Design Guidelines

Marine Enterprise Precinct

Ocean Reef Marina

Prepared for DevelopmentWA

December 2023

Taylor Burrell Barnett

Acknowledgement of country

We respectfully acknowledge the Whadjuk people of the Noongar nation, as the traditional custodians of the land on which we live and work, and recognise their continuing connection.

We pay our respects to the Elders past, present and emerging for they hold the memories, the traditions, the culture and hopes that, through meaningful connection, we aim to apply to the design and planning of communities now and in the future.

Endorsement

The Marine Enterprise Precinct Design Guidelines is prepared under the provisions of the Ocean Reef Marina Improvement Scheme No. 1

IT IS CERTIFIED THAT THE MARINE ENTERPRISE PRECINCT DESIGN GUIDELINES WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON:

21 November 2023

Date

Signed for and on behalf of the Western Australian Planning Commission

an officer of the Commission duly authorised by the Commission pursuant to section 16 of the *Planning and Development Act 2005* for that purpose, in the presence of:

Witness

7 December 2023

Date

Document Information

Design Guidelines

Marine Enterprise Precinct

Ocean Reef Marina

DevelopmentWA

Prepared By: Taylor Burrell Barnett

Level 7, 160 St Georges Terrace
PERTH WA 6000

PO Box 7130
Cloisters Square
PERTH WA 6850

Phone: 9226 4276
Email: admin@tbbplanning.com.au

Taylor Burrell Barnett

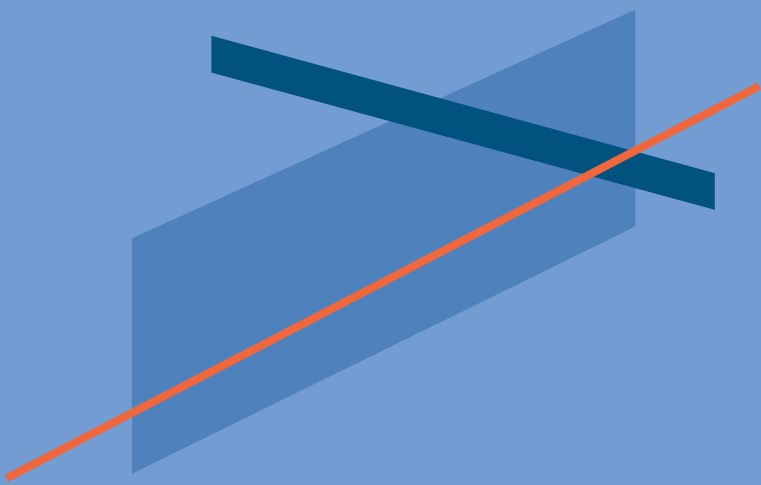
Doc ID: Marine Enterprise Precinct Design Guidelines - Ocean Reef Marina

Revision	Status	Author	Approved by	Date Issue
	Draft	JM	KH	21/12/2022
1		JM	KH	21/07/2023
2		JM	KH	14/08/2023
3	Approved	JM	KH	5/12/2023

Table of Contents

1.0

Introduction



1.0 Introduction

1.1 Marina Vision, Aims and Objectives

The overall vision for the Ocean Reef Marina is to be a world class waterfront precinct providing recreational, tourism, residential and boating facilities. The aims for the Ocean Reef Marina are:

- The creation of a vibrant waterfront commercial precinct and public open space that will provide recreational amenity and a tourist destination for local residents and visitors to Perth;
- The creation of sustainable employment opportunities in food and beverage, retail, service commercial, tourism and marine related industries;
- The provision of diverse housing density and choice, within a high-quality residential environment;
- The delivery of an economically sustainable marina development to include boat pens and boat stacking facilities to meet the future demands of a growing Perth metropolitan population;
- Delivery of a marina development and marine related commercial activities providing upgraded facilities for existing recreational marine-based clubs and users, while providing adequate separation between these activities and other land uses; and
- The appropriate management of environmental values.

The overall plan for the marina as a world class and innovative development includes:

- Two new outer breakwaters;
- Around 550 wet boat pens;
- At least 200 boat stacker spaces;
- More than 1,000 houses/apartments;
- Approximately 12,000m^2 of retail, food and beverage floorspace in the Mixed Use precinct;
- Approximately 7,000m^2 of Commercial floorspace in the Marine Enterprise Precinct;
- Marine services area inclusive of eight boat ramps and facilities associated with the marina, boating and recreation;
- A protected swimming area, beach, parks and open spaces for the local community and visitors; and
- Boat trailer and car parking to service the development and its visitor attractions.

The Ocean Reef Marina Improvement Scheme identifies a number of Precincts including the Marine Enterprise Precinct (the Precinct). Design Guidance for the Precinct is provided within this document, which has been prepared as an Improvement Scheme Policy. Development within the Precinct should be consistent with the aims of the Ocean Reef Marina and the intent and objectives for the Precinct as set out in the Improvement Scheme.

The Precinct is intended to deliver a high-quality marine services hub to accommodate industries relevant to the marina and facilities including boating services, boat lifting, boat stacking, administrative offices, club houses and associated parking.

The objectives of the Marine Enterprise Precinct are to:

- Provide safe access to public boat ramps, trailer parking and related facilities as directly as possible from Ocean Reef Road;
- Provide for protection of the Water Corporation's ocean outfall pipe and to ensure land uses and activities in this location are mutually compatible;
- Facilitate safe and legible movement and circulation within the precinct for all users including motorised machinery, vehicles, trailered vessels, pedestrians, cyclists and emergency transport;
- Provide for the appropriate standards and clearly identified locations for vehicle parking, boat and equipment storage for all users of the precinct and to ensure that height, mass and materiality of parking and storage facilities are aesthetically suitable for a world class marina;

- Plan for the development of facilities for a Boat Club, Marine Rescue Whitfords and Returned and Services League of Australia (RSL);
- Provide for a limited range of commercial and light industrial operations related to the provision of marine services;
- Ensure there is a fitting interface between this precinct and the adjacent Mixed Use/Waterfront/ Recreation Precinct to provide an appropriate level of visual appearance, landscape amenity and pedestrian connectivity;
- Ensure appropriate management of land uses and activities to avoid noise, odour, or other emissions or lighting impacts to the adjacent Mixed Use/ Waterfront/Recreation, Residential and Waterways Precincts and existing suburb; and
- Facilitate innovation and high standards of sustainability in all land uses and public areas.

1.2 Purpose of the Design Guidelines

These Design Guidelines provide guidance on built form, development and the preferred location of land uses within the Marine Enterprise Precinct (Figure 1). In accordance with clause 16(3) these Design Guidelines make reference to and adopt other documents of the WAPC in respect of built form and development elements, in particular State Planning Policy 7.0, as appropriate.

These Design Guidelines will assist proponents in the preparation of development applications and the Western Australian Planning Commission with the determination of proposals.

These Design Guidelines have been prepared in accordance with clause 16(4) of the Improvement Scheme.

1.3 Site Context and Description

The Ocean Reef Marina (the site) is in a coastal location within the City of Joondalup's northern growth corridor and is approximately 25 kilometres north from the Perth CBD, 12 kilometres south of the Mindarie Keys Marina, six kilometres west of the Joondalup strategic metropolitan centre, and nine kilometres north of the Hillarys Boat Harbour.

The Joondalup City Centre is the CBD of the north west corridor with over 500,000m^2 net lettable area of retail and commercial floor space and home to the Joondalup Health Campus, Edith Cowan University Joondalup Campus and the Western Australia Police Academy.

This coastal area is adjacent to developed residential areas and approximately 2.5 kilometres south of Iluka and four kilometres south of Burns Beach. The site is home to the existing Ocean Reef Boat Harbour, Marine Rescue Whitfords, the Ocean Reef Sea Sports Club and Joondalup City RSL Sub-branch including the ANZAC Memorial and these facilities will all be incorporated into the new marina development.

The location and the concept for the development integrates built form into the topography of the site and aims to:

- Maximise views for new development;
- Minimise potential impacts on the ocean outlook of the existing residents in the Ocean Reef suburb; and
- Settle the development into the landscape.

The precinct has been designed having regard to the Bush Forever backdrop with a sensitive development interface proposed along the southern, eastern and northern boundary.

The location also provides potential for deep water moorings. Likewise, the rocky shoreline and nearshore reef provides an area in which the development can be sited with minimal impact upon the sandy beaches at Mullaloo (south) and Burns Beach (north), and the surrounding residential development of the Ocean Reef suburb.

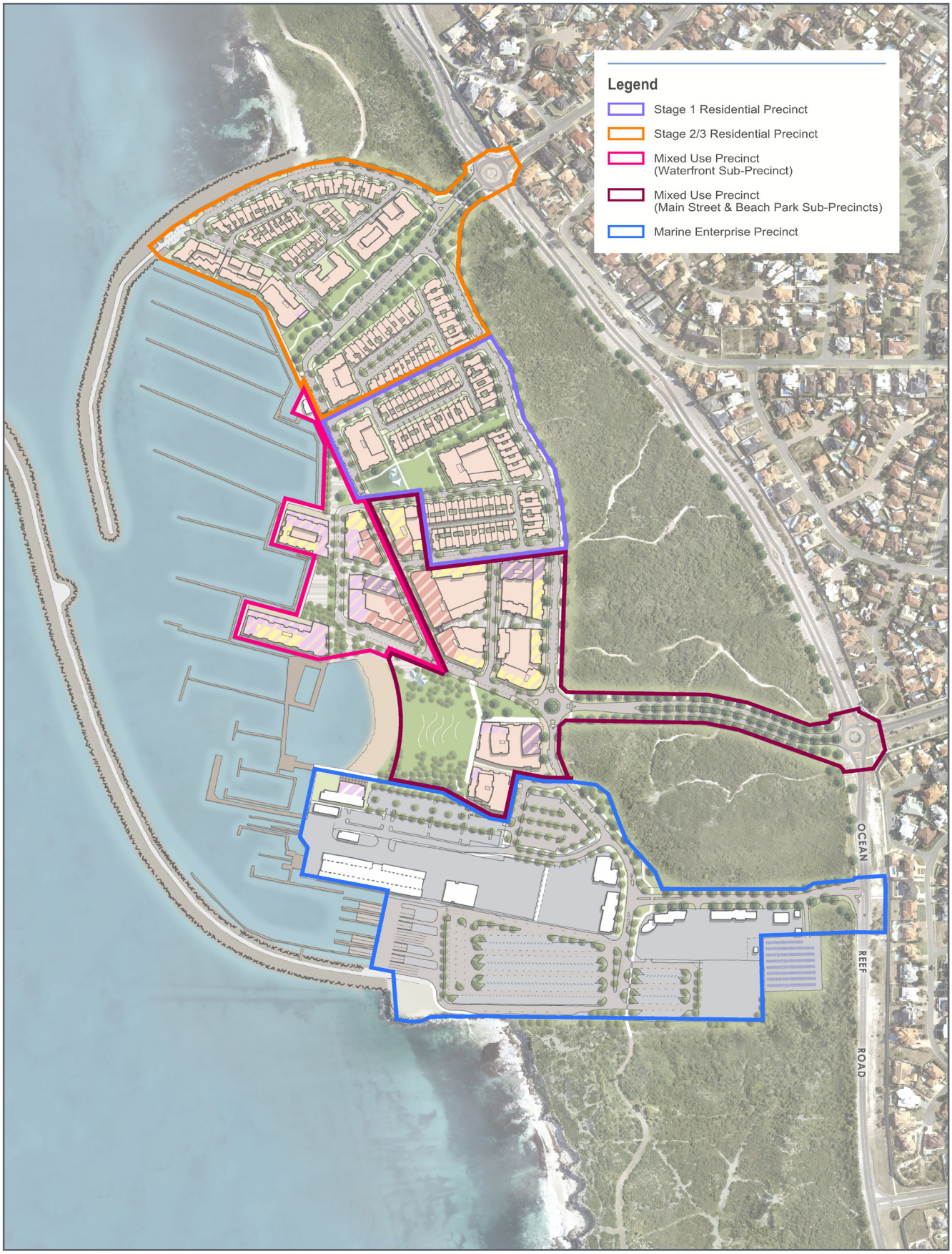


Figure 1: Ocean Reef Marina - Precinct Locations

Primary access to the marina will be via three points from Ocean Reef Road including:

- A southern gateway at Boat Harbour Quays to provide the main access to the Marine Services Precinct;
- A central gateway via an extension of Hodges Drive, providing a direct link to the Mitchell Freeway, Joondalup City Centre and Joondalup Train Station; and
- A northern gateway providing the main access to the Residential Precinct.

