



## **DISTRICT STRUCTURE PLAN**

### **Southern Suburbs Stage 3**

**Prepared by: City of Cockburn Strategic Planning**

**September 2012**

# CONTENTS

<b>PART ONE - BACKGROUND</b> .....	<b>1</b>
1.0 INTRODUCTION .....	1
1.1 Background.....	1
1.2 Purpose .....	1
1.3 Planning Area .....	1
1.4 Land Ownership.....	3
1.5 Adoption of the Southern Suburbs District Structure Plan – Stage 3 .....	3
2.0 STATUTORY AND STRATEGIC PLANNING CONSIDERATIONS .....	3
2.1 Metropolitan Region Scheme .....	3
2.2 City of Cockburn Town Planning Scheme No. 3 .....	3
2.3 Directions 2031 and Draft Outer Metropolitan Perth and Peel Sub-Regional Strategy .....	6
2.4 State Planning Policy 4.2 – Activity Centres for Perth and Peel.....	6
2.5 City of Cockburn Draft Local Commercial Activity Centre Strategy .....	7
2.6 City of Cockburn Local Planning Strategy .....	7
2.7 Southern Suburbs District Structure Plan (October 1999) .....	8
2.8 Environmental Protection .....	8
2.9 Cockburn Sound Catchment Area .....	8
2.10 Bush Forever .....	9
2.11 Strategic Plan for Perth's Greenways .....	9
2.12 City of Cockburn Greening Plan.....	10
3.0 SITE CONTEXT AND ANALYSIS.....	10
3.1 Physical Description.....	10
3.2 Existing Land Uses .....	12
3.3 Adjoining Land Uses .....	12
3.4 Site Contamination and Uncontrolled Fill .....	12
3.5 Sites of Indigenous Heritage Significance .....	14
3.6 Sites of European Heritage Significance .....	14
3.7 Wetlands .....	14
3.8 Implications for Urban Development.....	15
4.0 DEVELOPMENT OPPORTUNITIES AND CONSTRAINTS .....	15
4.1 Buffers .....	15
4.1.1 Market Gardens and Turf Farms.....	15
4.1.2 Kwinana Environmental Protection (Atmospheric Wastes) Policy ...	17
4.1.3 Alcoa Residue Storage Area.....	17
4.2 Acid Sulfate Soils .....	18
4.3 Peel-Harvey Drainage Coastal Plain Catchment Area.....	18
4.4 Fire Risk .....	18
4.5 Elevated Land.....	18
4.6 Open Space Opportunities .....	18
4.7 Power Transmission Corridor .....	19
4.8 Urban Water Management.....	19
4.8.1 Water Management Objectives .....	19
4.9 Freight Corridor .....	20
<b>PART TWO – DISTRICT STRUCTURE PLAN</b> .....	<b>20</b>
5.0 DISTRICT STRUCTURE PLAN DESIGN.....	20

5.1 Development Principles.....	20
5.2 Neighbourhood Structure .....	22
5.3 Transport and Access Network.....	22
5.3.1 Major Road Network.....	22
5.3.2 Traffic Management.....	23
5.3.3 Shared Paths/Connections .....	23
5.4 Residential Development.....	23
5.4.1 Housing Principles.....	24
5.4.2 Residential Densities and Housing Types.....	24
5.4.2.1 Locational Criteria – Medium Density - Residential R30 (base) ...	24
5.4.2.2 Locational Criteria - Medium Density - Residential R35-R60.....	24
5.4.2.3 Locational Criteria – High Density - Residential R60+ .....	24
5.4.2.4 Locational Criteria – Aged and Dependant Persons’ Dwellings ....	25
5.4.3 Lot Yield Estimates.....	25
5.4.4 Aged Persons Accommodation/Independent Living .....	25
5.5 Education Facilities.....	26
5.6 Parks and Recreation.....	27
5.6.1 Regional/District Parks and Recreation.....	27
5.6.2 Neighbourhood/Local POS – location and designation .....	28
5.6.3 Neighbourhood/Local POS – design and embellishment.....	28
5.6.4 Neighbourhood/Local POS – ongoing planning .....	29
5.7 Public Transport.....	29
5.8 Commercial Facilities.....	29
5.8.1 Location and Hierarchy .....	29
5.8.2 Mixed Business/Commercial/Home Based Business Precincts.....	32
5.9 Area subject to Future Structure Planning .....	32
6.0 SERVICING INFRASTRUCTURE .....	34
6.1 Sewerage.....	34
6.2 Water .....	34
6.3 Power .....	35
6.4 Natural Gas.....	35
6.5 Telecommunications.....	35
6.6 Stormwater Drainage .....	35
6.7 Construction of Proposed Regional Roads.....	37
6.7.1 Rowley Road .....	37
6.7.2 Hammond Road.....	38
6.8 Upgrading of Existing Local Roads.....	38
7.0 IMPLEMENTATION .....	38
7.1 Metropolitan Region Scheme Zoning.....	38
7.2 City of Cockburn Town Planning Scheme Zonings.....	38
7.3 Development Area and Development Contribution Area requirements..	39
7.3.1 Designation of Development Area requirements.....	39
7.3.2 Designation of Development Contribution Area requirements.....	39
7.4 Planning Control .....	40
8.0 LAND AVAILABILITY.....	40

## **Figures**

Figure 1	Site Location
Figure 2	Metropolitan Region Scheme Zoning
Figure 3	Town Planning Scheme No.3 Zoning
Figure 4	Aerial Photography
Figure 5	Existing Land Uses
Figure 6	Opportunities & Constraints
Figure 7	Southern Suburbs District Structure Plan Stage 3
Figure 8	Education Facilities
Figure 9	Public Transport
Figure 10	Neighbourhood Structure & Retail Hierarchy
Figure 11	Neighbourhood Centre Concept Plan

## **Appendices**

Appendix 1	Russell Road Arterial Drainage Scheme Report
Appendix 2	Southern Suburbs – Stage 3 Servicing Report

# SOUTHERN SUBURBS DISTRICT STRUCTURE PLAN STAGE 3

## PART ONE - BACKGROUND

### 1.0 INTRODUCTION

#### 1.1 Background

The area within the Southern Suburbs District Structure Plan Stage 3 ("SSDSP3") relates to the area of land on the western side of the Kwinana Freeway, south of Gaebler Road to Rowley Road, Hammond Park and from the Freeway west along Wattleup Road and is the last remaining large greenfield area to be developed in the City of the Cockburn.

The SSDSP3 was originally adopted by the Council in 2005, however since that time, a number of factors have led to the need for the City to undertake a review of the SSDSP3. The review aims to ensure that it is consistent with all current government strategic planning initiatives.

Specifically, the Public Transport Authority ("PTA") has confirmed the location of Mandogalup Train Station south of Rowley Road, which differs from its location on the original plan, and the Department of Planning & Infrastructure ("DoP") has confirmed that Rowley Road is identified as a prospective strategic freight route, which has implications for proposed future land uses in this area. The Western Australian Planning Commission ("WAPC") also resolved to extend the Kwinana Industrial (including Air Quality) Buffer by an additional 0.5 kilometres which means it now extends into the SSDSP3 area. This has also been the subject of a recent State Administrative Tribunal appeal, which has resulted in advice being given that the buffer issue needs further examination.

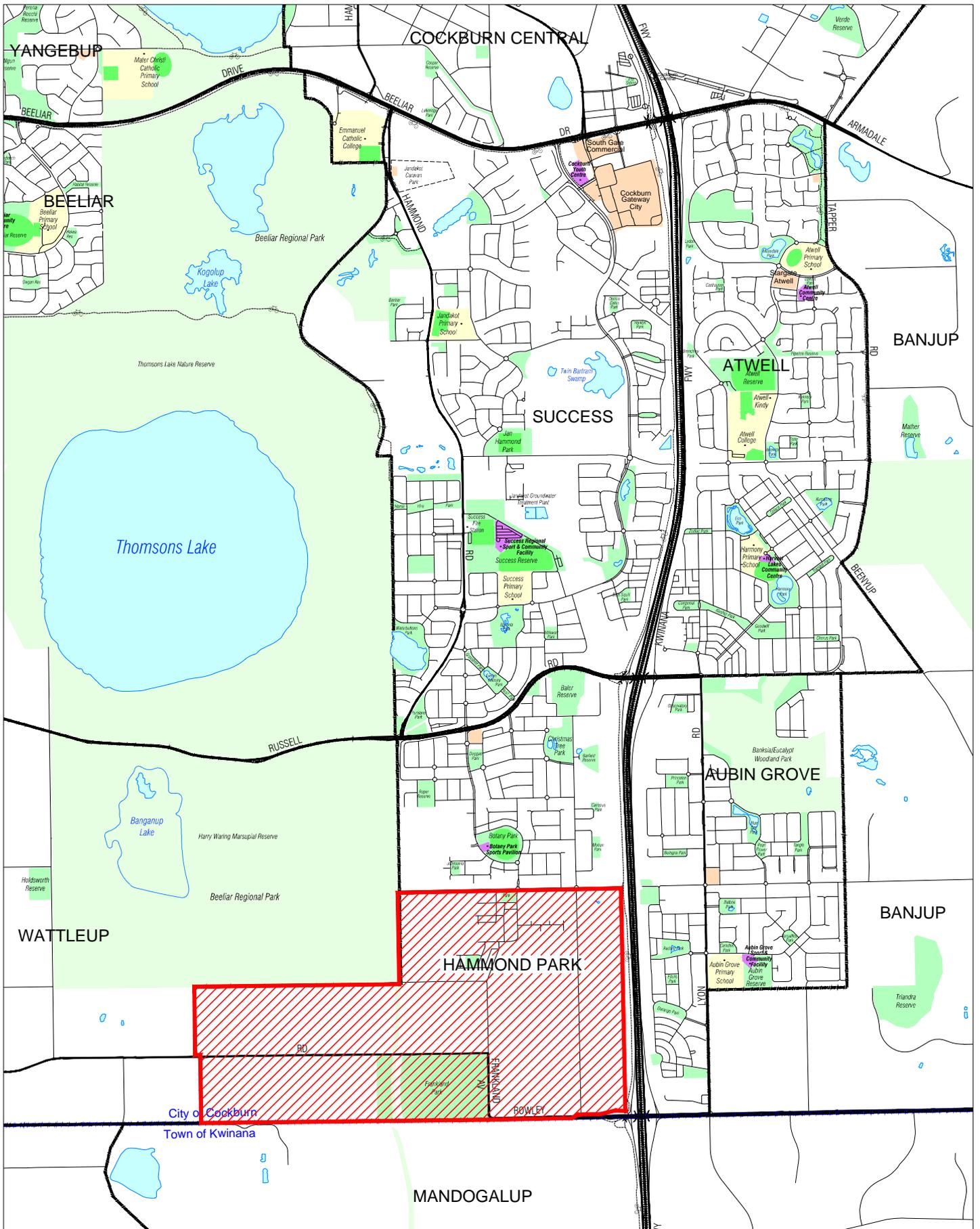
These and other similarly important factors have all been comprehensively reviewed and integrated into a revised SSDSP3.

#### 1.2 Purpose

The SSDSP3 shows the broad land use framework including the major road network, neighbourhood structure, commercial, education, community and significant open space areas. It will form the basis of co-ordinating and considering Local Structure Plans ("LSP'S") and plans of subdivision to be prepared by landowners in the area.

#### 1.3 Planning Area

The SSDSP3 covers the urban area of approximately 234 hectares bounded by Gaebler Road to the north, Kwinana Freeway to the east, Rowley Road to the south and extending westwards along Wattleup Road. The extent of the area is shown on **Figure 1 – Site Location**. The surrounding areas to the subject land are a mix of residential, extractive industry and rural uses (proposed for future urban) and a conservation reserve (Harry Waring Marsupial Reserve).



**LOCATION**  
**SOUTHERN SUBURBS DISTRICT STRUCTURE PLAN**  
**- STAGE 3, HAMMOND PARK**

**FIGURE 1**

City of Cockburn  
 wetlands to waves

#### *1.4 Land Ownership*

Since the SSDSP3 was originally adopted in 2005, there have been some lots which have changed ownership and a small degree of land assembly by developer groups. The majority of lots are however still in private individual ownership.

#### *1.5 Adoption of the Southern Suburbs District Structure Plan – Stage 3*

It is proposed to adopt the SSDSP3 by resolution of Council as a “guiding document”. It is not adopted pursuant to Part 6 of TPS No. 3 and therefore does not implement zoning or apply land uses.

The SSDSP3 gives guidance to the assessment of LSP’s, which will be advertised, considered and determined pursuant to Part 6 of TPS No. 3.

## **2.0 STATUTORY AND STRATEGIC PLANNING CONSIDERATIONS**

### *2.1 Metropolitan Region Scheme*

The SSDSP3 area is generally zoned ‘Urban’ under the Metropolitan Region Scheme (“MRS”) as shown on **Figure 2 – Metropolitan Region Scheme Zoning**. Pursuant to the 2005 endorsed Southern Suburbs District Structure Plan, the WAPC lifted the deferment of the ‘Urban’ zone over the Structure Plan area in October 2008.

