City of Busselton managed thereafter (unless otherwise agreed in a separate management agreement between Community Corporation and CoB).</li> </ul>	To be implemented or secured by bond prior to the issue of titles and managed thereafter for five years.
Section 2 Cape to Cape Track – Western Portion	<ul> <li>Signage: - Risk - Information - Keep on Track and educational information regarding features of the track</li> <li>Terrain management – steps may be required or trail realignment.</li> <li>Surface treatment / materials to be low key.</li> <li>Identify opportunities for lookouts and interpretation signage.</li> <li>Align on best alignment for the Track.</li> </ul>	<ul> <li>DBCA funded</li> <li>DBCA managed</li> </ul>	To be determined by DBCA

#### 6.3.2 Surface treatments

The paths and trails will have surface treatments commensurate with the level of use. The stabilised surface will vary from existing natural surface to natural gravels (pea gravel treatment – compacted, stabilised) or similar consolidated stable surface treatments.

Surface materials will be sympathetic to the local environment and will reflect the natural experience that visitors are coming for. Paths and trails will conform to the Australian Standards for Walking Track Classification. AS 2156.1-2001.

# 6.3.3 Carparking

Existing carparking provides 64 formal bays in the Smiths Beach foreshore area. It is assumed through modelling that current demand related to the use of Smiths Beach is 130 spaces on the busiest days of the year (Cardno 2021).

The findings of the Traffic Impact Assessment (Cardo 2021) propose a total parking supply of 330 bays to ensure there is sufficient parking to deal with the expected peak demand in relation to the

![](_page_55_Picture_0.jpeg)

new land uses of the Proposal and the use of Smiths Beach. The availability of parking would be split between the Proposal (197 bays located on-site) and off-site areas (133 bays).

Included within the off-site parking are 18 formal bays within the foreshore along the accessway to Smiths Point, this is an improvement to the current informal car parking that exists in adjacent areas to the road.

Offsite parking also proposes to formalise parking within the road reserve of Smiths Beach Road as a way for CoB to deal with the current undersupply of parking that exists for the use of Smiths Beach during peak periods. These locations are already used by public as informal parking in peak periods. Formalising current parking in the existing road reserves does not require any development in the dunes and will ultimately be a decision made by City of Busselton to deal with the current parking shortfall.

![](_page_56_Picture_0.jpeg)

Project layout Department of Biodiversity, Conservation and Attraction Minor road Track

City of Busselton

	metres	
Coord. Sys. GDA 1994 MGA Z	one 50	CAPE TO CAPE TRACK MANAGEMENT RESPONSIBILITY
Job No: 59550		
Client: Smiths 2014 Pty L	.td	FIGURE 6.1
Version: A Date: 08-Dec-2021		🙈 strategen
Drawn By: cthatcher	Checked By: RD	¥JBS&G

File Name: W\Projects\1)Open\Linc Property\59550 Smiths Beach Stage 2 Approvals\GIS\Maps\R06_Rev_A\59550_06_1_C2CTrackMgt.mxd Image Reference: www.nearmap.com© - Imagery Date: 15 October 2021

![](_page_57_Picture_0.jpeg)

## 6.3.4 Control of access

Access controls will be located to protect areas of vulnerable vegetation where uncontrolled access by pedestrians will adversely affect the ongoing health of the vegetative community. The access measures will be low-key, unobtrusive, located so as not to prevent access for fire-fighting purposes and will minimise impacts on the movement of fauna, especially native species.

Access controls are to be designed to minimise unnecessary access into the dune environment, thereby reducing disturbance to the vegetation.

Access will be controlled along the full length of the proposed access roads (to the Smiths Point car park and along the southern boundary of the Site) to prevent access into the National Park.

## 6.3.5 Rehabilitation, Conservation and Revegetation

Rehabilitation of selected areas within the FMP area is to be carried out in the manner described in Section 8.6. The remaining vegetation within the FMP area is to be managed to conserve the remnant vegetation in its natural state.

Areas that may be disturbed by and during construction are to be rehabilitated to minimise land degradation by erosion and to provide habitat for native fauna.

Native plants to be used in this work should be selected from recommended plant lists as provided by CoB and DBCA and as referenced in the McGregor Coxall Landscape Report (refer Appendix F of the TBB DA).

## 6.3.6 Signage and educational information

#### 6.3.6.1 Signage

Information in regard to safety, distances, directions, prohibited activities, Aboriginal Heritage and environmental interpretation will be provided to users of the area through signage in key locations.

The installation of signs within the Foreshore Reserve will be used to advise of rehabilitation measures undertaken, to direct people to pathways and to restrict certain activities. Signage is proposed to be located at strategic locations along the dual-use path system to keep people on the designated pathways.

With respect to the Cape to Cape Track, information will be available from the Cape to Cape Welcome Centre and information signs provided within the foreshore and surrounds.

Signs that advise the public of the current revegetation works should be erected in the dune rehabilitation areas to keep people off the dunes. Adequate signage will help restrict movement over the primary dunes and sensitive granite heathland vegetation to assist in the conservation of the Foreshore Reserve.

Safety signs (in combination with appropriate controlled access) will be erected at certain points in close proximity to steeper slopes and cliff areas (where there is a fall from height risk).

Educational signage for key fauna species will be erected within the Foreshore Reserve. Examples of key species that this signage may feature include Whimbrel, a listed migratory species under the *Environment Protection and Biodiversity Conservation Act* (C'th) and Threatened or Priority species as listed under the State *Biodiversity Conservation Act* (2016) (BC Act), such as Quenda (P4).

Warning signage regarding safety and risk factor associated with wave action on the rocky beaches will also be erected.

#### 6.3.6.2 Educational Information

Educational information, for example with respect to Aboriginal Heritage and the environment, is to be made available to visitors in the area by way of handouts, maps and interpretive

![](_page_58_Picture_0.jpeg)

material/signage. This will be made available at the Cape to Cape Welcome Centre and in other outlets in the Community Hub, for example general store and hire shop.

Guided tours facilitated through the Welcome Centre will also provide education on local flora and fauna and Aboriginal Heritage.

# 6.3.7 Stormwater drainage

Hyd2o (2021) has completed the design of stormwater management measures that are consistent with DWER and CoB water sensitive design practices. Key elements of the stormwater management strategy which may impact the Foreshore Reserve are shown in Figure 6.2.

The Hotel is located predominately in an area of shallow rock, a stormwater management principle of maintaining post development flow from this area to the coastal foreshore as diffuse overland flow is proposed. It is important to note that given all other areas of the Site are to be fully infiltrated, the flow rates from this area to the coastal foreshore will therefore be less than the predevelopment condition during major events.

The above approach has been adopted for the Site to minimise the stormwater management impacts to the natural landscape and landform and reflects best management practice.

Full details are presented in the Hyd2o 2021 report (presented as Appendix P of the TBB DA).

## 6.3.8 Coastal erosion and inundation

Climate change is predicted to cause adverse impacts to coastal regions (CoB 2019). The BoM (2020) reported that Australia's climate has warmed by approximately 1.4°C since 1910, with most years now being warmer than any observed in the 20th century. Sea surface temperatures have increased by over 1°C since 1900, resulting in the global average sea level rising by approximately 25cm since 1880.

Future projections of the effects of climate change within Australia include: hotter temperatures, longer fire seasons expected and the continued rising of sea levels. This in turn will lead to increased coastal erosion and inundation with an increase in impact severity over time. The CoB (2019) has outlined several impacts to the Australia foreshore resulting from climate change, including:

- Increased coastal erosion and inundation;
- Increase in frequency and severity of bushfires;
- Increase in frequency and severity of extreme weather events (i.e., storm surges that may result in coastal inundation);
- Changes to wetlands and waterways and
- Loss of biodiversity.

Table 6.2 provides a series of recommendations (MPA 2021) with respect to the development of the Foreshore Reserve, that are applicable to coastal inundation and erosion that may be caused by climate change, thus reducing the indirect effects of habitat loss, impacts to infrastructure and impacts to wastewater. Additional management measures are detail in Section 8.9.

Recommendation	Strategy	Purpose
Define the Proposed Foreshore	The FMP area will act as a buffer of	To avoid wastewater within coastal nodes,
Reserve so that the landward extent is	approximately 50 m between the	coastal erosion, future coastal inundation
50 m to 70 m inland from the HSD	shoreline and infrastructure.	and impacts to built structures in the
Within the Foreshore Reserve		Project.
infrastructure should be kept 10m to		
20m behind the HSD		

**Table 6.2: Foreshore Reserve management** 

![](_page_59_Picture_0.jpeg)

Recommendation	Strategy	Purpose
Freehold development be located	The natural topography of the Site	
above 4.02m AHD	is all above 4.02m	

(Source MPA 2021)

Reference should be made to the coastal hazard assessment (MRA 2021) and Urban Water Management Plan (Hyd2o 2021) for further information. No further details are provided in this FMP.

## 6.3.9 Waste management

Waste will require management during construction activities to prevent attracting animals (pets, feral and native), and generating waste that may impact vegetation to be retained, within and adjacent to the Site. Waste management strategies should also be considered following the construction phase to reduce the impact of the development and public on the foreshore environment. Potential waste streams include:

- Domestic waste putrescible, plastics, glass, aluminium; and
- Controlled waste hydrocarbon, packages waste.

Waste management actions are provided in more detail in Section 8.10.

![](_page_60_Picture_0.jpeg)

![](_page_61_Picture_0.jpeg)

# 7. Management Framework and Responsibilities

# 7.1 Implementation

This FMP will be implemented by the Proponent and relevant contractors engaged to undertake individual works programs. Implementation and management responsibilities are discussed further for each factor detailed in Section 8.2.

Construction of the Foreshore Reserve, infrastructure and associated features are planned to occur in one phase as described further in the supporting DA.

# 7.2 Maintenance and Practical Completion

Maintenance works within the FMP area are planned to continue for five years following practical completion, prior to being handed over to the CoB and DBCA for management in perpetuity (unless otherwise agreed through a separate management agreement). Practical completion as defined in this FMP is 'sign-off' from the CoB/DBCA when development (landscaping, construction or revegetation works) have been undertaken in accordance with detailed landscaping/engineering drawings and plans and this FMP.

The maintenance activities will be implemented for the FMP area.

# 7.3 Handover

Handover of the works within the FMP area to the CoB/DBCA after the five-year maintenance period will include provision of documentation to the specifications of the City of Busselton/DBCA.

# 7.4 Timing

Development of the associated works within the FMP area is expected to be completed early 2026 following the construction of the adjacent Tourist Development and Community Hub.

A more detailed schedule of development has been included in the supporting DA.

![](_page_62_Picture_0.jpeg)

# 8. Foreshore Management Considerations

This section of the FMP outlines recommended management objectives, targets, outcomes and associated actions to achieve these requirements during construction and subsequent management of the FMP area.