In addition, active transport access includes a continuation of the north-south coastal Principal Shared Path for cyclist and pedestrians, connecting links to the local network of footpaths and cycleways and design considerations for legible circulation and safe movement within the marina and the key visitor destinations.

1.4 Local Climate and Conditions

The site has a typically Mediterranean climate with hot, dry summers through December to February with average air temperatures range from 17.5 - 30°C (63.5 - 86°F) and mild wet winters through June to August with average air temperatures ranging from 8 - 19°C (46.4 - 66.2°F).

In summer the average sea temperature ranges from 20.9 - 22.8°C (70 - 73°F). Temperatures reach their peak in March with an average of 23.4°C (74°F), and dip in winter to 19.4 – 21.3°C (67 - 70°F).

December experiences the most hours of daylight with sunrise at approximately 5am and sunset at 7:30pm. June has the least hours of daylight with sunrise at approximately 7:15am and sunset at 5:20pm.

The wind regime is dominated by the effects of the land-sea interface where offshore land breezes (easterly) are common in the morning and afternoon sea breezes (south-southwest) are common in the warmer months.

1.5 Site Features and Natural Environment

The site is located on a rocky shoreline that runs from Mullaloo Beach (to the south) through to Burns Beach (to the north). There is a mixture of shallow rock platforms, nearshore reefs and rocks. The geological setting and subsurface units within the development envelope comprises of calcareous sands that form sandy beaches and Tamala Limestone outcrops that form the cliffs along the coast.

The majority of the subject land contains undulating dunal topography which varies in height up to approximately 12 metres. Modifications to the natural topography have occurred on-site as a result of construction of the existing groyne, car park, boat ramps and club buildings.

The marina is bounded to the west by the Indian Ocean including the Marmion Marine Park 'A' Class reservation. The Marine Park has a high habitat diversity and conservation amenity.

The natural beach to the north of the development will be transient and subject to seasonal wave action. A new and protected man-made beach with safe swimming areas is incorporated into the central location of the development.

The Ocean Reef Marina Site will be bounded on the landward side by the Bush Forever site 325 (BF 325) which spans between Burns Beach and Hillarys. Vegetation on site is largely considered to be in good to very good condition. The Bushfire Management Plan confirms that the site is capable of development. Impacts to BF 325 will be minimised through management techniques including but not limited to:

- Retention of a north-south linkage of remnant vegetation between Ocean Reef Road and the marina area (with the exception of entry roads);
- A Construction Environmental Management Plan will be prepared to address the management of terrestrial construction activities on the site, including clearing and earthworks;
- Rehabilitation of identified areas of remnant vegetation within the project area;
- Fencing and formalised access tracks through BF 325 (using existing cleared areas) to prevent unauthorised access to retained vegetation; and
- Interpretive signage to inform the community of the environmental and heritage values of the area.

The groundwater within the Improvement Scheme area flows in a westerly direction towards the coastline. There are no naturally occurring permanent surface water bodies, wetlands, or ephemeral streams within the Improvement Scheme area.

Water run-off will be captured on site and treated, ensuring pollutants and nutrients in the water are stripped prior to returning to groundwater utilising Water Sensitive Urban Design. This will be done with basins that are vegetated with nutrient stripping plants and designed to avoid mosquito breeding or stagnation of water, whilst maintaining a high aesthetic outcome. The inclusion of rocks, trees, crossing points, information signage and art will provide an opportunity to tell the 'story' of and celebrate water movement across site. Drainage and swale basins will be designed in a way that improves the community's experience of the public realm. Further information is contained in the Local Water Management Strategy for the Ocean Reef Marina.

There is a grade change across the marina site. Whilst some sites and areas of public realm may require retaining structures the aim of the Design Guidelines is to ensure that level changes are integrated into the built form wherever possible and that wall heights in the new works are minimal and that all edges are activated with building or vegetation as opposed to having blank walls.

1.6 Topography and Soil Condition

Ground elevations in the subject site vary from 25 metres AHD in the eastern portion adjacent to Ocean Reef Road, to sea level along the coast to the west. Existing views from ridgelines and focal points into good quality vegetation, both within and external to the site can be retained and utilised to provide a backdrop (a strong and attractive visual edge to the site) to the proposed new development.

The Department of Mines and Petroleum geological mapping indicates that Safety Bay Sand and Tamala Limestone are expected on-site. Based on the results of the Preliminary Geotechnical Investigation for the site, the land is generally sand and limestone and is likely to be underlain by these materials to depths greater than 70 metres. No surface expressions of karst or cavernous features were identified on-site during investigations. The assessed likelihood of the occurrence of caves within the terrestrial component is considered to be "low". The site classification is likely to be "Class A", appropriate for most Perth sand sites, and shallow pad and strip foots are likely to be suitable.

The soil types present do not represent a risk of acid sulphate soils within the terrestrial or marine components of the location.

Development is anticipated to include cut to fill, to obtain desired development levels. The site can be developed in such a way that the cut to fill balance is approximately equal.

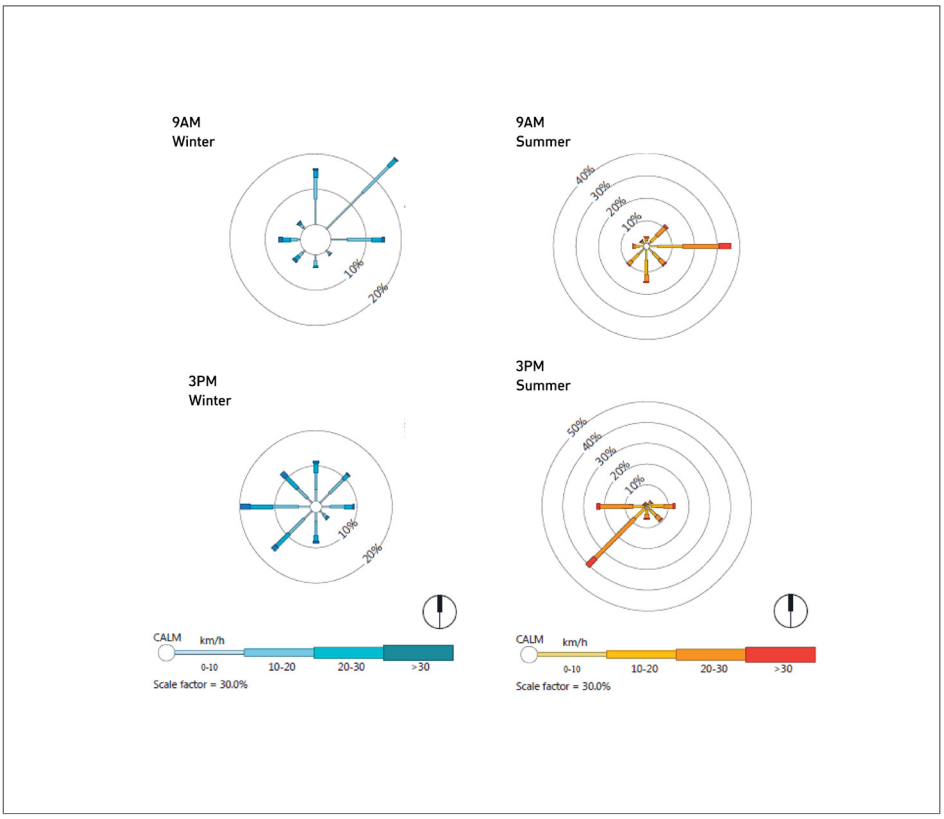


Figure 1: Wind Rose

1.7 Desired Urban Character

For any development within the Marine Enterprise Precinct, the priority shall be given to achieving quality built form, public access and landscape outcomes. The desired urban character of the Marine Enterprise Precinct will:

- Announce the southern gateway to the Ocean Reef Marina with quality built form and landscaping befitting of a world class marina and public waterfront;
- Create key view lines from the Precinct entrance points on land and water which terminate at the marine services site, with good quality buildings framing the southern side of Boat Harbour Quays. The southern edge of the waterside park will be comprised of well designed, high quality buildings, reflecting the prominence of this location.
- Enhance the marine experience of various user groups through a strong sense of orientation, legibility and safety in the designation of areas for particular purposes and by minimising conflict for user groups;
- Provide a location which supports the delivery of infrastructure required for the operation of a high quality marina;
- Achieve a distinctive architectural character that celebrates the unique physical and environmental qualities of the place, the context and the services functions of the precinct.
- Reflect the realities of the harsh coastal conditions and public marine operations through high quality, attractive, innovative and sustainable materials and construction techniques which harmonise with the adjacent marina precincts and surrounding setting; and
- Represent innovation in built form typology, land use functionality, landscape and public domain design

1.8 Sub-Precinct

The Marine Enterprise Precinct is further defined as sub-precincts (Figure 2). The specific sub-precinct objectives are as follows:

Sub-Precincts

The following sub-precincts are relevant to the lots within the Marine Enterprise Precinct:

Ocean Reef Sea Sports Club

Key Attributes:

- To provide an appropriate level of facilities, services and amenity for the club members, guests and marina visitors in the context of the overall marina development profile;
- To ensure safe and convenient access between the development sites and associated boat pens, car and trailer parking, and public access points;
- To facilitate opportunities for visual and physical integration of built form and private realm to provide active edges and passive surveillance of the adjoining jetties, public realm, public beach and mixed-use precinct;
- To provide appropriate, height and mass with a high standard of materiality which reflects the ocean side location, desired urban character and enhances views to the adjacent public realm and waterways; and
- Facilitate a high quality architectural design and expression which befits the prominent location, the vision of a world class marina vision and to positively contribute to the locations setting from all public view points.

Western Marina Services

Key Attributes:

- To provide a range of land uses and functions including sea rescue, boat stackers, research and marine related equipment storage to serve the marina function and marina user groups;
- To provide safe and secure access to associated boat pens, car and trailer parking;
- To ensure appropriate siting, screening and moderation of bulky structures, high bay storage facilities and multi-level boat stackers and to minimise the incidence of large areas of blank facades;
- To ensure the design of land uses and functions give adequate consideration to amenity for the adjacent public realm and land uses; and
- To encourage climate responsive and energy efficient, quality materiality and aesthetic integration with the overall marina.

Eastern Marine

Key Attributes:

- To provide high standard of design quality;
- To provide appropriate locations, access and car parking arrangements for small scale marine services related commercial and retail outlets, additional storage areas and infrastructure;
- To provide sufficient flexibility for future adaptation of this sub-precinct in the event that there may be alternate land uses and functions in the future; and
- To provide appropriate built form, height, mass and a high standard of materiality which considers views from the adjacent public realm to and from this southern gateway site.

Boat Ramp and Trailer Parking

Key Attributes:

- To ensure legible, safe and convenient access between the car and trailer parking and boat pens and boat ramps; and
- To ensure safe and convenient access across the parking area to enable the continuation of the principal shared coastal path for cyclists and pedestrians.
- To ensure appropriate siting, screening and aesthetics for any ancillary storage for marina infrastructure.

Northern Parking and Development

Key Attributes:

- To provide an accessible and prominent location for public parking in close proximity to public parks, the beach and visitor attractions in the Marine Enterprise Precinct and adjacent Mixed Use Precinct;
- To ensure appropriate physical, visual and aesthetic integration within the precinct and the southern marina gateway; and
- To provide sufficient flexibility for future adaptation of this site in the event that there may be alternate or additional land uses and functions in the future.