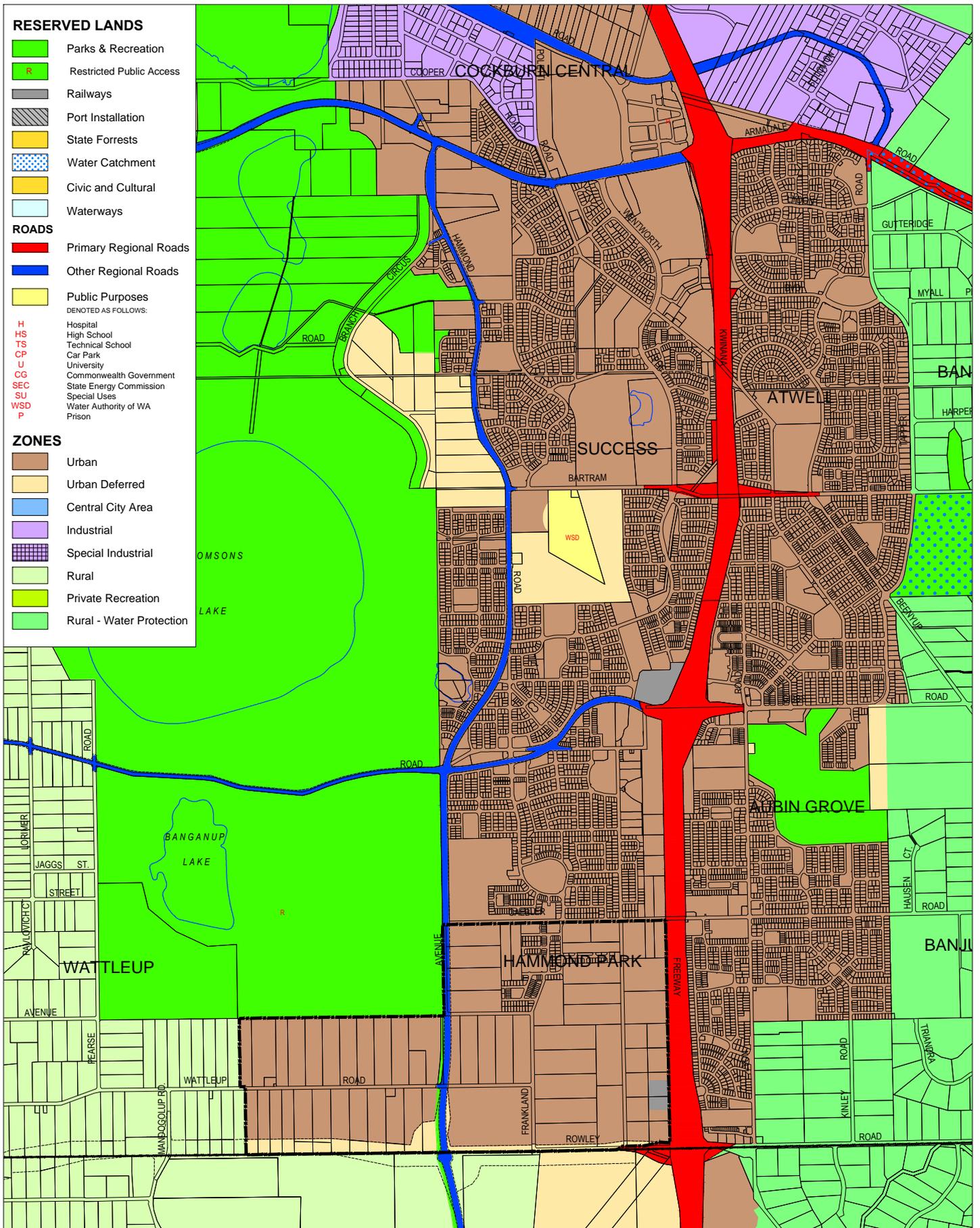
The Frankland Avenue/Hammond Road extension is reserved as an ‘Other Regional Road’ under the MRS. Rowley Road abuts the southern boundary of the SSDSP area, adjoining the western boundary of the Structure Plan area, and its alignment and future widenings sit within the ‘Urban Deferred’ zone. A portion in the southeast of the SSDSP3 area is reserved for ‘Railways’, as the site was originally earmarked for parking for the train station, which is now to be located further south.

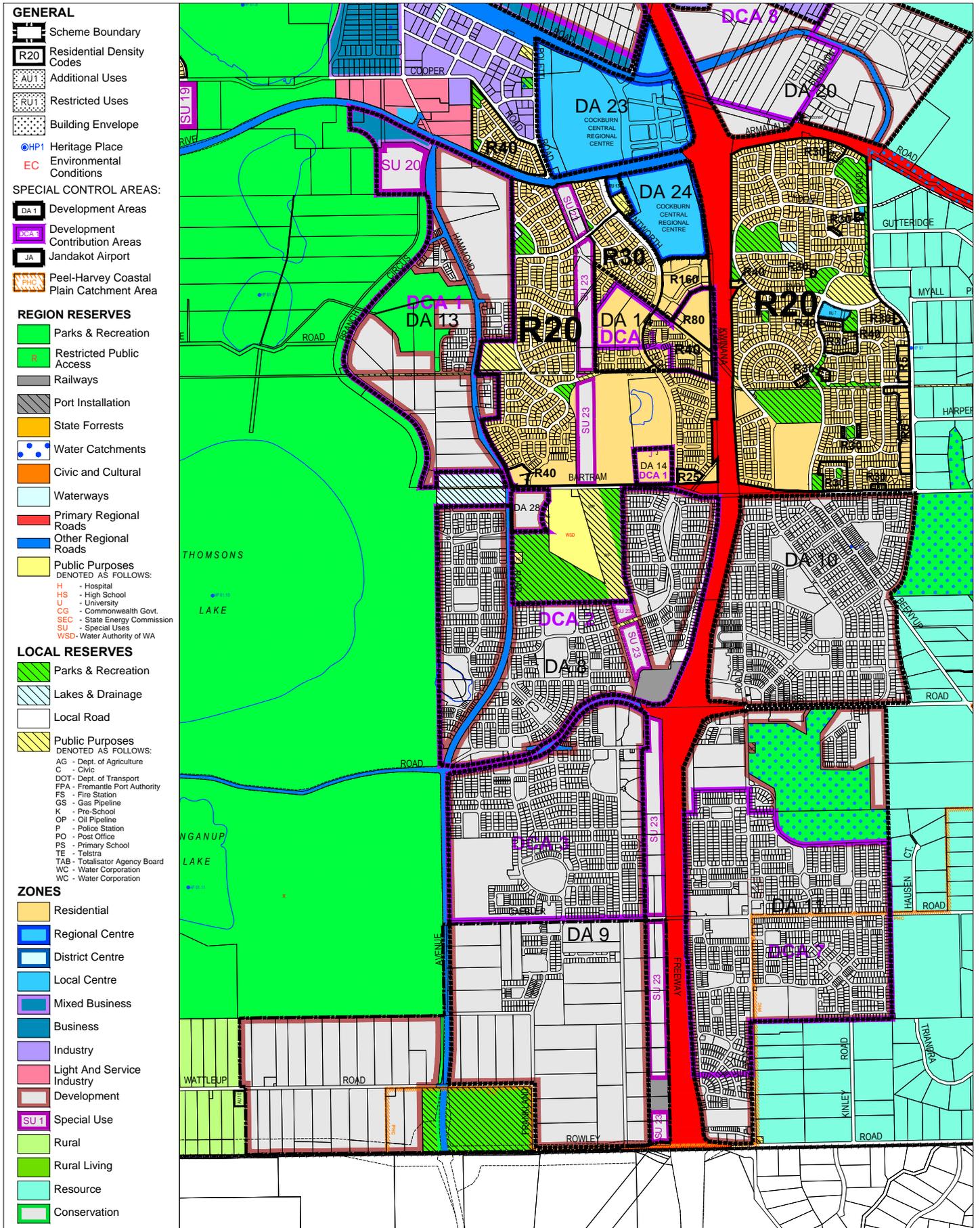
There is a strip of ‘Parks and Recreation’ west of Hammond Road between the southern boundary of Harry Waring Marsupial Reserve and Rowley Road, which corresponds to the Historic Baldivis Tramway Trail. Approximately 24.3 hectares adjoining the southern boundary is Reserved for ‘Parks and Recreation’, which generally corresponds to the location of Frankland Reserve.

### *2.2 City of Cockburn Town Planning Scheme No. 3*

Under the City of Cockburn TPS No. 3 the land is zoned ‘Development’ with subdivision and development to be in accordance with LSP’s adopted pursuant to Section 6.2 of the Scheme. The eastern portion of the area is currently referred to as Development Area No.9 in Town Planning Scheme No.3 No. 3 as shown within **Figure 3 – Town Planning Scheme No. 3 Zoning**.

Amendment No 28 to TPS No 3 initiated by Council at its meeting held on 15th February 2005 proposes to nominate the area as Development Areas 26 and 27 with appropriate conditions in Schedule 11 and Development Contribution Areas 9 and 10 to formalise development contributions to common infrastructure through the requirements of Schedule 12. Endorsement of this amendment by the WAPC is still outstanding.





# TOWN PLANNING SCHEME No.3

## SOUTHERN SUBURBS DISTRICT STRUCTURE PLAN

### - STAGE 3, HAMMOND PARK

City of Cockburn



FIGURE 3

### *2.3 Directions 2031 and Draft Outer Metropolitan Perth and Peel Sub-Regional Strategy*

Directions 2031 and Beyond: Metropolitan Planning Beyond the Horizon ("Directions 2031") was adopted by the WAPC in August 2010 and is the latest spatial planning framework for Perth and Peel and outlines the planning vision and direction which will guide the planning of the City to 2031 and beyond.

Directions 2031 recognises the benefits of a more consolidated city, which include;

- A reduced overall need for travel;
- Supports the use of public transport, cycling and walking for access to services, facilities and employment; and
- A more energy efficient urban form.

Directions 2031 aims to provide for different lifestyle choices, vibrant nodes for economic and social activity and a more sustainable urban transport network. It states the role and function of centres will vary depending on their catchment, centres should generally:

- provide services, employment and activities that are appropriate for and accessible to the communities they support;
- be integrated with and encourage the efficient operation of the transport network, with particular emphasis on promoting public transport, walking and cycling and reducing the number and length of trips;
- be designed based on transit oriented development principles;
- provide opportunities as places to live through higher density housing and the development of social and cultural networks;
- encourage the agglomeration of economic activity and cultivation of business synergies; and
- support the development of local identity and sense of place.

Directions 2031 seeks a 50 per cent improvement on current infill residential development trends of 30 and 35 per cent; and, has set a target of 47 per cent or 154,000 of the required 328,000 dwellings as infill development. This translates to 11,100 new dwellings as part of infill/redevelopment opportunities within the City of Cockburn.

Directions 2031 seeks a 50 per cent increase in the current average residential density of 10 dwellings per gross urban zoned hectare; and, has set a target of 15 dwellings per gross urban zoned hectare of land in new development areas. This translates to 18,280 new dwellings as part of greenfield development opportunities within the City of Cockburn.

The Draft Outer Metropolitan Perth and Peel Sub-Regional Strategy ("DOMPPSRS") forms an integral part of Directions 2031. The Draft Strategy along with its counterpart for Central Metropolitan Perth provides the strategic spatial plan which will achieve the objectives of Direction 2031. The Draft Strategy identifies the subject area as an 'Urban Zone Undeveloped' area and classifies it as 'SOU1', with the potential to deliver 3000+ dwellings in the future.

### *2.4 State Planning Policy 4.2 – Activity Centres for Perth and Peel*

State Planning Policy 4.2 – Activity Centres for Perth and Peel ("SPP 4.2") replaced the WAPC's Metropolitan Centres Policy. The main purpose of SPP 4.2 is to specify broad requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres in Perth and Peel.

It is mainly concerned with the distribution, function, broad land use and urban design criteria of activity centres, and with coordinating their land use and infrastructure planning.

Other purposes of the policy include the integration of activity centres with public transport; ensuring they contain a range of activities to promote community benefits through infrastructure efficiency and economic benefits of business clusters; and lower transport energy use and associated carbon emissions. The policy also reflects the WAPC intention to encourage and consolidate residential and commercial development in activity centres so that they contribute to a balanced network.

Within the City of Cockburn, SPP 4.2 identifies Cockburn Central as a 'Secondary Centre' and Phoenix Park as a 'District Centre'. SPP 4.2 does not identify Neighborhood or Local Centres, rather these centres are designated through the structure planning process.

### *2.5 City of Cockburn Draft Local Commercial Activity Centre Strategy*

In 2011, Pracsys prepared a Draft Local Commercial Activity Centre Strategy ("LCACS") for the City of Cockburn consistent with the requirements of SPP4.2. The Draft LCACS was adopted for the purposes of advertising by Council at its December 2011 Ordinary Meeting. Reflecting the revised policy context in which it was developed, the Draft LCACS is not a traditional local commercial strategy. The previous focus of local commercial strategies upon commercial development and the application of floorspace caps have been completely reinvented through the new State planning framework.

The Draft LCACS's assessment framework responds to both the scale of the proposal and the importance of the particular centre. The Draft LCACS outlines the minimum reporting requirements of a proposal and seeks to provide both the City and proponents for development within the City's activity centres with a clear shared understanding of the expectations flowing from the Draft LCACS.

In respect to the subject area, the Draft LCACS identifies scope for a 'Hammond Park Local Centre'. The role of the future local centre is identified as being for *"daily and some weekly household shopping needs, and a very small range of other convenience stores"*.

### *2.6 City of Cockburn Local Planning Strategy*

The SSDSP3 is consistent with the following actions that are identified within the City of Cockburn Local Planning Strategy:

- promote higher density and mixed use developments to reduce car use and promote cycling, walking and public transport;
- ensure there is an appropriate housing and density mix to fulfill existing and potential demand from various groups;
- promote medium and high density housing in and near regional and district centres and near public transport facilities;
- provide a range of housing opportunities; and
- promote mixed land uses in communities, especially through the location of housing in commercial centres.

## *2.7 Southern Suburbs District Structure Plan (October 1999)*

In October 1999, the City and the WAPC adopted the Southern Suburbs District Structure Plan for that part of the newly developing urban area north of Gaebler Road west of the Freeway and north of Gibbs Road east of the Freeway. This plan has been the basis of coordinating local structure plans and subdivision proposals for Frankland Springs Estate, Hammond Park (Australand), Success Lakes, Success (Gold Estates), Harvest Lakes Estate, Atwell (LandCorp) and Atwell Waters, Atwell (Peet & Co). The plan showed a notional neighbourhood structure over the Stage 3 area and noted that this was to be the subject of further detailed investigations and planning.

Through the subsequent process of preparing local structure plans and detailed plans of subdivision for land north of Gaebler Road there have been minor departures from the District Structure Plan. However, these do not adversely impact or constrain the Stage 3 area.

## *2.8 Environmental Protection*

There are no lakes within the study area which are listed as Environmental Protection Swan Coastal Plains Policy Lakes ("EPP Lakes").

There is one wetland within the SSDSP3 which is classified as a 'Conservation Category Wetland' in accordance with the Department of Environment and Conservation ("DEC") Geomorphic Wetlands Swan Coastal Plain dataset. The wetland is located to the south east of the intersection of Gaebler Road and Frankland Avenue (Hammond Road).

Proposed LSP's will need to ensure these issues are investigated and managed in accordance with relevant government guidance documents, including

- o Position Statement No. 4 – Environmental Protection of Wetlands (EPA 2004)
- o Environmental Protection (Kwinana)(Atmospheric Wastes) Policy 1999

## *2.9 Cockburn Sound Catchment Area*

The SSDSP3 area is located within the Cockburn Sound Catchment Area which extends to the Kwinana Freeway and as far north as Beeliar Drive. The Cockburn Sound Management Council ("CSMC") was established in August 2000 to facilitate coordination of environmental management and planning of Cockburn Sound and its catchment.

