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5.1 Concept Approach to the Plan

Consistent with the vision, Cockburn Coast is set to become the manifestation of contemporary urban sustainability; contemporary by expression of current knowledge and future aspiration; urban by design and by the intensity of development; and sustainable by restorative intervention.

The Plan celebrates its unique coastal and urban geography. It responds to sense of place and seeks to be connected and relevant to established communities.

Cockburn Coast will build on the existing infrastructure to create a new benchmark for mixed use and coastal neighbourhoods. It will become a major new attraction for the south-western metropolitan area of Perth.

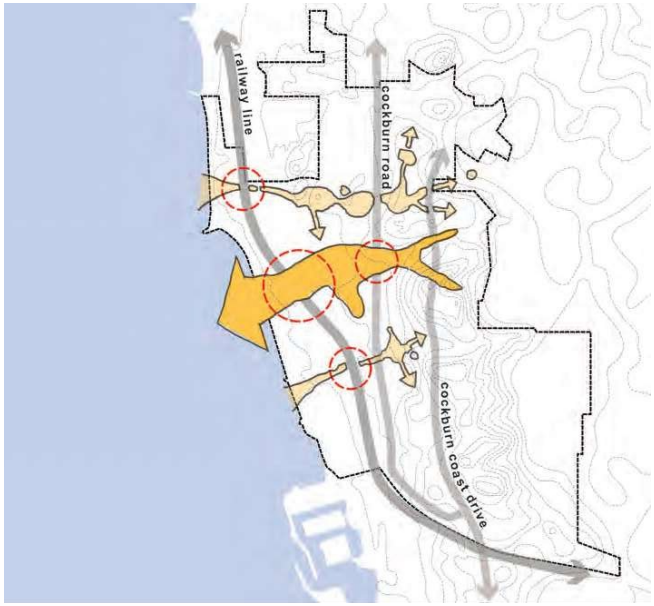
The Cockburn Coast DSP Part 2 has been developed to directly respond to the project opportunities identified through the Visioning process detailed in Chapter 2. The key drivers and structural elements that have influenced the preparation of this document are:

- Sustainability and green infrastructure
- Integrated transport planning process
- A hierarchy of coastal activity nodes
- Development oriented transit system
- A vibrant and robust economy
- Bring the 'coastal experience' into the site
- Physical links to the coast
- New east-west linkages to the coast

More intense development around key transport nodes, led by light rail or rapid bus transit

East-West connections required to overcome the north-south physical barriers

Develop a hierarchy of east-west linkages



Draw people to the coast and bring the coastal experience into the site

Create hierarchy of key nodes on the coast

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5.2 Urban Framework

The Urban Framework helps to define design vision, presenting a holistic image of the area whilst focusing on design quality at a local level. Within Cockburn Coast, key elements such as land use, movement networks, and built form outcomes are detailed in order to provide an overarching framework for the area. In providing a more detailed, localized vision, focus has been given to a number of key urban nodes. Statements of desired character demonstrate the varying and complementary nature of areas with Cockburn Coast.

5.2.1 Movement Network

The Cockburn Coast Movement Network incorporates vehicular, rail/freight, pedestrian and bicycle traffic. The creation of safe and accessible movement paths is paramount, made available through good design, through surveillance, visibility, and connectivity.

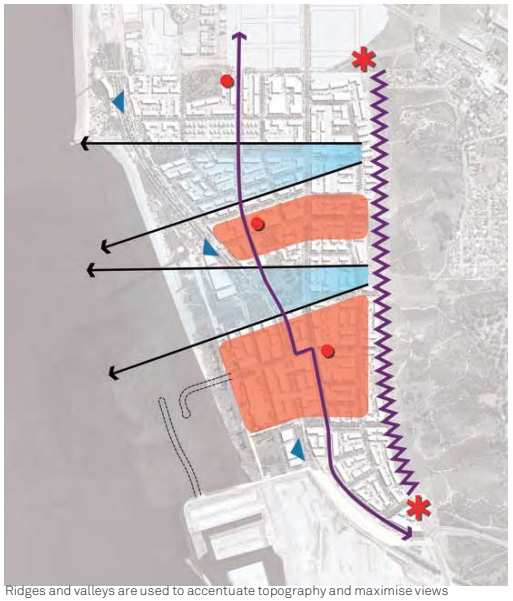
As the existing network runs primarily north-south, there has been an introduction of east-west connector roads, green corridors and paths. The result is a new urban grid, demonstrating a higher level of permeability and legibility. It has been designed to provide a greater level of connectivity, universal access to the ocean as well as key nodes across the site. Public transport is integral to this, with the proposed north-south route (west of Cockburn Road) permeating key activity nodes, allowing external access to the coast and promoting a pedestrian oriented environment.

The urban grid is permeated intermittently by green corridors, promoting pedestrian access and providing interstitial spaces of activity and amenity. They provide a physical link from the ocean to the ridge, and the regional park beyond. The corridors create a break in the urban form, opening additional vistas to the sea. The placement of roads and green corridors is designed to respect the natural topography of the area, minimizing unnecessary impacts on the landscape whilst maximizing view corridors.

5.2.2 Built Form

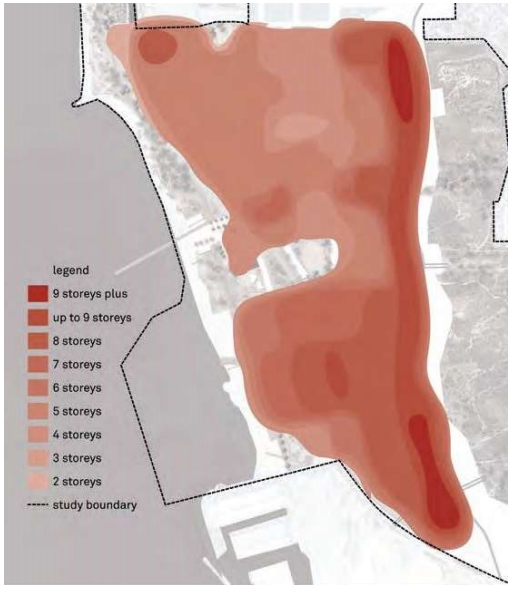
The approach to the urban framework informs the rationale for the distribution of land use, yield, density, typology and height which have been fundamental in resolving private landowner / stakeholder aspirations for their land in the project area. In essence greater density is structured along the key road alignments and major activity nodes with greater height permitted at key junctions and entry points to the project area. Taller buildings also follow the topography with the opportunity for height on the ridgeline to the east of the project area, the distribution of which is dependant on further assessment of views at the Local Area Structure Planning phase.

A connected grid structure drives the movement network



Ridges and valleys are used to accentuate topography and maximise views

Hierarchy of activity nodes and structuring green linkages



Approach to distribution of height

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Future transit route and connection to South Fremantle

Future connection to Rockingham Road and Cockburn Coast Drive

Catherine Point Reserve future cafe and recreation hub

Primary north-south local and distributor road

Landscape ecological corridor

Future Cockburn Coast Drive Reserve

Cockburn Road landscape boulevard

Robb Jetty 'main street' local centre

Robb Jetty beach front urban plaza

Future 'urban' primary school and district playing fields

Parkland Corridor

Ridgeline development

Power station commercial, hospitality and tourism centre

Beeliar Regional Park bushland

Gateway development sites

Figure 27: The District Structure Plan (Part 2)

Power Station Precinct

South Fremantle Power Station

Cockburn Road

Green Corridor

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Architecture and Design

Cockburn Coast is primarily a residential development with key nodes of commercial/retail activity at Robb Jetty Main Street, South Fremantle Power Station, and to a lesser extent Catherine Point Reserve. The majority of the future building stock is to be medium/high density residential development with pockets of terrace/row housing and high density development on the eastern ridge. Mixed use development is focused along Cockburn Road. A public purposes site earmarked for a school lies on the corner of Cockburn Road and Robb Jetty Main Street.