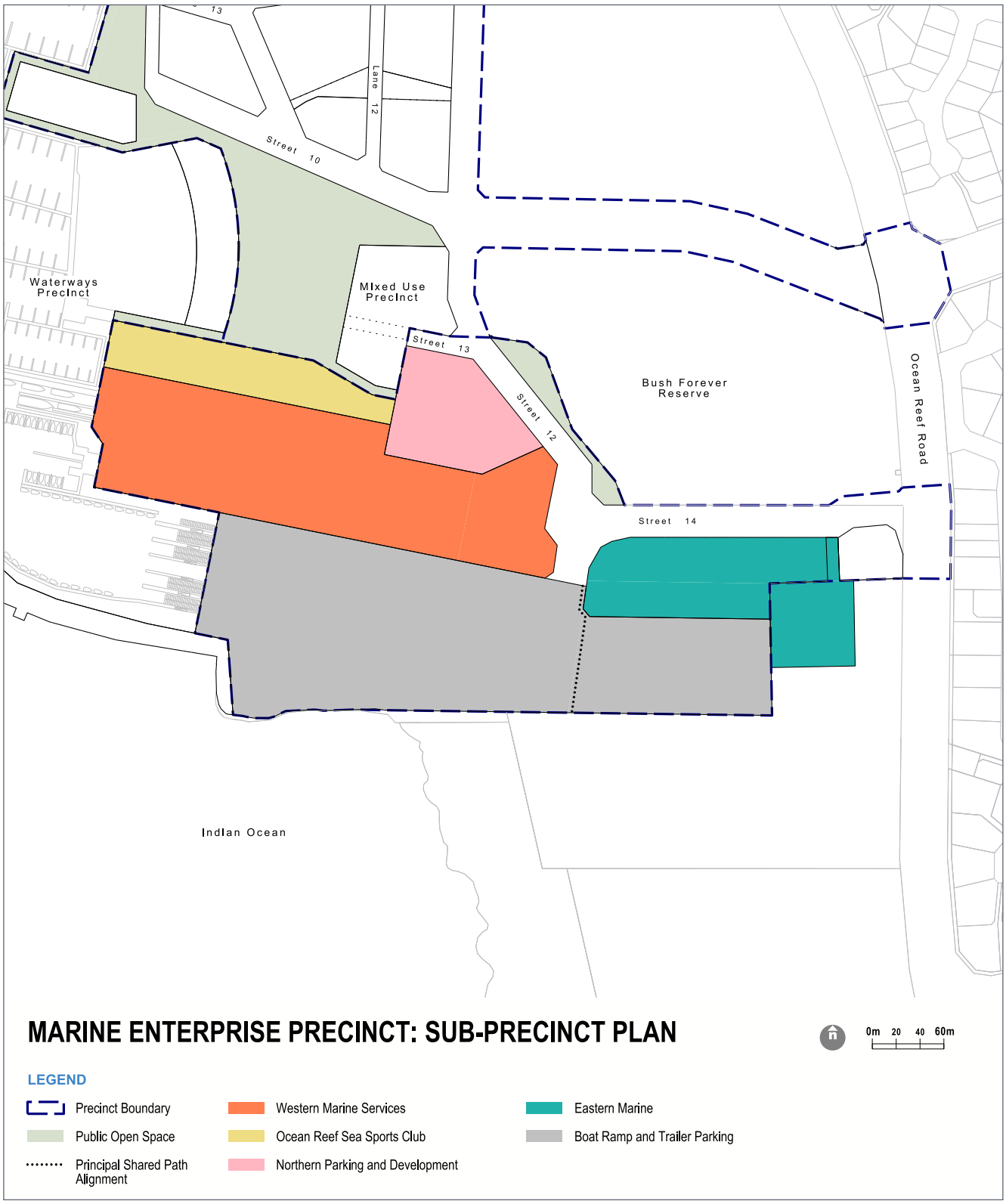


Figure 2: Sub-Precinct Plan

1.9 Design Principles

The guiding principles of State Planning Policy 7 Design and the Built Environment (SPP 7) and the 10 principles of good design provide for the minimum design requirements for development within the Marine Enterprise Precinct.

SPP7 Design Principle	Evaluation	Applicability to Marine Enterprise Precinct	Design Excellence
Context and character	Good design responds to and enhances the distinctive characteristics of a local area, contributing to a sense of place.	A design rationale which reflects and strengthens the special and unique qualities of the precinct, responds to the context of surrounding land uses and the natural environment and which supports the objectives for a world class marina and exemplar marine services precinct.	• delivers an intelligent and highly legible site-specific response to the characteristics of a local area. • is highly responsive to the features and qualities of the natural and built environment. • is highly responsive to Aboriginal culture and history, and significant post settlement heritage. • plays a key role in enhancing a distinctive and memorable identity for the area. • makes a significant positive contribution to the current and intended character of the locality.
Landscape quality	Good design recognises that together landscape and buildings operate as an integrated and sustainable system, within a broader ecological context.	Landscape which provides a high level of amenity for user groups, an appropriate built form setting and which is sustainable in terms of site conditions and development function.	• demonstrates that the enhancement and improvement of local environmental systems, flora and fauna is a priority. • provides significant external amenity by exceeding requirements for establishing habitat and supporting mature trees. • delivers highly-integrated, memorable public and private places that make a significant contribution to local identity and streetscape character. • complements and enhances the current and intended future character of the local area. • is supported by clear and sustainable management arrangements that will maintain or enhance the quality of constructed and natural landscapes over time.

SPP7 Design Principle	Evaluation	Applicability to Marine Enterprise Precinct	Design Excellence
Built form and scale	Good design ensures that the massing and height of development is appropriate to its setting and successfully negotiates between existing built form and the intended future character of the local area.	Design which balances function with appropriate responses to topography, view corridors, gateway location, interface with public realm and adjacent land uses and which does not impact future adjacent development opportunities.	• delivers a highly considered built form outcome (mass and height) that carefully and successfully negotiates between existing local character and an intended future character. • intelligently mitigates negative impacts on the amenity of neighbouring properties. • delivers exceptional and tangible amenity to the public realm.
Functionality and build quality	Good design meets the needs of users efficiently and effectively, balancing functional requirements to perform well and deliver optimum benefit over the full life-cycle.	Development which demonstrates high quality built form outcomes and innovations and exemplary functionality to reinforce the objective for a world class marina.	• employs innovation and creativity to meet the current and future needs of users. • demonstrates functional benefits over the full life-cycle of the development by enhancing operational efficiency, minimising maintenance and incorporating futureproof aspects. • achieves excellent build quality and demonstrates durability of materials, systems and finishes that are well-integrated with the overall design intent and responsive to climactic conditions.
Sustainability	Good design optimises the sustainability of the built environment, delivering positive environmental, social and economic outcomes.	Built form, hard and soft landscape, supporting infrastructure and construction techniques to demonstrate measurable sustainability outcomes.	• demonstrates that the sustainability of the built environment is a priority. • delivers ambitious environmental, social and economic outcomes that will assist promote the identity of the local area as a sustainability hub. • legibly employs passive solar design principles and active sustainability mechanisms across the development and site. • positively contributes to the broader context of natural features and ecological processes.

SPP7 Design Principle	Evaluation	Applicability to Marine Enterprise Precinct	Design Excellence
Amenity	Good design optimises internal and external amenity for occupants, visitors and neighbours, providing environments that are comfortable, productive and healthy.	Land uses, development and associated outdoor spaces to enhance the overall experience of the marina for all user groups and the surrounding community through optimising community benefits and minimising amenity impacts.	• exceeds standard requirements for internal and external amenity for occupants and visitors. • delivers spaces that are generous, welcoming and universally accessible. • makes a significant contribution to the amenity of the public realm. • intelligently mitigates any negative impacts on the amenity of neighbouring buildings and places.
Legibility	Good design results in buildings and places that are legible, with clear connections and easily identifiable elements to help people find their way around.	Development provides legible and convenient access, movement and circulation within the site and facilitates connections where applicable to boat ramps, car and trailer parking, jetties and marine services and pedestrian and cycle paths.	• establishes a very high degree of implicit legibility – at building, site and precinct scales - through built form and landscape design, without reliance upon active mechanisms such as signage systems. • delivers seamless physical and visual integration with broader existing movement networks.
Safety	Good design optimises safety and security, minimising the risk of personal harm and supporting safe behaviour and use.	Design to minimise opportunities for crime, anti-social behaviour and conflict between user groups.	• establishes a very high degree of implicit safety through built form and landscape design.
Community	Good design responds to local community needs as well as the wider social context, providing environments that support a diverse range of people and facilitate social interaction.	Development and precinct services optimise and enhance wherever possible access to sea sports, marine services and facilities for all user groups, clubs and the wider community.	• offers an inclusive and equitable response to local community needs and broader social context, now and into the future. • strengthens communities by promoting active, diverse and vibrant places and spaces.
Aesthetics	Good design is the product of a skilled, judicious design process that results in attractive and inviting buildings and places that engage the senses.	Material selection and built form creates a harmonious and inviting interface at the marina southern gateway location, precinct entrances and public realm interface on land and water and which represents a quality response to the location and climate conditions.	• results in a sophisticated, elegant and coherent design solution at all scales. • establishes a distinctive and memorable identity. • makes a significant contribution to the character of the locality.

1.10 Relationship to Other Planning Documents

These Design Guidelines have been prepared under Clause 16 of the Ocean Reef Marina Improvement Scheme No. 1.

Due regard shall be given to the Design Guidelines in the determination of any subdivision and development applications.

If the provisions of these Design Guidelines are at variance with a requirement of an Improvement Scheme policy, the Design Guidelines provisions shall prevail.

If the provisions of these Design Guidelines are at variance with a requirement of a LDP, the LDP provisions shall prevail.

If the provisions of these Design Guidelines are at variance with a requirement of the Improvement Scheme, the Improvement Scheme provisions shall prevail.

1.11 Document Structure and Use

These Design Guidelines apply to all development within the Ocean Reef Marina Marine Enterprise Precinct, and have been presented as a series of design elements, each dealing with a different aspect of building siting and design. Each design element includes the following sections to assist proponents in preparing their designs and applications:

A statement of **intent** *explains the intended outcome and its relevance to the achievement of the Precinct's vision, aims and objectives.*

The **element objectives** *define the intended outcome underpinning the mandatory acceptable outcomes. Development is to achieve each Element Objective.*

The **acceptable outcomes** *will collectively ensure that the Intent and Element Objectives are met, however are not a comprehensive 'deemed-to-comply' list. The Acceptable Outcomes must be met for all residential development proposals.*

The **design guidance** *section recommends some additional measures by which a development can achieve a higher level of sustainable design, community interaction, and architectural character and are recommendations which assist the achievement of applicable Acceptable Outcomes.*

1.12 Approval Process

Engagement with the Department of Planning, Lands and Heritage (DPLH) should occur to confirm the extent of any design review, as not all Development Applications will require design review.

Development which will generally require design review includes commercial and retail land uses and those developments the subject of contract of sale with DevelopmentWA. Light industrial development and infrastructure associated with marina operations will generally not require design review.

Formal pre-lodgement (Pre-lodgement) will generally not be required for Development Applications not subject to a DevelopmentWA Contract of Sale.

The approval process is set out in Figure 3.