This section captures the following key considerations:

- Vegetation retention, protection, and enhancement restricting access to retained vegetation and conduct planting to improve native vegetation cover in specified zones within the FMP;
- Fauna and fauna habitat protection native and non-native fauna management measures within the FMP;
- Water quality preventing and managing water quality across the FMP area and into adjacent areas;
- **Bushfire management** vegetation management for bushfire risk reduction consistent with the Bushfire Management Plan (Strategen-JBS&G 2021a);
- **Provision of landscape (amenity)** public access, recreational infrastructure, emergency and maintenance vehicle access, safety management;
- **Aboriginal heritage** minimisation of impacts to sites of cultural heritage value and provision of information to improve understanding of all visitors;
- **Stormwater management** reducing the impact from stormwater runoff from residential areas in accordance with the approved Urban Water Management Plan and minimising erosion, sedimentation and accretion; and
- **Waste** provision of appropriate collection facilities and management to prevent environmental contamination and impacts to human health;

For areas and infrastructure outside of the FMP area, information is provided for completeness, where relevant. The management detailed in this section does not apply to these features/elements.

The FMP is to be implemented during the construction phase of the proposed works within the FMP area and also applies to the period of ongoing management by the Proponent following construction (for the period of five years as required by SPP 2.6) and then by the CoB and DBCA.

Table 8.1 provides a summary of the FMP activities, actions and outcomes.

Activity	Overview	Key management actions	Outcomes	Responsibility
Vegetation	Retain native vegetation within the FMP area Enhance native vegetation cover within the FMP area Minimise the potential introduction and dispersal of weeds into the FMP area.	<ul> <li>Conserve remaining vegetation as far as practicable</li> <li>Establishment of controlled access to manage and prevent access to conservation and rehabilitation areas</li> <li>Revegetation with species that are endemic to the area to improve</li> </ul>	<ul> <li>Disturbance limited to 3.27 ha of native vegetation</li> <li>No weeds or disease to be recorded within the FMP area on completion</li> <li>Developer will be responsible for establishing vegetated areas during an initial five year</li> </ul>	Smiths 2014 Pty Ltd

#### Table 8.1: Smith's Beach Foreshore Management Plan summary – Year 1 to 5

![](_page_63_Picture_0.jpeg)

Activity	Overview	Key management	Outcomes	Responsibility
		native fauna	establishment	
		habitat	period	
		Conduct weed		
		monitoring and		
		control as required		
		revegetation areas		
		Provide mulch		
		within		
		revegetation areas		
		to minimise water		
		soil		
Fauna	Improve the fauna	Local flora species	No loss of	Smiths 2014 Pty Ltd
	habitat connectivity	where possible	individuals within	
	across the FMP area	that will provide	the Site and FMP	
	through revegetating	foraging and	area during	
	species where	habitat for native	Disturbance	
	practicable	fauna	limited to 2.42 ha	
		Provide	of habitat	
		information signs		
		on local fauna		
		<ul> <li>Provide signage requesting dogs be</li> </ul>		
		kept on a leash		
		<ul> <li>Conduct weed</li> </ul>		
		management and		
		monitoring		
		through		
Water Quality	Maintain water quality	Include	Minimise	Smiths 2014 Pty Ltd
	across the site and	appropriate	stormwater	
	adjacent area.	retention capacity	impacts to the	
	Brought long torm	in stormwater	natural landscape	
	reduction in water	development	No pollution of     contamination	
	quality through local	Prevent surface	containination	
	pollution and	water runoff		
	contamination	pollution		
Bushfire	Prevent bushfire	Construction     managed as por	<ul> <li>No recorded tires during</li> </ul>	Smiths 2014 Pty Ltd
	during construction	BMP. DBCA and	construction	
	Establish the	СоВ	<ul> <li>Project compliant</li> </ul>	
	development to	requirements/fire	with bushfire	
	minimise risk of	hazard: total fire	management as	
	loss of life property	Dans Provision of	per CoB and DBCA	
	and environmental	appropriate and	<ul> <li>No impacts to life.</li> </ul>	
	values	suitable fire-	property and	
		fighting equipment	environment as a	
Dublic concerts.			result of bushfire	Cusith - 2014 Divided
Public amenity	nublic amenity	Conduct regular     inspections of the	<ul> <li>Increased public amenity</li> </ul>	Smiths 2014 Pty Ltd
	through post	FMP area during	throughout the	
	construction activities	the five year	FMP area with	
		maintenance	provision of	
	Integration with	period for signs of	universal beach	
		מחפוממט די	emergency	

![](_page_64_Picture_0.jpeg)

Activity	Overview	Key management	Outcomes	Responsibility
, total they	overnen	actions	outcomes	responsionity
	provided by CoB and	remove as	purposes),	
	DBCA	necessary	walkways, lookout	
		Regular removal of	access ways and	
		rubbish within the	improved car	
		FMP area	parking	
		<ul> <li>Controlled access</li> </ul>		
		to prevent and		
		manage access to		
		coastal areas		
Aboriginal Heritage	Identification of any	<ul> <li>Lodgement of a</li> </ul>	Respecting	Smiths 2014 Pty Ltd
	significant Indigenous	Section 18 notice	Wardandi culture	
	sites through an	should	and previous	
	archaeological	development on	Indigenous uses of	
	inspection with	identified site not	the site.	
	Traditional Owners to	be avoidable.		
	minimise impact	<ul> <li>Engagement of</li> </ul>		
	where possible.	Traditional Owner		
		group to monitor		
		initial ground		
		disturbance to		
		ensure artefacts		
		unearthed are		
		nandied		
		appropriately in		
		tradition		
Construction	Minimise impacts to	Delineate all	No clearing	Smiths 2014 Pty Ltd
construction	the FMP area as a	construction	outside approved	
	result of construction	boundaries and	clearing areas	
	activities	fence all	within the FMP	
		vegetation	area	
		designated for	No harm to or loss	
		retention	of fauna	
		Ensure all	Weeds or	
		construction	pathogens will not	
		equipment	be spread within	
		brought into the	the FMP area	
		FMP area is	attributable to	
		cleaned prior to	construction	
		mobilisation to		
		reduce risk of		
		introducing weeds		
		and disease		
		Ensure public		
		access to the FMP		
		area is restricted		
		auring		
		nrovent		
		unauthorized		
		ingress through		
		use of controlled		
		access and signage		

Management actions, roles and responsibilities, timing and timeframes to achieve the outcomes presented in Table 8.1 are detailed below in Section 8.2 to ensure that the FMP area is constructed and used in a managed way and to protect its conservation values.

![](_page_65_Picture_0.jpeg)

## 8.1 FMP Rehabilitation Completion Criteria

The following rehabilitation completion criteria (Table 8.2) provide overarching direction on the proposed works within the FMP area and adjacent Foreshore POS.

FMP area objective	Performance indicator	Completion criteria
Provide slope stability and erosion	Planting density across the stabilisation	Minimum of 4 plant per 1 m ² within
resilience	groundcover area is planted to a	the groundcover stabilisation areas of
	density of 4 plant/m ²	the FMP area
	Planting density within shrubs at 1	Minimum density of 1 large shrub per
	shrub per 10 m ²	10 m ² in FMP area
Protect remnant vegetation and fauna	Install conservation fence to delineate	Maintained controlled access
habitat within the FMP area	the boundary of management areas	measures
Reduce weed footprint within the FMP	Weed control activities undertaken	No declared weeds present.
area	within the FMP area across landscape	No increase in weed densities as a
	management areas identified in 8.3.2	result of construction activities
	to reduce weed cover	<10% weed cover within stabilisation
		groundcover areas

Table 8.2: Rehabilitation completion criteria

## 8.2 Foreshore Management Considerations

The following sections provide a summary of key considerations for the management of the FMP area. The information focuses on the management of environmental and social values associated with all aspects of the Project. Key factors relevant to the management of the foreshore values include:

- Flora, vegetation, weeds and hygiene;
- Fauna;
- Bushfire;
- Revegetation;
- Aboriginal heritage;
- Access;
- Stormwater drainage;
- Wastewater management; and
- FMP area maintenance.

#### 8.3 Flora, vegetation, weeds and hygiene

A total of 3.27 ha of native vegetation is to be cleared to facilitate development of the FMP area.

Key activities which may result in the introduction and spread of weeds and diseases include the following:

- Movement of vehicles, machinery and people onto the FMP area;
- Movement of vehicles, machinery and people along tracks and roads from the FMP area development area may spread weeds and diseases;
- Importation of material containing weeds or diseases may cause introduction of new diseases or weed infestations to the FMP area.

A key to the success of the FMP area development is the management of clearing, the management of weeds and hygiene (dieback).

![](_page_66_Picture_0.jpeg)

Weed management, where appropriate and required, will be undertaken using chemical and mechanical methods (refer Sections 8.3.2.1 and 8.3.2.2). Dominant weed species as recorded in the FMP area are presented in Section 4.8.3.6 (Strategen-JBS&G 2021b).

# 8.3.1 Outcomes, objectives, targets and performance indicators

The FMP outcomes for flora and vegetation are:

- Clearing and disturbance to be limited to 2.42 ha of native vegetation; and
- No weeds or disease to be recorded within the FMP area on completion of construction.

The objectives, targets and performance indicators to achieve these objectives are presented in Table 8.3.

Objective	Target	Performance Indicator
Native vegetation is retained within	No clearing of native vegetation	All vegetation designated for retention
the FMP area	designated for retention occurs during	is delineated with measures, such as
	construction	star pickets and flagging tape to
		prevent clearing
		Clearing records maintained that
		indicate all vegetation clearing that has
		occurred within designated clearing
		boundaries
	No unauthorised vehicle access into	No instances of unauthorised vehicle
	the FMP area	access to the FMP area during
		construction
	Minimise areas to be cleared/disturbed	Disturbance area reduced, areas of
	through design process	clearing minimised.
Enhance vegetation cover within the	Rehabilitate areas (disturbed, existing)	Native vegetation planted stabilises
FMP area	with approved tubestock planting with	areas, achieves groundcover and
	native species as recommended in	success criteria as Table 8.2.
	Table 8.17.	
	Rehabilitation undertaken with	No change to BAL rating for site
	reference to bushfire management	
	plan. Plantings not to increase risk of	
	fire through areas selected for planting	
	and plant selection	
Minimise the potential introduction	No declared weeds or weeds of	Monitoring identifies there are no
and dispersal of weeds and/or dieback	national significance within the	declared weeds or weeds of national
into the FMP area	landscape management areas of the	significance in the FMP area
	FMP area	
Implement a weed and hygiene control	Undertake chemical and mechanical	Monitoring indicates weed cover in
programme that prioritises control of	weed control activities in treatment	stabilisation groundcover area is <10%
wees in rehabilitation areas using	areas identified in Sections 8.2 and	
appropriate methods, prevents the	8.3.2.2	
importation of materials that may	Inspect all equipment – clean on entry	All machinery and other equipment
spread dieback		inspected, records kept of all
		movements

#### Table 8.3: FMP objectives, targets and indicators

#### 8.3.2 Management actions

Management of flora, vegetation, weeds and hygiene will be undertaken in accordance with the actions detailed in Table 8.4 and Sections 8.3.2.1 to 8.3.2.3.

