

SHIRE OF HARVEY

Local Planning Strategy



Endorsed by the
Western Australian Planning Commission

22 April 2020

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Please advise the Department of Planning Lands & Heritage of any errors or omissions in this document.

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Shire of Harvey Local Planning Strategy

Part 1 – Strategic Plan

April 2020

Version Control

Date	Version	Detail
26/07/2016	July 2016	The Shire of Harvey Local Planning Strategy (Strategy) Part 1 endorsed for advertising for Council.
31/10/2016	October 2016	Referred to WAPC, including copy of Strategy Maps.
25/5/2017	May 2017	Part 2 of the Strategy sent to the WAPC.
28/11/2017	October 2017	Strategy endorsed by the WAPC (18/07/17) subject to modifications to Part 1 and 2, and Strategy Maps. Report to Council to acknowledge the changes and refer back to the WAPC. The updated version of Part 1 and 2 of the Strategy and the Strategy Maps were sent in October 2017.
5/6/2018	June 2018	Additional modifications made in accordance with Schedule of Modifications from WAPC (18/07/17). The updated version of Part 1 and 2 of the Strategy and the Strategy Maps were sent in October 2017.
18/6/2018	June 2018	18 June 2018 - DPLH modifications to conform with WAPC modification requirements
24/1/2020	January 2020	Modifications in accordance with Statutory Planning Committee Minutes of 29/10/2019 (specifically Schedule of Modifications – Attachment 12)
31/3/2020	April 2020	Final modifications as requested by DPLH (14/02/20). General review for grammatical errors and consistency.
06/04/2020	April 2020	Minor modifications as requested by DPLH (03/04/20). Final version.

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Advertising, Adoption & Endorsement

SHIRE OF HARVEY

LOCAL PLANNING STRATEGY

CERTIFICATION FOR ADVERTISING

Certified for advertising by the Western Australian Planning Commission on 18 July 2017.



COUNCIL RECOMMENDED / SUBMITTED FOR APPROVAL

Supported for submission to the Western Australian Planning Commission for endorsement by resolution of the Shire of Harvey at the Ordinary Council Meeting held on 14 May 2019.



SHIRE PRESIDENT



CHIEF EXECUTIVE OFFICER

ENDORSEMENT OF LOCAL PLANNING STRATEGY

Endorsed by the Western Australian Planning Commission on 22 April 2020



DELEGATED UNDER S.16 OF THE
PLANNING & DEVELOPMENT ACT 2005

1. Vision and Planning Principles

The Shire of Harvey is a diverse region consisting of 42km of coastline, the urbanised locality of Australind, eight rural townsites, a variety of environmentally sensitive areas, a dedicated heavy-industrial park, and a thriving agricultural sector. This diversity creates a complex mixture of opportunities, constraints and community aspirations. The Local Planning Strategy (Strategy) is intended to set out the Shire's broad vision in respect to balancing growth, environmental responsibilities, land use management, appropriate development control, housing affordability and the health and wellbeing of our community. The Strategy will provide a foundation by which the Shire can be protected from unwarranted development proposals and provide a strategic basis for approaching and partnering with State and Federal Government agencies to achieve outcomes which benefit our community.

In support of the values and aspirations identified within the Shire's *Strategic Community Plan 2017 – 2027*, the Shire's vision for the future from a land-use perspective is to actively pursue:

- Appropriate development of the Shire while recognising community needs and the creation and maintenance of a quality lifestyle and environment for all to enjoy;
- Effective delivery of services to ensure that the Shire is a progressive and enjoyable place to live and work; and
- A sustainable balance of rural and urban lifestyle with ecologically sustainable tourism and economic development.

The following Guiding Principles that support this Strategy are:

- To provide a Strategy which provides for the sustainable use of land and water resources in a responsible manner that reflects the aspirations of the Shire and its community, accommodates future needs and creates opportunities to enhance local attributes;
- To provide a Strategy that is consistent with State and regional planning policies and schemes, strategies, structure plans and strategic development initiatives;
- To provide a Strategy that is clear, comprehensive, accessible, informative, logical, practical, transparent and is a 'leadership' document that provides strategic planning directions for the next 15 years and beyond; and
- To provide a Strategy that provides the basis for the preparation of the Shire's new Local Planning Scheme, to be referred to as Local Planning Scheme No. 2 (LPS No. 2).