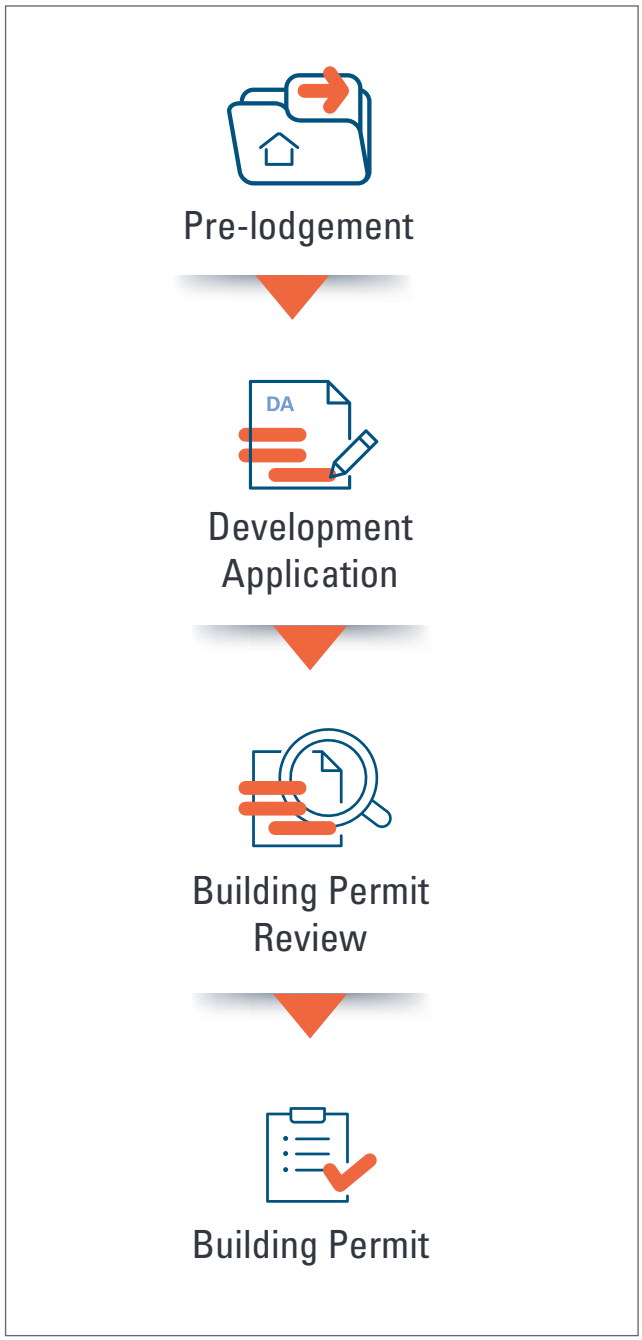


Figure 3: Design Review and Approvals Process

1. Pre-lodgement

- Engage with **Department of Planning, Lands and Heritage** to determine if Design Review is required. If no Design Review is required, proceed to Step 2.
- Proposals for development subject to a DevelopmentWA Contract of Sale or a design review, the applicant submits proposal to **DevelopmentWA** for assessment by the **Estate Architect**
- **DevelopmentWA/Estate Architect** undertake to review the plans through the nominated **Ocean Reef Marina Design Review Panel**, comprised of nominated professionals and government representatives.
- **DevelopmentWA/Estate Architect** endorse plans.

2. Development Application

- Development Application is lodged with **DPLH**, in accordance with the requirements of the Ocean Reef Marina Improvement Scheme.
- **DPLH** formally receives the Development Application and undertakes consultation with government stakeholders for 42 days
- The **WAPC** determines the application within 60 days (if not publicly advertised) or 90 day (if publicly advertised). Advertising is at the discretion of DPLH.
- The **WAPC** issues determination, approval, approval subject to conditions or refusal. Determination is issued to all stakeholders that were consulted.
- Should the applicant be aggrieved by the decision, the applicant has a right to request **SAT** review the decision

3. Building Permit Review

- Building Permit drawings are submitted to **DevelopmentWA/Estate Architect** for approval.
- **DevelopmentWA/Estate Architect** approves Building Permit drawings for submission to the **City of Joondalup**.

4. Building Permit

- Building Permit drawings are submitted to the **City of Joondalup** for approval
- **City of Joondalup** approves Building Permit drawings

2.0

Primary Controls

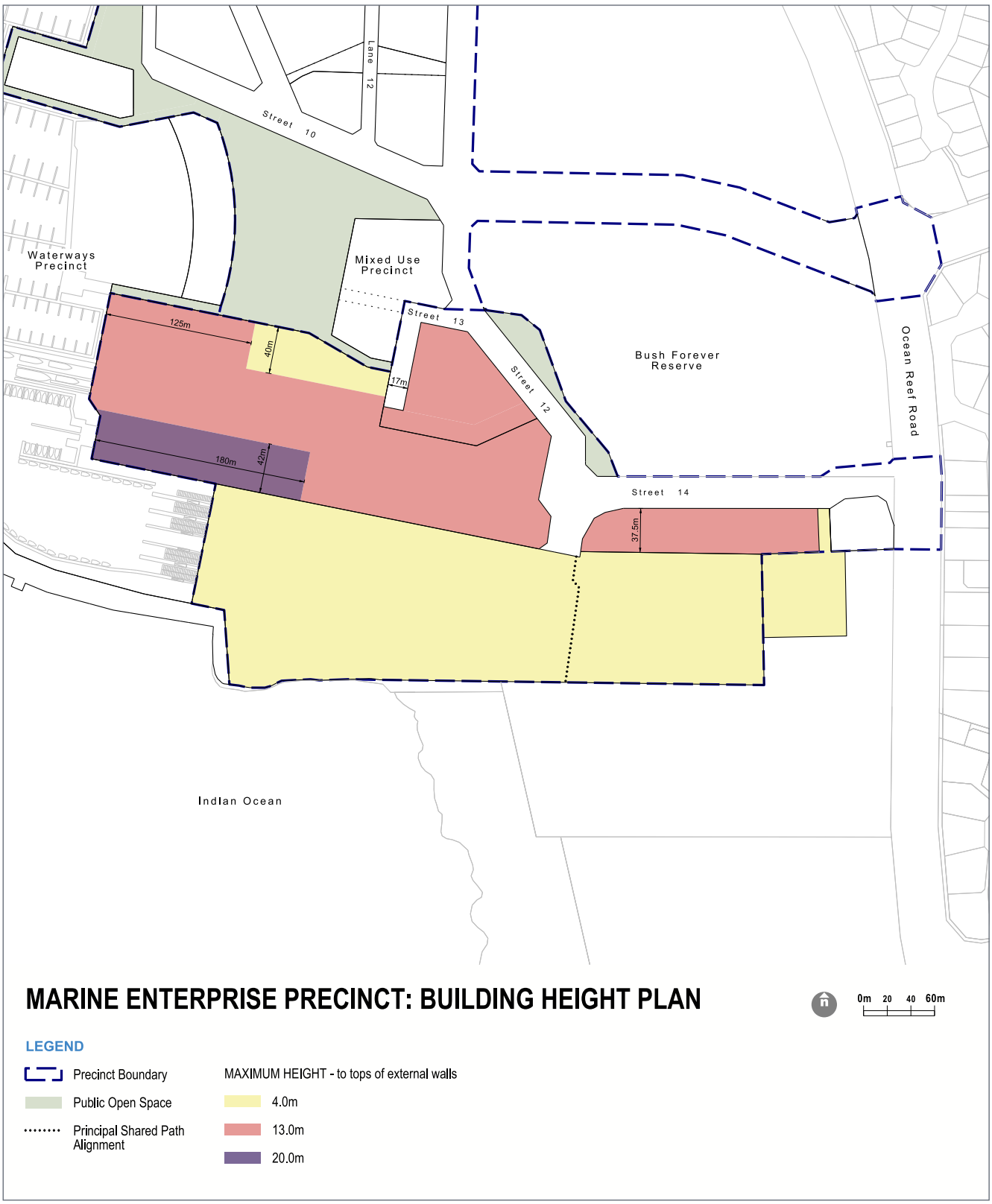


Figure 4: Building Height Plan

2.0 Primary Controls

2.1 Building Height

Intent

The precinct will accommodate buildings for a variety of uses. Flexibility and capacity for building height needs to be provided to optimise the functional operation of marine-enterprise and public-oriented uses. Building height also needs to have regard for the viewscape from the buildings and public realm of the Mixed Use Precinct, and from residences east of Ocean Reef Road.

Element Objectives

1. Control the appropriate height and scale of development adjacent to publicly-accessible interfaces.
2. Enable the possible longer-term above-ground development of the Northern Parking and Development sub-precinct.
3. Provide suitable height and scale separation from adjacent buildings in the Mixed Use Precinct.
4. Facilitate building scale adjacent to key streets and public spaces that contributes to the visual appeal of those environments.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design Response;

3.2 Orientation;

3.5 Public Domain Interface; and

4 Designing the Building.

Acceptable Outcomes

1. Development complies with the building height limit (metres) set out in the Building Height Plan (Figure 4).

Design Guidance

1. The measurement of building height is taken to be from the finished ground level, established through a Local Development Plan or set following subdivision.
2. Roofs, roof-projections and roof-top services should not exceed 3 metres above the maximum height identified on the Building Height Plan, unless required to do so for safety reasons or for a community purpose.
3. Building height greater than that set out in the Building Height Plan may be approved by the WAPC in consideration of site context and purpose.

Image 1: Marina Point Yacht Club

2.2 Setbacks

Intent

Building setbacks in the Precinct are intended to enable efficient use of development land, and to present buildings and landscaping close to key public realm edges as part of creating an appealing precinct.

Element Objectives

1. Setback ensures that active uses have a positive relationship with the public realm, improve streetscape amenity and promote visual interest.
2. Setbacks enable passive surveillance from active-use buildings across the adjacent public realm.
3. Setbacks enable buildings to provide a vertical framing and emphasis in the streetscape environment.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design response;

3.2 Orientation;

3.5 Public Domain Interface; and

4 Designing the Building.

Acceptable Outcomes

1. Development complies with the building setbacks (metres) corresponding with the classifications identified on the Building Interface Setback Plan. (Figure 5).

- Primary Interface building setback requirement: 3m minimum; no average setback distance.
- Mixed Use Interface building setback requirement: nil minimum permitted; no average setback distance.
- Secondary Interface building setback requirement: 2m minimum; no average setback distance.

Design Guidance

1. All building setbacks are subject to compliance with an approved Bushfire Management Plan for the precinct.
2. Where a site has a boundary not classified on the Building Interface Setback Plan, the building setback shall be subject to the approval of the WAPC.
3. Building setbacks proposed to be less than what is specified on the Building Interface Setback Plan can be varied by approval of the WAPC.