Table 8.4: FMP actions – flora and vegetation

Item	Action	Timing	Responsibility
Induction	Induct all contractors working within the	Prior to entering the	Project Manager
	FMP area in relation to flora and vegetation	FMP area	
	protection and weed management.		

![](_page_67_Picture_0.jpeg)

Item	Action	Timing	Responsibility
Vegetation clearing	Provide GPS coordinates of areas to be	Prior to clearing	Smiths 2014 Pty Ltd
regetation cleaning	cleared and areas to be retained to all		Clearing contractor
	contractors entering the FMP area.		0
	Clearing boundaries will be clearly	At all times	Clearing contractor
	demarcated using distinctive markers		Ũ
	(flagging tape, signage etc).		
	Comply with any conditions of the native	At all times	Clearing contractor
	vegetation clearing permit.		
Controlled access	Install flagging in accordance with the	At all times	Project Manager
(i.e.,flagging)	proposed controlled access strategy		
	(detailed in the supporting DA) to prevent		
	access to vegetation to be retained and/or		
	protected.		
Access and	Inspect vehicles and machinery to ensure	At all times	All personnel
vehicular	they are clean on entry to the FMP area.	A	
/machinery	If vehicles are found to contain soil/weed	At all times	All personnel
movement	material, clean-down vehicles and		
	machinery outside of the FMP area if found		
	dispose of material at an appropriate waste		
	recentacle off site		
	Ensure vehicles remain on designated roads	At all times	All personnel
	and access tracks and do not go beyond the	, te un times	
	approved clearing footprint and/or		
	approved locations.		
Weed control	Determine weed species requiring targeted	Completed as per	Weed control contractor
	and prioritised control measures.	Sections 8.3.2.1 and	
		8.3.2.2	
	Undertake weed control at least twice or as	Prior to revegetation	Weed control contractor
	deemed appropriate by the revegetation	(indicative timeframe	
	contractor prior to commencing	is Spring and following	
	revegetation works.	the first winter rains)	
	Undertake ongoing maintenance weed	Biannually for five	Weed control contractor
	control.	years from the initial	
		planting completion	
		date, or as advised by	
		contractor	
Dust control	Avoid implementing construction activities	Ongoing	Construction Manager
Dust control	or other activities with the potential to	Oligonia	construction manager
	generate dust during dry and windy		
	weather conditions.		
	Undertake clearing progressively to	During clearing	Construction Manager
	minimise the potential for exposed surfaces		
	resulting in dust lift-off.		
	Water carts will be used in conjunction with	During	Construction Manager
	earth moving/clearing activities and as	clearing/earthmoving	
	required based on prevailing weather		
	conditions at the time of construction		
	works.		

#### 8.3.2.1 Chemical weed control

Where appropriate chemical weed control will be conducted prior to commencing construction, to minimise the risk of the spread of weeds through the FMP area. Following construction, chemical weed control activities will be undertaken across the FMP area (where relevant) three times per year (Winter, Autumn, and Summer) during the five year maintenance period within the stabilisation groundcover. A licenced weed control contractor will be employed to undertake weed treatments within the FMP area. Weed treatments used will be responsive to the presence of weeds identified within the stabilisation groundcover; however, 1% Glyphosate Biactive will generally be used across

![](_page_68_Picture_0.jpeg)

the FMP area. Weather forecasts will be reviewed by weed control contractors prior to attending the site, and chemical will not be undertaken if it is likely to rain soon after application.

### 8.3.2.2 Mechanical weed control

Mechanical weed control will be undertaken post construction during Spring, Summer, and Autumn.

## 8.3.2.3 Dieback control

Prior to mobilisation, all construction and maintenance machinery will be cleaned and inspected to ensure they are free soil, weeds and seeds. Inspection logs will be maintained at the site office throughout construction.

Following handover, the records will be maintained by the relevant organisation (DBCA, COB).

## 8.3.3 Monitoring

Monitoring and reporting requirements for flora, vegetation and weeds are detailed in Table 8.5.

Parameter	Purpose	Location	Frequency / Timing	Responsibility
Photographic evidence	To record incidences of	All areas of	Prior to ground	Clearing
and/or GPS coordinates of	clearing of vegetation	proposed	disturbance.	contractor
proposed clearance areas	and/or flora outside	disturbance of	Following each clearing	
	approved construction	native	campaign.	
	areas.	vegetation.		
Induction records	To ensure compliance with	FMP area.	Annually.	Project
	induction requirements for			Manager
	all personnel.			
Controlled access (i.e.,	To monitor integrity of	All areas	Fortnightly during	Project
flagging)	controlled access measures,	delineated by	construction.	Manager
	such as flagging within the	controlled access		
	FMP area.	measures, such		
		as flagging.		
Weed species presence	<ul> <li>to monitor weed</li> </ul>	FMP area.	Annually in Spring.	Weed control
	occurrence, density and			contractor
	type			
	<ul> <li>to monitor weed</li> </ul>			
	growth and compare			
	against targets and KPIs.			
Vehicle/machinery	To ensure equipment and	FMP area.	Prior to entering the FMP	Project
register	machinery is free from soils,		area.	Manager
	weed and weed material on			
	entry to the FMP area.			
Visual observations of	Monitor dust emissions.	Within and	Opportunistically during	All personnel
dust generation		adjacent to the	clearing, construction and	
		FMP area	other potential dust	
		boundary.	generating activities.	

 Table 8.5: Flora, vegetation and weed management monitoring and reporting requirements

# 8.3.4 Contingencies

Contingency measures to be implemented for flora, vegetation and weeds are detailed in Table 8.6.

Table 8.6: Flora, vegetation and week	d management contingency measures
---------------------------------------	-----------------------------------

Trigger	Action	Responsibility
Clearing occurs outside	<ul> <li>Determine extent of clearing.</li> <li>Determine activity that caused the clearing.</li> </ul>	Project Manager
	<ul> <li>Advise DWER and CoB/DBCA of breach in approved clearing</li> </ul>	
	<ul> <li>Implement rehabilitation measures/proposed mitigation</li> </ul>	
	measures as soon as practicable following consultation with DWER.	

![](_page_69_Picture_0.jpeg)

Trigger	Action	Responsibility
Controlled access measures	Repair or reinstate flagging etc.	Project Manager
not sufficient or not	Review frequency of monitoring.	
maintained		
New infestation of weed(s)	Investigate source of weed infestation.	Weed control
identified and/or spread of		contractor
existing weed species in the	Undertake weed control immediately and follow up weed control	Weed control
FMP area	during to monitor success.	contractor
	Review weed management procedures including contractor	Weed control
	training.	contractor
Disturbance to areas outside	Determine extent of disturbance.	Project Manager
of designated tracks/clearing	Identify cause of disturbance.	
areas observed	• Identify mitigation measures that may include revegetation,	
	increased contractor and staff awareness and training.	
	<ul> <li>Monitor success of remediation measures.</li> </ul>	
Reporting	Any breaches of the weed management procedures shall be	Clearing Contractor /
	reported and investigated.	Utilities provider
Excessive ambient dust levels	<ul> <li>Investigate cause, including nature of activities and</li> </ul>	Construction Manager
observed and/or excessive	appropriateness, in relation to weather conditions.	
dust deposition noted on	• Determine additional dust measures to be implemented,	
vegetation	including the use of water carts or dust stabilisation	
	measures.	
	Implement appropriate additional dust measures.	
	Continue monitoring (visual observations) to determine	
	success.	

#### 8.4 Fauna

Based on the review of available literature and the field survey completed by Biologic (2020) the number of significant fauna species that may use the FMP area is considered to be low. In addition, the proposed disturbance area is small within the context of the Site. The impacts are expected to be minimal. Notwithstanding, Quenda listed as Priority 4 (P4) under the BC Act and Whimbrel listed as a Migratory Matter of National Environmental Significance (MNES) under the EPBC Act, have been considered in the development of this FMP. The key impacts and associated management strategies detailed below are applicable to these species.

The key impacting processes are summarised below:

- Degradation of habitat due to weed invasion, trampling and general vegetation degradation leading to population decline;
- Fauna injury as a result of construction activities and increased use of the area post development – fauna injury and/or death may occur through foreshore construction activities and future use of the area, including fauna death from new parking areas. Fauna injury and/or death, whilst potentially resulting in localised impacts, is unlikely to be an impacting process of concern with respect to the Proposal;
- Species interactions including feral and overabundant native species the development and in particular pathway development will improve access into the FMP area for feral species such as foxes and cats;
- Altered fire regime- there will be an increased fire risk with increased access; and if grassy weeds become established; and
- Disturbance as a result of dust, light, and noise is unlikely to be of concern as it is small scale compared with the adjacent urban development.

In consideration of the impacting processes described above, the following aspects of the proposed works within the FMP area have been identified as requiring management to ensure protection of fauna values:

![](_page_70_Picture_0.jpeg)

- Vegetation clearing will directly disturb terrestrial fauna habitat and may result in habitat fragmentation;
- Vehicle movements have the potential for mortality of individual fauna, especially lessmobile species;
- Disturbance associated with the proposed works may affect fauna behaviour and distribution, and potentially create conditions favourable for feral fauna; and
- Direct and indirect disturbance from light, noise, vibration and dust may reduce habitat quality in areas within and surrounding the disturbance area.

### 8.4.1 Outcomes, objectives, targets and performance indicators

The FMP outcomes for fauna are:

- No loss of individuals as a result of construction across the FMP area;
- Disturbance will result in the loss of up to 2.42 ha of habitat (as native vegetation); and
- Prevent the introduction and spread of invasive species into the FMP area.

The objectives, targets and performance indicators to achieve these objectives are presented in Table 8.7.

Objective	Target	Performance Indicator
Minimise the direct impacts on fauna	No injuries or fatalities of listed fauna	No fauna vehicle collisions or
including through vehicle collision,	of conservation significance as a result	entrapment (in excavations) during
entrapment in construction works, or	of construction within the FMP area	construction
extraordinary exposure to predators	Speed limit of 40 kmh site	
	Maintain records of all fauna	No records of fauna injuries or deaths
	interactions	
Minimise impacts to local terrestrial	No clearing or disturbance of habitat	All activities undertaken within the
fauna populations	outside pre-defined boundaries during	approved footprint
	construction within the FMP area	
Introduced species	Restrictions on introduced species	No cats allowed
	within the FMP area (i.e. cats)	

Table 8.7: FMP objectives, targets and indicators

#### 8.4.2 Management actions

Specific management and mitigation measures have been identified to assist in achieving the fauna management objectives detailed in Table 8.8.