Generally built form at Cockburn Coast will be characterised by a contemporary, high density, mixed use urban environment. Buildings will generally be three storeys or higher responding to the objective of creating an intense urban community on the coast.

Development will be of a high quality in terms of materiality and detailing and will respond to its site and context, being appropriate to the climatic conditions of the region. Development will be contemporary in architectural expression and address adjacent streets, communal areas, and public open spaces, through window placement, balconies, and entrances. Active street fronts are vital to the vision for Cockburn Coast.

Commercial and retail development requires a high level of detailing at pedestrian level providing visual interest and scale. Glazing is encouraged, providing transparency and allowing views through to internal activity. A safe and attractive pedestrian oriented environment is desired. Good lighting, access and visibility should be provided. Surveillance of streets and public areas may be facilitated by residential development above commercial/retail activity. This style of development may also result in further activation of activity nodes.

Development adjacent to the South Fremantle Power Station should demonstrate an understanding of context, responding to Power Station building through composition and materiality without imitation. It should address the building and adjacent public spaces, engaging at street level, facilitating an active pedestrian oriented environment. Multi-storey mixed use development across the site should provide separate entries for non-residential and residential uses for visual clarity.

The density and level of employment envisaged for Cockburn Coast will ensure activated and vibrant public places

Perspectives by HASSELL. Residential buildings will actively engage with the public realm

The built form will be appropriately scaled and will interact with the public realm to create a lively, urban environment

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The built form will frame the green corridors, providing a structured and safe approach to pedestrian and cyclist movement through the site. A car free environment is encouraged to the western end of Robb Jetty Main Street. Buildings fronting these green corridors will incorporate human scale elements and minimise overshadowing of these spaces. Refer to Figure 28 showing the location of the east-west linkages.

The green linkages have been located to take advantage of the sites topographical features and as far as possible respect private landowner boundaries. There may be further refinement of these key linkages especially east of Cockburn Road.

Development adjacent to green corridors should address areas of public open space. Outdoor living areas are encouraged in front of these developments, facilitating activation of the green spaces through activity and surveillance and also reinforce a clear delineation between the private and public domain. Parking is encouraged on street or behind built form but it should not visually dominate the public realm.

Figure 28_The Plan provides for a hierarchy of structuring green corridors

Built form should address green corridors to provide passive surveillance to promote safety

The green corridors will provide a range of passive and active recreation opportunities in a landscaped setting

The green corridors are a key structural element of the plan and facilitate east-west movement through the site and will accommodate a wide range of recreational opportunities

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Height

The majority of residential development across the site will be a minimum 3 storeys in height, and will most likely be town houses, row housing, or apartments. Generally, heights are limited to 5 storeys. Multi-storey residential development is to be located primarily on the eastern ridge and may potentially be up to 8 storeys in height. Residential development is encouraged on the upper levels of commercial/retail multi-storey buildings, to facilitate all hours activation of activity centres and providing surveillance of the streets below.

Building height responds to site topography, maximizing views to the ocean, particularly for residential development across the site. Taller buildings are reserved for activity nodes and for residential development on the eastern ridge, leaving view corridors open. Contextually, the height of existing adjacent development is well considered, with proposed building heights allow mediation between existing and new development. This is particularly relevant in regards to development at the north west corner of the site. Additionally, in keeping with the vision of the District Structure Plan, a gateway site is envisaged at the southern tip of the site predetermining increased building heights.

Development at key commercial/retail centres such as Robb Jetty Main Street and the South Fremantle Power Station is to a minimum of 5 storeys, and generally a maximum of 8 storeys. Overall building height is increased within activity centres, facilitating a general intensification of use. On a street level this intensification will be evident, increasing the legibility of the overall site in terms of land use and general amenity.

Building heights are generally within the range expressed in the District Structure Plan.

Additional landmark and gateway sites, as generally described in the DSP will need to be considered and identified as part of the future Local Structure Plans.

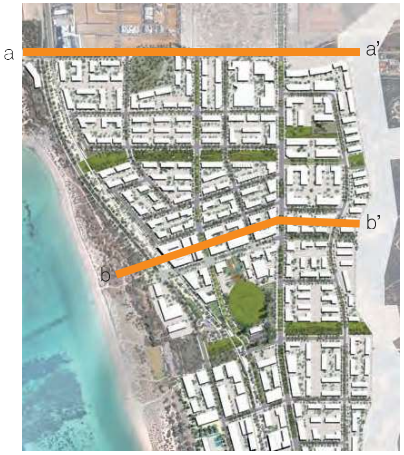
Figure 29 illustrates the distribution of building height throughout the project area.

Figure 29_Building height plan

Legend

- 1-3 storeys
- 3-5 storeys
- 6-8 storeys
- Above 8 storeys subject to local structure planning and design guidelines
- Taller elements may be permitted subject to local structure planning and design guidelines

*Taller building elements may be permitted subject to the identification of gateway and landmark building sites in accordance with the criteria defined in the 2009 District Structure Plan



Section locator

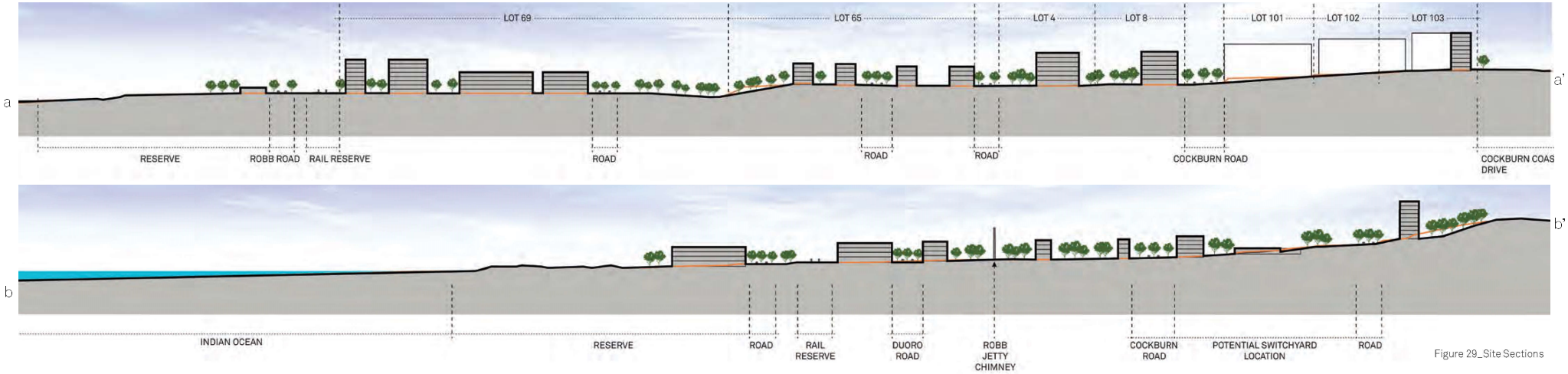


Figure 29_Site Sections

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Working with the Topography

Buildings will emphasise the topography. Taller elements will celebrate the ridgeline, while built form through the valleys and on the plain will generally be lower. Development on the ridgeline will need to respond creatively to the topography to minimise the need for cut and fill. Refer Figure 29 below.