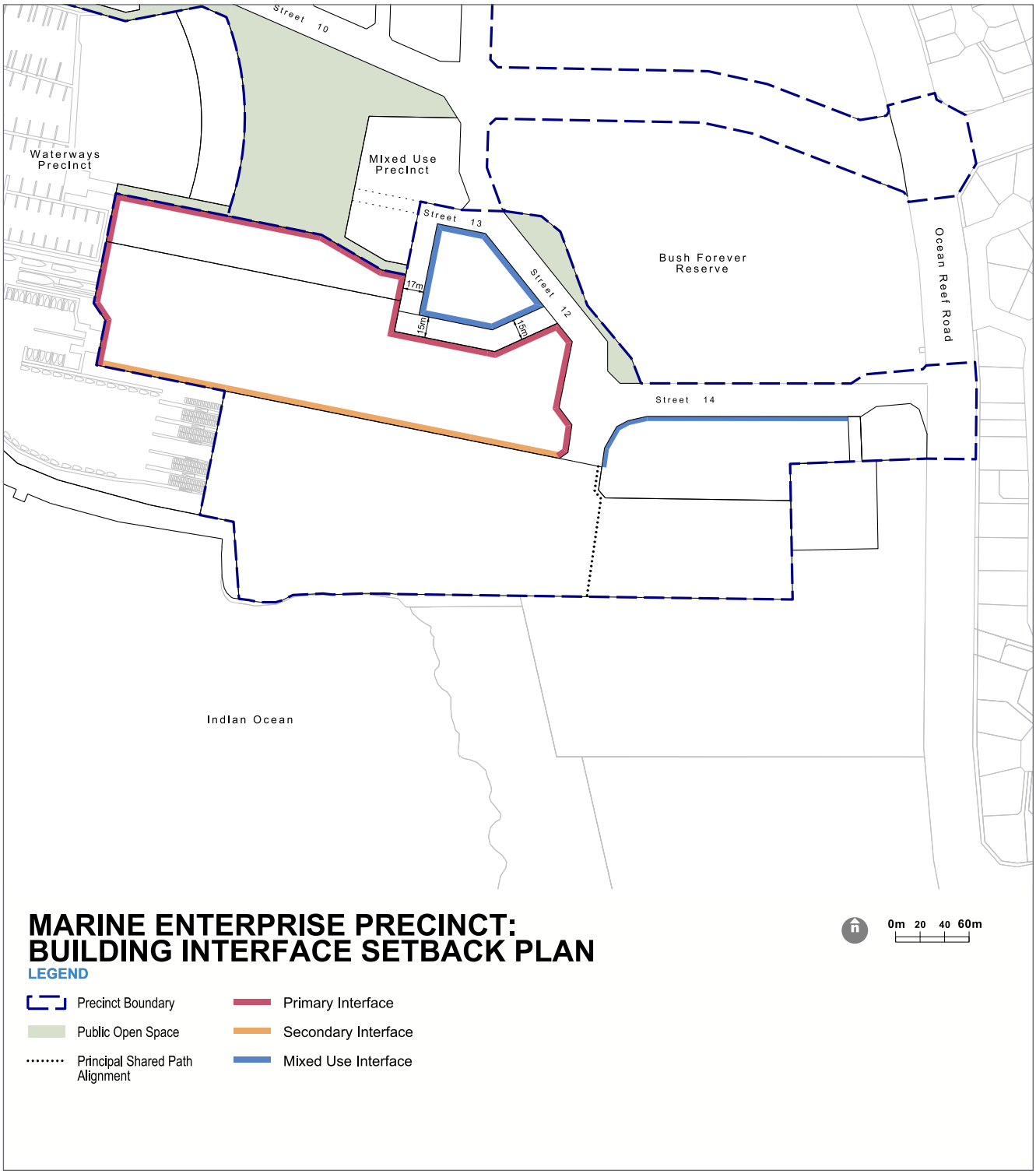


Figure 5: Building Interface Setbacks

3.0

Siting the Development

3.0 Siting the Development

3.1 Site Analysis and Design Response

Intent

The character of the Marine Enterprise Precinct is reminiscent of a maritime theme, consistent with the ocean front location and marina focus of Ocean Reef Marina. This design approach will be developed through a particular palette of materials and colours and architectural features which are of relevance and importance at the interface with the public realm, streets and public open space.

Element Objectives

1. To ensure development provides an appropriate visual, aesthetic and experience when viewed from land and water.
2. To ensure that buildings and public spaces are designed consistent with the maritime theme.
3. To ensure building and public spaces are designed to ensure they remain structurally sound for their expected lives.
4. To ensure appropriate built form at key locations to frame and enhance the public realm experience.

Related Elements

To be considered in conjunction with:

3.2 Orientation;

3.5 Public Domain Interface;

4.7 Façade Design; and

4.8 Roof Design.

Acceptable Outcomes

1. A written and/or illustrated site analysis to be provided which demonstrates how the design response is informed by the site analysis and context including:
   - Location;
   - Local context;
   - Site survey;
   - Streetscape context;
   - Landscape context; and
   - Other relevant site factors.
2. Buildings that terminate vistas from land and sea should address that vista. Special treatment is strongly encouraged that acknowledges that elevation as a point of visual focus.
3. Buildings situated at the intersection of roads/lanes/pedestrian accessways provide landmarks which assist people's understanding of the local environment.
4. Corner buildings are to address both frontages, and a special architectural composition/treatment is encouraged to mark corners and link streets.
5. Buildings will require adequate corrosion protection measures.
6. Consideration should be given to the use of roof sarking, adequate flashings, sloping sills, stainless steel or plastic wall ties, and adequate glazing units.

Image 2: Boat Stacker

3.2 Orientation

Intent

The Precinct is part of a connected marina environment that includes recreation, hospitality, services and commercial uses, and building orientation balances and optimises character, climatic conditions and landscape opportunities.

Element Objectives

1. Built form to respond to proximity to the public realm, open space, views, prevailing climate conditions (sun, wind, rain) and adjacent land uses.
2. Views and vistas from surrounding land uses are maintained and enhanced with orientation of open space and buildings.
3. The proximity to the beach is emphasised through appropriate orientation and layout of public indoor and outdoor spaces and entries.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design Response;

3.5 Public Domain Interface; and

4 Designing the Building.

Image 3: Built form oriented to provide passive surveillance of park

Acceptable Outcomes

1. Buildings with street frontages are to incorporate a legible entrance from the street. Buildings that front or adjoin other public realms such as a park of the waterfront should have clear surveillance of the public spaces. Entrances or transition areas such as alfresco dining to public spaces is encouraged.
2. Buildings that do not have frontages to streets or the public domain are orientated to optimise northern light to public areas.
3. Building orientation and design supports a comfortable, inviting, and safe private public realm and is not detrimental to pedestrian/cycling amenity.
4. Buildings and outdoor areas are designed to provide shade, shelter and protection against the elements for staff and general public, where relevant. Development should maintain strong visual and physical connections with the adjoining public realm.
5. Exposure to harsh environments is minimised through careful siting, orientation and layout of buildings whilst maintaining an open aspect and relationship to the surrounding areas.
6. Outdoor eating areas are encouraged to water frontages, without limiting public access.
7. Club and public facilities such as restaurants and cafés should relate to public pedestrian areas and surrounding public open space.

Design Guidance

1. Consider orientation and apply solar passive design principles.
2. Development to provide passive surveillance to the street.
3. Explore design solutions which optimise appropriate solar access.

3.3 Tree Canopy and Deep Soil Areas

Intent

Trees make a significant contribution to the ecology, character and amenity of a place, and provide habitat for fauna, shade, stormwater management and micro climate benefits within the precinct.

Element Objectives

1. To support tree planting within the precinct.
2. To provide sufficient areas and protection to sustain tree growth and health.

Related Elements

To be considered in conjunction with:

3.5 Public Domain Interface;

4.9 Landscape Design; and

4.11 Water Management and Conservation.

Acceptable Outcomes

1. Deep soil areas (minimum 10% of lot area) are to be provided in a location conducive to tree growth, with minimum dimensions to be consistent with SPP 7.3 Vol 2.
2. Paving, decking and hard stand areas are not to inhibit the planting and growth of trees.
3. Where the deep soil areas cannot be provided due to site restrictions, an area equivalent to a minimum two times the shortfall is provided on the building structure.
4. Minimum tree planting requirements, where practical, are:
   - One tree shading every 4 parking bays.
   - One tree every 6m² in garden beds (or linear metre if long garden bed).

Design Guidance

1. Whole of lot design solutions are required, inclusive of the landscape areas.
2. Deep soil areas and landscape plans to be provided with development applications.
3. Tree and other landscape elements to be consistent with Improvement Scheme Policy No. 2 and Ocean Reef Marina Landscape Masterplan.
4. If extensive planting on the building structure is proposed, consider the use of alternative irrigation systems and water sources such as rainwater or recycled greywater.

Image 4: Tree Lined Car Parks

3.4 Visual Privacy

Intent

Whilst visual privacy may not be an issue or element to be regulated for the majority of the Precinct, the proximity of the northern parking and development site to the Mixed Use Precinct and the potential for adjacent residential and tourist based development sites, requires consideration to ensure compatibility in terms of amenity and visual privacy.

Element Objectives

The orientation and design of buildings, windows and balconies minimises direct overlooking of habitable rooms and private outdoor living areas of neighbouring properties, while maintaining daylight and solar access and ventilation.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design Response;

3.2 Orientation;

4.1 Solar and Daylight Access; and

4.2 Natural Ventilation.

Image 5: Tree Canopy in Boat Trailer Park

Acceptable Outcomes

1. Windows and balconies are sited, oriented, offset or articulated to restrict direct overlooking, without excessive reliance on high sill levels or permanent screening.

Design Guidance

1. Communal space, common and public areas should be separated from private open space and residential windows, particularly to habitable rooms.
2. Design solutions may include:

- Increased setbacks;
- Fencing, trees, vegetation to separate spaces;
- Screening devices; and
- Changes of level.

3.5 Public Domain Interface

Intent

The interface between buildings and the public domain is important to ensure the quality and character of the street. The design of attractive and pedestrian friendly frontages requires well considered arrangements of planting, fencing and site entries.

Compatibility and connection between private and public infrastructure are vitally important and contributes to amenity and creates robust and long-lasting spaces and linkages that are well used. These connections and relationships will support the celebration of the waterfront as an area of leisure, recreation and water-based activities.

Element Objectives

1. To reinforce the Precinct as a tourist destination.
2. To support an active, connected and well used public domain that has regard to the relationship with the marina and land uses within the Precinct.
3. To provide high levels of amenity, connectivity, legibility and orientation for users of the Precinct.
4. To provide visual interest in the building façade.
5. Street facing development and landscape design enhances the amenity and safety of the adjoining public domain.

Related Elements

To be considered in conjunction with:

3.3 Tree Canopy and Deep Soil Areas;

3.6 Pedestrian and Cycle Access and Entry;

3.7 Vehicle Access;

4.7 Façade;

4.9 Landscape design; and

4.11 Water management and conservation.

Acceptable Outcomes

1. Buildings should be oriented to address the street and/or the priority public realm through the appropriate location of their main entries.
2. Ground level frontages should, where possible, have large windows to enable a connection between the interior and the street or public spaces.
3. Where buildings provide a nil setback adjacent to public circulation space, the provision of weather protection to the public footpath in the form of a canopy or awning, 1.5m in depth, is required.
4. Awnings should be detailed to appear as thin, lightweight elements.
5. The minimum height from ground level for a canopy or awning overhanging a footpath is 2.75 metres.
6. Large expanses of solid wall in the built forms fronting onto public spaces is not acceptable and shall be avoided.

Where paving within lot boundaries of private land abuts or is visible from the street or public spaces, effort should be made to coordinate the paving with that in the public areas, in terms of colour, scale and texture. Refer to the Improvement Scheme Policy No. 2 and Ocean Reef Marina Landscape Masterplan.

7. Bins and service areas are not located within the primary street setback and are integrated into the development.
8. Developments which adjoin public parks, open space or bushland, are oriented and finished to positively to address this interface.

Design Guidance

1. A full set of site and floor plans detailing how the design of the building creates an active street frontage to be provided with development applications.
2. Generally, alterations to the existing public paving, on street parking, lighting, tree planting, street furniture and other elements will not be permitted. However, if it can be demonstrated that a superior design solution can only be achieved through the relocation of one of these elements, consideration will be given to such a proposition provided that the relocation is carried out to the responsible authority's specification at the owner's expense.
3. Damage caused to the public domain during construction processes must be made good.

3.6 Pedestrian and Cycle Access and Entries

Intent

The design supports clear movement of pedestrians and cyclists. This arrangement provides a safe and integrated precinct that meets broad planning and urban design principles for healthy and liveable communities.

Element Objectives

1. Architectural, urban and landscape design of sites allows a pathway for pedestrians.
2. Pedestrian and cycling pathways are clearly delineated.
3. Priority is to be given to maximising pedestrian and cyclist safety through the working marina.

4. Related Elements

To be considered in conjunction with:

3.7 Vehicle Access;

3.8 Car and Cycle Parking; and

4.1 Universal Design.

Acceptable Outcomes

1. Continuous public access to all water frontages to be maintained.
2. Building entries and carparks are clearly delineated and are level with the adjacent external pavement level.
3. Weather protection is to be provided to entrances of buildings and should be integral features in the design approach.
4. Consideration should be given to designing access suitable for all user groups including people with impaired mobility wherever possible.
5. Large expanses of solid wall along key pedestrian and cycle routes shall be avoided.

6. Low walls (up to 1.2 metres) are acceptable along the front boundary of developments.
7. Boundary walls of up to 1.8 metres high are permissible if a minimum of 60% of the wall area is permeable and allows passive surveillance of the public domain.

Design Guidance

1. Pedestrian priority should be provided, unless there are safety reasons for the exclusion of pedestrians.
2. Consider clear sightlines to secondary building entries.
3. Where there are multiple entries, consider design treatments that provide a clear visual hierarchy to distinguish communal/public and private entries.
4. Design of access and entries should incorporate Crime Prevention through Environmental Design (CPTED) principles and universal design principles.
5. On large sites, consider provision of pedestrian and cycle links through the site to connect with open space, main streets and public transport.