2. Objectives

The Strategy has been developed with the Objectives of:

- Implementing the State Planning Strategy and the framework of State and regional policies and plans;
- Documenting, in a user-friendly way, community aspirations for the Shire and the strategies, policies and measures which will be required to achieve these aims;
- Providing a comprehensive planning context for responsible decision-making by Council on planning matters and informing the formulation of LPS No. 2;
- Assist employment and economic growth by identifying land suitable for retail, commercial, industrial and tourism uses;
- Minimising the loss of viable rural land for agriculture by identifying land suitable for development and restricting inappropriate rural lifestyle lot development;
- Emphasising the importance of tourism activities and establishing a planning framework which is flexible and conducive to tourism type development;
- Emphasising the importance of a healthy built environment through mixed-use planning and the need to create a variety of destinations, transport methods and urban design initiatives to facilitate a sense of community, wellbeing and improved interaction between residents;
- Ensuring planning appropriately takes into account potential hazards such as flood, fire, erosion and inundation;
- Promoting the sustainable use of water resources by assessing future water needs and initiating investigations and planning to secure a balanced water future;
- Recognising and encouraging conservation of the Shire's cultural heritage wherever possible;
- Recognising places of environmental significance for future consideration by the State as conservation areas / regional open space; and
- Protecting the significant areas of remnant native vegetation, conservation category wetlands and local / regional ecological linkages.

These Objectives will be achieved by providing recommendations for a review of the Shire's District Planning Scheme No. 1 (DPS No. 1) and the preparation of LPS No. 2. Achievement will be further demonstrated through the Shire's ongoing commitment to current and future Community projects and infrastructure upgrading through the affiliated plans which support this Strategy.

2.1 Themes

Aligned with the Vision and Objectives, the following core Themes have been adapted to guide the development of the Strategy and its subsequent implementation:

- Sustained and Diversified Economic Development – Ensuring and developing a broad economic base, new tourism and industrial opportunities and strengthening existing rural, commercial and other economic activities.
- Balanced Growth – Promote and allow for urban growth and the development of affordable housing whilst ensuring the protection of key environmental assets and priority agricultural land.
- Building & Maintaining Infrastructure Capacity – Strategic and urban transport, utilities and communications infrastructure are provided in a timely and efficient manner to cater for a growing resident population and increasing economic activity.
- Heritage and Environment Conservation – Wherever possible identify and encourage the protection of areas that have cultural, historical and environmental significance.
- Strengthening Local Community Development – Providing services and facilities for a range of diverse community needs and interests that reflect and enhance the unique character, heritage and identity of the area.

2.2 Scope

The Shire's Strategy has been prepared with consideration for a 15-year timeframe, which is consistent with other contemporary strategic planning documents, in order to address short, medium and long term strategic goals and development expectations. Strategy Maps for future urban growth and expansion of towns and residential areas within the Shire have been developed with consideration of the Strategy's timeframe. In addition, the Shire has identified possible areas for urban expansion and development that would be worthy for investigation.

The short, medium and long term timeframes have been defined as follows:

- Short term: 0 to 5 years, ready to go - most of the preparation for the site to be developed (land use, zoning and site investigations) has been addressed and will be subject to further structure planning, subdivision or local development plan approvals. Development of these sites should occur within a 0 to 5-year timeframe.
- Medium term: 5 to 10 years, land to be made available – approvals such as Local Scheme Amendments and site investigations will be required to ensure the land is ready for development, however the overall process should be achieved within a development timeframe of 5 to 10 years. Market triggers will determine whether these areas are developed within or beyond the estimated timeframe.
- Long term: 10 to 15 years, urban/industrial land investigations necessary – further environmental, social and economic investigations are required. Complex approvals such as Local and Region Scheme Amendments will need to be undertaken in line with those investigations, if deemed appropriate. Any identified long term site must align with the Greater Bunbury Strategy 2013 (GBS) and Greater Bunbury Region Scheme (GBRS).

2.3 Relationship with Scheme

The Local Planning Strategy is a broad guiding strategic document that will inform the preparation of the Shire's new Local Planning Scheme and subsequent amendments to that Scheme. It is a land use and infrastructure guidance document not a proposed zoning document. The following diagram represents the role of the Local Planning Strategy in the planning framework:



The Strategy does not supersede:

- State Planning Policies (SPP). To the extent of any inconsistency the SPPs prevail;
- the GBRS; and
- the statutory zoning or provisions of the Scheme, rather it sets the broad planning direction and informs amendments to the Scheme.