Visual Analysis

Initial visual analysis indicates that if each lot along the ridge is developed up to 8 storeys, elements of the upper storeys in both the south and north of the project area may be seen beyond the ridgeline from the (Cockburn Council chosen) locations east of the site.

To ameliorate any perceived visual impact of proposed buildings, all proposed development on the ridge will be subject to further visual analysis at the LSP stage. This will establish preferred locations for buildings up to 8 storeys in height with the further control of design guidelines outlining relevant performance criteria and architectural detailing for taller buildings in each of the LSP areas.

3D block model illustrating height on the ridgeline to emphasis topography

Example of high density six storey residential

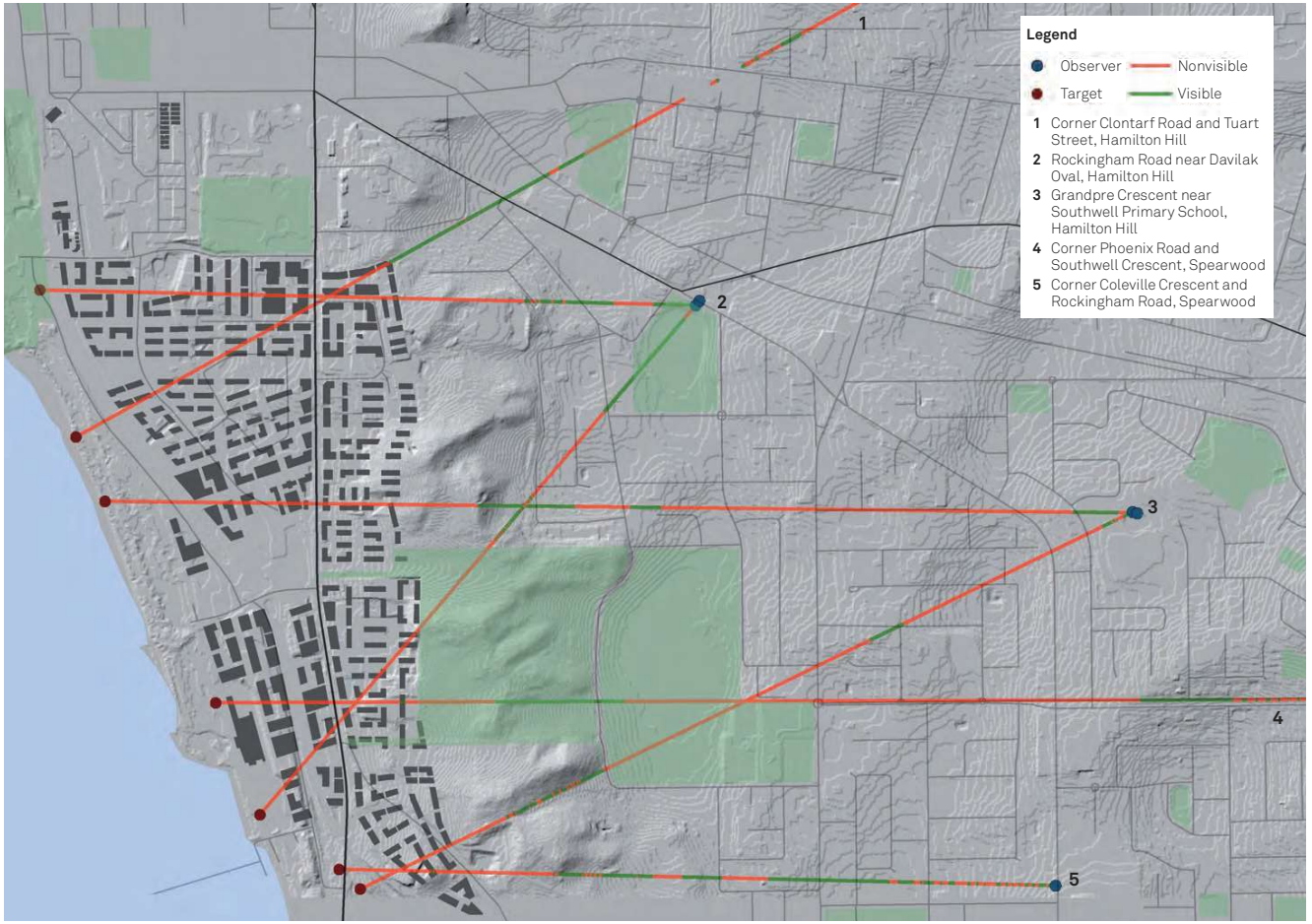

Figure 30_Preliminary Visual Analysis

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5.2.3 Land Use

The rationale for land use distribution is based on the following principles:

- Focusing intensity and diversity of land use along the rapid transit alignment and specifically at proposed transit stations
- Locating employment, tourism and recreational opportunities at the Power Station site, in accordance with the objectives of the District Structure Plan
- Locating a second activity centre along a more localised main street to service day to day needs of local residents
- Focusing recreational and entertainment opportunities at specific beach nodes - Catherine Point, Robb Jetty and the Power Station.
- Providing for a range of residential opportunities, with height and density of residential buildings generally responding to topography, green linkages and proximity to the coast and activity centres

The rationale and land use classification as illustrated in the plan to the right is discussed in further detail below:

Activity Centres

Two Activity Centres have been identified within the project area containing a mix of land uses. They have been strategically located on the rapid transit line at proposed transit station locations, and their location ensures that all residents and workers are within easy walking distance of their transit and daily/weekly shopping needs.

One activity centre is located at the Robb Jetty Main Street. The Robb Jetty Activity Centre will focus on the provision of daily shopping needs for residents, including an opportunity for a supermarket site, but could also accommodate restaurants, cafes and small scale office opportunities that will not only service local residents, but will have a wider catchment.

The Robb Jetty Activity Centre will be bookended by a urban plaza on the beach side of the railway line, which will provide a further incentive for people to travel through Main Street, past the shops and cafes, to the beach.

The Power Station Activity Centre is a much longer term prospect, given the significant infrastructure works, stakeholder negotiations and site preparation works required to de-risk the site in preparation for the market.

The Power Station Activity Centre will ultimately develop into an activity hub that will draw people from around the Perth metropolitan area and wider region. The Power Station Activity Centre will provide a range of opportunities relating to recreation, entertainment and tourism. It is the preferred site for a hotel or short stay accommodation. Prime restaurants and cafes are anticipated to locate here due to the precincts ability to draw people from a wide catchment.

Urban Corridors

The Plan accords with the 'connected City' scenario as outlined in Directions 2031 and optimises the key transport linkages and associated land uses to ensure that the high frequency public transport routes are supported by a range of activities at he centres and along the urban corridors. These corridors provide the opportunity and potential to accommodate increased medium –rise higher density residential development.