Table 8.8: Management actions for fauna protection

Parameter	Action	Timing	Responsibility
Induction	<ul> <li>Induct all contractors working within the FMP area in relation to fauna protection, management and interactions including:</li> <li>on-site speed limit restrictions;</li> <li>rubbish disposal procedures;</li> <li>fauna encounter procedures; and</li> <li>on-site prohibitions (e.g. pets feeding animals)</li> </ul>	Induction	Project Manager
Clearing and earthworks	Clearing boundaries will be clearly demarcated using distinctive markers (flagging tape, signage etc).	Prior to ground disturbance	Clearing contractor
	Provide GPS coordinates of areas to be cleared and areas to be retained to all contractors entering the FMP area.	Prior to ground disturbance	Clearing contractor
	Minimise clearing by locating infrastructure in already cleared or disturbed areas where possible.	Prior to ground disturbance	Clearing contractor
	Comply with the native vegetation clearing permit.	At all times	Clearing contractor

![](_page_71_Picture_0.jpeg)

Native fauna protection	All vehicles shall remain on designated roads/tracks and shall not be permitted off designated roads unless in the case of an emergency.	At all times	All personnel
	All personnel shall observe onsite vehicle speed limits (maximum of 40 km/hr) to prevent the likelihood of road kill.	At all times	All personnel
	Provide signage in areas of known wildlife activity.	Prior to ground disturbance	All personnel
Native fauna encounter	Native fauna encountered onsite shall be given the opportunity to move on if there is no threat to personnel safety in doing so.	Ongoing	All personnel
	If sick or injured animals are encountered, the nominated carer or Wildlife Hotline shall be called to rescue the animal. The CVJV Manager shall escort the rescuer on and off the site and ensure they are complying with the site safety controls.	As required	Fauna Specialist / Project Manager
Feral animal species	<ul> <li>Feral animals control measures shall be implemented, including:</li> <li>prohibiting the feeding of animals;</li> <li>food scraps and other waste shall be appropriately disposed of to onsite waste disposal bins; and</li> <li>assisting with feral animal trapping and eradication in consultation with Parks and Wildlife.</li> </ul>	Ongoing	Fauna Specialist / Project Manager
Waste	Waste will be managed as per Section 8.10, so as not	Ongoing	All personnel

## 8.4.3 Monitoring and reporting

Table 8.9 provides a summary of objectives and corresponding monitoring actions to enable an assessment of the effectiveness of the fauna management and mitigation measures in place.

Table 8.9: Monitoring actions for fauna protection	Table 8.9:	Monitoring	actions fo	or fauna	protectior
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Parameter	Purpose	Location	Frequency / Timing	Responsibility
Feral fauna	Monitor feral fauna presence	FMP area.	Opportunistically	All personnel
	within the FMP area to		during construction.	
	determine further			
	management measures that			
	may be required.			
Reports of fauna	To determine if management	FMP area.	As required - if fauna	All personnel
encounters/	actions are successful in		encountered or fauna	
collisions	minimising fauna injury.		collisions occur during	
			construction.	
Reports of fauna	To report on fauna	FMP area (where	Following completion	Fauna
relocation activities	encountered and status of	clearing is proposed).	of fauna relocation	Specialist
	fauna relocation activities.		activities.	
Delineation of	To ensure retained habitat	Vegetation to be	Weekly inspection	Project
retained vegetation	remains protected.	retained.	during clearing.	Manager
Induction records	To ensure compliance with	FMP area.	Annually during	Project
	induction requirements for all		construction.	Manager
	personnel.			

# 8.4.4 Contingencies

Table 8.10: identifies the appropriate contingency actions to be initiated in the event that the objectives for fauna protection are not met.

Table 8.10:	Contingency	actions for	fauna	protection
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Trigger	Action
Increased number of feral fauna	Investigate cause.
and/or native pest species	<ul> <li>Determine appropriate mitigation measures; i.e. may include improved waste management and staff awareness.</li> </ul>


Trigger	Action	
	Implement mitigation measures.	
	<ul> <li>Monitor success of mitigation measures.</li> </ul>	
Unauthorised access beyond, or	Investigate cause.	
breach of clearing boundaries	<ul> <li>Redefine boundaries if breach due to inadequate boundary marking.</li> </ul>	
	<ul> <li>Reinform all personnel of access restrictions beyond clearing boundaries.</li> </ul>	
	<ul> <li>Advise DWER of breach in approved clearing area.</li> </ul>	
	<ul> <li>Implement rehabilitation measures/proposed mitigation measures as soon as</li> </ul>	
	practicable following consultation with DWER.	
Fauna death resulting from	Investigate cause.	
construction activities, including	<ul> <li>Determine if additional mitigation measures are required.</li> </ul>	
vehicle movement	<ul> <li>Implement mitigation measures if appropriate and practical.</li> </ul>	
Injured animals	<ul> <li>Injured animals shall be reported to the Project Manager.</li> </ul>	
	<ul> <li>Injured fauna should be assessed by an experienced zoologist to determine</li> </ul>	
	whether translocation, transfer to wildlife carer or euthanasia is required.	
	If the injured fauna is of conservation significance, Parks and Wildlife should be	
	advised.	
	Contact the Parks and Wildlife Wildcare Helpline 24-hour emergency hotline on	
	(08) 9474 9055 if sick or injured animals are encountered.	

### 8.5 Bushfire

The bushland within the coastal reserve and adjacent lots represents a potential bushfire hazard to the FMP area and contained infrastructure if appropriate measures are not put in place.

The FMP area is predominantly undulating coastal landforms and rocky outcrops (refer Sections 4.2 and 4.9.1).

Pre-development bushfire vegetation classifications, in accordance with AS 3959, for vegetation within the FMP area are:

- Class C shrubland
  - Coastal dune vegetation less than 2m high, but generally presents as being approximately 0.5m to 1m high
  - Occurs along the northern, north-western and western foreshore areas
- Class D Scrub
  - Vegetation between 2-6m high at maturity
  - Mostly associated with the Banksia dominated communities
  - Occurs within the south-western part of the FMP area.

Effective slope is the slope beneath unmanaged vegetation (classified vegetation), used to define expected bushfire behaviour, with increased bushfire intensity occurring on the steeper slopes, and resultant Asset Protection Zone separation distances. Strategen-JBS&G have assessed effective slope beneath vegetation along the northern and north-western FMP area as being between 0° to 8°. A plot of coastal dune vegetation to the north-east exhibits greater slope of up to 15°, with land to the south-west exhibiting slopes of up to 25°.

The CoB has identified in their Bushfire Risk Management Plan that yearly ignition totals range from 51 to 87, with an average of approximately 69 fires occurring per year between 2014 and 2019. The most common ignition causes include burn off fires, suspicious/deliberate, power lines and accidental (e.g. cooking, cigarette etc). Nearly 20% of bushfire ignitions have undetermined cause or are unreported, however could include natural causes such as lightning. Under suitable weather conditions, these ignition sources have the potential to generate a bushfire that could impact on life, property and the environment.



A separate Bushfire Management Plan has been prepared to support the proposed Smiths Beach development, and will address the fire management requirements of the FMP area in consideration of the development.

## 8.5.1 Outcomes, objectives, targets and performance indicators

The FMP outcomes for bushfire are:

- No fires recorded during construction; and
- Project development with bushfire management that complies with legislative and regulatory requirements.

The objectives, targets and performance indicators to achieve these objectives are presented in Table 9.9.

Issue	Objective	Performance indicator
Impacts to life, property and	To ensure that should a bushfire occur within	No impacts to life, property and the
the environment from	the FMP area, fire impacts on site will be	environment from bushfire.
bushfires	minimised, and life, property and environmental	
	assets will be protected as much as practicable.	
	To ensure adequate access for emergency	No loss of life or impacts to property
	services during development and post	and environment.
	development.	
Minimise the risk of fire in	Zero fire incidents as a result of construction	No fires attributable to construction
the FMP area	activities	activities
		No impacts to life, property and the
		environment from fire events
		attributable to construction
Manage impact of bushfire	Establishment of appropriately sized Asset	BAL impact on proposed buildings,
from FMP area on the	Protection Zones that respond to the	from FMP area vegetation, to be
development	revegetation treatments proposed in the FMP	reduced to BAL-29 or lower, with the
	area	BAL impact to the community bushfire
		refuge to be reduced to BAL-10.

 Table 8.11: FMP objectives, targets and indicators for bush fire protection

The objective for bushfire management within the foreshore is to implement management measures that will minimise the potential occurrence and bush fires in the FMP area, whilst also limiting the BAL impact on proposed buildings.

The bushfire management measures are presented in two sections. The first section will address hazards anticipated during the construction within the FMP area. The second section relates to ongoing management and use of the area including any future development by property owners (the Bushfire Management Plan).

## 8.5.1.1 Construction stage

This section highlights the specific hazards, management responses and ongoing monitoring activities required to manage bushfire risk during the construction of the coastal node.

### 8.5.2 Management actions

Management actions to mitigate bushfire impacts during construction are detailed below in Table 8.12.

Table 8.12:	Management measures -	<ul> <li>construction stage</li> </ul>
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Factor	Management measures	Timing	Responsibility
Bush fire	Ensure all construction personnel are aware of fire	During construction	Construction
prevention	emergency contact details, site evacuation plans. This		Manager
	should be included in all staff inductions and training. If		
	personnel are not trained in the site-specific bushfire and		
	emergency plan, they should be accompanied by trained		
	personnel.		



Factor	Management measures	Timing	Responsibility
	Construction personnel are to provide adequate fire	During construction	Construction
	suppression resources on hand during the designated fire		Manager
	season as determined by the CoB and DBCA.		
	Construction activities to be managed in association with	During construction	Construction
	fire hazards, e.g. no hot work, such as welding, is to occur		Manager
	on days when a Total Fire Ban is declared for CoB and		
	adjacent local government area.		
	Consideration to suspending works if risk of bushfire		
	considered significant (e.g. forecast Fire Danger Rating is		
	Very High or Severe, or a Total Fire Ban is declared).		
	(Reference table 9.11).		
	Vehicles will not operate on areas other than designated	During construction	Project Manager
	roads, access tracks and construction areas.		and CoB
	The construction within the FMP area is a low-threat fuel	During construction	Construction
	condition in accordance with AS3959. Additionally, all roads,		Manager
	carparks and walkways are to be kept free of vegetation and		
	combustible items.		
Bush fire	Should a bushfire occur within or adjacent to the FMP area	Immediately upon	Construction
suppression	(as a result of the construction activities or not),	detection of	Manager
	construction personnel should alert the CoB, DBCA and	bushfire	Project Manager
	DFES immediately.		
	Any bushfires occurring within or adjacent to the FMP area	In the event of a	Project Manager,
	will be contained as quickly as possible by using available	bushfire	CoB, DFES and DBCA
	suppression equipment only if it is deemed safe to do so.		
	Upon arrival, the relevant fire authorities are to take		
	command of suppression activities and provide additional		
	resources (as required).		
Evacuation	All construction personnel, visitors and other occupants are	In the event of a	Project Manager
	to be evacuated immediately other than those undertaking	bushfire	
	suppression activities. Should it not be safe to undertake		
	initial suppression activities on a bushfire, all personnel are		
	to be evacuated immediately.		