In 2005 the State Environmental (Cockburn Sound) Policy 2005 was released by the Minister for the Environment after extensive scientific and public consultation. The Policy authorises the Cockburn Sound Management Council to report annually on the 'State of the Sound' and have this report tabled in Parliament.

An Environmental Management Plan, prepared by the CSMC, outlines on-ground actions for implementing the Policy, and establishes the particular roles and responsibilities of managers and user groups.

In August 2003, the local authorities including the City of Cockburn signed a Memorandum of Understanding to ensure the mutual and coordinated effort in the management and protection of the Cockburn Sound catchment area. This resulted in the preparation of a Local Planning Policy (Cockburn Sound Catchment

Policy) which aims to ensure the protection of the marine waters of Cockburn Sound from nutrient contamination (particularly nitrogen) from diffuse land sources.

The policy links the objectives of the Environmental Management Plan with State and Local Government to provide a consistent and unified approach to ensure planning and management decisions by Local Government within the catchment do not result in unsustainable additional nutrient loading or contamination of surface or groundwater resources.

### *2.10 Bush Forever*

In December 2000, the WAPC published Bush Forever as a 10 year strategic plan to protect regionally significant bushland of at least 10% of each of the original 26 vegetation complexes of the Swan Coastal Plain portion of the Perth Metropolitan Region. Bush Forever replaces the System 6 recommendations for the Swan Coastal Plain portion of the Perth Metropolitan Region. In June 2010 the WAPC released a State of Planning Policy 2.8 - Bushland Policy for the Perth Metropolitan Region ("SPP 2.8").

Whilst there are no sites identified within the SSDSP3 area for Bush Forever, Harry Warring Reserve which is located to the northwest of the subject area is included as a Bush Forever site. Given existing market garden, vacant land and Frankland Avenue separates the subject area from Harry Warring Reserve, future development created by the SSDSP3 is not expected to impact on the Bush Forever site. However careful consideration will need to be given as part of future structure plans to ensure an appropriate interface with the reserve.

In addition to the sites outlined in the Bush Forever report of December 2000, the Bush Forever office is examining additional sites that were identified for inclusion. These additional areas include Frankland Reserve. At its meeting held in September 2003 Council resolved to advise the WAPC that it supported the inclusion of Frankland Reserve as a Bush Forever site, subject to a degraded area in the eastern part of the reserve being available for the development of active sporting facilities and consideration being given to realigning Hammond Road and Rowley Road to minimise the impact on Frankland Reserve.

The realignment of Hammond Road was not supported by the WAPC and the Other Regional Road Reserve remains in its current alignment. No further amendments to SSP2.8 have occurred at this stage and as such Frankland Reserve is not currently identified as a Bush Forever site.

The City is not aware of any other land within the structure plan area that is currently under consideration for inclusion as a Bush Forever site.

### *2.11 Strategic Plan for Perth's Greenways*

In December 1998 the Ministry for Planning released the final report on the Strategic Plan for Perth's Greenways. The report provides background information on the value of Greenways. At a strategic level the Greenway plan complements Perth's Bush Forever and is intended to act as a catalyst for the development of plans identifying strategic linkages between large conservation areas by providing corridors of vegetation to connect these sites and promote the importance of protecting and managing these greenways.

The historic Baldivis tramway trail which is down the western boundary of Hammond Road reserve is Greenway link 78. The link is formalised as a strip of Parks and Recreation which links Frankland Reserve to Harry Warring and Thomsons Lake.

### *2.12 City of Cockburn Greening Plan*

The City's Greening Plan adopted in June 2001 is a long-term strategic plan for the maintenance and enhancement of remnant vegetation, the revegetation of previously cleared areas, road reserves, public land and the enhancement of ecological landscape, streetscape values and community amenity within the City of Cockburn.

The Greening Plan proposes the Baldivis tramway trail as a green link whilst the Kwinana Freeway is identified as a link that requires rehabilitation by the State Government to create a bushland corridor with a distinct Cockburn character. The landscaping theme proposed for major roads including Hammond, Gaebler and Barfield Roads is wetland whilst fruit trees are proposed for Wattleup Road. Rowley Road was not proposed at that time. Any construction of Rowley Road as a freight route should maximise retention of remnant vegetation where possible.

## **3.0 SITE CONTEXT AND ANALYSIS**

### *3.1 Physical Description*

The structure plan area is located in the central part of the Swan Coastal Plain within the Bassendean Dune System which consists of low hills of leached siliceous sands interspersed with sand flats and seasonal wetlands. Regional soil mapping shows the upland areas comprise deep Bassendean sands, generally light grey at the surface and yellow at depth which are well drained and of aeolian origin. The low lying areas at the northern boundary consist of shallow Bassendean sands over silts and clays of the Guildford formation of variable thickness. The water table is generally higher in these areas and often prone to inundation.

The area in the vicinity of Gaebler Road and the northern portion of Barfield Road is generally flatter and includes a conservation category wetland (dampland) in the vicinity of Gaebler Road. To the south and extending westwards along Wattleup Road the land is more elevated and undulating with levels ranging between RL30m AHD and RL49m AHD falling to flatter land at the western boundary at RL20m AHD to 23m AHD. Slopes within the elevated central portion range between 10 and 12%.

Vegetation within the structure plan area is of the Bassendean Vegetation Complex - central and south which is described as ranging from Woodlands of Jarrah-Sheoak- Banksia on the sand dunes to low woodland of melaleuca species and sedge land on the low lying depressions and swamps (**refer to Figure 4 – Aerial Photography**).

The broad information contained in the David Wills Russell Road Arterial Drainage Scheme report shows the 5 year average minimum ground water levels being 21m AHD at Barfield Road, 18m AHD at Hammond Road and 12m AHD at the western extremity along Wattleup Road. Accordingly the lower land to the immediate south of Gaebler Road, west of Barfield and west of Hammond Road



FIGURE 4

**AERIAL PHOTO**  
SOUTHERN SUBURBS DISTRICT STRUCTURE PLAN  
- STAGE 3, HAMMOND PARK

FIGURE 4

City of  
Cockburn



just south of Harry Warring Reserve will require filling to achieve minimum separation to the proposed controlled ground water levels.

Based on the City's general experience, it is possible that some of the lower lying areas or depressions throughout the structure plan area could contain peaty or clayey materials. In these areas detailed geotechnical investigations will need to be undertaken prior to subdivision and or development and appropriate remediation works completed as part of the development works.

### *3.2 Existing Land Uses*

In the past the subject land was zoned rural and some 35% of the land was cleared and used for a variety of rural pursuits.

With the exception of some intensive market garden operations along Gaebler Road, most of the eastern portion of the structure plan area is either vacant land or has been developed for rural living purposes. Along the southern side of Wattleup Road the majority of the land is used for intensive agricultural and horticultural purposes including a poultry farm whilst there are a number of market gardens and turf farms to the north of Wattleup Road (**refer to Figure 5 – Existing Land Uses**).

Most of the lots have been developed with residences and outbuildings associated with the rural activities. Many of the houses are relatively new, in good condition and are to be retained as part of the subdivision of the land. Some buildings are beyond their economic life and will be demolished as part of the subdivision. A decision on the future of any improvements on the land can be made at the time of preparing local structure plans and detailed plans of subdivision.

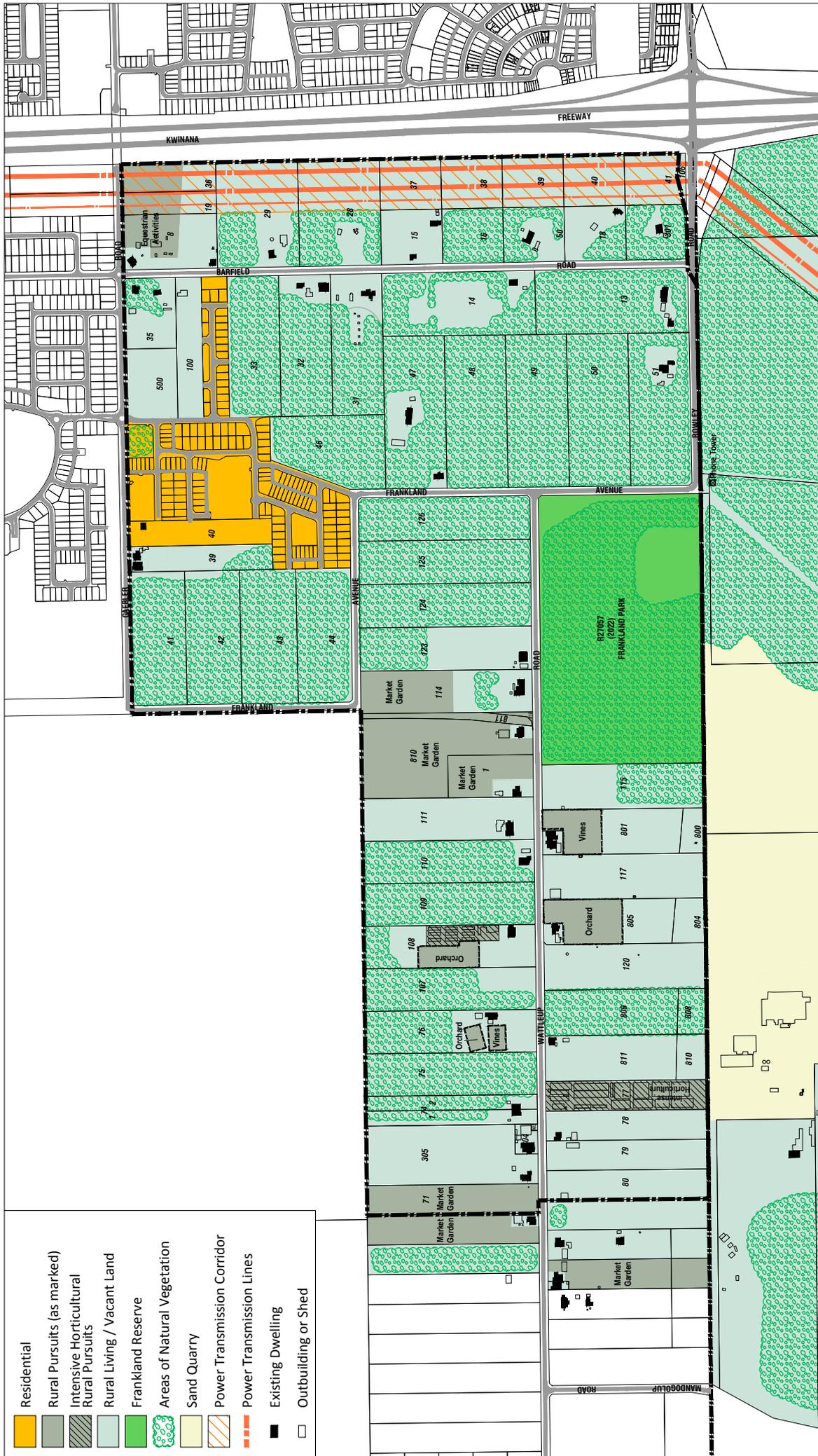
### *3.3 Adjoining Land Uses*

Land to the north of Gaebler Road is zoned Urban in the MRS and Development in City of Cockburn TPS No.3. LSP's and detailed plans of subdivision have been approved and the vast majority of the area has now been developed for housing. Planning for SSDSP3 acknowledges these approvals.

Land south of the structure plan area within the Town of Kwinana is a mixture of natural bushland, sand quarries and packing/storage facility as shown on the existing Land Use plan. There is also a communications tower near the corner of Rowley Road and Frankland Avenue. These activities pose no constraints to development given their nature and separation from the urban area by the wide reserve for Rowley Road which traverses the southern boundary of the structure plan area.

### *3.4 Site Contamination and Uncontrolled Fill*

Whilst there are no known contaminated sites in the area, there is the potential that land could be contaminated by harmful substances including pesticides as a result of past agricultural and horticultural activities. Accordingly, development and subdivision of those areas will be the subject of a Soil Contamination Assessment and if areas are identified it will be necessary for these to be remediated to recognised health standards determined by the DEC.



**EXISTING LAND USE**  
SOUTHERN SUBURBS DISTRICT STRUCTURE PLAN  
- STAGE 3, HAMMOND PARK  
**FIGURE 5**



**FIGURE 5**

Likewise, it was not uncommon for low lying areas within the rural zone to be filled with both appropriate and inappropriate material and often over peat or clay areas. Accordingly, a geotechnical report will be required at the time of subdivision to confirm the suitability of these areas for residential purposes.

### *3.5 Sites of Indigenous Heritage Significance*

A desktop review through the Department of Indigenous and Affairs' ("DIA") Aboriginal Heritage Inquiry System, found no archaeological or ethnographical Aboriginal Sites listed in the study area.

It is possible that sites that have not yet been listed on the Register System may exist. The Aboriginal Heritage Act 1972 protects all Aboriginal sites in Western Australia whether they are known to the DIA or not.

As part of an environmental assessment of land in Banjup (1997), McDonald Hales & Associates conducted a desktop survey of Aboriginal sites within a 3 km radius just west of Lyon Road. Nine recorded Aboriginal sites occur within this radius. Seven of these are archaeological sites which are mostly artefact scatters but one is believed to be a kangaroo pit or trap. The remaining two are ethnographic sites which pertain to wetlands and are reported to have mythological association. There are known sites of significance on the west side of Barfield Road to the north of the study area and at Wattleup Swamp which is on the north side of Wattleup Road on rural land to the west.

The high number of reported heritage sites within the surrounding area suggests a potential for sites being located within the study area, particularly as it is located on the Bassendean sands. An archaeological and ethnographic survey of the study area prior to any development may identify sites which have not yet been recorded. This issue should be addressed by individual proponents in consultation with DIA.

### *3.6 Sites of European Heritage Significance*

The historic Baldivis tramway trail runs along the western boundary of Frankland Avenue/Hammond Road reserve. The tramway was provided to service the grouped settlement at Baldivis following the Second World War, acknowledging the need to ensure cheap access to employment and other services.

The link is formalised as a strip of MRS Parks and Recreation reserve which links Frankland Reserve to Harry Warring and Thomsons Lake. The reserve lies over privately owned land.

The infrastructure associated with the tramway has long been removed, or overgrown. In some instances, evidence of tramway sleepers have been found. In recent times, the approach taken to the conservation and interpretation of this trail has been to respect its integrity and to not reduce or modify the existing reserve.