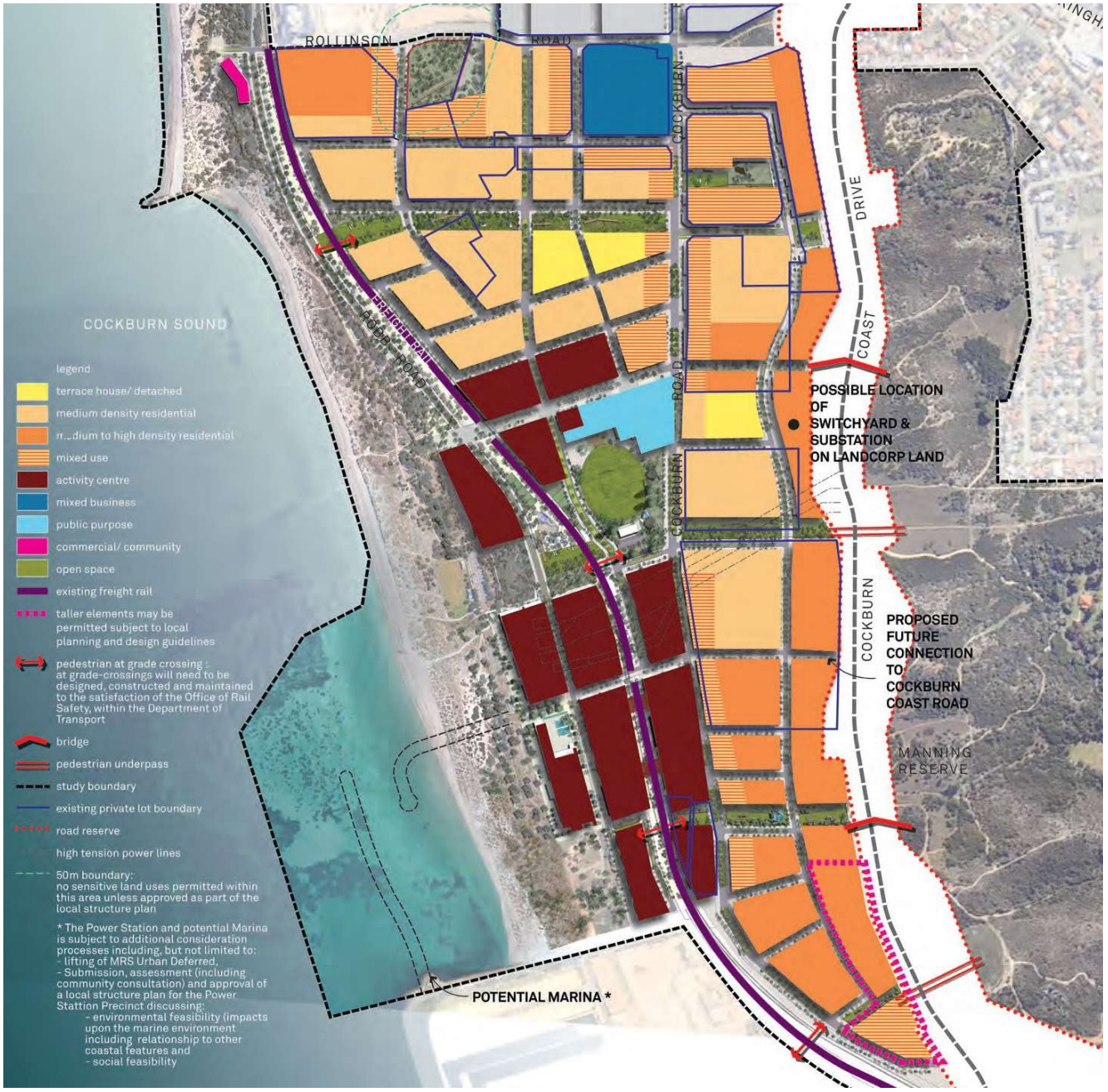

Figure 31_Land use plan

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The Power Station also presents a real opportunity to house office and commercial buildings with a district and sub regional catchment, due to its proximity to major industry, the generous size of potential development sites and as a result of significant investment in infrastructure, including a rapid transit system. It will be the primary employment generator for Cockburn Coast.

Factors that may drive commercial and office develop within Cockburn Coast's commercial centres include:

- Vertical and horizontal integration with sub-regional supply chains and major export industries with significant infrastructure and presence in the surrounding areas of Fremantle, Kwinana, Henderson, and Rockingham. This includes shipbuilding, industrial manufacturing, logistics and transport and oil and gas. Integration may include the provision of commercial support services, collocation opportunities for suppliers, customers and collaborators of firms, project administration offices, training facilities, and high-end and budget short stay accommodation for industry-related activities
- Meeting the needs of local firms constrained from growth within surrounding activity centres, in particular Fremantle, Kwinana and Rockingham due to supply restrictions, or inappropriate product provision
- The provision of a product mix within vibrant activity centres well provisioned by public transport infrastructure that is perceived to be desirable to local and subregional businesses The specific factors targeted by the Cockburn Coast development would be fleshed out in detail within an Economic Development and Employment Strategy

High density residential apartments are also supported above ground within the Power Station Precinct.

In accordance with the Local Activity node classification within the District Structure Plan, the following uses are supported within the Activity Centres:

- Shop (including other retail and service retail)
- Commercial (Office, Market, Bank)
- Hotel
- Public amusement
- Cinema
- Restaurant (including Cafe)
- Community Facilities
- High density residential apartments above ground or sleeved by retail development at ground floor

Mixed Use

A Mixed Use is proposed to provide flexibility and a transition between land uses at strategic locations. The Mixed Use zone will promote sustainable and affordable living opportunities by allowing people to pursue a lifestyle that integrates living, working and leisure in one location.

Mixed use is located along Cockburn Road to provide flexibility in the type of land uses that may benefit from this prominent frontage.

The Mixed Use classification will allow for a range of compatible uses to collocate adjacent one another and also vertically in individual buildings.

Mixed use has also been located within the Emplacement Precinct, in acknowledgement that there are a number of existing businesses that are likely to remain for the medium to long term. The mixed use classification will facilitate complimentary land uses in the meantime, thereby facilitating a gradual transition towards the goal of creating a vibrant urban community at Cockburn Coast.

Mixed Use also sleeves the Mixed Business area at Darkan Crescent. This is to provide a transition between the existing industrial businesses and the future residential area. While the nominated mixed use transitional area incorporates existing business

The Mixed Use classification needs to be carefully managed so that it does not detract or disperse activity from the two centralised activity centres.

In accordance with the definition prescribed under the 2009 DSP, the Mixed Use classification is not intended to be overly prescriptive, providing that the uses can demonstrate:

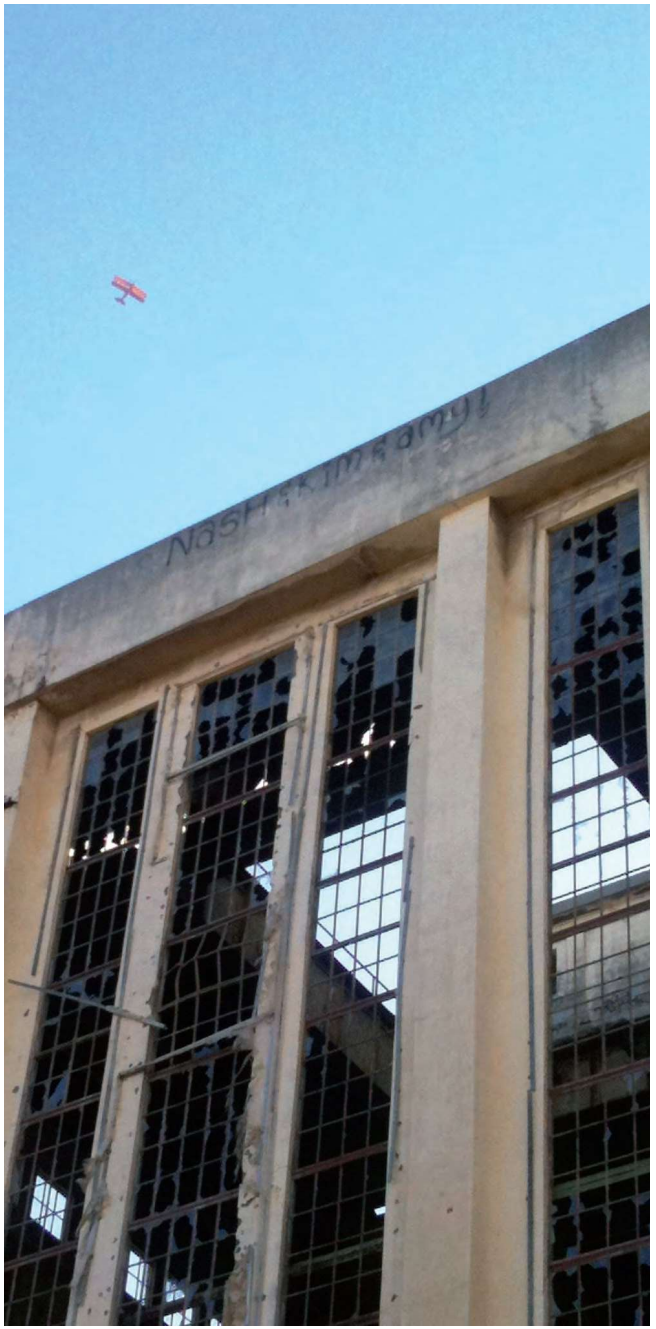
- A positive contribution to promoting a vibrant mixed use urban environment
- Contribution to a continuous active frontage to the public realm
- Encouragement of pedestrian use of Cockburn Road through the provision of awnings/canopies and active frontages
- Do not draw focus away from the two primary activity centres

In regard to the fourth point, pedestrian retail should generally be not permitted in the Mixed Use areas. Other commercial and office opportunities would be more appropriate.

The following uses are supported within the Mixed Use area:

- Residential
- Showroom (smaller than 750 sqm NLA and 20 metres maximum frontage)
- Office
- Community Facilities
- Shop (Local Cafe/corner store outside the 400 m catchment to the Activity Centres)
- Lunch Bar

The City's current Scheme does not contain a Mixed Use zone, therefore local structure plans will need to clearly articulate the uses permitted within the nominated mixed use areas.



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Mixed Business

The Mixed Business area at Darkan Crescent has been nominated to facilitate a transition from the existing heavy industrial business, including the Fremantle Coldstores and Sealanes to lighter industry and commercial uses that do not have a detrimental impact on the future amenity of the surrounding residential uses. The Mixed Business classification is not consistent with the existing heavy industrial uses but they will be able to continue to operate in accordance with their non conforming use rights, while allowing a range of other non-sensitive businesses from service industrial through to office and other commercial opportunities to establish in the interim.

The Mixed Business classification will also ensure a diversity of employment opportunities for Cockburn Coast.

In accordance with the District Structure Plan, the following uses are considered suitable within the Mixed Business area:

- Cottage industry
- Service industry
- Office
- Trade and professional services

Uses not suitable, include:

- Residential
- Heavy industry
- Large showroom, bulky good retail

It should be noted that the local structure plans may set out a different range of permissible uses than those set out in the scheme.

Residential

Residential use represents the predominant use at Cockburn Coast. A range of residential typologies are anticipated, generally in accordance with those nominated in the District Structure Plan, including:

- Single detached
- Terraced housing
- Low Rise Apartments (3-5 storeys)
- Medium Rise Apartments (6-8 storeys)
- High Rise Apartments (above 8 Storeys)

The breakdown of residential yields will be discussed further on in this report.

Commercial/Community

A commercial/community opportunity has been nominated at the western end of Rollinson Road, within the coastal foreshore reserve. This is in recognition of Catherine Point being a popular beach. It is anticipated that a cafe/kiosk or lifesaving club could locate here to establish a small community hub, which will be particularly important for the initial development phase and establishment of Cockburn Coast.

Ground floor retail activation

Example five storey built form

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Primary School

Through investigation and consultation with the Department of Education and Training as part of the District Structure Planning process, it was identified that only one primary school is required, partly due to the existing capacity of nearby primary schools and also in anticipation that the socio-economic mix is likely to consist of a lower percentage of families than the Perth metropolitan average, due to the high percentage of apartments.

The primary school site has been co-located with the district playing fields, with the intention of creating a multi-level 'urban' school on a 1.5 ha property adjacent the playing fields. The District Playing Fields will accommodate a 135m by 110m playing field.

The primary school site is centrally located within the project area, so as to maximise its catchment and accessibility.

The proposed school site is located at the eastern end of Main Street, so as to integrate the school site with its urban environment and to facilitate access to shopping for parents dropping off and picking up their children.

The primary school has also be sited in close proximity to a transit station, at the western end of Main Street, to ensure a safe walking environment for children commuting to and from school.

Matters to be addressed in detailed design must consider:

- Floodlighting: will be subject to AS 2560.2.3—2007 and in particular the appropriate location of light poles will be assessed taking into account impact to adjacent development.
- Clubhouse: to allow for a minimum floor area of 525m^2 to accommodate club facilities that include the following components:
  - External Toilets
  - Change Rooms (Home and Away)
  - Function Area
  - Kitchen
  - Internal Toilets
  - Internal and External Storage
  - Undercover area
- Car Parking: There may be potential for shared parking with the primary school. Over flow parking should also be considered