Image 6: Clear Pedestrian Entries

3.7 Vehicle Access

Intent

Vehicle movement and access are considered as an integral component of the overall site design. Well designed access and circulation areas improve safety and functionality for all users.

Element Objectives

To locate vehicle movement and access locations to optimise amenity along the waterfront.

To balance the needs of boat ramp users, private vehicles, marine services, operational vehicles and emergency vehicles.

To accommodate large marine vessel movement and parking/boat stacking.

Colours and materials for access ways to reinforce the coastal character.

To provide legible and safe access to tenancies within the precinct.

To balance the needs of cyclists and pedestrians with vehicles.

Related Elements

To be considered in conjunction with:

3.5 Public Domain Interface;

3.6 Pedestrian and Cycle Access and Entries; and

3.8 Car and Cycle Parking.

Acceptable Outcomes

1. Designs minimise signage, bollards and other infrastructure at lot frontages and provide a safer and more attractive public realm.
2. The width of vehicle entry points kept to a functional minimum and avoid vehicle standing areas in the street setback.
3. Crossovers shall be limited to one per allotment.
4. Design demonstrates that access points are visible from the street.
5. Entries designed for two-way access and allow for vehicles to enter the street in forward gear.

Image 7: Vehicle Access With Low Signage

Design Guidance

1. Where permitted, crossovers are to be constructed to the specifications of the City of Joondalup, at the owner's expense and will require approval by the responsible authority.
2. Select colours and materials that identify with the built form and streetscape.
3. Ensure a well planned path of travel with sufficient clearance distances and sightlines for large vehicles during preliminary design.
4. The amount of crossovers per allotment may be increased where this is required for safety and functionality purposes.

Image 8: Elizabeth Bay

3.8 Car and Bicycle Parking

Intent

Car parking can have a significant impact on site planning, landscape and building design. As well as other negative impacts if not they are not well planned, such as increased heat gain and stormwater contamination. Poorly planned and designed bicycle parking can lead to conflict between user groups and safety impacts. The design process must balance these requirements to provide sufficient parking to ensure that vehicle and bicycle parking is considered as an integral component of the overall site design.

Element Objectives

1. Parking areas should be well designed and unobtrusive from the street.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design Response;

3.5 Public Domain Interface;

3.6 Pedestrian and Cycle Access and Entries; and

3.7 Vehicle Access.

Acceptable Outcomes

1. Car parking is located in accordance with the Ocean Reef Marina Improvement Scheme Policy No. 3 (as amended), away from open spaces and pedestrian and cycling movement corridors.
2. Public car parks are clearly delineated and signed.
3. Generally, all carparking should be located behind or within buildings away from street view.
4. Generally, all bicycle parking should be at the ground level and not in basement or upper floors.
5. Where a building has direct street frontage car parking shall be to the rear of building unless it can be demonstrated that this will adversely affect the operations of a maritime operation/business. Buildings are encouraged to present a continuous frontage to the public street.
6. Change facilities/end of trip facilities and bicycle storage racks should be provided in appropriate locations at ground floor level/at grade.
7. Where basement carparking is proposed, achieve the following:

- Install carbon monoxide monitoring/controls to carpark exhaust systems; or
- 25% of the total enclosed/semi-enclosed carpark by area is naturally ventilated, or
- 50% of the total enclosed/semi-enclosed carpark has either passive supply or passive exhaust.

Image 9: Car Parking

Design Guidance

1. A parking layout and parking management plan to be submitted with all development applications.
2. The parking plan to demonstrate the number of bays, area for reversing and turning, site gradients and floor to ceiling heights (where applicable) in accordance with the specifications of the responsible authority and the relevant Australian Standards.
3. The parking plan to demonstrate the location and access arrangements for bicycle parking and end of trip facilities in accordance with the specifications of the responsible authority and the relevant Australian Standards.

Image 10: Bicycle Parking Integrated with Dining

4.0

Designing The Building

4.0 Designing The Building

4.1 Solar and Daylight Access

Intent

Climate sensitive design can contribute to significant energy consumption reductions and daylight exposure improves people's wellbeing.

Element Objectives

1. Optimise solar and daylight access for publicly accessible and commercial buildings and open space, considering climate conditions.
2. Incorporate shading and glare control to minimise heat gain and glare.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design Response;

3.2 Orientation;

3.3 Tree Canopy and Deep Soil Areas;

4.7 Façade Design; and

4.8 Roof Design.

Acceptable Outcomes

1. Awnings with large overhangs should be provided over significant openings on the north, east and west to shade public outdoor areas unless it can be demonstrated that an awning will affect the safe operation of a maritime facility or commercial business.
2. Solar panels and solar hot water systems may be visible only where they are located in the same plane as the roof and there is no alternative location that can offer a similar level of solar efficiency

Design Guidance

1. Consider strategies to moderate solar access to ground floor offices and public meeting rooms.
2. Consider pairing shading treatments with performance glazing in public meeting rooms to reduce heat transfer.

Image 12: Alfresco Interface with Promenade

Image 13: Sustainable Development Building, Bond University

4.2 Natural Ventilation

Intent

Good indoor air quality is essential for healthy and comfortable work and public meeting environments. In most buildings this condition can be achieved through natural ventilation. Ventilation in wet areas can reduce the incidence of mould growth. Facilitating natural ventilation may also reduce the need for mechanical ventilation and air cooling.

Element Objectives

Optimise natural ventilation in office and publicly accessible buildings.

Aim to reduce the need for mechanical ventilation and cooling where possible.

Related Elements

To be considered in conjunction with:

3.2 Orientation; and

4.10 Energy Efficiency.

Acceptable Outcomes

1. Buildings are sited and designed to facilitate natural ventilation on all floor levels.
2. Buildings sited and designed to avoid wind acceleration and minimise turbulence.
3. Cross ventilation techniques to capture prevailing breezes through doorways, windows and vents to office and work spaces and public/communal meeting rooms.

Design Guidance

1. Where sufficient natural and cross ventilation cannot be achieved due to constraints such as external noise or poor outdoor air quality, consider ceiling fans and/or energy efficient mechanical air exchange systems.
2. External openable windows should be provided to bath-rooms and laundries wherever possible

Image 14: Barrel Vault Roof Lights

Image 15: Louvred Windows

4.3 Circulation and Common Spaces

Intent

Good design of entries, lifts, stairs, corridors and walkways and the interface with the public realm is essential to facilitate orientation, safety, amenity and a sense of community/social wellbeing.

Circulation and common spaces should meet universal access requirements and be designed with consideration of function.

Element Objectives

1. Circulation places have adequate size and capacity for all occupants and visitors.
2. Circulation spaces have clear legibility, line of sight and good amenity.

Related Elements

To be considered in conjunction with:

3.5 Public Domain Interface;

3.6 Pedestrian and Cycle Access and Entries; and

4.6 Universal Design.

Acceptable Outcomes

1. Circulation corridors are a minimum 1.5 metres in width.
2. Common spaces and corridors have passive surveillance.
3. Common spaces and corridors can be well ventilated
4. Common spaces can be well lit during day and night hours of operation.
5. Common spaces to be multifunctional.
6. Entry common spaces and corridors to create a sense of spaciousness.

Design Guidance

1. Design should ensure secure access where required.
2. Safe and convenient access to common space should be provided.
3. Techniques to 'break up' long corridors (more than 20 metres) and avoid tight corners.
4. Design fire and emergency exits and stairs as an attractive alternative to lifts.
5. Provide motion sensor lighting with low level lighting for after hours security.

Image 16: Marina Office, Edinburgh

Image 17: Adriatic Croatia International Club

Image 18: Whyalla Foreshore

Image 19: Lyttleton Marina Public Edge

4.4 Storage

Intent

Providing dedicated and accessible storage for all user groups can assist in the functionality and efficiency of the overall precinct and reduce the impact of hazards and visual clutter in the public realm and communal areas.

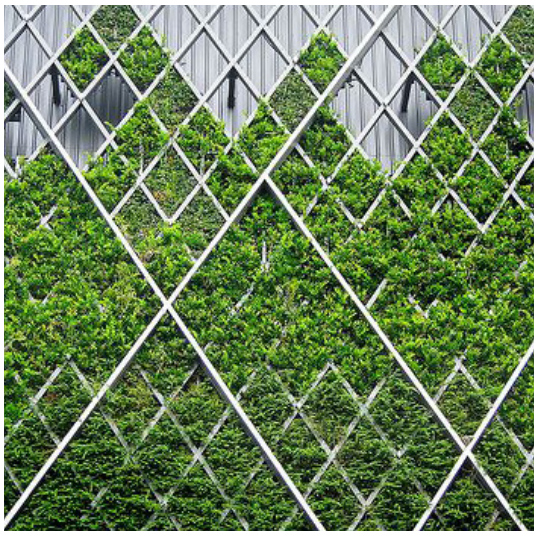


Image 20: Green Vertical Wall Screening Storage Structures

Element Objectives

1. Storage should be secure, fit for purpose, tolerant of prevailing climate conditions and safely and easily accessible.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design Response;

3.2 Orientation;

3.5 Public Domain Interface;

4.3 Circulation and Common Spaces; and

4.15 Security.

Acceptable Outcomes

1. Storage solutions are an integral element of the overall development and built form design.
2. Storage is located away from open spaces and vehicle, pedestrian and cycling movement.
3. All service areas must be screened from public view but are safe and secure.
4. Storage not attached to the primary development or building should not exceed 5% of the site area and comply with overall height controls.

Design Guidance

1. Storage should allow for the largest item to be stored.

4.5 Managing the Impact of Noise

Intent

A high standard of acoustic privacy is required for the amenity of residential and sensitive land uses.

Element Objectives

1. The siting and layout of development minimises the impact of external noise sources and provides appropriate acoustic management.
2. The internal layout and finish of buildings minimises the impact of internal noise sources and provides appropriate acoustic management.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design Response;

3.2 Orientation;

3.5 Public Domain Interface; and

3.7 Vehicle Access.

Acceptable Outcomes

1. Particular attention should be given to construction materials and techniques that reduce noise transmission between buildings.
2. Sound insulation may be required in buildings to mitigate the conditions experienced within a working marina environment.
3. During site and building planning phases, separation of activity areas that may involve potential conflict should be considered.
4. Acoustic treatment of machinery such as air conditioning, lifts and mechanical services to commercial uses is required.
5. Equipment should be located, enclosed and acoustically treated to ensure acceptable noise levels are achieved.
6. Entertainment and hospitality venues to be operated and managed appropriately.

Design Guidance

1. An acoustic assessment undertaken by a suitably qualified acoustic consultant identifying all current and anticipated future noise sources and proposed methods to be undertaken to control and mitigate noise emissions to achieve compliance with the Environmental Protection (Noise) Regulations 1997 for all forms of land use development.

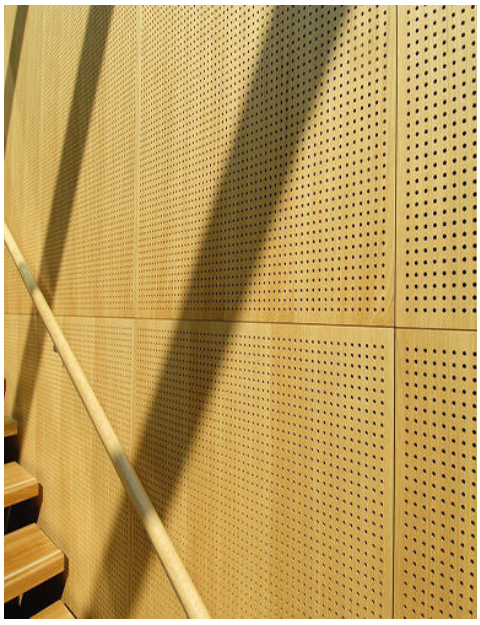


Image 21: Perforated Interior Acoustic Panel

4.6 Universal Design

Intent

Consideration should be given to designing access suitable for people with impaired mobility wherever possible.