### *3.7 Wetlands*

A dampland lies within the north west portion of the SSDSP3 area, located on Lots 39 and 41 Gaebler Road and Lot 42 Frankland Avenue and is identified as a CCW under the DEC's Geomorphic Wetlands dataset

The CCW was subject to a wetland classification review in 2010 and the DEC determined that the CCW is a fully functioning wetland and resolved to retain its CCW classification. Careful consideration needs to be given to the wetland at the LSP stage to ensure that subdivision and drainage impacts are minimised and appropriate ongoing management measures are implemented.

### *3.8 Implications for Urban Development*

Implications for the subdivision and development of the area for residential and associated uses as a result of previous or existing land use activities are as follows:

- Some land will need to be filled to achieve adequate vertical clearances to the high groundwater levels.
- Geotechnical investigations will need to be undertaken on areas that have been subject to uncontrolled fill and the lower areas to substantiate suitable ground conditions.
- Completion of soil contamination surveys will need to be undertaken on land previously used for agricultural and horticultural purposes to ensure its suitability for residential purposes.
- An archaeological and ethnographic survey of the study area prior to any development may identify sites of Indigenous Heritage which have not yet been recorded. This issue should be addressed by individual proponents in consultation with DIA.

These requirements are normal within the City of Cockburn and do not affect the suitability of the area for urban development but rather represent matters that need to be addressed at the detailed planning and development phase.

## **4.0 DEVELOPMENT OPPORTUNITIES AND CONSTRAINTS**

The previous sections have identified a number of opportunities and constraints that have an influence on the planning of the structure plan area. These together with other factors are shown within **Figure 6 - Opportunities & Constraints** map and described in the following section.

### *4.1 Buffers*

The following buffers affect the area:

#### 4.1.1 Market Gardens and Turf Farms

The DEC's general recommendation is that residential development should not be within 500 metres of a market gardens or turf farms unless the developer can demonstrate that specific circumstances justify a lesser buffer. This position is based on Environmental Protection Authority's ("EPA") Guidance Statement No. 3 on the Separation Distances between Industrial and Sensitive Land Uses ("GS No.3").

GS No.3 is intended to provide advice on generic separation distances between specific industry and sensitive land uses to avoid or minimise the potential for land use conflict. The recommended 500 metre buffer distance is not intended to be an absolute separation distance, rather a default distance for the purposes of:

- identifying the need for specific separation distance or buffer definition studies; and



- o providing general guidance on separation distances in the absence of site specific technical studies.

The DEC will also consider management options such as retention of a vegetated buffer, construction of a separation wall and Memorials on Titles to mitigate against negative impacts from turf farms and market gardens.

The WAPC's State Planning Policy 4.1 - State Industrial Buffer ("SPP 4.1") states that proposals satisfying the recommended buffer distances set out in the EPA's GS No. 3 are deemed to comply with the objectives of the policy.

However, the WAPC's Planning Bulletin 63 - Policy for Dealing with Potential Conflicts Between Residential Subdivision and Market Gardens in East Wanneroo ("PB63"), requires only specially designed fencing, together with a protected and maintained vegetation buffer of one line of evergreen trees or bushes (minimum 1.5 metres high) for residential lots abutting a market garden, for land zoned Urban or Urban Deferred in the MRS.

There appears to be a large discrepancy between the EPA's GS No. 3 and the WAPC's SPP 4.1 and the approach taken by the WAPC in PB63 regarding appropriate setbacks between residential development and market gardens or turf farms. As the EPA's GS No.3 and WAPC's SPP 4.1 are higher order policy documents, they must be used to guide buffer distances to any existing market gardens and turf farms within the SSDSP3 area.

Existing market gardens are shown on the Opportunities and Constraints plan and associated buffers will be determined on a case by case basis at the local structure plan and subdivision phases.

#### 4.1.2 Kwinana Environmental Protection (Atmospheric Wastes) Policy

The Kwinana Environmental Protection (Atmospheric Wastes) Policy – Area B marginally affects the extreme south western corner of the SSDSP3. The affected area is within the portion of the SSDSP3 which is subject to future structure planning due to the implications of the Alcoa residue disposal area buffer detailed in the following section. As the area affected is very minor, it is envisaged that this would be accommodated within a road reserve as part of future structure planning and subdivision of that land should it occur.

#### 4.1.3 Alcoa Residue Storage Area

In 2010 as part of the broader Kwinana Industrial Buffer review process, and based on advice from the Department of Health ("DoH") and Department of Environment and Conservation, the WAPC resolved to extend the buffer surrounding Alcoa's Mandogalup Residue Disposal Area.

The expanded buffer includes a 1 kilometre area where future residential expansion is restricted (within the Town of Kwinana), with an additional 0.5 kilometres beyond this (into Wattleup and Hammond Park) also restricting residential expansion and development of some other sensitive land uses (i.e. kindergartens, hospitals and aged persons housing). The purpose of the additional buffer area was to recognise uncertainties related to the level and frequency of impacts from the Alcoa Residue Disposal Area and Kwinana Industrial Area more broadly. The WAPC have stated that the extended portion of the buffer will be reviewed in five years time to ensure that its extent and location reflects the current conditions in the area.

#### *4.2 Acid Sulfate Soils*

The WAPC's Planning Bulletin No. 64 – Acid Sulfate Soils ("PB No. 64") sets out the issues relating to Acid Sulfate Soils ("ASS") and provides guidance on the matter. Maps forming part of PB No. 64 show the eastern portion of the SSDSP3 area is of moderate to low risk and the western portion being of low to no risk. Three isolated high risk areas are shown being along the southern side of Gaebler Road and north western corner of the area along Wattleup Road.

Proposals for subdivision and development in the areas of high and moderate to low risk will need to address this issue in detail as part of the local structure planning and subdivision processes. Investigations will be required where subdivision works involve removing organic soils, dewatering and or soil disturbance immediately above or below the groundwater table.

#### *4.3 Peel-Harvey Drainage Coastal Plain Catchment Area*

The northern limit of the Peel-Harvey Catchment Area abuts the southern boundary of the SSDSP3 area. As the catchment area does not encroach within the SSDSP3 area, there are no implications for the subject land.

#### *4.4 Fire Risk*

Harry Waring Reserve and Frankland Reserve are considered important conservation reserves. Like all conservation reserves, they pose a fire risk and accordingly residential development should be separated from the reserve boundaries by a subdivision road or similar separating interface. The use of a perimeter road (public street) and public open space areas are the preferred interface treatments. Well designed, these can significantly reduce the risk of bush fire hazard.

The use of a perimeter road and/or public open space areas can also provide opportunities for better land management of the reserves and to minimise potential issues and problems associated with illegal dumping and anti-social behaviour by maximising passive surveillance.

Fire management plans will need to be prepared at the LSP stage where proposed development is located adjacent to regional open space, significant public open space or other densely vegetated areas.

#### *4.5 Elevated Land*

The elevated land particularly in the western portion of the structure plan area provides the opportunity for innovative designs which capture internal and external views. It is important to build upon these opportunities through the LSP process when designing road layouts, neighbourhood cells and public open space areas.

#### *4.6 Open Space Opportunities*

Public parkland used by people living or working in urban areas can significantly promote quality of life and amenity. Regional, district and local open space

(neighbourhood parks) provided for in structure planning can contribute towards legibility, identity and sense of place that helps build community.

Almost two thirds of the SSDSP3 area is vacant or remnant undeveloped land which provides opportunity to strategically locate public open space areas within the design. Given that some of this land is vacant and cleared, this provides the ability to develop open space areas without the need for extensive clearing of existing bushland and vegetation.

There are well located areas of good quality bushland within the structure plan area that are ideally suited for incorporation in neighbourhood parks. This will minimise the need for landscaping, provide a high level of visual amenity, protect additional areas of high quality vegetation and reduce the use of ground water for irrigation.

#### *4.7 Power Transmission Corridor*

A Western Power transmission corridor containing three steel pylon high voltage lines is located down the eastern side of the SSDSP3 area adjacent to the Kwinana Freeway. Some of the land is owned by Western Power whilst some remains in private and State Government agency ownership.

It is understood that the transmission corridor accommodates all easement requirements associated with the power lines and there are no restrictions on development outside of the corridor area.

Development of the corridor area is restricted in accordance with Western Power requirements. It should be noted that the City will not accept any of the corridor land as part of the normal 10% public open space contribution as its use is severely restricted.

#### *4.8 Urban Water Management*

The guiding document for drainage within the SSDSP3 area is the Russell Road Arterial Drainage Scheme report prepared by David Wills and Associates in December 2002 (**refer to Appendix 1 for full report**). This report was based on data from existing boreholes near the SSDSP3 area.

Consistent with the requirements of the DoP's Better Urban Water Management ("BUWM") and the objectives of State Planning Policy 2.9 - Water Resources ("SPP 2.9"), landowners/developers will need to prepare Local Water Management Strategy's ("LWMS") and Urban Water Management Plan's ("UWMP") as part of structure planning and subdivision proposals for their land. The Russell Road Arterial Drainage Scheme report will form the basis for future LSP's and LWMS's.

The Russell Road Arterial Drainage Scheme report demonstrates that the SSDSP3 area is capable of supporting urban development and able to achieve appropriate urban water management outcomes.

##### *4.8.1 Water Management Objectives*

Existing LWMS's approved within the SSDSP3 area demonstrate best practice integrated urban water management ("IUWM") and water sensitive urban design ("WSUD"). Future LWMS's will be required to achieve these same objectives and

criteria. The principles and objectives of best practice IUWM and WSUD that guides LWMS's are drawn from the following documents:

- Stormwater Management Manual for Western Australia (DoW, 2007);
- Liveable Neighbourhoods Edition 4 (WAPC, 2007); and
- Better Urban Water Management (WAPC, 2008).

#### *4.9 Freight Corridor*

In August 2011, the WAPC established a Planning Control Area for the future extension of Rowley Road west from the Kwinana Freeway. This was to protect the road corridor pending its inclusion as a Primary Regional Roads Reserve under the MRS as it is currently zoned 'Urban Deferred'. Given that the upgrading of Rowley Road to a freight corridor standard will occur sometime in the future, it is necessary to plan for an appropriate interface to urban development within the SSDSP3.

The WAPC's State Planning Policy 5.4 - Road and Rail Transport Noise and Freight Considerations in Land Use Planning ("SPP5.4"), addresses transport noise from within major transport corridors, including primary freight routes, and its impact on nearby noise-sensitive land uses. SPP5.4 is therefore relevant to the SSDSP3 as its provisions apply where "a proposed new noise-sensitive development in the vicinity of an existing or future major road, rail or freight handling facility". Future development therefore needs to appropriately accommodate any impacts associated with the freight road corridor in accordance with SPP5.4.

The City's preference at this stage is for no future residential development to directly abut the Rowley Road reserve. Future LSP's will need to demonstrate a suitable interface treatment (e.g. linear public open space, service road design with fronting residential development) being provided.

## **PART TWO – DISTRICT STRUCTURE PLAN**

### **5.0 DISTRICT STRUCTURE PLAN DESIGN**

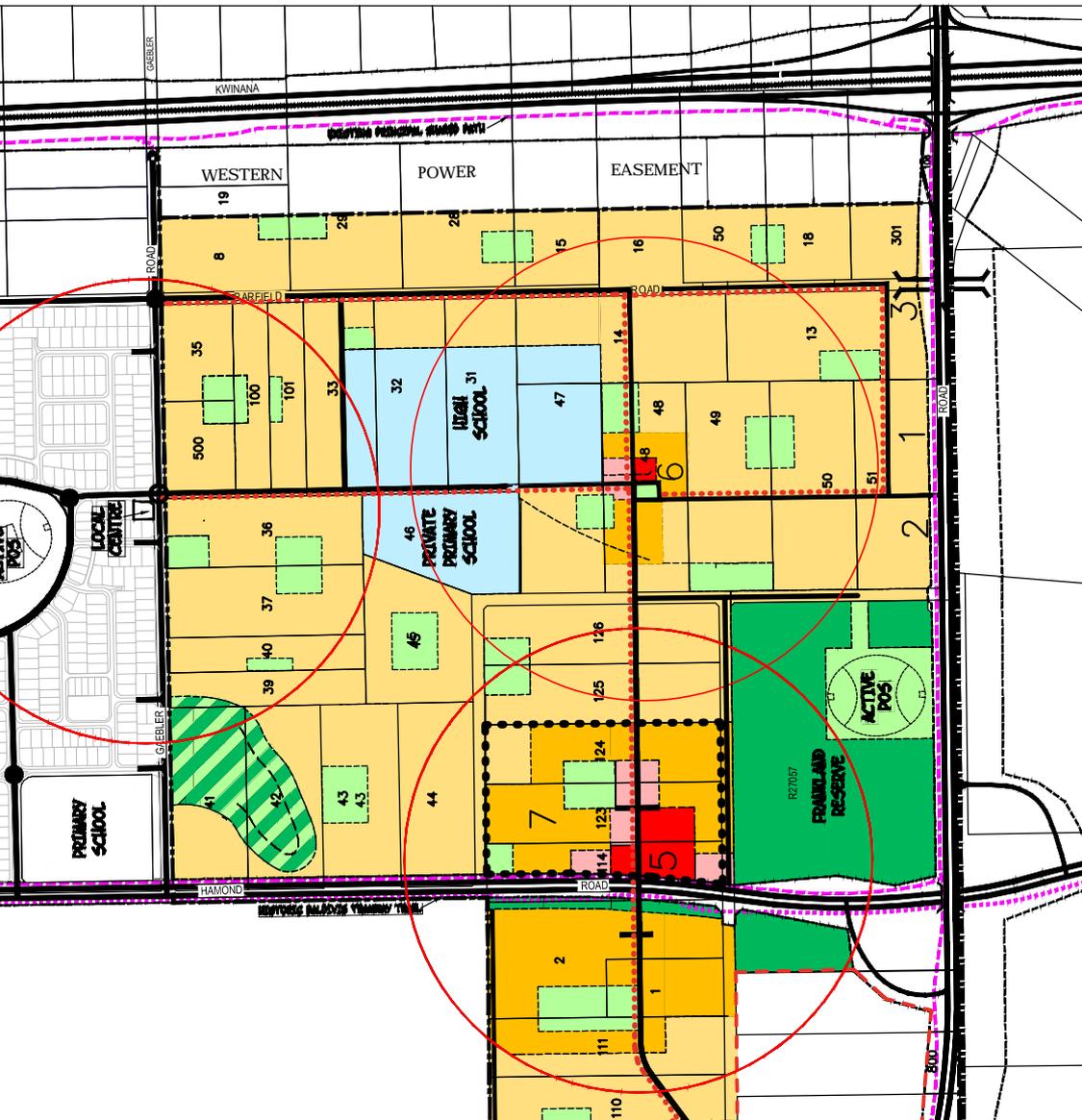
#### *5.1 Development Principles*

The key development principles of the Southern Suburbs District Structure Plan – Stage 3, **as shown in Figure 7** are to:

1. Provide a framework for urban land uses within the District Structure Plan area that integrates with the Sub Regional context;
2. Respond to the social and economic needs of the community in a timely way;
3. Provide a framework for future Local Structure Planning and subdivision, allowing for refinement of detail and recognition of previous uses;
4. Provide for a variety of housing choice through a range of densities, with higher codings being located near public open space, centres and along high frequency public transport routes.
5. Define a robust road network reflecting and accommodating public and private transport priorities, responding to the Sub Regional transport network;
6. Main-street based centres;
7. An integrated open space, conservation and drainage network, balancing environmental, recreational and drainage objectives;

**PLAN NOTES**

1. FUTURE RESIDENTIAL DEVELOPMENT SHALL NOT DIRECTLY ABUT ROWLEY ROAD. FUTURE LOCAL STRUCTURE PLANNING IS TO DEMONSTRATE A SUITABLE INTERFACE AND MODELING (E.G. ENLARGED SERVICE ROAD DESIGN WITH FRONTING RESIDENTIAL DEVELOPMENT AS A MINIMUM) BEING PROVIDED TO THE FUTURE ROWLEY ROAD FREIGHT ACCESS ROUTE.
2. FUTURE ACCESS ROAD TO BE PROVIDED AS A FULL INTERSECTION UNTIL ROWLEY ROAD IS UPGRADED AND CONSTRUCTED TO A REGIONAL ROAD AT WHICH TIME THE INTERSECTION WILL BE CONVERTED AND MAINTAINED AS LEFT INLET OUT ACCESS (SUBJECT TO MAIN ROADS V.A. APPROVAL).
3. AS PART OF THE UPGRADE OF ROWLEY ROAD, GRADE SEPARATED PEDESTRIAN AND VEHICULAR ACCESS IS TO BE PROVIDED AS A CONTINUATION OF BARFIELD ROAD, IN ORDER TO MAINTAIN CONNECTIVITY BETWEEN FUTURE DEVELOPMENT TO THE SOUTH OF ROWLEY ROAD. THIS MAY BE FURTHER RATIONALISED THROUGH SUBSEQUENT LOCAL STRUCTURE PLANNING TO DETERMINE HOW THIS SPECIFIC ACCESS IS CREATED.
4. FUTURE STRUCTURE PLANNING OF THE CELL SOUTH OF WATTLEUP ROAD MUST PROVIDE AN APPROPRIATE INTERFACE WITH RESIDENTIAL DEVELOPMENT NORTH OF WATTLEUP ROAD. THIS IS TO HAVE PARTICULAR REGARD TO THE POSITION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION IN RESPECT OF ITS POSITION ON THE ACCEPTABILITY (OR OTHERWISE) OF RESIDENTIAL DEVELOPMENT SOUTH OF WATTLEUP ROAD, AND ALTERNATIVE (NON-RESIDENTIAL) LAND USES THAT MAY BE REQUIRED. ANY IMPACTS ASSOCIATED WITH THE FUTURE DEVELOPMENT OF NON-RESIDENTIAL LAND USES IN THE CELL SOUTH OF WATTLEUP ROAD MUST BE FULLY CONTAINED WITHIN THE CELL BOUNDARIES.
5. NEIGHBOURHOOD CENTRE - THE DESIGN AND FUNCTION OF THE PROPOSED NEIGHBOURHOOD CENTRE SHALL BE BASED ON MAIN STREET PRINCIPLES AND RELEVANT PROVISIONS OF LIVEABLE NEIGHBOURHOODS. ANY ASSOCIATED LOCAL STRUCTURE PLAN MUST ADEQUATELY DEMONSTRATE THROUGH CONCEPT PLANS AND/OR DETAILED AREA PLANS THE MANNER IN WHICH THE CENTRE ADDRESSES THE REQUIREMENTS OF THE RELEVANT SECTIONS OF THE SOUTHERN SUBURBS DISTRICT STRUCTURE PLAN - STAGE 3 REPORT, AND PARTICULARLY THE NEIGHBOURHOOD CENTRE CONCEPT PLAN PROVIDED WITHIN THE REPORT DOCUMENT.
6. NEIGHBOURHOOD NODES - THE DESIGN AND FUNCTIONALITY OF THE NEIGHBOURHOOD NODES SHALL BE DISTINCTLY DIFFERENT TO THE PRIMACY OF THE NEIGHBOURHOOD CENTRE. THESE LOCATIONS ARE TO PROVIDE FOR A RANGE OF MORE LOCALLY FOCUSED ACTIVITIES AND FUNCTIONS, WHERE RETAIL IS PROPOSED, THESE ARE TO NOT EXCEED A MAXIMUM RETAIL FUNCTION OF 300SQM, WITH SUCH FUNCTION BASED UPON A CONVENIENCE STORE TYPE USE.
7. CENTRAL PRECINCT - A COMPREHENSIVE LOCAL STRUCTURE PLAN WILL BE REQUIRED FOR THE CENTRAL NEIGHBOURHOOD CENTRE AND ADJACENT DEVELOPMENT. THE CITY WILL NOT CONSIDER INDIVIDUAL STRUCTURE PLANS IN THIS LOCATION DUE TO THE NEED TO ENSURE THE SUITABLE INTEGRATION OF DEVELOPMENT.



**GENERAL NOTES**

- A. ALL LOCAL STRUCTURE PLANS MUST INCLUDE AND BE INFORMED BY:
  - I) DETAILED LIMS BASED UPON REGIONAL DRAINAGE STUDY;
  - II) DETAILED NOISE MANAGEMENT STRATEGY WHERE LSP ADJACENTS ROWLEY ROAD;
  - III) FIRE MANAGEMENT PLAN WHERE LSP IS LOCATED NEAR ROS OR SIGNIFICANT POS;
  - IV) FLORA AND FAUNA MANAGEMENT PLAN;
  - V) TRAFFIC MANAGEMENT PLAN;
  - VI) CONTAMINATED SITES & ACID SULPHATE SOILS MANAGEMENT PLAN WHERE REQUIRED;
  - VII) HERITAGE STUDY WHERE LSP INCLUDES FORMER HISTORIC TRAMWAY;
  - VIII) TRANSITION AND/OR INTERFACE STRATEGY IN RESPECT OF EXISTING RURAL USES;
  - IX) NEIGHBOURHOOD CENTRE CONCEPT PLAN AND DETAILED AREA PLAN WHERE INCLUDED WITHIN LSP AREA;
  - X) NEIGHBOURHOOD NODE CONCEPT PLAN AND DETAILED AREA PLAN.
- B. LOCAL STRUCTURE PLANS SUBDIVISION AND DEVELOPMENT OF THE SUBJECT AREA IS TO BE IN ACCORDANCE WITH AN ENDORSED APPLICABLE LOCAL STRUCTURE PLAN.

**Residential Density**

- High (Yellow)
- Medium (Light Yellow)

**Key Open Space Areas:**

- Public Open Space (Light Green)
- Regional Open Space (Dark Green)

**Local Centre (Pedestrian Based Retail)**

- Mixed Business / Commercial / Home Based Business (Red)
- Community Facilities / Schools etc (Blue)
- Conservation Category (Green with diagonal lines)
- Wetland\* (Green with wavy lines)

**Key Road Structure (Existing and Proposed)**

- Major Shared Path (Red dashed line)
- Historic Baldivis Tramway Trail (Purple dashed line)
- 400m Walkable Catchment (Red circles)
- Central Precinct (Black dashed box)

**City of Cockburn**

GNM 2015

0 250m

SCALE 1:12,500

**SOUTHERN SUBURBS  
DISTRICT STRUCTURE PLAN  
- STAGE 3. HAMMOND PARK / WATTLEUP**

**FIGURE 7**

8. Provide for sustainable land use and lot design that responds to solar orientation principles as well as Crime Prevention Through Environmental Design (“CPTED”);
9. Encourage local employment within centres, as well as through home based businesses; and
10. Reflect and integrate the development area with surrounding land uses.

### *5.2 Neighbourhood Structure*

Planning of the area is based on walkable catchments of:

- o 400 metres (5 minute walk) which focus on centres, significant areas of public open space and public transport.

Given the shape and extent of the urban area there are significant gaps between each of the 4 neighbourhoods shown. As a result of the limited extent of the urban area and the range of facilities to be provided, there is no justification for the delineation of additional neighbourhoods to reduce the extent of land outside the walkable catchments, particularly as this would most likely result in considerable overlap and no functions to act as the core or focus.

The internal road system within the neighbourhood structure should be permeable and maximise the walkability, particularly to public transport, commercial, recreation, education and community facilities.

### *5.3 Transport and Access Network*

#### 5.3.1 Major Road Network

The DoP has identified the need to upgrade and extend Rowley Road as a dual carriageway which could potentially provide the main link from the Kwinana Freeway to the Latitude 32 industrial area and the future outer harbour. Whilst Rowley Road has not been designated as a ‘Primary Regional Road’ or ‘Other Regional Road’ under the MRS, Planning Control Area No. 95 has been designated over the alignment and the WAPC has purchased some of the land required for the road. Directions 2031 identifies the upgrade of the Outer Harbour access roads, including Rowley Road as a strategic road planning project.

Rowley Road provides direct access to the Kwinana Freeway with access onto Rowley Road being restricted to three points as per the SSDSP3 being Hammond Road, Barfield Road and a new central north-south road located between Hammond and Barfield Roads.

Hammond Road will be extended from Gaebler Road to Rowley Road incorporating in part Frankland Road and ultimately go under Rowley Road and continue south as shown on the MRS and the Jandakot Structure Plan.

The main east-west link is Wattleup Road, which is proposed to be realigned to the north to avoid steep contours at the eastern end of existing Wattleup Road.

The road layout shown on the SSDSP3 encourages the majority of traffic generated from the development of the area to utilise Hammond Road and the new central north-south road which will link Russell Road with Rowley Road through Frankland Springs, Lot 412 Gaebler Road and the Southern Suburbs Stage 3 development. This road is focused on directing traffic towards the future Mandogalup railway station and will be the main bus route for the area. Volumes

of traffic along the Barfield, Wattleup, Hammond and the proposed main north-south road are unknown at this stage. Access onto Barfield and Wattleup roads will need to be determined at the time of preparing LSP's having regard to projected traffic volumes.

### 5.3.2 Traffic Management

Traffic management devices will be required at various locations within the SSDSP3 area. In the long term it is proposed that the intersection of Hammond and Rowley Roads be grade separated. In the first instance the intersection would be at grade and in the medium term would require traffic lights or a roundabout. As part of the upgrading of Rowley Road, a grade separated pedestrian and vehicular access is required to be provided as a continuation of Barfield Road in order to maintain connectivity between future development to the south of Rowley Road. As detailed in sections 5.3.3 and 6.7, the City considers these future modifications to be the responsibility of the State Government.

The intersection of Rowley Road and the north-south central road is proposed to be provided as a full intersection until Rowley Road is upgraded and constructed to a regional road at which time the intersection is to be converted and maintained as left in/left out access only.

Traffic lights will be required at the intersection of Hammond and realigned Wattleup Road to facilitate traffic and pedestrian/cyclist movement. Notional roundabouts have been shown at various intersections however these and any others will need to be assessed in detail at the LSP stage.

### 5.3.3 Shared Paths/Connections

An interconnecting network of shared paths will be provided within the Structure Plan area with the main connections being identified as Hammond Road, Rowley Road, Wattleup Road (existing and realigned) and the Kwinana Freeway. The historic Baldivis Tramway Trail is parallel to the western side of Hammond Road and opportunities to link the trail to the proposed centre near the intersection of Hammond Road and Wattleup Road. This will provide trail users with the opportunity to access and use the retail facilities within the neighbourhood centre identified for this intersection. LSP's will need to identify key links into the main shared path network.

Pedestrian connections south to the proposed Mandogalup railway station are imperative. Safe, grade separated pedestrian crossings to Rowley Rd should be planned to maximise use of the future station. It is considered the funding of these crossings should be sourced by the State Government as the need for the grade separation arises due to two State Government decisions:

1. Designation of Rowley Road as a major freight route, and;
2. Relocation of the Mandogalup Station approximately 500m south of Rowley Road than originally planned.

## *5.4 Residential Development*

The SSDSP3 area will ultimately comprise a range of residential densities, housing types and tenures. The detail, including specification of density codes as per the provisions of the Residential Design Codes of Western Australia (R-Codes), will be clarified through both the LSP and subdivision processes.

#### 5.4.1 Housing Principles

The housing principles for the SSDSP3 area to guide future structure planning and subdivision are:

1. Provide diversity in housing choice, lot sizes and tenure;
2. Achieve minimum targets of 15 dwellings per gross urban zoned hectare of land (inclusive of land required for infrastructure and POS) and 22 dwellings per site hectare of residential land (exclusive of land required for infrastructure and POS);
3. Higher density dwellings (25 dwellings per gross hectare) and aged persons/independent living accommodation within 400 metres of centres, public open space and along high frequency bus routes;
4. Promoting mixed use development around and within commercial centres;
5. Housing design, lot layout and access arrangements that create attractive streetscapes; and
6. Environmentally sustainable design approaches in terms of solar orientation of lots.

#### 5.4.2 Residential Densities and Housing Types

The location and layout of R-Code boundaries will be determined at the LSP stage followed by detailed subdivision design. LSP's will be required to demonstrate the achievement of a minimum 15 dwellings per gross urban zoned hectare of land and a minimum of 22 dwellings per site hectare of residential land. Areas near 'centres' will generally need to demonstrate the achievement of a minimum 25 dwellings per gross urban zoned hectare of land.

The following provides a summary of locational criteria for residential land uses within the SSDSP3 area, providing a framework for the designation of R-Codings at the LSP stage but does not preclude other density responses within the structure plan area.

Variations to the densities prescribed under the SSDSP3 will be assessed against the housing principles set out in section 5.4.1 - Housing Principles, and the locational criteria set out below.

##### 5.4.2.1 Locational Criteria – Medium Density - Residential R30 (base)

1. Residential R30 will be the minimum base coding over the SSDSP3 area. Allowing for the provision of traditional single dwelling lots from 300m<sup>2</sup>.

##### 5.4.2.2 Locational Criteria - Medium Density - Residential R35-R60

1. Generally surrounding areas of high amenity, such as open space;
2. Located so as to maximise access to and use of services and facilities such as public open space, activity nodes and public transport routes; and
3. Located to enhance passive surveillance of public spaces.