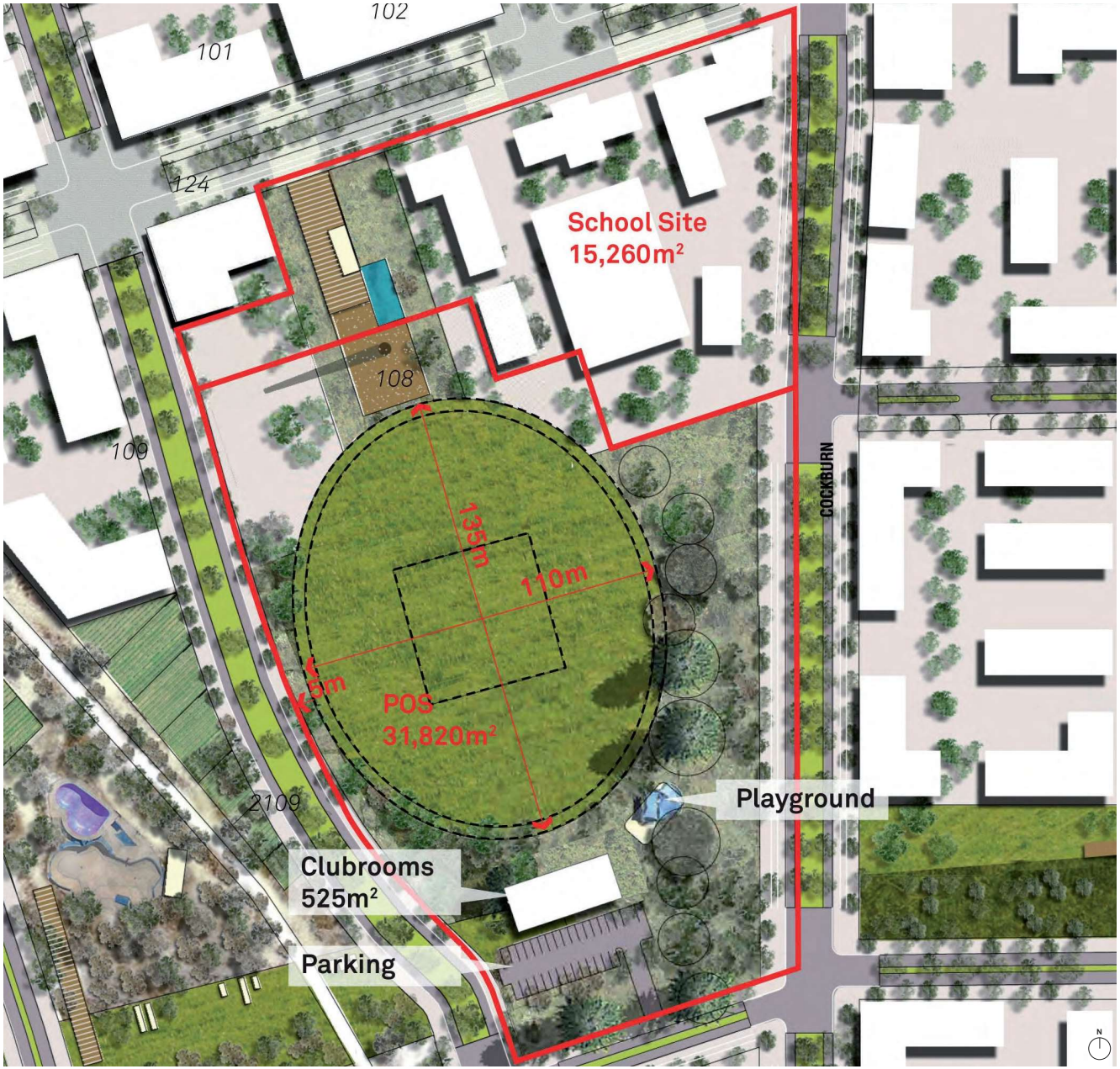

Figure 32_Shared playing field concept plan

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Housing

It is envisaged that Cockburn Coast will accommodate a minimum population of 10,000 people and 4,850 dwellings. In order to achieve this, each precinct will need to provide a significant residential component.

The plan contained in DSP Part 2 has the ability to exceed the 2009 DSP targets for dwelling yield, with an anticipated 5,200 dwellings to be realised in the project area south of Rollinson Road alone, with the yield generated by the future redevelopment of the Fremantle Village and Newmarket precincts, expected to increase the total yield to 6,000 dwellings. In addition, it will be important for the vitality and sustainability of Cockburn Coast that a variety of housing types be provided to suit a range of household types and income.

Affordable Housing

In accordance with the DSP, a minimum target of 20% affordable housing is to be achieved throughout Cockburn Coast. Rising housing prices in Australia have led to significant problems of housing affordability, particularly for those on low or moderate incomes.

Housing that costs more than 30% of a household's income is generally considered to be 'unaffordable', but because housing costs vary between different geographic areas (and from site to site), what constitutes 'affordable' will vary both by income and location. Housing in some high value areas may be unaffordable to households with relatively high incomes.

'Affordable housing' is required that covers all dwelling types to suit the needs of the population, that is – single bedroom dwellings, family housing and aged and dependent persons accommodation.

Affordable housing is housing that is reasonably adequate in standard and location for households in lower or middle parts of the income scale and which does not cost so much that such a household is unlikely to be able to meet other basic living costs on a sustainable basis. It includes owner-occupied housing as well as rental housing owned by governments, nonprofit organisations, corporations or individuals. As a rule of thumb, housing is considered to be affordable if the cost of purchase or rental does not exceed 30% of the gross household income.

- Low-income rental: rents not to exceed 30 percent of gross income of the lowest two income quantities
- First home buyer: less than 4.85 times median annual household income.
- This calculation is used by the Department of Housing in land sales and the First Start shared equity program.

Social housing is publicly funded housing and is proposed to make up 5% of the housing stock at Cockburn Coast. Social housing is a sub-set of affordable housing. The Department of Housing is currently the main provider of social housing. Given the location of the project on prime section of the coast, high land values will be a significant factor influencing the ability to deliver affordable housing product. An assessment is required to quantify the market for and type of affordable housing that would be appropriate without creating an undesirable imbalance in the future community profile, and without adversely affecting development viability for this and other types of desirable development (residential and non residential).

The statutory mechanisms and specific targets will be set within the local structure plan and such measures will be guided by an Affordable Housing Strategy prepared for the project. This strategy is currently being commissioned ahead of the preparation of local structure plans.

Employment

The economic goals for 2031 shown in Table 1 below are appropriate for an economy of subregional significance with an improving level of economic maturity and levels of strategic employment (10% of total).

Measure	Target
Residential population	10,000
Labour workforce	5,000
Total jobs available within the sub-region	3,125
Number of strategic jobs within the development	625 (20%)
Number of population driven jobs per one resident	0.25
Real increase in average weekly wages from 2011 census (working population)	20%
Economic concentration of top three strategic industries, with a minimum of 100 workers	ECF = 7.5+

Table 1_Economic Targets

The land use implications of the employment targets were calculated based upon the assumptions in Directions 2031 – Spatial Framework for Perth and Peel. The model assumed that the local economy would be made up of two interdependent components - population–driven and strategic. The top-down modeling applied a general population-driven job per resident ration of 0.25 (based upon metropolitan benchmarks), with the remaining jobs being assumed to be strategic in nature. Land uses required to service this employment profile were applied using metropolitan averages based upon the DoP Land Use and Employment Survey. This provides the general profile of required land-use provision shown in Table 2.

Land Use Implications of Employment Targets

The land use implications for this employment structure are shown in Table 2 below, including the floorspace demanded by this employment distribution. The table below shows the forecast employment numbers by PLUC (Planning Land Use Category) code. 'Primary' land use forecasts are excluded as it does not accord with Cockburn Coast evolving into a high intensity mixed use community.

PLUC	Employment	Floorspace per Employee	Floorspace (NLA)	Floorspace (GLA)
Manufacturing	181	33.3	6,000	7,000
Storage/ Distribution	177	158.2	28,000	33,000
Service Industry	124	62.3	7,500	9,000
Shop/Retail	982	32.0	31,500	37,000
Other Retail	133	48.4	6,500	7,500
Office/Business	914	20.0	18,000	21,500
Entertainment	153	43.4	6,500	7,500
Health	369	32.0	12,000	14,000
Residential	-	226.4	-	-
Utilities	92	54.3	4,500	5,000
Total	**3,125**	**-**	**120,500**	**141,500**

Table 2_Employment Distribution

Land Use Demand Modelling Assumptions

Demand for the provision of commercial and office floorspace within both activity centres will be driven by a range of factors including:

- Population-driven demand for a range of professional services (ranging from general practitioners to accountants)
- Cockburn Coast's physical proximity to major regional strategic supply chains including marine manufacturing, oil and gas, logistics and petrochemical manufacturing
- The value proposition of the development based upon its coastal amenity, physical infrastructure, intensity of activity and diversity of users

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Density and Yield

The yields generated by DSP Part 2 have been tested and are detailed in the following table:

Building Typology	Indicative Density	Dwelling Yield	% Component
High Rise	R160	1,300	25.0%
Medium Rise	R120	602	11.6%
Low Rise	R80	1,641	31.6%
Terrace	R40	57	1.1%
Mixed Use	R100	585	11.3%
Activity Centre	R160	1,008	19.4%
TOTAL	-	**5,193**	**100%**

Table 3_Dwelling Yield by Building Typology

The above yields are generated by the project area, south of Rollinson Road, only. It is also acknowledged that the Newmarket and Fremantle Village Precincts have the potential to generate additional yield within Cockburn Coast, and the Cities of Fremantle and Cockburn are currently undertaking separate planning for these precincts.