2.4 Structure of the Strategy

The Strategy is set out into the following sections:

Part 1 – Strategy

This sets out the major characteristics and issues relevant to the future planning and development of the Shire and is set out as follows:

1. Vision and Planning Principles
2. Objectives
3. Strategic Plan which includes the Strategic and Implementation Actions and Precinct areas
4. Implementation, Monitoring and Review
5. Maps

Part 2 – Background Information and Analysis

This sets out the major characteristics of the area relevant to the future planning and development of the Shire in context of the State, Regional and Local Planning framework. Part 2 is set out as follows:

1. Introduction
2. State and Regional Planning Context
3. Local Planning Context
4. Local Profile
5. Constraints.

3. Strategic Plan

3.1 Residential

Generally refers to land within townsites and urban areas designed specifically for residential purposes with lot sizes and development control reflective of the provisions contained in the State Planning Policies for residential and neighbourhood design. A Settlement Hierarchy Table with key settlement planning parameters for each town has been provided in Part 2 of the Local Planning Strategy (Pg. 70 – 71).

In accordance with the GBS, the majority of future urban growth for the Shire will be located within existing residential zoned areas, specifically the completion of the Treendale and Kingston localities and the yet to be developed locality of South Treendale.

Within the Shire's coastal and rural settlements, significant short – medium term growth is expected in Binningup whilst steady growth is expected in Harvey, Brunswick and Roelands. More limited growth in demand is expected for the townsites of Myalup, Cookernup and Yarloop. The Strategy addresses how these expectations will be managed in the context of broader settlement planning provided for in the GBS, the GBRS and relevant State Planning Policies and guidelines.

3.1.1 Long-Term Urban Investigation Area (East of Treendale) (Map 1)

The area on the eastern side of the Forrest Highway located between Raymond Road and Clifton Road (portions of Lots 100, 101 and 131 Treendale Road) is identified as an "Urban Investigation Area" under the GBS. In accordance with the GBS, development of this area is to be staged so that it does not impact the development planned to occur within the urban expansion area of 'Wanju'.

Following consideration of the extent of the urban investigation area under this Local Planning Strategy, and recognizing the severance effect of the planned Bunbury Outer Ring Road (BORR) within this locality, the land to the west of the BORR is identified as a "Long-Term Urban Investigation Area" and land to the east of the BORR will be retained as rural land use. The suitability of this area for any change of use will be investigated as part of the Bunbury Geopraphe Sub-regional Strategy.

Strategy	Implementation
Refer to Residential Precinct LUIA (Table 1, Pg. 14)	
Retain and protect land to the west of the BORR for future major urban investigation expansion area.	Identify this land in LPS No. 2 as being within a "Special Control Area" as a "Development Investigation Area" noting that the land is still zoned Rural under the GBRS. Provisions to be included in LPS No. 2 to restrict the timing of development in accordance with the GBS.
Land to the east of the BORR will be retained as rural land use.	The suitability of this area for any change of use will be investigated as part of the Bunbury Geopraphe Sub-regional Strategy.

3.1.2 Key Localities with Short – Medium Term Residential Development Potential

3.1.2.1 Infill Development (Australind and Harvey) (Maps 2a, 2b and 5a)

The majority of areas zoned Residential under the Shire's DPS No. 1 have a density code of R15/30/50. This split coding allows:

- single houses to be developed at the R15 density code;
- grouped dwellings and lots to be subdivided at the R30 density code; and
- multiple dwellings to be developed at the R50 density code.

In accordance with DPS No. 1, to develop at the R30 density code the site is required to have a minimum lot size of 900m² and be connected to sewer. An initial survey of the Australind and Harvey area has identified approximately 200 existing Residential R15/30/50 lots that are larger than 900m² resulting in a potential to develop an addition 790 dwellings under the current Scheme provisions.

An additional 540 dwellings could be developed however if the 900m² restriction was lifted reflecting the subdivision standards of the R-Codes. The Shire has determined that the minimum 900m² restriction is to be removed and infill targets should be met through Liveable Neighbourhoods implementation and planning approaches aimed at achieving a variety of housing types and increased density in suitable areas rather than applying a blanket R-Code.

Strategy	Implementation
Support appropriate infill development within the existing residential areas of Australind and Harvey.	<p>Aim to ensure housing density is at least maintained or improved beyond the densities provided for by the current Scheme.</p> <p>Infill targets should be met through Liveable Neighbourhoods implementation and planning approaches aimed at achieving a variety of housing types and increased density in suitable areas rather than applying a blanket R20 code.</p> <p>Consideration of retaining 'habitat supporting' vegetation should form part of the sustainable planning outcome for targeted density.</p> <p>Design/Policy consideration should be given to ensuring streetscape values and elements of the existing neighbourhood character and amenity is retained when new development occurs.</p>

3.1.2.2 Australind Area (Maps 2a and 2b)

Through the ongoing development of areas such as Treendale, Kingston and South Treendale and the projected infill development within the established areas of Australind, it is estimated that Australind will exceed a population of 20,000 over the next 15 years. The population will be serviced by existing commercial centres in Australind and Treendale, recreational facilities at the Leschenault Recreation Park (LRP) and a number of public and private schools. Investigation should be undertaken for high density mixed-use development, to be guided by appropriate design guidelines, within the Australind and Treendale town centres. Improved

connectivity within and between the localities of Australind, Treendale, Kingston and the neighbouring locality of Eaton (Shire of Dardanup) will remain a focus of the Shire to mark the Australind area as a destination of choice and one of vibrancy within the region.