##### 5.4.2.3 Locational Criteria – High Density - Residential R60+

1. Located within or adjacent to the Neighbourhood Centre or Neighbourhood Nodes;
2. Located to enhance passive surveillance of public spaces.

#### 5.4.2.4 Locational Criteria – Aged and Dependant Persons’ Dwellings

1. Generally surrounding areas of high amenity, such as open space;
2. Located so as to maximise access to and use of services and facilities such as public open space, commercial centres and public transport routes: and
3. Located to enhance passive surveillance of public spaces.

#### 5.4.3 Lot Yield Estimates

Based on the locational criteria set out in section 5.4.2.4, the SSDSP3 is forecast to yield approximately 3411 dwellings. **Table 1** below outlines how the 3411 dwelling target is expected to be delivered within the R30, R35-R60 and R60+ coded residential areas. As shown in the table below, the SSDSP3’s total gross urban land area has been calculated at 128 hectares and total site area at 83 hectares.

<b>Table 1 – Southern Suburbs DSP Stage 3 Estimated Lot Yields</b>			
<b>Density</b>	<b>Estimated Average Lot Size</b>	<b>Total Area (site hectare)</b>	<b>Estimated Yield</b>
<b>R30</b>	300 m <sup>2</sup>	61 ha	2033
<b>R35 – R60</b>	220 m <sup>2</sup>	12 ha	545
<b>R60+</b>	120 m <sup>2</sup>	10 ha	833
<b>Total</b>		<b>83 ha</b>	<b>3411</b>
<b>Total Site area (83ha)</b>		<b>Dwelling Units per site ha</b>	<b>41</b>
<b>Total Gross areas (128ha)</b>		<b>Dwelling Units per gross ha</b>	<b>26</b>

**Note:** The calculations above do not include land which is subject to future structure planning (i.e. land affected by Alcoa Reside Storage Area buffer).

Based on the above, the SSDSP3 notionally achieves an average residential density of 26 dwellings per gross urban zoned hectare which is in accordance with the minimum density target of 15 dwellings for greenfield developments set out in *Directions 2031*. The forecast of approximately 3411 dwelling units for SSDSP3 is also consistent with the DOMPPSRS which identifies the subject area as having the potential to deliver 3000+ dwellings in the future.

It should be noted however that minimum and average site areas not applicable to multiple dwellings in areas codes R30 or greater under the R-Codes as amended in November 2010. As the majority lots will be coded above R30 under the SSDSP3, which have the potential to be developed as multiple dwellings, the site hectare dwelling calculations can be considered relatively conservative.

These densities and yields are indicative only and will be refined and developed as part of LSP and subdivision design.

#### 5.4.4 Aged Persons Accommodation/Independent Living

Specific sites for such a facility have not been identified on the SSDSP3. However in order to ensure the design of any proposed aged person’s accommodation integrates with the surrounding urban fabric the following principles apply in the preparation of LSP’s:

1. Located so as to maximise access to and use of services and facilities such as public open space, centres and public transport routes;

2. Development to address and survey surrounding public streets, with visually permeable fencing and major openings addressing the street;
3. Development integrated with surrounding land uses, including pedestrian access and permeability; and
4. Any community/shared facilities to address the primary street.

Detailed Area Plans will be required to be prepared for aged persons/ independent living sites in accordance with these principles at subdivision stage. The City may waive this requirement only where matters relating to development design have been satisfactorily addressed at the LSP stage.

All proposed aged persons/ independent living sites will also need to demonstrate compliance with the requirements of the City's Local Planning Policy No.12 - Aged or Dependent Persons' Accommodation - Development Guidelines ("LPP12"). LPP 12 includes specific locational and site planning criteria which needs to be met as part of any aged persons/ independent living development.

### *5.5 Education Facilities*

An assessment of the need for schools in the area has been undertaken as part of the preparation of the structure plan in 2005. Based on the projected number of lots within the structure plan area and the development up to Russell Road there is a need for a high school and two primary schools in the area west of the Freeway between Russell and Rowley Roads (**refer to Figure 8 – Education Facilities**).

Planning for the area north of Gaebler Road has provided a primary school site at the intersection of Gaebler and Hammond Roads. A private Catholic primary school has also been identified for the area. This site (Lot 46 Frankland Avenue) is already owned by the Roman Catholic Archbishop of Perth and was purchased for the purpose of developing it as a primary school.

The proposed high school will provide for the future primary schools identified in Hammond Park (Lot 412 Gaebler Road), Aubin Grove (Lot 448 Lyon Road) and Wattleup (shown on the District Structure Plan). There is likely to be a future primary school over the local government boundary to the south in the Town of Kwinana which will also contribute to the high school.

The location and notional catchment areas for the proposed primary and high schools in the locality are shown on the Education Facilities plan. In accordance with Liveable Neighbourhoods, the school sites have been located on the edge of the 400 metre walkable catchments or 800 metre walkable catchment of the railway station (original location) in the case of the high school, on neighbourhood connector roads and on largely flat sites. The high school and private school are also located on a bus route which connects to Cockburn Central interchange and the future Mandogalup train station.

High school and private school students often travel considerable distances to access the schools and rely on public transport. As Transperth will not provide special bus services to schools it is important that they be located on or very close to the regular bus service routes.

### **Figure 8 – Education Facilities**

No alternative suitable sites were identified in the structure plan area for the high school. Regardless, it is not considered that the relocation of the future train further south warrants a relocation of the high school as part of this review of the SSDSP3 as expectations have been set for some years and surrounding development has assumed its location remaining where it is.

In respect to the primary school, the site could be moved northwards to the boundary of the Harry Waring Reserve. In considering the 2005 plan, this location was not favoured as it was less central to the catchment and would result in longer walking/cycling distances for students south of Wattleup Road. Given the recent advice from the WAPC relating to Alcoa Residue Storage Area buffer, the Department of Education and Training (“DET”) will need to advise whether the proposed location is still suitable given potential changes to the catchment.

All subdivision within the area will be required to make a pro-rata contribution to the Department for Education and Training to cover the cost of acquisition of the proposed primary school site in accordance with normal practice. The high school site will be acquired by the DET.

## *5.6 Parks and Recreation*

### *5.6.1 Regional/District Parks and Recreation*

Frankland Reserve has been nominated as a Bush Forever site however it has a degraded area in the south-east corner which has been identified on the SSDSP3 for active open space including a playing field in accordance with Council's decision to support the Bush Forever nomination at its meeting on the 16 September 2003. The degraded area is approximately 3ha in size and may need to be enlarged to 4ha to ensure that a viable playing field can be constructed on the site.

Given the potential population in the area it would be desirable to provide three active playing fields between Russell and Rowley Roads. Active playing areas are proposed north of Gaebler Road and on portion of Frankland Reserve as stated above. In the event that land holdings in the area are consolidated into a single ownership of sufficient size, consideration will be given to consolidating the POS areas shown to provide an additional active sports area. Ideally this would be in the area west of Hammond Road. Alternatively further consideration will need to be given to the facilities and area of Frankland Reserve to be developed.

The current proposal for Frankland Reserve as identified in the City's 'A Plan for the District 2010-2020' comprises one active playing field and construction of an access road, car park, and clubrooms/community facilities (600m<sup>2</sup>). The facility will serve the population of Hammond Park complementing the limited junior sport (AFL) provision provided at the nearby active reserve Hammond Park (north of Gaebler Road). Frankland Reserve will provide scope for junior and senior AFL, athletics and soccer. No additional community facilities have been deemed necessary to serve the future population's needs in Hammond Park.

The MRS Parks and Recreation link on the west side of Hammond Road between Harry Waring Reserve and Frankland Reserve has been retained as part of the Historic Baldivis Tramway Trail. The 2005 plan indicated that an amendment should be pursued to the Metropolitan Region Scheme to delete a portion of the Parks and Recreation Reserve. This was to enable the location of the proposed centre at the intersection of the realigned Wattleup and Hammond Roads.

In recent times, the approach taken to the conservation and interpretation of this trail has been to respect its integrity and to not reduce or modify the existing reserve.

#### 5.6.2 Neighbourhood/Local POS – location and designation

A series of neighbourhood and local parks have been shown throughout the residential areas on the SSDSP3. The selection of the POS sites was based on the following:

1. Securing bushland not only in recognition of the quality of the bushland in the area but also the potential difficulty in securing an adequate water allocation for irrigation purposes;
2. Along ownership boundaries to enable owners to be able to satisfy their 10% public open space (POS) requirements within their own land holding;
3. In reasonably close proximity to existing wetlands to provide a high level of amenity for the surrounding proposed high/medium density; and
4. Where possible in lower lying areas of the lots to allow for the integration of drainage facilities.

The SSDSP3 allocates POS areas based on the above principles. Where land holdings are to be consolidated and developed comprehensively, the POS areas can be amalgamated into larger parks which will reduce the City's maintenance costs. In areas where consolidation is not contemplated, public open space arrangements have been designed so that each land owner is able and required to satisfy their open space requirements on their own landholding.

The City will only accept cash-in-lieu of POS for lots which are fragmented, isolated and relatively small in nature and where the provision of land would result in a very small and impractical area being provided. The only lots where cash in lieu of open space is currently contemplated is for lots 31 and 32 Barfield Road where the provision of land would result in a very small area being provided given that these lots are adversely affected by the high school site. The cash in lieu can be spent on facilities and works to be undertaken in Frankland Reserve.

The SSDSP3 requires that where ever possible, established trees should be incorporated into future development either in parks or road reserves. Established trees will assist in giving additional character as well as providing shade opportunities which are often lacking in new estates.

POS, credits and expenditure of cash-in-lieu for POS will be determined in accordance with the relevant WAPC policies, practices and legislation at the LSP and subdivision stages.

#### 5.6.3 Neighbourhood/Local POS – design and embellishment

These parklands are intended to serve the regular small scale needs of the immediate residential population within a five to ten minute walking distance. The predominant use should be for informal recreation for individuals and households, especially low level children's play, dog walking and relaxation. They are not intended for any formal/organized active team sports and should not therefore warrant parking on-site.

Embellishment with infrastructure pitched above this role will not be accepted. Similarly, design of these parklands which have higher than average (for the City of Cockburn) maintenance or whole of life cycle costs will not be accepted.

The types of supporting amenities could include paths, shade, seating, children's play spaces etc

#### 5.6.4 Neighbourhood/Local POS – ongoing planning

The following additional POS information will be required at the LSP stage:

- Preliminary landscape design concepts setting out key design features and principles, where development is proposed;
- Notional landscape management regime and asset cost schedule inclusive of an approximate unit rate per hectare for maintenance (indicative only).

#### *5.7 Public Transport*

A future railway station known as Mandogalup is proposed within the Kwinana Freeway Reserve, south of Rowley Road. The exact location and timing of this station has not been confirmed but it is estimated to be approximately 10 -15 years away. Since the 2005 plan, this preferred location of this station has shifted from its original location, which was north of Rowley Road.

A "Park 'n' Ride" facility was originally provided on the western side of the Freeway for the former station location. The land required for the car park was purchased by the WAPC. As this location was aligned to the original location, it is likely the WAPC will seek to acquire land south of Rowley Road also. This review has assumed the existing car park proposal north of Rowley Road will also remain. The land is heavily constrained by the existing powerline easement which may make disposal of the land difficult. Additional 'overflow' car parking in proximity to stations may be advantageous.

Two bus routes originating from the transit interchange at Cockburn Central are proposed to be progressively extended through the structure plan area. The bus routes are proposed to follow the proposed new central north-south road to the future Mandogalup railway station and along Hammond Road. The proposed local road network has been designed to accommodate the bus routes. It is likely that a future bus route will be required along Wattleup Road to connect into the main north-south network as there is a considerable area in the western area along Wattleup Road that is outside of the 400 metre walkable catchment for the Hammond Road service.

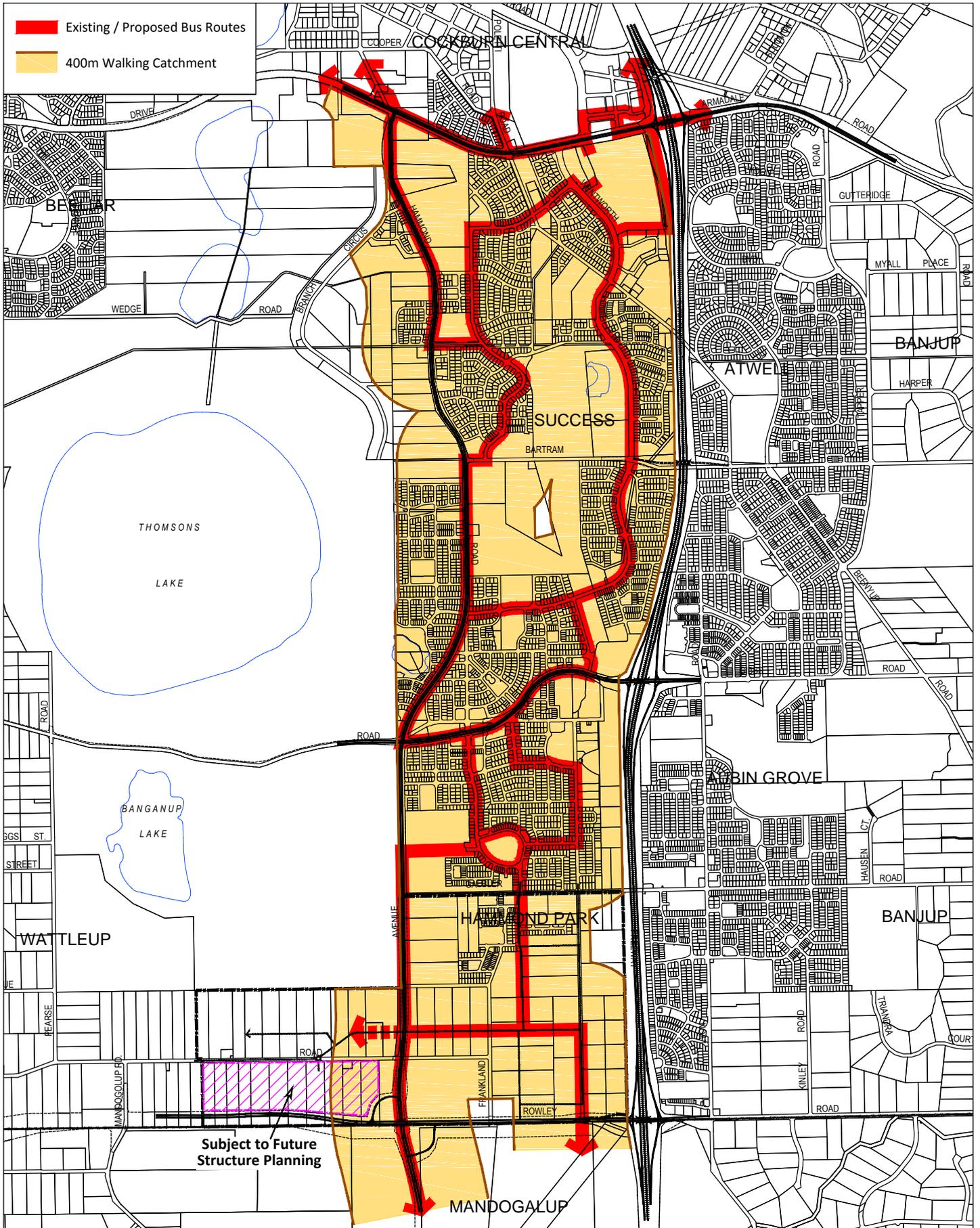
The provision of a future bus service along Wattleup Road could also link to the Latitude 32 Industrial area and terminate at the Fremantle Rockingham transit system which is to be routed down the west side of the freight line within the industrial area. The proposed bus and train services will provide a comprehensive public transport system for the area linking major land use activities. The proposed location of the future bus routes and associated walkable catchments are shown on **Figure 9 - Public Transport**.