Therefore, DSP Part 2 has the potential to deliver yields well above the minimum target of 4,850 dwellings identified within the 2009 District Structure Plan (which was applicable to the whole of Cockburn Coast, including the two precincts north of Rollinson Road).

The proposed dwelling typology mix does not align with the preferred dwelling typology arrangements nominated within the DSP for the residential areas of the Structure Plan.

The key principle that has informed the revised dwelling typology mix within this document is to maximise dwelling yield in order to contribute to the overarching dwelling targets identified in Directions 2031 and contribute to a vibrant coastal community.

Provision of Public Open Space

Cockburn Coast is proposed to be a unique coastal urban environment, with a high proportion of apartments and a low proportion of single detached dwellings, it is appropriate therefore to provide additional public open space opportunities. These additional open space opportunities will replace the suburban backyard and allow residents to pursue a wide range of recreational opportunities that would otherwise have been pursued in the traditional backyard.

The provision of POS is generally provided through the strong east-west corridors, which may require further refinement through the local structure planning process with further engagement with affected landowners.

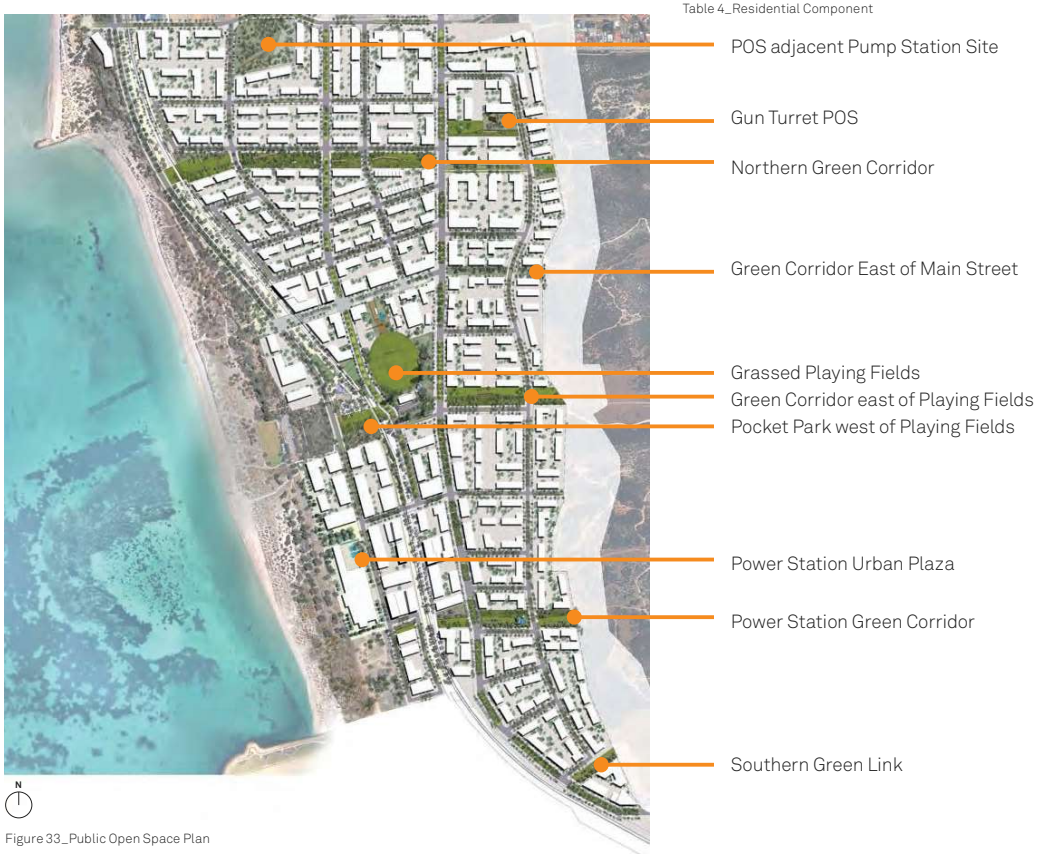

Figure 33_Public Open Space Plan

The following table (Table 4) is provided to detail the total residential component within the project area to assist in determining an appropriate level of POS to service this future residential community.

Land Use Classification	Gross Area (ha)	Residential Component (%)	Total Residential Area (ha)
Activity Centre	13.13	45%	5.91
Mixed Use	10.15	45%	4.56
High Rise Residential (6-8+)	10.16	100%	10.16
Medium Rise Residential (3-5 storey)	6.27	100%	6.27
Low Rise Residential (1-3 storey)	20.51	100%	20.51
Terrace/Detached Housing	2.22	100%	2.22
TOTAL	**62.44ha**	**n/a**	**49.63ha**

Table 4_Residential Component

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Table 5 and Figure34 detail the amount of POS provided within the Plan and is consistent with requirements of the DSP. The Local Structure Plans will need to demonstrate the functionality and distribution of POS, particularly in regard to the adequate distribution of neighbourhood and local park functions.

The requirements for a District Playing Fields will be refined through the local structure plan, however the Plan demonstrates that a 135m long by 110m wide Aussie Rules playing field can be accommodated. DSP Part 2 demonstrates a good distribution and functionality of POS, able to accommodate a range of local, neighbourhood and district recreational functions.

The Plan provides an appropriate level of POS which ensures the project area can be developed independently of the development north of Rollinson Road, of which 6.79 ha of POS was identified in the DSP for the landfill site.

The delivery of the landfill POS to the north of the project area is uncertain due to the need to further investigate contamination, rehabilitation and feasibility, however this is an issue for the City of Fremantle and other stakeholders to consider at the local structure planning stage.

	Deductions	Totals
Total Site Area		166 ha
Deduct Regional Reserves within Site Area		
Regional Road Reserve	25 ha	
Foreshore Reserve	27.6 ha	
Rail Reserve	7.3 ha	
WaterCorp Pump Station Reserve	1.2 ha	
Total Net Site Area		**104.9 ha**
Other Deductions		
Primary School	1.5 ha	
Mixed Business	2.36 ha	
Commercial component of Activity Centre	7.22 ha	
Commercial component of Mixed Use	5.59 ha	
Existing roads	8.6 ha	
Gun Emplacement Reserve	0.30 ha	
Gross Subdivisible Area		**79.33 ha**
Public open space requirement @ 10%		7.933 ha
Public Open Space Contribution		
POS adjacent Pump Station site		0.44 ha
Northern Green Corridor		2.8080 ha
Green Corridor East of Main Street		0.39 ha
District Playing Field		3.1820 ha
Pocket Park west of Playing Field		0.34 ha
Green Corridor East of Playing Field		1.01 ha
Power Station Green Corridor		1.10 ha
Power Station Urban Plaza		0.15 ha
Southern Green Link		0.26 ha
Total Public Open Space Contribution		**9.6800 ha**