In addition, this Strategy seeks to consolidate areas currently zoned “Residential Development,” and have an approved Structure Plan, to be rezoned as per the approved Structure Plans (such as Kingston, Treendale and South Treendale).

Strategy	Implementation
Refer to Residential Precincts RD1, RD2, RD3, RD4, RD5, RD6 & RD7 (Tables 2 – 8, Pg. 15 – 21) Provide for Infill Areas within Australind	
Investigate potential for higher densities and mixed-use development in accordance with Liveable Neighbourhoods, the Activity Centres Policy and “Healthy By Design” principles, particularly in established areas of Australind around the Town Centre and the need to connect it with the Treendale District Centre and Kingston.	<p>Include increased minimum densities and mixed-use zonings around centres of Australind and Treendale and South Treendale in LPS No. 2.</p> <p>Minimum densities should be enforced to ensure greater efficiency of land and infrastructure and to promote increased walkability and housing choice.</p> <p>Appropriate design guidelines to be prepared to guide infill and mixed used development ranging from R40 to R60.</p>
Update the Scheme to reflect the zones provided for in structure plan areas.	Rezone the “Residential Development” zone as per the allocated zones and density codes of the approved Structure Plans for Kingston, Treendale and South Treendale.

3.1.2.3 Binningup (Map 3)

Binningup is expected to grow to a population of over 3,000 in the next 15 years, mainly as a result of the approved Structure Plan for Lot 9005 in South Binningup (indicative lot yield of approximately 1,000 lots). The pending foreshore and golf course management plans will ensure all residents will be able to sustainably enjoy the coastal and recreational attributes of Binningup. Any subdivision of the land can only proceed subject to bushfire hazard assessments being completed consistent with the requirements of SPP 3.7 and the proponent providing a gazetted and constructed second roadway. Intensifying development will not be supported.

The second public access road will ensure an improved level of convenience and safety for residents within Binningup and assist to alleviate current traffic concerns along Binningup Road.

A portion of Lot 76 Binningup Road is zoned for residential development purposes and is required under the current DPS No. 1 to submit a Structure Plan (Refer to Precinct RD9). As part of the assessment process, the Shire will be ensuring the structure plan, subdivision layout and housing design will take into consideration the unique character of the area, topographical and environmental constraints.

Strategy	Implementation
Refer to Residential Precincts RD8 & RD9 (Tables 9 & 10, Pg. 22 – 23)	
Townsite expansion to be consistent with the GBS and GBRS	Development of Lot 9005 to proceed in accordance with an approved Local Structure Plan.
	Any residential development proposals for portion of Lot 76 Binningup Road should include a Structure Plan which responds to the characteristics of the site and relevant statutory requirements.

3.1.2.4 Brunswick (Map 4)

Brunswick is expected to experience stable growth into the future and is capable of limited infill development. The townsite has been identified as a “Medium Term Development Area” under the GBS and this Strategy identifies Lot 57 Heppingstone Road (corner Rose Road) as the most appropriate land for further urban growth in Brunswick with a density coding of “R15/30/50” consistent with adjacent residential land to the north. An amendment to the GBRS to zone the land “Urban Deferred” will be required before the land can be rezoned under LPS No. 2 and a Local Structure Plan prepared.

Lot 300 George Avenue represents a large parcel of residential zoned land, however, a portion of the site is currently used for industrial purposes and contains effluent disposal ponds associated with nearby industrial activities. Consideration will need to be given to the long-term use of the site at the Scheme review stage, and whether it should be used for residential or industrial purposes.

Strategy	Implementation
Refer to Residential Precincts RD10 (Table 11, Pg. 24)	
Townsite expansion in accordance with this Strategy.	Consideration to be given to Lot 57 Heppingstone Road being rezoned to “Urban Deferred” under the GBRS and appropriate residential densities in LPS No. 2 requiring Local Structure Planning and a Townsite Strategy prior to development.