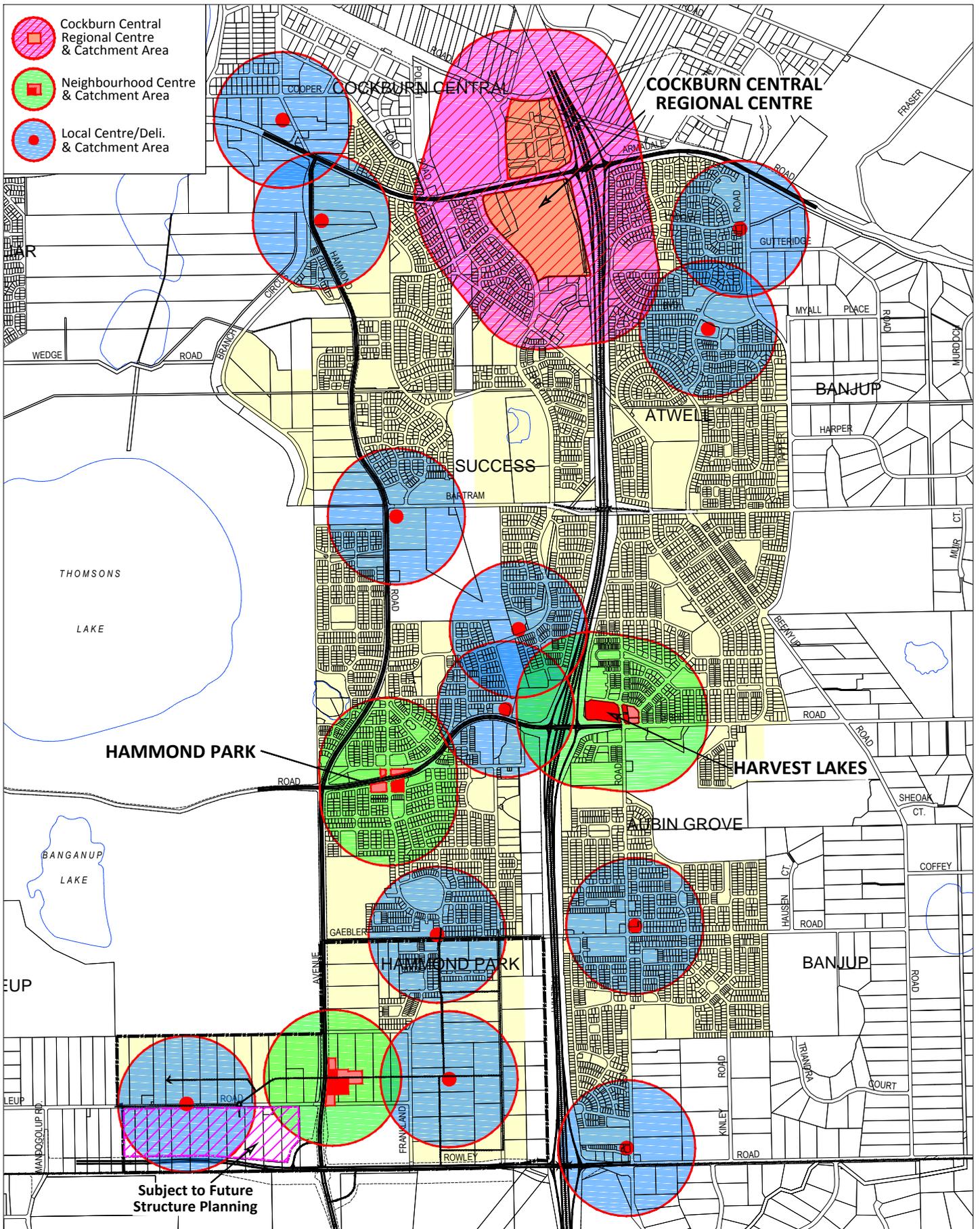
#### *5.8 Commercial Facilities*

##### 5.8.1 Location and Hierarchy

The location and hierarchy of commercial/retail centres are shown on **Figure 10 - Neighbourhood Structure and Retail Hierarchy Plan**.

A Neighbourhood Centre has been designated at the intersection of Hammond Road and the realigned Wattleup Road. This centre will provide the main activities and shopping facilities for the structure plan area. It is envisaged the





Neighbourhood Centre will include a supermarket, café's and small specialty shops. The total retail/commercial floorspace is likely to in the order of 5000 square metres. The centre will also provide opportunities for other (non-retail) small businesses and local employment, consistent with the aims of SPP 4.2.

The design and function of the proposed Neighbourhood Centre will be based on 'main street' principles and relevant provisions of Liveable Neighbourhoods. Any associated LSP must adequately demonstrate through concept plans and/or detailed area plans the manner in which the centre addresses these requirements and the concept plan for the centre as shown within **Figure 11 – Neighbourhood Centre Concept Plan**.

Two small Neighbourhood Nodes have been provided within the western and eastern precincts of the SSDSP3 area. The design and functionality of the Neighbourhood Nodes will be distinctly different to the primacy of the Neighbourhood Centre. These locations are to provide for a range of more locally focused activities and functions. Where retail is proposed, these are to not exceed a maximum retail function of 300sqm, with such function based upon a 'convenience store' type use.

All centres will also provide opportunities for other (non-retail) small businesses and local employment, consistent with the aims of SPP 4.2.

#### 5.8.2 Mixed Business/Commercial/Home Based Business Precincts

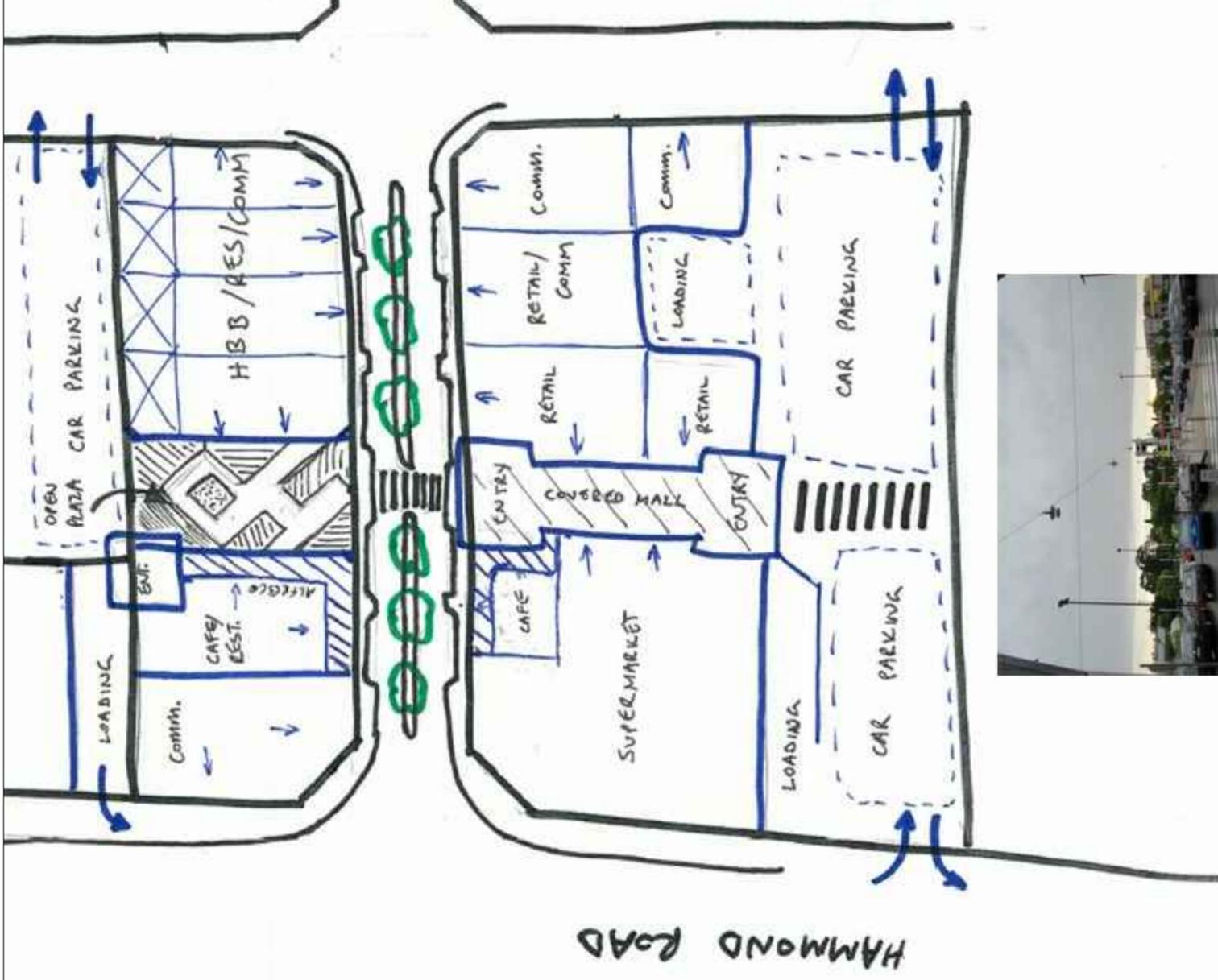
The SSDSP3 identifies areas for mixed business, commercial and home based business adjacent to the Neighbourhood Centre and Neighbourhood Nodes. This allows for office/residential mixed use development to encourage local employment opportunities. The provision of mixed business and complementary uses surrounding all the centres will provide 'main street' design opportunities which has the potential to provide a high quality built environment that will be the central focus of the area.

#### *5.9 Area subject to Future Structure Planning*

As outlined in section 4.1.3 of this report, a portion of the SSDSP3 is impacted by the revised buffer surrounding Alcoa's Mandogalup Residue Disposal Area. In view of the expanded buffer, the affected area within the SSDSP3 area has been designated as 'subject to future structure planning'.

The decision not to exclude the area entirely from the SSDSP3 reflects the future desire for residential or compatible development to occur within this area subject to the appropriate modelling and environmental studies being undertaken. This is in line with the advice of the State Administrative Tribunal ("SAT"), providing that current modelling which was used to prepare the buffer should be given no weight, and needs to be undertaken again. Once this has been completed and the actual implications known, appropriate structure planning can then take place for this land.

Future structure planning of this cell must provide an appropriate interface with residential development north of Wattleup road. This is to have particular regard to the position of the WAPC in respect of its position on the acceptability (or otherwise) of residential development south of Wattleup road, and alternative (non-residential) land uses that may be required. Any impacts associated with the future development of non-residential land uses in the cell south of Wattleup road must be fully contained within the cell boundaries.



0 20m  
Scale 1:1,000  
(approx.) @ A3



9



4



3



8



5

**Design Principles**

1. South-west corner of Neighbourhood Centre to be anchored by supermarket which is to provide an appropriate relationship between the public and private realm.
2. Carparking and servicing for supermarket to be provided along southern edge of Neighbourhood Centre and provide appropriate integration with back of house for supermarket and retail/commercial tenancies.
3. Loading/servicing areas to be architecturally treated in an appropriate manner.
4. A north-south pedestrian link to be provided between southern carparking area through mall, across the main street and terminating at Neighbourhood plaza.
5. Pedestrian links to be designed for prioritised pedestrian connection particularly within the carparking and main street areas.
6. Key access points into supermarket and internal mall retail tenancies to ensure appropriate activation of mall space.
7. South east retail/commercial tenancies to address main street with provision of appropriate active interfaces via extensive glazing and the like.
8. Suitable pedestrian protection along both sides of main street to be provided.
9. Neighbourhood plaza to provide key civic space for Neighbourhood Centre.
10. Neighbourhood plaza to have open north aspect with west adjoining use/s to be food and beverage orientated with alfresco area wrapping the plaza and main street.
11. Eastern edge of Neighbourhood plaza to be framed by two storey home based business/residential adaptable building development.
12. Tenant carparking for home based business/residential development to be provided at rear with customer parking along main street.
13. Car parking area to be provided to access north end of Neighbourhood Centre.
14. Primary access to be provided via main street with secondary left in/left out access being provided at southern end of supermarket site.
15. Gateway entrance to main street to be provided with appropriate built form elements to signify sense of arrival to Neighbourhood Centre.

Please note images are included to demonstrate basic design principles only.



## **6.0 SERVICING INFRASTRUCTURE**

Sinclair Knight Merz were commissioned by the City of Cockburn to conduct an investigation into the engineering servicing and infrastructure requirements relevant to the future development of the SSDSP3 area.

Information was obtained from the Water Corporation, Western Power, Alinta Gas and Telstra. Responses were generally qualified with statements regarding the dynamic nature of planning data and no assurances were given to the future accuracy of the information provided. This information was collected for the 2005 plan and it is assumed the conclusions it reached still apply. The urban front has now reached the SSDSP3 area and subdivision within the area (Hammond Rise) is well underway.