## 8.5.3 Monitoring

Monitoring requirements for bushfire during construction are summarised in Table 8.13

Table 8.13:	Monitoring red	quirements -	construction	stage
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Parameter / purpose	Location	Frequency/timing	Responsibility
Monitor forecast Fire Danger Rating, weather	FMP area.	Daily, throughout the	Project Manager and
conditions and any DFES issued Total Fire		designated bush fire	СоВ
Bans/vehicle movement restrictions.		season	
		(30 November–	
		31 May) or during	
		any days on which a	
		total fire ban is	
		declared by DFES.	
During days on which a Total Fire Ban is	FMP area.	On all days of Very	Project Manager
declared, at the conclusion of daily construction		High and Severe.	
activities and prior to leaving site, an inspection			
shall be conducted for evidence of fire.			
Monitor bush fire occurrences within and	FMP area and adjacent	Opportunistically in	Project Manager,
adjacent to the subject area (visual; and	properties.	the event of bush	CoB, DFES
through Emergency WA website) to allow early		fire.	
implementation of emergency response			
procedures, bushfire suppression activities and			
evacuation.			
Visual inspection of perimeter of retained	Perimeter of FMP area.	Weekly.	Project Manager
vegetation for signs of unauthorised vehicle			initially then CoB
usage and ensure compliance with the fire			
break notice.			



### 8.5.3.1 Post-construction stage

This section highlights the ongoing management responses required to manage bushfire risk following construction within the FMP area. The risk to users of the reserve from bushfire in the adjacent land is primarily related to evacuation to a place of relative safety, while permitting DFES, DBCA and City of Busselton firefighting personnel to access the area to undertake suppression activities.



#### Table 8.14: Post-construction bushfire management measures

Management measure	Timing and Requirements	Responsibility
Ongoing maintenance of FMP area	The rehabilitation should meet the requirements of an Asset	Project Manager
	Protection Zone in accordance with Schedule 1 of SPP 3.7. All	initially then CoB
	roads, carparks and walkways are to be kept free of vegetation	or DBCA
	and combustible items.	
Ongoing maintenance of FMP area	All accessways, carparks and walkways are to be kept free of	Project Manager
access, carparks and walkways	vegetation and combustible items. Additionally, all accessways	initially then CoB
	and walkways from the beach and foreshore are to be open	or DBCA
	during bushfire season (and on all days of Extreme of	
	Catastrophic fire danger.	
Evacuation and access routes	During bushfire season (and on all days when a total fire ban is	Project Manager
	declared), all roads and walkways from the FMP area are to be	initially then CoB
	open and in useable condition to permit occupant egress from	or DBCA
	the area, vehicular egress and firefighter access.	
Bushfire suppression response	It is likely that members of the public will alert relevant fire	CoB, DBCA, DFES
	authorities (DFES, DBCA) upon detection of bushfire in the area.	
	Upon notification of a bushfire it is anticipated that firefighting	
	resources will be dispatched to the area to take command of the	
	emergency response, undertake suppression activities and assist	
	in the evacuation of the area.	
Application of State Planning	All future buildings or structures are required to comply with	СоВ
Policy 3.7 (Planning in Bushfire	requirements SPP 3.7, where triggered to do so at development	
Prone Areas) and Guidelines for	application and/or building licence stages. This will be	
future/subsequent building or	documented in a Bushfire Management Plan that will accompany	
structures	the Development Application.	

The BMP and BEEP will provide further details with respect to bushfire management post construction management.

#### 8.6 Revegetation

### 8.6.1 Outcomes, objectives, targets and performance indicators

The FMP outcomes for revegetation are:

- Achieve revegetation targets within the agreed period; and
- No weed growth in rehabilitation areas.

The objectives, targets and performance indicators to achieve these objectives are presented in Table 8.15.

Objective	Target	Performance indicator
Revegetate decommissioned	Five years from the commencement of	Revegetation comprises a diverse mix
access and informal tracks	revegetation vegetation communities	of species, including overstorey and
within the FMP area (shown as	established are representative of reference	mid/understorey (where bushfire
indicative revegetation).	sites including:	management commitments permit).
	• Number and type of species; and	No or minor evidence of:
	Weed species and density.	<ul> <li>Grazing on seedlings; and</li> </ul>
		• Vegetation decline as a result of
		weeds.
		80% survival rate achieved for
		seedlings planted within revegetation
		areas after 5 years.
	Planted species are local provenance	Revegetation contractor records
	species and approved tubestock (refer Table	identify species used in revegetation
	8.17.	as local provenance.
Enhance vegetation health	Monitoring shows no evidence of	No evidence of vegetation decline as
within retained areas of	vegetation decline as a result of stress,	a result of stress, significant weeds,
vegetation.	weeds, pests or pathogens after 5 years.	pests or pathogens.

Table 8.15: FMP objectives, targets and indicators for revegetation



## 8.6.2 Management actions

High-level management and mitigation measures have been identified to assist in achieving the retention and rehabilitation management objectives in Table 8.16. These measures are to be confirmed with the City and DBCA and detailed within a Revegetation Management Plan prior to rehabilitation works being undertaken.

Parameter	Action	Timing	Responsibility
Contractor	Appoint an experienced revegetation contractor(s) to	Prior to the seed collection	Project Manager
engagement	undertake seed collection, weed control and other	season (approximately	
	site preparation, and direct seeding/seedling	October– April) before	
	planting.	clearing commences.	
Site selection /	Select revegetation sites based on indicative	Prior to revegetation.	Revegetation
reference sites	revegetation areas and conservation areas.		contractor
	Establish baseline vegetation monitoring quadrats	Prior to revegetation.	Revegetation
	within remnant vegetation of the same vegetation		contractor
	type as the revegetation sites (within the FMP area)		
	to determine:		
	<ul> <li>Native species composition of remnant native</li> </ul>		
	vegetation within revegetation areas to		
	determine suitable species for use in		
	rehabilitation;		
	<ul> <li>Baseline levels of weeds including weed species</li> </ul>		
	within revegetation areas; and		
	<ul> <li>Species (number and species type).</li> </ul>		
Completion	Following establishment of baseline vegetation	Prior to revegetation.	Revegetation
criteria	monitoring quadrats, determine completion criteria		contractor
	to the satisfaction of the City and DBCA.		
Revegetation	Obtain appropriate licences from DBCA for seed	Prior to seed collection.	Revegetation
preparation	collection.		contractor
	Undertake seed collection activities from within the	Prior to revegetation	Revegetation
	coastal region/local area adjacent to the Project for	(indicative timeframe of	contractor
	use in revegetation. Assistance should be sought from	October– April).	
	the CWG to complete this preparatory work.		
	Undertake weed control prior to revegetation as	Prior to revegetation	Weed control
	detailed in Section 8.3.2.	(indicative timeframe is	contractor /
		Spring and following the	Revegetation
		first winter rains).	contractor
	Revegetation activities will utilise seed propagated	Indicative timing for seed	Revegetation
	from seed collected from the local area.	propagation is September	contractor
	Propagation will be undertaken by a NIASA (Nursery	to May following seed	
	Industry Accreditation Scheme of Australia)	collection.	
	accredited nursery.		Developed at the se
	Apply appropriate pre-planting treatments which may	Prior to revegetation	Revegetation
	with crossion		CUITTACLUI
Soodling	Ensure seedlings (in the form of tubesteck) are	Indicativo timing is May	Povogotation
planting	suitably mature, between 6 to 12 months and not	lune depending on the first	contractor
planting	root bound to enable ontimal establishment and	rains	contractor
	growth		
	Install grazing control measures within the	During revegetation	Revegetation
	revegetation area to minimise impacts to seedlings	During revegetation.	contractor
	from fauna. This could include:		contractor
	A minimum of tree guards (three stakes and a		
	protective guard manufactured for such purpose)		
	should be placed around the seedling to protect		
	the vegetation from grazing and wind damage.		
	<ul> <li>Controlled access of the revegetation areas: and</li> </ul>		
	<ul> <li>Feral fauna control measures such as haiting</li> </ul>		
	Itilise additives to accist in plant growth if	During revegetation	Revegetation
	required, such as fertilisers or wetting agents	Baring revegetation.	contractor

Table 8.16: Management actions for revegetation management



Parameter	Action	Timing	Responsibility
	<ul> <li>Ensure all plants and other materials used in revegetation are free of pathogens and weeds through appropriately accredited suppliers.</li> </ul>	During revegetation.	Revegetation contractor
	<ul> <li>Ensure vehicles, machinery, equipment and footwear are free of mud and soil when entering the FMP area and induct all contractors on these requirements; and</li> <li>Signed induction forms can be maintained if necessary.</li> </ul>	At all times.	All personnel
	<ul> <li>Procure seedlings using species listed in Table 8.17 of suitable provenance, to conduct top-up planting in areas not meeting % survival rates.</li> </ul>	When monitoring indicates survival rates have not been met.	Revegetation contractor
	<ul> <li>Ensure earth-worked batter areas are planted with native tube stock for stabilisation.</li> </ul>	After earthworks completed.	Revegetation contractor
Direct seeding	<ul> <li>Undertake direct seeding utilising seed collected during seed collection activities or other sources as appropriate.</li> </ul>	Indicative timing is May - June depending on the first rains.	Revegetation contractor
	<ul> <li>Utilise coir netting, brushing or other stabilisation measures as appropriate based on the soil and slope of revegetation sites.</li> </ul>	Direct seeding.	Revegetation contractor
Hygiene	<ul> <li>Implement ongoing weed control and hygiene measures as detailed in 8.3.2.</li> <li>Ensure seed utilised in revegetation is from areas free from dieback and other pathogens.</li> </ul>	As required and during revegetation.	Weed control contractor / Revegetation contractor
Wind-break fencing	Install wind-break fencing where appropriate.	As required.	Revegetation contractor

## 8.6.2.1 Revegetation species

Prior to revegetation, the following actions will be conducted to maximise planting success, as per the landscape plan:

• Earthwork and contouring: earthworks will be completed in certain areas within the FMP area and contoured to ensure ground levels meet the requirements of the UWMP, civil and landscape designs. These key documents are to be developed prior to the commencement of construction; and

Based on the soil type and condition within the FMP area, plants for revegetation within the FMP area will be selected from the indicative species list for planting provided in Table 8.17. These species have been selected to meet the objectives of the FMP for the provision of the foreshore stability, increase native vegetation cover, enhance public amenity and provide low maintenance requirements for the FMP area. All plants and material will be sourced and propagated using local NIASA accredited nursery. In the event of a shortfall in supply of species identified in Table 8.17, suitable alternative species will be arranged in consultation with the relevant authority.