Element Objectives

1. To facilitate the optimal access for all user groups and people from all demographic groups and ability levels.

Related Elements

To be considered in conjunction with:

3.5 Public Domain Interface; and

4.3 Circulation and Common Spaces.

Acceptable Outcomes

1. All club, tourist, commercial and service development uses accessible to the public must take account of disabled access as required by the relevant Australian Standards.
2. Design of buildings and public access areas to provide for the accessibility needs of children, families and seniors.

Design Guidance

1. Development and design should consider the use of technology and support systems to assist in the function and accessibility to public areas.

Image 22: Universal Design Mandurah Marina

Image 23: Accessible Change Facilities

Image 24: Interior Universal Design

Image 25: Alternative Points of Access

4.7 Façade Design

Intent

The form and style of buildings should be in keeping with the maritime theme and address the impacts of a working marina environment.

Element Objectives

1. To ensure the architectural character incorporates environmentally sustainable design techniques.
2. To ensure the detailing and material selection is carefully considered, with an emphasis on respecting the marina environment through the use of sustainable, high quality and durable materials.
3. To enable a connection between the interior and the street space at ground level frontages, with particular consideration of areas of high pedestrian traffic.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design Response;

3.2 Orientation; and

3.5 Public Domain Interface.

Acceptable Outcomes

1. The architecture acknowledges, responds to and celebrates the immediate site context.
2. Passive climate design strategies are integrated into the design of the facade.
3. Façade materials and form are varied and visually appealing.
4. Negative climactic conditions such as overshadowing, wind acceleration and turbulence are minimised.
5. Large areas of blank wall will not be accepted on the front and/or street façade or where visible from the street or other public spaces.
6. Where walls without glazed penetrations are unavoidable, other design features should be incorporated, such as colour and texture variation.
7. Modulation will be sought through placement of windows and openings, balconies and material changes.
8. Colour, texture, material and detail are important, to provide scale and visual interest and to 'break up' large building façades.

Design Guidance

1. Development applications should be accompanied by elevation illustrations and streetscape information to demonstrate the development in context and at the interface with the public realm.
2. Innovation in the use of materiality is encouraged.

Image 26: Use of Timber Throughout Facade

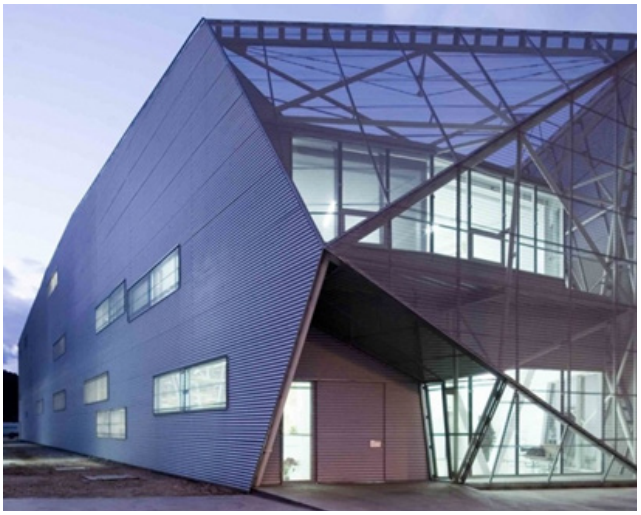


Image 27: Studio Business Suite

Image 28: Geelong University

Image 29: Deep Bay Field Station Building

Image 30: Glass Box, elevated and illuminated façade

Image 31: Glass Box Illuminated Façade

Image 32: Anodised Metal Façade

4.8 Roof Design

Intent

The design of the roof and 'top' of the building is an important element of the overall design and can contribute to place identity and orientation.

Element Objectives

1. Roofs should be detailed to create the effect of visual lightness.
2. Roof form variety is encouraged.
3. Roof forms provide architectural interest and design quality.

Related Elements

To be considered in conjunction with:

3.2 Orientation;

4.1 Solar and Daylight Access;

4.2 Natural Ventilation; and

4.7 Façade Design.

Acceptable Outcomes

1. Design solutions are to complement the façade and structure.
2. Roof design to respond to the marine environment and unique marina character, incorporating materials such as metal deck roofing, shingles or slate.
3. Large overhangs should be provided over significant openings on the north, east and west and to shade outdoor areas.
4. Building services located on the roof are not viewed from street level.
5. Solar photo voltaic panels are encouraged on roof tops including boat stackers.
6. Solar panels to be at the same pitch as roofs.

Design Guidance

1. Consider opportunities for usable and green roof spaces for communal use.

Image 33: Roof Top Solar

Image 34: Chandlery, Friday Harbour Canada

Image 35: Vic Innovation Hub

Image 36: Elizabeth Bay Marina

4.9 Landscape Design

Intent

Good landscape design integrates built form development with existing ecology, climate, natural systems and development function to enhance the amenity of occupants and visitors.

Element Objectives

1. Landscape design enhances streetscape.
2. Landscape design is integrated with the building architecture.
3. Plant and material selection is appropriate to site conditions.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design Response;

3.2 Orientation;

3.3 Tree Canopy and Deep Soil Areas;

3.5 Public Domain Interface; and

4.3 Circulation and Common Spaces.

Acceptable Outcomes

1. Use permeable pavements to promote greater on site water absorption and reduce run-off.
2. Hard landscaping materials are to include one or more of the following materials:
   - Reused or salvaged materials;
   - Materials which have a recycled content (e.g. park furniture made from recycled plastic); and/or
   - Concrete with less than 30% supplementary cement materials or less than 30% of recycled aggregate.

Design Guidance

1. Select suitable trees such that the mature tree size, form and scale is appropriate to the street space and the building mass.
2. A detailed landscape plan identifying all on site hard and soft landscape (where applicable) and demonstrating compatibility with the public realm is to be submitted with all development applications.
3. The landscape plan should include the identification of deep soil zones, tree species and materiality of hard elements.

Image 37: Landscaped Entry Statement

Image 38: Landscaped Verge and Footpath

Image 39: Coastal Landscape Character

Image 40: Universal Access Pathway

Image 41: Rest Places and Passive Surveillance

Image 42: Passive Open Space Amenity

4.10 Energy Efficiency

Intent

The precinct is intended to demonstrate innovation and sustainable design principles, with acceptable outcomes identified which will achieve this intent.

Alternatively, in lieu of demonstrating compliance with the listed acceptable outcomes under 4.10, as an alternative developments can achieve a minimum 5-Star Green Star rating using the Green Star Building Tool, including official Green Star certification.

Element Objectives

1. Buildings and public spaces should be designed to be energy efficient.
2. Particular attention should be given to the principles of passive solar design in building orientation, construction and material selection.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design Response;

3.2 Orientation;

3.3 Tree Canopy and Deep Soil Areas;

4.1 Solar and Daylight Access; and

4.2 Natural Ventilation.

Acceptable Outcomes

1. Energy efficient services and appliances should be chosen. Timers and/or motion sensors for carparks, outdoor spaces and low use areas such as store rooms and toilets to be provided.
2. Construction materials may be chosen from renewable sources and with regard to their embodied energy levels.
3. Lightweight framed and insulated construction (i.e. low thermal mass) should be used externally, especially on exposed east and west façades.
4. Where masonry construction is used externally on east and west facing façades, these should be appropriately insulated to minimise heat transfer between outside and inside.
5. Masonry (high thermal mass) materials should be used internally to retain internal ambient temperature where a building is likely to perform a public purpose.
6. All windows in excess of 0.6m^2 on the east and west facades should be protected from the summer sun.
7. Verandahs and pergolas should be used to provide shade to large openings in east and west façades.
8. All doors and windows should have good draft seals.
9. Buildings that adjoin a public street should have a canopy to at least 50% of its length.
10. Outdoor living areas should be designed and located to maximise protection from strong winds.
11. Ceiling spaces should be ventilated to assist passive cooling.
12. Double glazing should be considered for large areas of glass to limit heat transmission.
13. Confirm overall reduction in greenhouse gas emissions beyond the regulatory requirements set out in the Building Code of Australia.

Design Guidance

1. Insulation to roofs is encouraged and details should be provided with applications for building permit.

Image 43: Solar Panels Integrated into Awnings

Image 44: Wind Turbines

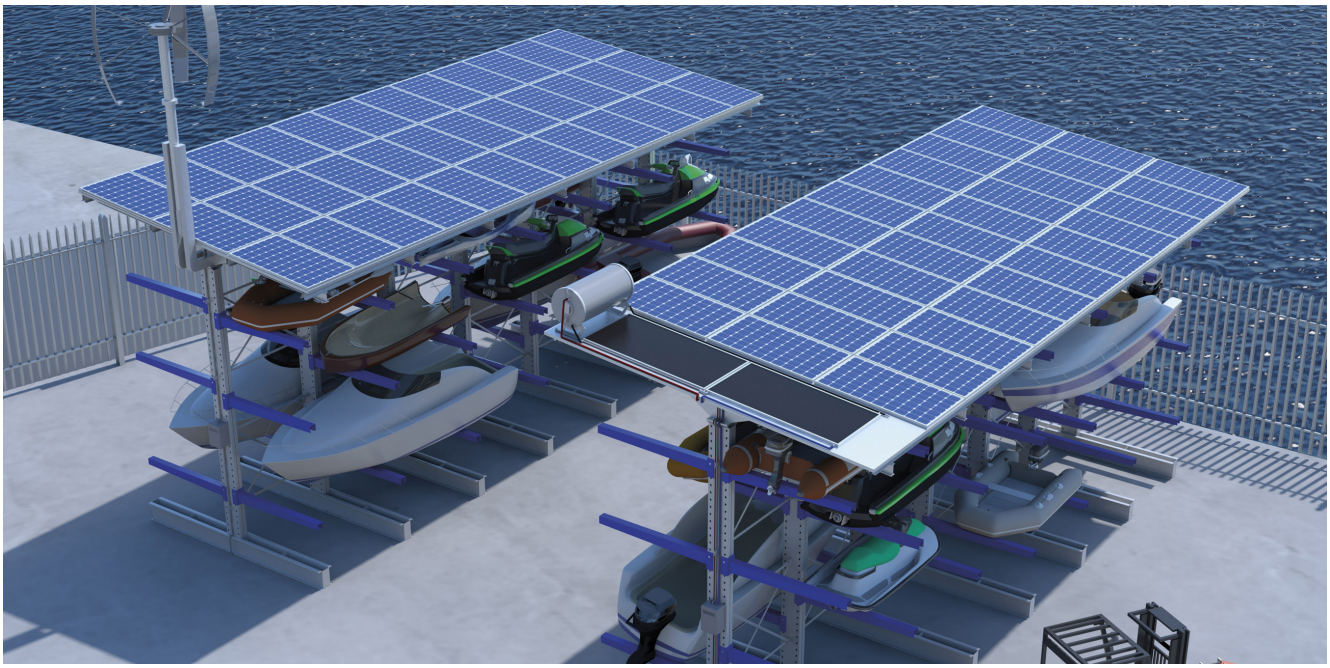


Image 45: Solar and Wind Clean Energy Solutions

4.11 Water Management and Conservation

Intent

Effective water management techniques and consideration of the whole of water cycle can support sustainable landscape and open space and reduce water consumption in accordance with the Ocean Reef Marina Local Water Management Strategy.

Element Objectives

1. Minimise potable water consumption.
2. Manage stormwater runoff on site.
3. Reduce and manage the risk of flooding.
4. Development to minimise potential for nutrient runoff.

Related Elements

To be considered in conjunction with:

3.1 Site Analysis and Design Response;

4.3 Circulation and Common Spaces;

4.8 Roof Design; and

4.9 Landscape Design.

Acceptable Outcomes

1. Development design to respond to Water Sensitive Urban Design principles.
2. Development to include technologies to harvest rainwater and stormwater. Development to include resource efficient appliances and machinery.
3. Use of permeable paving to minimise run-off and biofiltration swales in parking areas.
4. 1:1 year ARI event rainwater to be treated on site. All lot connections to include sediment traps prior to infiltration.
5. Demonstrated reduction in potable water consumption for irrigation.