Table 5_Provision of Public Open Space

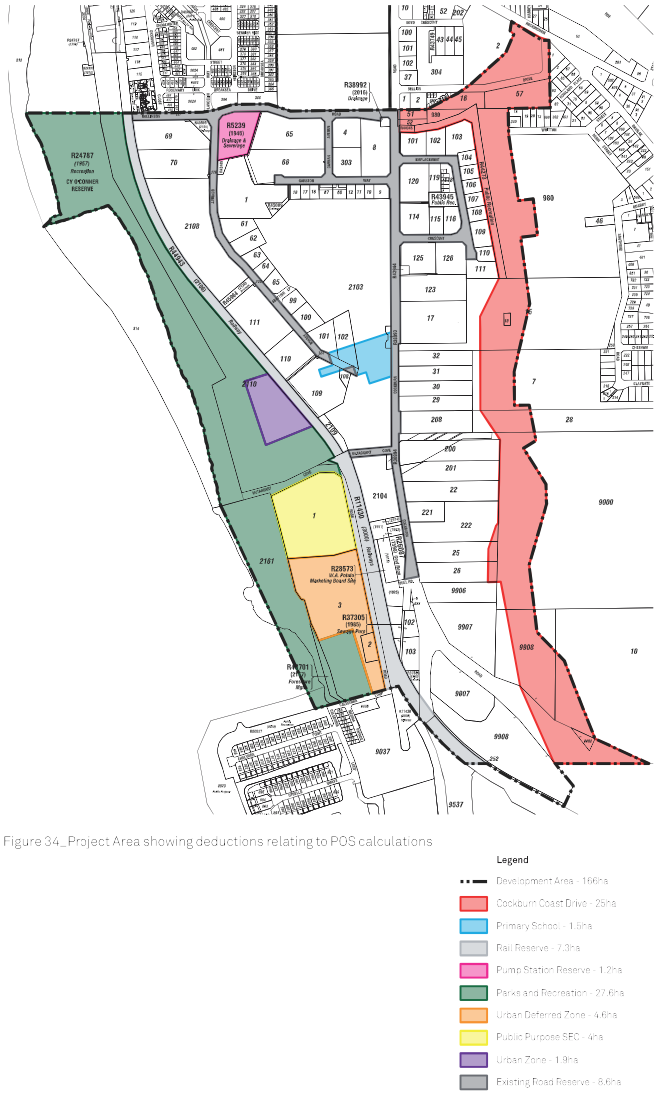

Figure 34_Project Area showing deductions relating to POS calculations

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5.3 Landscape Master Plan

5.3.1 Character Plan

A key principle of the Landscape Master Plan is the concept of bringing elements of the coast and natural bushland into the development to maximise amenity. The public open space corridors will retain the coastal, bushland and natural topographical features where possible, to act as wildlife corridors but also to bring the local coastal experience into the development.

This approach will ensure that the coastal experience is not only limited to beachfront properties, but will also add value, amenity and accessibility to internal developments.

Integral to the character of the development, will be the delivery of a high quality public realm that incorporates the rich cultural heritage of Cockburn Coast through the integration of high quality European and Indigenous public art.

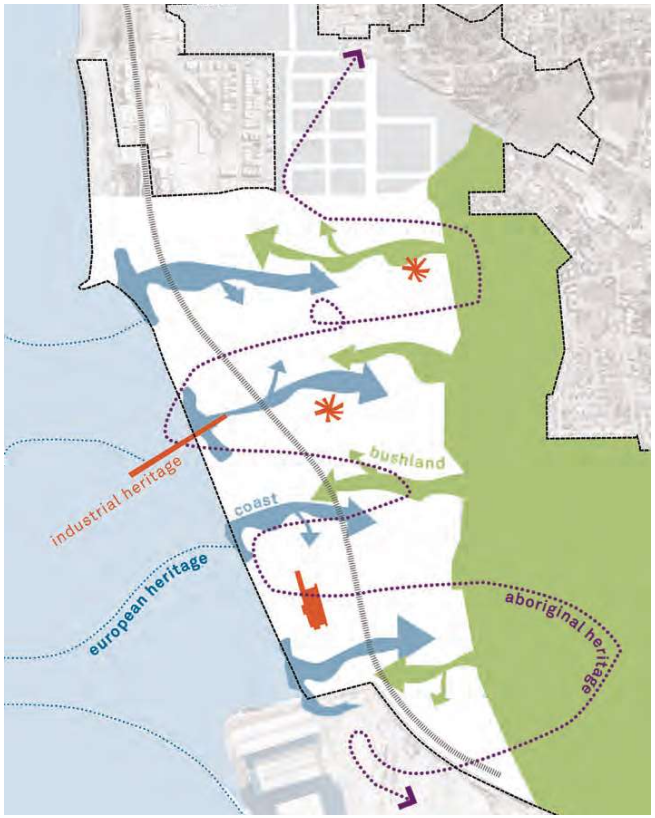

Figure 35_Character Plan

5.3.2 Character Zones

The landscape and urban fabric will respond to three distinct character zones. The first, along the coastline, being the coastal character zone. The second, running in a north - south direction being an urban character zone that lies along the flat coastal plain between the dunal systems. The third, through the scarp system, being the natural character zone incorporating the natural bushland vegetation.

Green corridors and movement networks will also bring the characters associated with the coastal and bushland zones through the urban zone

Figure 36_Character Zones

5.3.3 Landscape Typologies

The Landscape plan provides a variety of spaces that cater for the local community, the wider regional community and the tourist visitor.

These spaces include, parklands, plazas, residential gardens, pocket parks, active commercial streets and recreational spaces.

Bushland and dunal areas are protected, reinstated and rehabilitated where possible to establish a strong connection between Beelier Reserve and the coast.

The diagram below illustrates the different landscape typologies within Cockburn Coast. Refer to 5.3.11-5.3.16 for a more detailed description of the landscape typologies

Figure 37_Landscape Typologies

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5.3.4 Place Making

The landscape master plan aims to create a strong sense of place and identity for the region. Landmark public spaces like plazas, main street and parklands along with built landmarks such as the existing power station and chimney structure all help to built a strong sense of local identity. Public spaces will be flexible, permitting spaces to grow organically with the community, enabling different uses to be considered for these spaces over time.

Successful places attract not only locals but visitors and create a series of memorable experiences over time. They are constantly evolving and improving as time goes on.

Figure 38_Key public realm areas

Great places activate our senses and enliven us. We connect to each other and our place with a sense of meaning and joy. Common qualities of great places are:

- Sense of connectedness and sense of place
- Geographical boundaries (start and finish)
- Sense of safety, intimacy, security
- Diversity of stories through;
- Cultural context
- Creative and artistic expression
- Heritage/ history of built form
- Sense of longevity and continuity
- Sense of vitality
- Visibility of its daily workings
- Mixed-use (live, work and play)
- Street activity, markets, culture
- A central meeting place
- Spaces for public events and happenings
- Sitting and resting spaces
- Place space
- Community eating places
- Ease of access
- Child, woman, elderly and family friendly
- Mixed levels
- Sunlight
- Interesting and varied shops

Street Hierarchy

Cockburn Coast has been established to enable streets to have a high level of legibility, functions and characters depending on location within the site. These streets can be categorised as follows;

- Local streets, which are predominantly used by local residents and allow for street parking, cyclist circulation and generous pedestrian footpaths
- Regional connector road – Cockburn Road; Connects Cockburn Coast to Fremantle to the north, Kwinana and Port Coogee to the south and Rockingham Road to the east.
- RBT/LRT Alignment Road; Accommodates the future light rail alignment and acts as the spine, running north – south through the centre of the site and providing legible east – west connections.
- Main Street – Robb Jetty Road; Acts as the "main street" of Cockburn Coast with a strong emphasis on pedestrian and cyclist priority with select boutique businesses which makes it a regional attractor.
- Coastal Link – Robb Road; Provides a scenic north south coastal experience and improves connections from the east of the site to the coast

Figure 39_Plan Elements

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