Species	Density
Acacia cochlearis - Rigid Wattle	1 to 3 m ²
Acacia pulchella var. pulchella - Prickly Moses	1 to 3 m ²
Acacia rostellifera - Sceted Wattle	1 to 3 m ²
Acacia saligna - Orange Wattle	1 to 3 m ²
Agonis flexuosa - Sweet Peppermint	3 to 8 m centres (*)
Allocasuarina fraseriana - Johnson Sheoak	3 to 8 m centres (*)
Banksia dallanneyi subs-Dallanneyi - Honey Pot	1 to 3 m ²
Banksia dallanneyi subs. Sylvestris - Honey Pot	1 to 3 m ²
Banksia sessilis var. cordata - Parrot Bush	1 to 3 m ²
Brachyscome iberidifolia - Swan River Daisy	5 to 7 m ²

#### Table 8.17: Indicative species list



Species	Density
Calothamnus sanguineus - Calothamnus	1 to 3 m ²
Cheilanthes austrotenuifolia - Rocky Ferm	5 to 7 m ²
Conostylis aculeata - Prickly Conostylis	5 to 7 m ²
Darwinia citriodora - Lemon Scented Darwinia	1 to 3 m ²
Desmocladus flexuosus - Desmocladus Sedge	5 to 7 m ²
Diplolaena dampieri - Southern Diplolaenea	1 to 3 m ²
Dodonaea ceratocarpa - Horny Hop Bush	1 to 3 m ²
Enchylaena tomentosa - Ruby Salt Bush	1 to 3 m ²
Eucalyptus marginata - Jarrah	3 to 8 m centres (*)
Eutaxia myrtifolia - Egg and Bacon	1 to 3 m ²
Guichenotia ledifolia - Guichenotia ledifolia	1 to 3 m ²
Ficinia nodosa - Knobby Club Rush	5 to 7 m ²
Gompholobium tomentosum - Hairy Yellow Pea	1 to 3 m ²
Haemodorum laxum - Blood Root	5 to 7 m ²
Haemodorum simplex - Blood Root	5 to 7 m ²
Hakea oleifolia - Dungeon	3 to 8 m centres (*)
Hakea prostrata - Harsh Hakes	1 to 3 m ²
Hibbertia amplexicaulis - Guinea Flower	3 to 5 m ²
Hibbertia cuneiformis - Guinea Flower	3 to 5 m ²
Hibbertia hypericoides - Guinea Flower	3 to 5 m ²
Hovea chorizemifolia - Holly-Leaved Hovea	1 to 3 m ²
Hyalosperma cotula - Mayweed Sunray	5 to 7 m ²
Isotropis cuneifolia subsp - Granny Bonnets	5 to 7 m ²
Jacksonia furcellata - Grey Stinkwood 0.5m	1 to 3 m ²
Jacksonia horrida - Jacksonia horrida	1 to 3 m ²
Kennedia prostrata - Running Postman	3 to 5 m ²
Kunzea ciliata - Kunzea ciliata	1 to 3 m ²
Kunzea glabrescens - Toelken Spearwood	1 to 3 m ²
Lepidosperma squamatum - Coastal Sedge	5 to 7 m ²
Leucopogon parviflorus - Coast Beard Heath	1 to 3 m ²
Leucopogon propinquus - Beard Heath	1 to 3 m ²
Levenhookia stipitata -Esperance Flower	5 to 7 m ²
Lomandra micrantha - Small Flower Mat-Rush	5 to 7 m ²
Melaleuca lanceolata - Moonah	3 to 8 m centres (*)
Melaleuca systena - Coastal Honey Myrtle	1 to 3 m ²
Muehlenbeckia adpressa - Climbing Lignum	3 to 5 m ²
Neurachne alopecuroidea - Foxtail Mulga Grass	5 to 7 m ²
Olearia axillaris - Coastal Daisy Bush	1 to 3 m ²
Opercularia vaginata - Dog Weed	5 to 7 m ²
Patersonia occidentalis - Native Iris	5 to 7 m ²
Phyllanthus calycinus - False Boronia	1 to 3 m ²
Pimelea ferruginea - Pink Rice Flower	5 to 7 m ²
Ptilotus drummondii - Pussytail	5 to 7 m ²
Rhadogia baccata - Berry Saltbush	1 to 3 m ²
Santalum acuminatum - Desert Quandong	3 to 8 m centres (*)
Rytidosperma setaceum - Wallaby Grass	5 to 7 m ²
Spyridium globulosum - Basket Bush	1 to 3 m ²
Stylidium adnatum - Common Trigger Plant	5 to 7 m ²
Thomasia triphylla - Thomasia triphylla	1 to 3 m ²
Trachymene Pilosa - Native Parsnip	5 to 7 m ²
Tripterococcus brunonis - Winged Stackhousia	5 to 7 m ²



Species	Density
Wahlenbergia sp Common Bluebell	5 to 7 m ²
Xanthorrhoea preissii - Grass Tree	1 to 3 m ²
Xanthosia candida - Southern Cross Flower	5 to 7 m ²

Note all planting densities based on tube stock except where marked (*)

## 8.6.2.2 Planting activities

Initial and infill planting (if required) will be conducted via nursery grown tube stock, to provide a greater coverage across the treatment areas and the best chance of meeting the plant density completion criteria within the five-year establishment period. All plants and/or seeds will be sourced from a specialised NIASA accredited nursery. Completion criteria are provided in Table 8.2.

## 8.6.2.3 Watering

Some areas of the FMP area will be irrigated for only a short time for establishment purposes (stabilisation groundcover) and the other areas will not be irrigated at all. During construction an above ground (temporary) sprinkler irrigation system will be installed supplied from temporary above ground water storage tanks.

## 8.6.2.4 Protection of Seedlings

Due to the likely presence of rabbits on this site and the need to protect newly established seedlings from grazing, rabbit protection will be required. This can be effectively achieved through the use of individual tree guards on each seedling. Tree guards also provide wind protection to seedlings to prevent windburn or scorching from killing off immature seedlings. Ongoing monitoring of the tree guards should be undertaken for the duration of the revegetation programme to identify and replace those tree guard which are defective or removed.

## 8.6.3 Monitoring

Table 8.18 provides a summary of objectives and corresponding monitoring actions to enable an assessment of the effectiveness of the revegetation management and mitigation measures in place. These actions will be confirmed with the CoB and DBCA and documented within a Revegetation Management Plan, prior to rehabilitation works commencing.

Parameter	Purpose	Location	Frequency / Timing	Responsibility
<ul> <li>Revegetation monitoring will include a review of:</li> <li>Baseline levels of weeds including weed species within revegetation areas;</li> <li>Species (number and species type);</li> <li>Percentage cover of tubestock within the various revegetation areas; and</li> <li>Seedling survival rate.</li> </ul>	<ul> <li>To monitor species density, richness and composition;</li> <li>To monitor establishment of vegetation in comparison to reference sites;</li> <li>To monitor seedling survival rate; and</li> <li>Provide CoB and DBCA with results of revegetation monitoring to inform future management.</li> </ul>	Revegetation areas.	Annually in Spring.	Revegetation contractor / Project Manager
Plant health (i.e. evidence of water stress, pests, animal grazing).	<ul> <li>To monitor plant health and any evidence of animal grazing; and</li> <li>To monitor weed occurrence.</li> </ul>	Revegetation areas.	Annually in Spring.	Revegetation contractor / Project Manager

 Table 8.18: Monitoring actions for revegetation management



Parameter	Pu	rpose	Location	Frequency / Timing	Responsibility
Species used in revegetation	•	Ensure local provenance	NA.	Annual review	Project Manager
(revegetation contractor		species have been		of progress	
progress reports).		utilised.		reports.	

Rehabilitation monitoring will be undertaken utilising quadrats. The location of monitoring quadrats will be determined by the appointed rehabilitation contractor, taking into account revegetation areas in relation to vegetation communities within the FMP area. It is proposed that after five years following the date of initial planting, handover to the CoB or DBCA will occur if all objectives, targets and KPIs are met. In the event targets and KPIs are not met at the end of the five-year period, a number of key maintenance and specific contingency measures will be developed in consultation with the CoB and DBCA.

## 8.6.4 Contingencies

Contingency actions will be initiated if monitoring indicates that management actions have not been successful or effective and/or completion criteria are not being achieved. Contingency actions for revegetation management are detailed in Table 8.19: below. These actions will be confirmed with the City and documented within a Revegetation Management Plan, prior to rehabilitation works commencing.

Table	8.19:	Contingency	actions
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Trigger	Action
Trigger Monitoring reports show survival rates of planted species are below 80%.	<ul> <li>Action</li> <li>1. Map the extent of seedling deaths to obtain approximate percentage of dead seedlings;</li> <li>2. Identify potential causes of deaths;</li> <li>3. Implement approach to remedy cause which could include: <ul> <li>Procure sufficient seedlings and/or seed as required to account for insufficient native plant species richness and/or cover, on advice of the Revegetation contractor;</li> <li>Undertaking infill seedling planting as required on advice of the Revegetation contractor;</li> <li>Application of additives such as seasol, water granules, soil breaker, water retainer, wetting agent or fertiliser tablets as deemed necessary by Revegetation contractor; and</li> <li>Further weed and/or pest control if required.</li> </ul> </li> </ul>
	<ol> <li>Monitor success of contingency measure(s).</li> </ol>
Revegetation monitoring shows that the number and type of species, including overstorey and mid/understorey species are not representative of reference sites.	<ol> <li>Investigate cause (e.g. presence of pests, plant stress, weeds, erosion);</li> <li>Implement measures to prevent decline in species numbers;</li> <li>Conduct supplementary seeding/planting as advised by Revegetation contractor; and</li> <li>Continue monitoring as required by this FMP.</li> </ol>
New infestation of weed(s)	1. Investigate source of weed infestation;
identified in the FMP area.	<ol> <li>Undertake weed control immediately and follow up weed control as advised by the Revegetation contractor; and</li> <li>Review weed management procedures.</li> </ol>
Increase in distribution,	1. Map the revised extent of the significant weed species within the site;
abundance or density/cover of a significant weed species within revegetation sites.	<ol> <li>Identify activities that may have potentially increased the abundance, distribution or density/cover of significant weed species;</li> <li>Plan and implement a significant weed control program (may involve seeking advice from relevant authorities); and</li> <li>Apply additional hygiene control and education measures.</li> </ol>
Increase in abundance and/or	1. Investigate cause;
distribution of pest grazing	<ol><li>Review control measures and procedures;</li></ol>
animals within rehabilitation	<ol><li>Re-inform all personnel of any changes to control procedures;</li></ol>
areas.	<ol> <li>Implement remedial and/or revised control measures;</li> </ol>
	<ol> <li>Implement of a pest animal control program; and</li> <li>Monitor outcome.</li> </ol>



Trigger	Ac	tion
Unauthorised access (people	1.	Implement measures to prevent further unauthorised access (e.g. installation of
and vehicles, unless required for		temporary fencing and signage), as practicable;
emergency access) to the FMP	2.	Monitor success of contingency measure(s);
area.	3.	Restrict access to controlled areas already disturbed or degraded.

## 8.7 Aboriginal heritage

## 8.7.1 Outcomes, objectives, targets and performance indicators

The FMP outcomes for Aboriginal heritage are:

- Disturbance of heritage sites to be managed in accordance with the Heritage Management Plan; and
- Project development complies with legislative and regulatory requirements.

The objectives, targets and performance indicators to achieve these objectives are presented in Table 8.20.

 Table 8.20: FMP objectives, targets and indicators for Aboriginal heritage

Objective	Target	Performance indicator
Manage construction and	Disturbance of heritage sites to be managed	No recorded impacts
subsequent works to ensure no	in accordance with the Heritage	
impacts to heritage values	Management Plan	
Improved understanding of	Provision of information through signage	Improved understanding of heritage
Aboriginal heritage and	and other forms on heritage, sites and local	values by visitors and non-indigenous
connection to the land	culture	residents

## 8.7.2 Management actions

High-level management and mitigation measures have been identified to assist in achieving the objectives in Table 8.21. These measures are to be confirmed with the City and DPLH prior to works being undertaken.