Water Efficiency Acceptable Outcomes

1. Where fitted, all showers to be minimum 3-star Water Efficiency Labelling and Standards (WELS) rated with maximum 7.5L/min consumption.
2. All basin taps to be 6-star WELS rated.
3. Dishwashers of a minimum if 4.5-star WELS ratings, and a minimum 4-star WELS rating for washing machines.
4. All other taps excluding outdoor and bath taps to be 4-star WELS rated.

Alternative Water Sources Acceptable Outcomes

1. All external landscape irrigation and toilets are to be plumbed to precinct alternative water source if available.

Image 46: Permeable Tree Protection

Image 47: Permeable Hard Landscape

4.12 Waste Management

Intent

Waste management processes and facilities should be integrated into development built form and shared public spaces offering convenient, efficient and sustainable waste management.

Facilities and servicing of these facilities should be planned and located to minimise visual, acoustic and physical amenity impacts on the public.

Element Objectives

1. Waste storage and management minimise negative impacts on the streetscape, building entries and the amenity of residents, workforce and visitors.
2. Waste to landfill is minimised by providing safe and convenient collection points and information on separation and recycling.

Related Elements

To be considered in conjunction with:

3.5 Public Domain Interface;

4.3 Circulation and Common Spaces;

4.4 Storage; and

4.5 Managing the Impact of Noise.

Acceptable Outcomes

1. Waste storage to be provided in accordance with the WALGA Commercial and Industrial Waste Management Plan Guidelines.
2. Communal waste to be screened from view from the public domain, including public open space and streets.
3. Design on site vehicle access and circulation to suit waste management requirements.

Design Guidance

1. Explore opportunities for whole of waste cycle management from generation, disposal, storage and collection.
2. A waste management plan may be required to accompany a development application.

Image 48: Waste Collection Integrated into Public Realm

Image 49: Public Recycle Bins

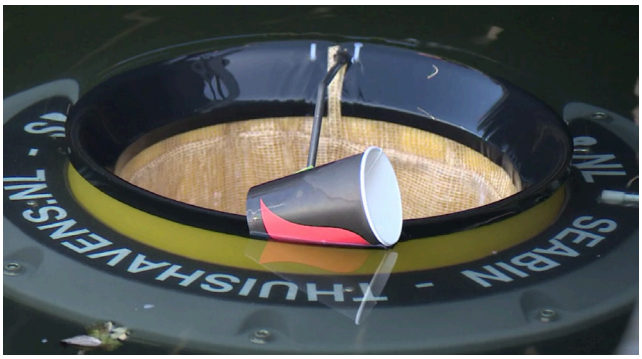


Image 50: Floating Seabin

4.13 Utilities

Intent

Care should be taken when considering the position of all services fixtures to ensure that the placement of such services has a minimal impact on the visual amenity when viewed from other developments and public vantage points, as well as not to detract from the architectural design of the building to which they service.

Element Objectives

1. All utilities located to be accessible.
2. Utilities are not visually intrusive on the street or open space within the precinct.

Related Elements

To be considered in conjunction with:

3.5 Public Domain Interface;

4.3 Circulation and Common Spaces;

4.9 Landscape dDesign; and

4.15 Security.

Acceptable Outcomes

1. All service fittings, fixtures and rubbish bin storage areas to be screened from public view.
2. All piped and wired services, air-conditioners, clothes drying areas and hot water storage are to be concealed from the street and public view by being:
    - Incorporated within the external walls and roof;
    - Located to the back of developments; or
    - Concealed by elements that are consistent with the building.
3. If services must be located on the ground level and adjacent to a roadway or public open space or reserve, as a result of service provider requirements, or where no other alternative exists, the unit must be suitably screened by aluminium or hardwood battening, louvered screens or other material, in a finish equivalent or to match the external walls of the building, or screened by appropriate landscaping.
4. Service units should be prevented from being hung on external walls where possible. Where there is no alternative, a unit hung from an external wall is to be screened from view using materials that match the finish of the wall to which the unit is attached.
5. Any satellite dishes are to be concealed from public view.
6. Solar panels should be installed at an appropriate pitch and integrated into the overall design of the roof/building.
7. Solar panels may be visible only where they are located in the same plane as the roof and there is no alternative location that can offer a similar level of solar efficiency.
8. Where a lift is proposed, demonstrate consideration of lift power systems which are energy efficient and environmentally friendly.
9. Where a HVAC system is installed, one of the following should be achieved:
    - HVAC system designed to automatically shut down when not in use.
    - HVAC system designed to allow a wider temperature control band when not in use.
    - Install carbon dioxide monitoring devices to single HVAC systems.

Design Guidance

1. Requirements of service providers to be well integrated into the building façade.
2. Consider the provision of communal facilities.

4.14 Signage

Intent

A high standard of private signage is expected.

Element Objectives

1. Signage is to minimise visual clutter and reduce the collective amount.
2. Signage is to be sustainable, high quality and durable.

Related Elements

To be considered in conjunction with:

3.5 Public Domain Interface; and

4.7 Façade Design.

Acceptable Outcomes

1. Signs attached to buildings are to be aligned with and relate to the architecture of the building and should not obscure architectural features.
2. Signs attached to buildings including awnings and canopies shall have a minimum clearance of 2.75m.
3. In buildings with numerous tenants, consolidated shared signage is preferred or alternatively a maximum of one sign per tenancy.
4. Pylon signs are not permitted unless they specifically relate to the architecture of a building.

Design Guidance

1. A signage concept plan can be submitted in conjunction with each development application to demonstrate compliance, including:
    - The proposed signage supports the amenity of the locality by demonstrating high quality design that complements the building, and locality, and includes durable materials and high quality construction standards
    - The proposed signage supports the Precinct vision by demonstrating restraint in scale, size and collective amount of signage, appropriate to the site
    - The proposed signage contributes to a safe and legible public realm by not creating visual clutter or limiting passive surveillance which may compromise public safety.
    - Either a sign licence or development approval will be required from the responsible authority.

Image 51: Gas Station

Image 52: Over-entry Signage

Image 53: Entry Signage

Image 54: Freestanding Signage

Image 55: Wall Signage

4.15 Security

Intent

Building design should contribute to the creation of a safe public environment.

Element Objectives

1. Avoid dead-end spaces and areas of potential entrapment.
2. Ensure that all public areas and areas used/ accessed by the public are subject to casual surveillance from surrounding properties.
3. Avoid a predominance of security fencing and facilitate an open aspect to the precinct.

Related Elements

To be considered in conjunction with:

3.5 Public Domain Interface;

3.6 Pedestrian and Cycle Access and Entries;

3.7 Vehicle Access;

3.8 Car and Cycle Parking; and

4.7 Façade Design.

Acceptable Outcomes

1. Except for front fences, boundary fences may be up to 1.8 metres in height, subject to them being and visually permeable above 1 metre.
2. Front and side fences forward of the building not to exceed 1.2 metres in height.
3. At primary interfaces with areas of public realm, as per Figure 5, fencing is to be avoided and alternative forms of boundary definition is encouraged

Image 56: Alfresco Overlooking Public Realm

Image 57: Artistic Car Park Security Screen

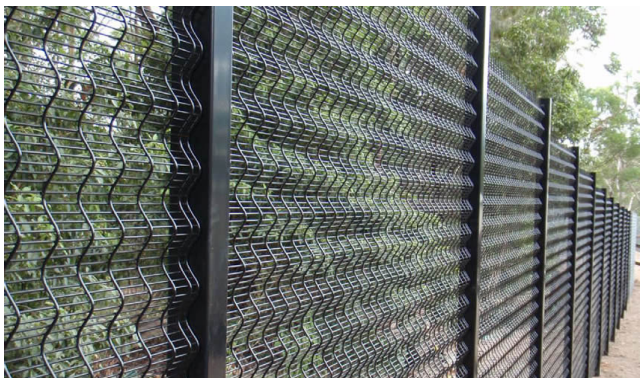


Image 58: 3D Curved Welded Fencing

4.16 Temporary Structures and Buildings

Intent

The Marine Enterprise Precinct should have a high quality character which is maintained through good design and layout of the buildings, landscape and functional spaces within the precinct. Whilst it is accepted that some temporary facilities and structures may be required from time to time, the location, quality and purpose of these elements should be carefully considered and should not detract from the overall structure, appearance and function of the precinct.

Element Objectives

1. To limit the amount of temporary structures and facilities to ensure the physical and visual quality and amenity of the precinct, particularly areas open to the public are maintained.
2. To guide the installation of appropriate temporary structures and facilities to facilitate enjoyment and activity in the precinct.

Related Elements

To be considered in conjunction with:

3.5 Public Domain Interface;

4.3 Circulation and Common Spaces;

4.6 Universal Design; and

4.15 Security.

Acceptable Outcomes

1. Temporary structures and facilities to remain in place no longer than 12 months.
2. Temporary facilities and structures to be only located in locations where health, safety and environmental standards can be maintained.
3. Siting of temporary structures and facilities should not create a potential risk to public safety, or detract from the streetscape, character, amenity or environmental attributes of the precinct.
4. The structural integrity and stability to meet relevant Australian Standards and National Construction Code requirements.
5. To ensure the development is sympathetic to the character of the precinct.

Design Guidance

1. Unless used for the purpose of entertainment, hospitality and events temporary structures and facilities should be screened from view from the street, mixed use precinct interface and communal spaces and circulation areas.

Image 59: Trimo Modular Units

Image 60: Cube Tent Structure

4.17 Construction

Intent

It is envisaged that the Precinct will exemplify sustainable development principles which collectively contribute to the achievement of a six leaf EnviroDevelopment rating. In addition to environmentally sustainable development practices development within the M Precinct is also to use sustainable materials and construction methodologies, as outlined by the following Acceptable Outcomes.

Acceptable Outcomes

1. All building construction to engage reputable Waste Management Recycling Company who can commit to achieving an >80% recycling rate, and can monitor and verify recycling rates.
2. All concrete is to be composed of no less than 30% supplementary cementious materials (SCM). Additionally, two of the following are required:
    - Steel with a recycled content of ne less than 15%;
    - Pre-cast panels with no less than 15% supplementary cement materials;
    - Certified structural timber;
    - Bricks containing a recycled content of no less than 25%;
    - Reused materials are utilised for no less than 30% of the structure.
3. Building services shall achieve one of the following:
    - 25% of the total cost of Polyvinyl Carbonate (PVC) content is reduced through replacement with alternative materials;
    - PVC content is sourced from an ISO 14001 certified supplier;
    - Alternative products are use in preference to sheet metal.
4. Furniture, fixtures, equipment and finishes uses shall achieve on of the following:
    - Underlay consists of 95% recycled product;
    - Minimum 50% of the carpet has a rating of level 2 or greater under the Australian Carpet Environmental Classification Scheme;
    - Joinery is PEFC or FSC certified;
    - Materials which have a recycled content of no less than 60%.
5. Emissions shall be reduced by achieving two credits of the following:
    - Use low emission paints on no less than 95% (1 credit) or 100% (2 credits) of internal and external painted surfaces.
    - Use low emission sealants on no less than 95% (1 credit) or 100% (2 credits) of internal and external painted surfaces.
    - Use low emission adhesives on no less than 95% (1 credit) or 100% (2 credits) of internal and external painted surfaces;
    - All composite and engineered wood products (including exposed and concealed applications) comply with the following formaldehyde emission levels (or equivalent):
        - Panels with Particleboard base: E1 or better;
        - Panels with MDF base: E0 or better;
        - Other engineered wood products (LVL Glulam, Cross Laminated Timber, plywood etc) better than E0.

6. The building envelope uses one or more of the following four materials:

    - Timber window frames which are Programme for the Endorsement of Forest Certification (PEFC) eg, Australian Forestry Standard (AFS) or Forest Stewardship Council (FSC) accredited;
    - Aluminum windows which contain less than 20% recycled aluminum or glass by mass;
    - Plasterboard consists of less than 10% recycled gypsum; and/or
    - Plasterboard consists of recycled paper.

Image 61: Six Star V&A Waterfront, SA