The 2005 servicing report confirmed that the land can be serviced for residential purposes and that developers will need to make appropriate arrangements with the servicing authorities for the extension of infrastructure into the area. **Refer to Appendix 2 for full report.**

### *6.1 Sewerage*

The information available for the 2005 plan revealed there was no Water Corporation sewerage infrastructure in the study area at that time. The development front has now proceeded south into Hammond Park and a sewer connection for the area exists in Gaebler Road. This is in line with the conceptual sewerage catchment plan previously provided by the Corporation which showed the SSDSP3 area being serviced by the sewerage infrastructure in Hammond Park as development advanced southwards.

Most of the development area is planned to gravitate northwards to the Deanmore Bend connection. Some of the land requires fill to enable the sewerage system to gravitate northwards. These areas also need to be filled to obtain the necessary vertical separation to ground water.

The western and very southern parts of the area will require the construction of a permanent pump station with a pressure main connecting back into the Deanmore Bend catchment. The pump station is shown notionally on the north side of Wattleup Road in the low point located almost at the western extremity of the urban area.

The proposed pump station is not on the Water Corporation's construction schedule for the near future. Accordingly if development in this catchment proceeds ahead of the development front then prefunding of works may be required.

### *6.2 Water*

The information available during preparation of the 2005 plan indicated there was no potable water reticulation infrastructure operated by the Water Corporation within the SSDSP 3 area. The area is within the existing Thomsons Lake Water Supply Scheme area.

As at 2005, an ON600 main existed in Hammond Road some 1.5 Km north of Gaebler Road. Preliminary planning indicated that water supply for the area could be from the following:

1. From the north from the existing main in Hammond Road;
2. From the south through several feeding mains gravitating into mains along Frankland Avenue, or;
3. From the west gravitating to a main along Wattleup Road.

At that stage, the above mains were not planned for construction before 2010. The urban front has now advanced and with residential development now occurring within the northern section of the SSDSP 3 area, it is obvious at least one of these options has progressed.

Regardless, developers should undertake consultation with the Water Corporation at an early stage for the initial water supply, timing and any prefunding requirements for the future distribution main.

### *6.3 Power*

There is a network of high voltage transmission cables and towers through the area. Western Power advises that the available power supply in the surrounding high voltage cables in Rowley Road, Gaebler Road and Wattleup Roads is not adequate to serve the development. Western Power have advised that a future substation in Jandakot (approximately 10 kilometres away) will be constructed to service the area however a scheduled start date has not been confirmed. The project does not appear in Western Power's current project list.

### *6.4 Natural Gas*

Correspondence from Alinta Gas Networks Pty Ltd states that there is no Alinta Gas infrastructure within the study area or its surrounds and, there are currently no plans to extend natural gas service into this area. Future applications for gas services will be considered on a case by case basis. It is anticipated that natural gas would be extended from the north as the development front progresses southwards. The current serviced network indicates gas is available in the development area north of Gaebler Road.

### *6.5 Telecommunications*

Telstra has confirmed the location of existing infrastructure in the area including a fibre optic cable running along Rowley Road and terminating near the corner of Gaebler and Barfield Roads.

Telstra plans expansion of their infrastructure to suit ongoing development and thus does not have any planning information for this area. Advice received indicates extension of the fibre optic network to the north east of the study area is expected to occur as the development front moves south. Servicing of the area is likely to be fed from existing fibre optic cables in Wattleup Road and Rowley Road.

### *6.6 Stormwater Drainage*

To facilitate the urban development east of the Beeliar Regional Park, the Water Corporation agreed to construct the Southern Lakes Main Drainage Scheme. The majority (70%) of the structure plan area falls under this scheme.

In accordance with current practice, individual developers will be required to provide for stormwater retention and drainage within their individual lot boundaries. Disposal of stormwater from individual house lots will be achieved by the installation of soakwells by the lot owners at the building stage. The option adopted for various areas will be determined by the geotechnical investigations. The use of soakwells will facilitate the recharge of the aquifer.

The Russell Road Arterial Drain Scheme Report prepared by David Wills and Associates for the City of Cockburn shows a large portion of the SSS3 area between Gaebler Road and Rowley Road requiring connection into a regional drainage network. This regional drainage network will control the groundwater levels in the area and therefore developers by requiring little fill to ensure a 3m separation between development and the groundwater.

Development Contribution Areas No.9 and 10, which are proposed to cover the SSDSP3 area, include provisions for the collection of contributions towards the regional drainage infrastructure. These contribution catchments have been based on the Water Corporations Southern Lakes Drainage Boundary as this catchment was used for Development Contribution Area No. 7 - Aubin Grove as approved via Amendment No. 17 to Town Planning Scheme No.3.

In preparation for the 2005 plan, the Water Corporation and (then) Water and Rivers Commission advised developers should endeavour to retain as much surface runoff on-site as possible in accordance with water sensitive design guidelines, and to make provision for nutrient stripping strategies for water leaving the site. This strategy remains unchanged and is now embedded in the document 'Better Urban Water Management' which guides the implementation of WAPC's State Planning Policy 2.9 - Water Resources ("SPP2.9").

Maximum nutrient levels for water entering the Russell Road buffer lake system will be the subject of negotiation between the City of Cockburn, Water Corporation, Department of Water and Department of Environment and will be determined prior to the design and construction of the buffer lake system.

The Russell Road buffer lake is the upstream limit of the South Jandakot Main Drain. Availability of funds for the 1,200mm diameter extension of the Branch Drain from the Bartram Road buffer lake system to the yet to be constructed Russell Road buffer lake are subject to approval of the Water Corporation's overall Capital Investment Program and the rate of catchment development. Developer Contribution Areas will apply to the area to cover the works downstream of the Russell Road Buffer Lake (Lake Copulup on Hammond Road).

Drainage infrastructure upstream of the Russell Road buffer lake is to be funded by developments within the catchment. The City of Cockburn and developers will be expected to liaise with the Water Corporation and the Water and Rivers Commission to determine the drainage needs of each development within the study area.

Future developments within the SSDSP 3 area should allow for detailed drainage and water quality assessments to ensure local authority, Water Corporation, Department of Water and the Department of Environmental requirements are satisfied.

## *6.7 Construction of Proposed Regional Roads*

### 6.7.1 Rowley Road

Planning Control Area No. 95 has been designated over the alignment of Rowley Road and the WAPC has purchased some of the land required for the road. Given it is likely this road will become a freight route servicing the Latitude 32 industrial development and the proposed outer harbour, it is not considered appropriate for developers within the SSDSP3 area to contribute to the construction of Rowley Road.

Construction of Rowley Road is not likely to be significantly progressed till either the proposed outer harbour or the Latitude 32 area becomes operational. Notwithstanding this, currently there is a high volume of trucks using Wattleup Road which will not be acceptable when the area is developed for residential purposes. Accordingly construction of Rowley Road as a single carriageway between Frankland Avenue and Mandogalup Road at an early time is seen as a high priority.

Acquisition, funding, design and construction of Rowley Road are the responsibility of the State Government given the road will be a 'Primary Regional Road' (red road). Any any interim construction or upgrades to Rowley Road not directly related to subdivision/development within the SSDSP3 area should also be the responsibility of the State. The 2005 plan considered Rowley Road would attract contributions, this was on the assumption it would be a lower order 'Other Regional Road' (blue road) under the MRS. Since that time, a number of documents, most recently Directions 2031 and the DOMPPSRS have indicated the portion of Rowley Road west of Kwinana Freeway to be a major freight route. From this it is clear that the road will be designated as a 'Primary Regional Road' under the MRS and not an 'Other Regional Road'.

Infrastructure necessitated from the designation of Rowley Road should also be considered a responsibility of the State, rather than developers within the SSDSP3 area. These items of infrastructure are:

1. Any interim/medium term traffic management (such as a roundabout or traffic lights) to the intersection of Hammond Road and Rowley Road prior to grade separation;
2. Penultimate grade separation of Hammond Road and Barfield Road from Rowley Road, including bridges and associated ramps and earthworks;
3. Any interim/medium term at grade vehicle and pedestrian crossings to access the proposed Mandogalup railway station south of Rowley Road, and;
4. Penultimate grade separation of vehicle and pedestrian crossings to access the proposed Mandogalup railway station south of Rowley Road.

Building of any sensitive land uses adjacent to Rowley Road will need to be cognisant of its purpose as a freight route. SPP5.4 suggests a suite of mitigation measures which parties (including Main Roads WA and developers) can implement to address noise issues. It is considered reasonable that Main Roads WA consider the use of alternative aggregate or 'quiet grade' asphalt in this location similar to that used on the Kwinana Freeway. This is being planned for another growth corridor in Perth's northeast and should equally be employed for Rowley Road.

### 6.7.2 Hammond Road

Hammond Road is designated as an 'Other Regional Road' under the MRS. As with development cells further north, it is considered appropriate that proportional contributions be made towards the construction of Hammond Road including the cost of land, full earthworks, construction of one carriageway and dual use path (one side only). The details of the cost sharing arrangements to be introduced are set out as part of Amendment No 28 to TPS No 3

The extension of Hammond Road is identified within the City's 'A Plan for the District 2010 -2020' as requiring land acquisition to occur by 2013/14 in order for design and construction to occur in 2014/15. These targets are also dependent on sufficient funds being accumulated through the developer contribution process.

Any proportion of works to extend Hammond Road which are not covered by developer contributions will need to be provided by the City. The exception to this are works required to grade separate the intersection with Rowley Road which should be sourced by the State Government as the need for the grade separation arises due to two State Government decisions:

1. Designation of Rowley Road as a major freight route servicing the proposed outer harbour, and;
2. Designation of Rowley Road as a major freight route servicing the proposed Latitude 32 industrial area

### 6.8 Upgrading of Existing Local Roads

Existing roads being Barfield, Wattleup, Gaebler Roads and Frankland Avenue are currently constructed to rural standards. In accordance with normal practice, developers will be required to pay the cost of upgrading these roads to residential standards. The normal formula applied is to pay half the cost of upgrading that section which abuts an owner's property including any required traffic management devices.

## **7.0 IMPLEMENTATION**

### 7.1 Metropolitan Region Scheme Zoning

The majority of the SSDSP3 area is zoned 'Urban' under the MRS. The future Hammond Road alignment is reserved appropriately under the MRS as 'Other Regional Roads'. The proposed Rowley Road freight corridor is zoned MRS and its reclassification to 'Primary Regional Roads' will be necessary prior to its construction.

The future land uses identified in the SSDSP3 are consistent with the predominant 'Urban' zoning of the locality.

### 7.2 City of Cockburn Town Planning Scheme Zonings

The subject land is zoned 'Development' in TPS No.3 with all subdivision and development being in accordance with an adopted structure plan as provided by the Development Area provisions contained in Schedule 11 of Town Planning

Scheme No.3. This District Structure Plan sets the general framework, however it will still be necessary for individual or groups of owners to prepare LSP's for their land. Accordingly no further action is required in respect to the zoning of the land.

However, to facilitate and effectively control development it is proposed to rationalise Development Area 9 (DA9) and introduce two new development areas - Development Area 26 (DA26) and Development Area 27 (DA27) covering the structure plan area with appropriate conditions in Schedule 11 (Development Areas) and two new development contribution areas (DCA9-Hammond Park and DCA10-Wattleup) covering contributions to regional roads and drainage infrastructure with appropriate conditions in Schedule 12 (Development Contribution Plan).

The above proposals are the subject of Amendment No 28 to TPS No. 3 which Council resolved to adopt at its meeting held on 11 August 2005. Consideration of the amendment is still pending by the WAPC and the Minister for Planning.

### *7.3 Development Area and Development Contribution Area requirements*

Development areas within the City are the subject of specific requirements set out in Schedule 11 (Development Areas) and Schedule 12 (Development Contribution Plan).

At the time of preparing TPS No 3, planning of the SSDSP 3 area was not sufficiently advanced to enable appropriate requirements to be determined. With the preparation of the SSDSP3 in 2005, this represented the most appropriate time to introduce appropriate requirements through Amendment No. 28 to TPS No 3.

#### 7.3.1 Designation of Development Area requirements

The portion of Development Area 9 (DA 9) – Gaebler Road extending south from Gaebler Road to Rowley Road lies within the SSDSP3 area. North of Gaebler Road was part of the SSDSP Stage 2 area. For this reason it was deemed more appropriate to separate these development areas with their own provisions.

TPS 3 shows the western portion of the SSDSP 3 area being zoned 'Development' however it does not contain a development area number. It is unclear why this has occurred and it was recommended that DA27 be designated to the area.

Both DA26 and DA27 will require a detailed schedule to be included in Schedule 11 - Development Areas of the Scheme outlining the objective and requirements of these areas. The proposed schedules are in keeping with others included in this section of the Scheme and are for administrative purposes.

#### 7.3.2 Designation of Development Contribution Area requirements

The SSDSP3 is affected by draft DCA9 and DCA10 and all landowners will be required to make a contribution to drainage, upgrading of regional roads, traffic management devices and professional services in accordance with Schedule 12 and Section 6.3 of TPS No 3. These contributions will be payable at the subdivision approval and clearance stage.

Public open space has been allocated on the basis that the areas to be provided represent 10% of the subject properties and where no open space is provided

that cash-in-lieu will be accepted as detailed in Section 5.6 of this report. No further arrangements will be required.

#### *7.4 Planning Control*

The SSDSP3 shows the broad allocation and location of land use activities and will form the basis of assessing detailed proposals for individual properties. The District Structure Plan is a “guiding document” adopted by the Council and is not a structure plan adopted pursuant to section 6.2.9 of the City’s TPS No. 3. Therefore land uses and zones are not given the full effect as though they are part TPS No.3.

To progress the subdivision and development of a land holding it will be necessary for landowners or groups of small landowners to prepare and submit a detailed LSP and supporting report for their land. Each structure plan should be generally in accordance with the SSDSP3, and should show detail including the proposed road and lot layout, detail areas of POS, R-Codes and other information set in the Development Area provisions of TPS No. 3.

Any significant departures from the SSDSP3 would need to be identified and justified. All LSP’s are to be adopted by Council and endorsed by the WAPC in accordance with the Development Area provisions of the Scheme.

The above approach has worked successfully in Atwell (LandCorp and Peet & Co), Success (Gold Estates), Hammond Park (Australand and Gold Estates) and Aubin Grove (Stockland) where detailed local structure plans for each estate have been coordinated by the adopted Southern Suburbs District Structure Plan (Stage 2) prepared for that area. The same approach is considered appropriate for the SSDSP 3 area given the similarities between the two areas.

### **8.0 LAND AVAILABILITY**

There are considerable lead times to have planning/development approvals in place. Planning formalities required to be completed include the following:

- Adoption of LSP’s for individual projects;
- Approval of detailed plans of subdivision; and
- Approval of Detailed Area Plans.