Table 8.21	Management actions
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Parameter	Action	Timing	Responsibility
Induction	Induct all contractors working within the FMP area in	Induction	Project Manager
	interactions including:		
	<ul> <li>On-site restrictions with regards to sites of</li> </ul>		
	cultural and heritage significance;		
	<ul> <li>Response actions with respect to ethnographic and/or archaeological finds.</li> </ul>		
Design	Incorporate potential soak into Foreshore design.	Design, pre-construction	Project Manager
	Consult with CWG if not possible.		
Clearing and	Clearing boundaries will be clearly demarcated using	Prior to ground	Clearing contractor
earthworks	distinctive markers (flagging tape, signage etc).	disturbance	
	Provide GPS coordinates of areas to be cleared and	Prior to ground	Clearing contractor
	areas to be retained to all contractors entering the	disturbance	
	FMP area.		
	Flagging/marking any and all cultural sites using	Prior to ground	Clearing contractor
	recognised marking/labelling.	disturbance	
	Comply with the s18 disturbance permit (if obtained).	At all times	Clearing contractor
	Engage TOs to provide monitoring services during	Clearing	Project Manager
	initial stages of construction when clearing is	Initial ground disturbance	
	undertaken and during initial excavation/ground		
	disturbance.		

### 8.7.3 Monitoring

Monitoring and reporting requirements with respect to Aboriginal heritage are detailed in Table 8.22.



Parameter	Purpose	Location	Frequency / Timing	Responsibility
Photographic evidence	To record incidences of	All areas of	Prior to ground	Clearing
and/or GPS coordinates of	work outside approved	proposed	disturbance.	contractor
proposed clearance areas	construction areas.	disturbance.	Following each clearing	
			campaign.	
Induction records	To ensure compliance with	FMP area.	Annually.	Project
	induction requirements for			Manager
	all personnel.			
Controlled access (i.e.,	To monitor integrity of	All areas	Fortnightly during	Project
flagging)	controlled access within the	delineated by	construction.	Manager
	FMP area.	flagging etc		
Aboriginal heritage site	To record, identify and	All areas.	Quarterly	Project
location	delineate all sites of			Manager
	Aboriginal heritage for the			
	FMP area.			

#### Table 8.22: Aboriginal heritage management monitoring and reporting requirements

## 8.7.4 Contingencies

Contingency measures to be implemented for Aboriginal heritage are detailed in Table 8.23.

Table 0.20. Aboliginal heritage management contingency measures			
Trigger	Action	Responsibility	
Disturbance and other work	Determine extent of work/disturbance.	Project Manager	
occurs outside approved	• Determine activity that caused the work outside defined		
areas	boundaries.		
	Advise DPLH of breach in approved disturbance area.		
	• Implement measures/proposed mitigation measures as soon		
	as practicable following consultation with DPLH.		

# Table 8.23: Aboriginal heritage management contingency measures

### 8.8 Access

In order to manage potential impacts on the FMP area as a result of uncontrolled access a range of measures will be implemented.

### 8.8.1 Outcomes, Objectives, targets and performance indicators

The FMP outcomes for access are:

- Increased public amenity throughout the FMP area with provision of defined universal beach access (for fire and emergency purposes), walkways, lookout access ways and improved car parking;
- Community approval and acceptance of FMP area design and form; and
- No recorded complaints during construction.

The environmental objectives, targets and key performance indicators for access management are detailed in Table 8.24.

Table 8.24:	Objectives,	targets and	key perforr	nance indicat	tors for acc	ess and infrastructu	ire
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Objective	Target	Performance indicator
Provide appropriate access through the	No unauthorised access outside of the	No incidence relating to unauthorised
FMP area for pedestrian and	designated areas.	access to areas not identified for
emergency services, including car		access.
parking		
Minimise access outside of designated		
access areas		
Prevent third party access during the	No unauthorised access to the FMP	No incidents relating to unauthorised
proposed foreshore development	area.	people on site.
works		



## 8.8.2 Management actions

Specific management and mitigation measures have been identified to assist in achieving the access management objectives in Table 8.25.

Item	Management action	Timing	Responsibility
Vegetation clearing	Clearing boundaries will be clearly demarcated using	Prior to clearing.	Project Manager
<b>T</b>	distinctive markers (flagging tape, signage etc).	De et else sin e	Due is at Manager
Temporary and	establish controlled access measures along the	Post clearing.	Project Manager
permanent	boundaries of the FMP area access paths to restrict		
controlled access	unauthorised access to areas of retained vegetation.		
	Establish controlled access along the perimeter of all	Post clearing.	Project Manager
	roads or parking areas that adjoin the FMP area to		
	prevent vehicles accessing areas of foreshore		
	vegetation.		
	If necessary, access gates can be provided at		
	appropriate locations for fire-fighting and		
	maintenance purposes, including emergency access.		
	Restrict access to unwanted tracks through the use	Post clearing /	Project Manager
	of brush material	revegetation.	
Signage	Install signage to encourage public education and	Post construction of	Construction
	awareness on:	access tracks through	contractor
	• The importance of retained bushland;	the area of retained	
	The detrimental effects of rubbish on	vegetation.	
	biodiversity; and	-	
	Revegetation works being undertaken within the		
	area.		
Paths/Access and	Formalise paths that provide foreshore and beach	FMP area	Construction
Parking	access to prevent access to areas of retained	construction.	Contractor
_	vegetation and rehabilitation areas.		
	Redevelop the Cape to Cape Track as agreed with	FMP area	Construction
	DBCA	construction.	Contractor
	Improve parking at Smiths Point (refer Section 6.3.3).	FMP area	Construction
	Note additional parking to be provided outside the	construction.	Contractor
	FMP area.		
	Improvement of access to Smiths Point and lookout.	FMP area	Construction
		construction.	Contractor
EAS	Develop an Emergency Access Plan to the	Post development.	Project Manager
	satisfaction of the CoB and SLSWA following		_
	development of the FMP area. The EAS should		
	include where practical and appropriate, SLSWA		
	recommendations.		

Table 8.25: Access management actions

### 8.8.3 Monitoring

Monitoring and reporting requirements for access are detailed in Table 8.26.

 Table 8.26: Access and infrastructure monitoring and reporting requirements

Parameter	Purpose	Location	Frequency /Timing	Responsibility
Demarcation	To monitor integrity of	All demarcated	Fortnightly during	Project Manager
	demarcation within the FMP area.	areas.	construction.	
			Monthly (during	
			maintenance period).	
Signage	To monitor the integrity of signage	All demarcated	Fortnightly during	Project Manager
	within the FMP area.	areas.	construction.	
			Monthly (during	
			maintenance period).	

## 8.8.4 Contingencies

Table 8.27 identifies the appropriate contingency actions to be initiated in the event that the objectives for access management are not met.



#### Table 8.27: Access management

Trigger	Action
Unauthorised access outside of	1. Investigate cause.
the formalised pathways	2. Redefine boundaries if breach due to inadequate boundary marking.
	3. Reinform all personnel of access restrictions beyond access boundaries.
	4. If damage has been done to the controlled access measures or if they are deemed
	inadequate then those measures will be repaired or replaced.
	5. Consult with adjacent land users and the CoB as required to determine combined
	access management approaches.
	6. An Environmental Incident Report shall be completed.
Emergency access resulting in	1. Assess extent of damage.
destruction of vegetation	2. Undertake revegetation to repair damaged areas as a result on emergency access
	to the satisfaction of CoB.
Controlled access measures not	1. Repair or reinstate.
sufficient or not maintained	<ol><li>Review frequency of controlled access monitoring.</li></ol>
	3. Record incident in Incident Register.
Infrastructure not maintained	1. Repair or reinstate infrastructure.
	<ol><li>Review frequency of infrastructure monitoring.</li></ol>
	3. Record incident in Incident Register.

#### 8.9 Coastal erosion and inundation

In order to manage potential impacts on the FMP area as a result of coastal erosion and inundation a range of measures will be implemented.

### 8.9.1 Outcomes, objectives, targets, and performance indicators

The FMP outcomes for coastal erosion and inundation are:

- Reduced risk of damage to infrastructure, communities, habitat, and wastewater
- Project development complies with recommendations from Coastal Hazard Assessment (MRA 2021)

The objectives, targets and performance indicators to achieve the aforementioned objectives are presented in Table 8.28.

#### Table 8.28: FMP objectives, targets and indicators for coastal erosion and inundation

Objectives	Targets	Performance indicator
To minimise the impacts of coastal erosion and inundation on infrastructure, the community, vegetation, and fauna within the FMP area	Establish a buffer between the shoreline and infrastructure	No damage has occurred in the FMP area due to the effects of erosion or coastal inundation
To prevent wastewater seepage that may cause adverse effects to the FMP area	Establish onsite treatment and irrigation reuse	No wastewater seepage within the FMP area

#### 8.9.2 Management actions

Several management and mitigation measures have been identified to assist in achieving the access management objectives in Table 8.28.

Table 8.29: 0	Coastal erosi	ion and inur	ndation mar	nagement actions

Item	Management Action	Timing	Responsibility
Erosion The Foreshore Reserve will act as a buffer of approximately 50 m minimum between the HSD		Ongoing	Project Manager/ Construction Contractor
	The Universal Access Ramp (UAR) will provide suitable protection to the eastern foreshore area	Ongoing	Construction Contractor



Item	Management Action	Timing	Responsibility
Inundation	Freehold development will	Ongoing	Project Manager/
	be located 4.02 AHD		Construction Contractor
Wastewater	Wastewater will be treated	Ongoing	Project Manager/
	and utilised for irrigation		Construction Contractor

## 8.9.3 Monitoring

Table 8.30 provides a summary of objectives and corresponding monitoring actions to enable an assessment of the effectiveness of coastal erosion and inundation mitigation measures.

Parameter	Purpose	Location	Frequency/ Timing	Responsibility
Erosion	Identify source(s) of erosion/increased movement of materials	Foreshore	Annually	Project Manager
Maintenance of paths and tracks	To minimise impacts to the development, ensure paths and tracks are accessible and in good condition	Foreshore	Annually	Project Manager

### 8.9.4 Contingencies

Table 8.31 identifies appropriate contingency actions to be initiated in the event that the objectives for erosion and coastal inundation are not met.

able 0.51. Contingency actions for coastar crosson and manuation			
Trigger	Action		
Erosion evident within the FMP area Coastal inundation	<ul> <li>Consider additional mitigation measures:         <ul> <li>Beach nourishment through sand deposition onto beach and dune systems</li> <li>Installation of seawalls, groynes, or artificial reef</li> <li>Increase dune vegetation (through rehabilitation and revegetation) to aid stabilisation</li> <li>In severe circumstances consider planned retreat – to move</li> </ul> </li> </ul>		
	initastructure away from vumerable areas		

# Table 8.31: Contingency actions for coastal erosion and inundation

## 8.10 Waste management

Waste will require management before, during and after construction works within the FMP area.

## 8.10.1 Outcomes, objectives, targets, and performance indicators

The outcomes, objectives, targets, and performance indicators for waste are detailed within Table 8.32.



Table 8.32: Objective	, targets and	d performance	indicators fo	or waste management
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Objectives	Targets	Performance indicator
To ensure that the management and disposal of waste throughout construction of the site does not negatively impact health, welfare and amenity of people and fauna, or cause environmental harm	<ul> <li>All waste is appropriately contained within designated vessels/ areas during construction activities</li> <li>All waste is removed from site and disposed of appropriately during, following construction activities and ongoing use of the area</li> <li>No occurrence of waste moving off-site without record</li> <li>Maintain records of controlled waste removed from site</li> <li>No impacts to human or fauna health as a result of inappropriate waste disposal</li> </ul>	No incidents raised as a result of inadequate waste management

## 8.10.2 Management actions

Management actions for waste are detailed below in Table 8.33.

Table 8.33: Management actions for was
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Item	Management actions	Timing	Responsibility
Induction/ meetings	Appropriate waste management measures will be included in each induction to on site personnel and contractors	Prior to site personnel and contractors commencing works onsite Post construction	Project Manager
Domestic waste	Waste skips and bins must have lids and kept closed to contain litter	Ongoing	All personnel
	Littering is prohibited and all areas must be kept free from wind-blown waste generate through storage or transport	Ongoing	All personnel
	Waste must regularly be removed from site to the nearest landfill to ensure it does not overflow	Ongoing	Construction Contractor Project Manager
	Remove all rubbish that has been dumped or has drifted into retained vegetation	Ongoing	Construction Contractor Project Manager
	All waste must be removed from site following the competition of construction works	Post development	Construction Contractor
Controlled/ sewage waste	Chemical, hydrocarbon and other hazardous waste material must be appropriately stores onsite and appropriately transported and disposed off-site	Ongoing	Construction Contractor
	All machinery must contain spill kits	During FMP area construction	Construction Contractor
	Portable ablution blocks must be stores at least 50 m from retained vegetation and be removed off-site by a licensed carrier	During and post FMP area construction	Construction Contractor
Signage	<ul> <li>Signage for rubbish disposal must be erected throughout the FMP area including:</li> <li>Detrimental impacts of rubbish on fauna</li> <li>Prohibited littering</li> <li>Location of waste disposal (i.e., bins)</li> <li>Categorization of waste disposal (i.e., general waste and recycling)</li> </ul>	Post development	Construction Contractor

## 8.10.3 Monitoring

Table 8.34 provides a summary of objectives and corresponding monitoring actions to enable an assessment of the effectiveness of waste managed and mitigation measures in place.



Parameter	Purpose	Location	Frequency/ Timing	Responsibility
Induction records	To ensure compliance with induction requirements for all personnel	FMP area	Annually	Project Manager Construction contractor
Visual inspection	To note the presence or lack of waste	FMP area		Construction Contractor Project Manager
Fauna assessments	To note if waste has caused adverse effects to fauna and habitat	FMP area		Project Manager

### Table 8.34: Monitoring actions for waste management

### 8.10.4 Contingencies

Table 8.35 identifies appropriate contingency actions to be initiated in the event that the objectives for waste management are not met.

Table 8.35: Waste management	t contingency measures
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Trigger	Action	Responsibility
Disposal of waste in a manner that harms or is likely to harm the environment	<ul> <li>Investigate cause of incident</li> <li>Ensure appropriate remediation action is taken</li> <li>Re-train staff in correct waste management and disposal</li> </ul>	Project Manager
	<ul> <li>Ensure appropriate storage and facilities are available for controlled and general waste</li> </ul>	

## 8.11 FMP area maintenance

Once the management completion criteria have been met then Smiths 2014 Pty Ltd will hand over the FMP area to the Vested Authority (unless otherwise agreed through a separate management agreement).



# 9. Limitations

## Scope of services

This report ("the report") has been prepared by Strategen-JBS&G in accordance with the scope of services set out in the contract, or as otherwise agreed, between the Client and Strategen-JBS&G. This report is strictly limited to the matters stated in it and is not to be read as extending, by implication, to any other matter in connection with the matters addressed in it.

## **Reliance on data**

In preparing the report, Strategen-JBS&G has relied upon data and other information provided by the Client and other individuals and organisations, most of which are referred to in the report ("the data"). Except as otherwise expressly stated in the report, Strategen-JBS&G has not verified the accuracy or completeness of the data. To the extent that the statements, opinions, facts, information, conclusions and/or recommendations in the report ("conclusions") are based in whole or part on the data, those conclusions are contingent upon the accuracy and completeness of the data. Strategen-JBS&G has also not attempted to determine whether any material matter has been omitted from the data. Strategen-JBS&G will not be liable in relation to incorrect conclusions should any data, information or condition be incorrect or have been concealed, withheld, misrepresented or otherwise not fully disclosed to Strategen-JBS&G. The making of any assumption does not imply that Strategen-JBS&G has made any enquiry to verify the correctness of that assumption.

The report is based on conditions encountered and information received at the time of preparation of this report or the time that site investigations were carried out. Strategen-JBS&G disclaims responsibility for any changes that may have occurred after this time. This report and any legal issues arising from it are governed by and construed in accordance with the law of Western Australia as at the date of this report.

### **Environmental conclusions**

Within the limitations imposed by the scope of services, the preparation of this report has been undertaken and performed in a professional manner, in accordance with generally accepted environmental consulting practices. No other warranty, whether express or implied, is made.

The advice herein relates only to this site and all results conclusions and recommendations made should be reviewed by a competent person with experience in environmental investigations, before being used for any other purpose.

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# 10. References

- ANZECC, (2000). Water quality guidelines, <u>https://www.waterquality.gov.au/anz-guidelines/resources/previous-guidelines/anzecc-armcanz-2000</u> accessed 23 June 2021.
- Beard, J, S, (1990). Plant Life fo Western Australia, published by Kangaroo Press, Kenthurst, N.S.W.
- Beard, J. S., Beeston, G. R., Harvey, J. M., Hopkins, A. J. M. and Shepherd, D. P. 2013, *The* vegetation of Western Australia at the 1:3,000,000 scale. Explanatory memoir. Second edition., Conservation Science Western Australia, 9: 1-152.
- Biologic, (2021). Lot 4131 Smiths Beach Road, Yallingup. Detailed Terrestrial Vertebrate Fauna Survey
- Bureau of Meteorology, (2020). State of the Climate 2020. Retrieved from <u>http://www.bom.gov.au/state-of-the-climate/</u>. Accessed 27 October 2021.
- Bureau of Meteorology, (2021). Climate Statistics for Australian locations: Cape Naturaliste, <u>http://www.bom.gov.au/climate/averages/tables/cw_009519.shtml</u>, accessed 23 June 2021.
- Cardno, (2021). Traffic Impact Assessment Smiths Beach Project (CW1141900), unpublished report completed for Smiths 2014 Pty Ltd.
- City of Busselton, (2019). Climate Change. Retrieved from <a href="https://www.busselton.wa.gov.au/live/environment/climate-change.aspx">https://www.busselton.wa.gov.au/live/environment/climate-change.aspx</a>, accessed 27 October 2021.
- City of Busselton, (2021) Local Planning Policy No. 6.1 Stormwater Management
- Department of Environment and Conservation (DEC) 2002, A Biodiversity Audit of Western Australia's 53 Biogeographic Subregions in 2002, Perth.
- Department of Planning, Lands and Heritage, (2021). Aboriginal sites, objects and ancestral remains, https://www.wa.gov.au/organisation/department-of-planning-lands-and-heritage/aboriginalsites-objects-and-ancestral-remains, accessed 30 June 2021.
- Department of Planning, Lands and Heritage, (2021). State Planning Policy 2.6 Coastal Planning, <u>https://www.dplh.wa.gov.au/spp2-6-coastal-planning</u>, accessed 30 June 2021.
- Department of Planning, Lands and Heritage, (2021). State Coastal Planning Policy Guidelines 2.6, <u>https://www.dplh.wa.gov.au/getmedia/dfa403eb-8488-454a-ad26-198ccbd8754d/state-</u> <u>coastal-planning-policy-guidelines-Published-Version-Feb-2021</u>, accessed 30 June 2021.
- Department of Primary Industry and Regional Development, (2021). Natural Resource Information, <u>https://maps.agric.wa.gov.au/nrm-info/</u>, accessed 23 June 2021.
- Department of Primary Industry and Regional Development, (2021). Western Australian Organism List (WAOL), <u>https://www.agric.wa.gov.au/bam/western-australian-organism-list-waol</u>, accessed 30 June 2021.
- DWC, (2021). Smiths Beach Cultural Strategy, prepared for Smiths 2014 Pty Ltd.
- Emerge Associates, (2019). Spring Flora and Vegetation Assessment Lot 4131 Smiths Beach Road, Yallingup. Prepared for Smiths 2014 Pty Ltd March 2019.
- Environment Australia 2000, Revision of the Interim Biogeographic Regionalisation for Australia (IBRA) and Development of Version 5.1 Summary Report, Department of Environment and Heritage.
- Environmental Protection Authority (EPA) 2016, Technical Guidance Flora and Vegetation Surveys for Environmental Impact Assessment, Perth.



Government of Western Australia 2018, Statewide Vegetation Statistics incorporating the CAR Reserve Analysis (Full Report). Current as of December 2017, WA Department of Biodiversity, Conservation and Attractions, Perth.

Hearn, R., Williams, K., Comer, S., & Beecham, B. (2002). Jarrah Forest 2 (JF2 – Southern Jarrah Forest subregion). In A Biodiversity Audit of Western Australia's 53 Biogeographical Subregions in 2002. Kensington, Western Australia: Department of Conservation and Land Management.

- Hyd2o, (2021). Lot 4131 Smiths Beach Road, Yallingup Urban Water Management Plan. Prepared for Smiths 2014 Pty Ltd March 2021.
- McGregor Coxall, (2021). Gunyulgup Boodja Smiths Beach Master Plan, prepared for Smiths 2014 Pty Ltd.
- McKenzie, N. L., May, J. E., & McKenna, S. (2002). Bioregional Summary of the 2002 Biodiversity Audit for Western Australia.
- M P Rogers & Associates PL, (2021. Smiths Beach Coastal Hazard Assessment, prepared for Smiths 2014 Pty Ltd.
- RPS Bowman Bishaw Gorham, (2004). Canal Rocks Beach Resort Foreshore Management Plan. Report No. M04124 prepared for Starvale Corporation Pty Ltd. December 2004.
- Strategen-JBS&G, (2021a). Bushfire Management Plan in preparation.
- Strategen JBS&G (2021b), Smiths Beach Stage 2 Approvals Vegetation Site Visit, October, prepared for Smiths 2014 Pty Ltd.
- Western Australian Planning Commission (2003). Planning Bulleting No. 64: Acid Sulphate Soils. Western Australian Planning Commission, November 2003.



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