3.1.2.5 Brunswick, Clifton Road (North) and Wellesley Road (Map 4)

Lots 15, 16, 100, 102, 103, 150, 153 and 500 Clifton Road, and Lots 100 and 101 Wellesley Road are located between Brunswick River to the north and Clifton Road to the South. Lots 103, 153 and 150 are currently split zoned “Special Residential” and “Special Rural”, whilst Lots 15, 16, 100, 102 and 103 Clifton Road, and Lots 100 and 101 Wellesley Road are zoned “Special Residential” and Lot 500 Clifton Road is zoned “Public Utilities”. These lots provide an opportunity for urban expansion. A GBRS amendment and Structure Planning will need to be undertaken to ensure that as an ‘entry’ into Brunswick the style and density of the precinct, the existing Residential fabric of the Brunswick Junction townsite and other constraints such as neighbouring agricultural activities and proximity to environmentally sensitive areas (Brunswick River) are considered.

It would be recommended that portions of Lots 15, 16, 100, 100, 101, 102, 103, 150 and 153 that are currently zoned Special Rural (Schedule 3 of the Scheme), should be investigated for future appropriate land use as part of the Brunswick Townsite Strategy.

Strategy	Implementation
Refer to Residential Precinct RD11 (Table 12, Pg. 25)	
Rezone Lots 15, 16, 100 and 102 Clifton Road from “Special Residential” to “Urban Development”, Lots 103, 153 and 150 Clifton Road from “Special Rural” and “Special Residential” to “Urban Development”, Lot 500 Clifton Road from “Public Utilities” to “Urban Development” and Lots 100 and 101 Wellesley Road from “Special Residential” to “Urban Development”	Consider rezoning this area as part of preparation of LPS No. 2. Local structure planning required.

3.1.2.6 Cookernup (Map 9)

The Cookernup townsite contains a number of large “Residential” zoned properties with a density coding of “R15/30/50” allowing for further subdivision and to this effect, additional residential zoned properties are not required. Increased development of lots is restricted by a lack of reticulated sewer, however a change in the density coding is not considered necessary.

Strategy	Implementation
No further expansion is envisioned for the townsite.	N/A

3.1.2.7 Harvey (Map 5a)

Amendments to the GBRs (No. 0019/14) and the DPS No. 1 (No. 104) rezoned a number of properties in 2014 as part of the Harvey Townsite Expansion Strategy. The Harvey Townsite Expansion Strategy area on the fringes of the Harvey townsite are identified for future urban development which are expected to cater for the short – medium growth demands in Harvey. This area includes the following:

- Lots 2-4, 14, 15, 102, 200, 201 and 233 King Street (RD12);
- Lots 3 and 250 Calder Grove and Lot 4 Roy Street (RD13);
- Lots 30, 100 and 101 Kidson Street and Lots 9, 69, 70, 74 and 75 Hackett Road (RD14);
- Lots 23 and 24 Fryer Road and Lot 12 Anthony Street (RD15);
- Lots generally bounded by Third Street, Uduc Road, Fourth Street, Sir James Avenue and Roy Street (RD16); and
- Koriyekup Heights (Lots 109, 116, 119 and 108 Sittella Drive, Lots 106 and 107 Rosella Loop, Lot 120 Butcherbird Road and portion of Lot 500 Wallam Road (RD 17).

Local Structure Planning will be required prior to any subdivision/development of the identified land. The Shire will be requiring Structure Planning which achieves consolidated and integrated road and pedestrian/cycle networks, passive and active public open space, drainage and other infrastructure. Due to the size and configuration of existing land parcels coordinated Structure Planning with all landowners is preferred. In addition, this Strategy

seeks to consolidate areas currently zoned “Residential Development,” and have an approved Structure Plan, to be rezoned as per the approved Structure Plans.

In regard to the RD14 Residential Investigation Area, Lots 9, 100 and part of 101 are included in the existing sewer planning and can connect to the existing gravity sewer network. However, Lots 74, 75 and 69 cannot be serviced by the existing gravity sewer network and would require a new pump station or at least 2 metres of imported fill. This area also extends into the buffer of the WWTP and sensitive land uses such as residential should be excluded from this area.

Strategy	Implementation
Refer to Residential Precincts RD12, RD13, RD14, RD15, RD16 & RD17. (Tables 13 – 18, Pg. 26 – 31)	
Townsite expansion in accordance with existing “Residential”/“Residential Development” zoned properties.	<p>All “Residential Development” zoned properties to be Structure Planned and zoned to “Urban Development”.</p> <p>Encourage consolidation and diversity of housing types in LPS No. 2.</p> <p>Land to be appropriately zoned in the GBRS with any “Urban Deferred” land to require Local Structure Planning prior to lifting of the “Urban Deferred” zoning.</p> <p>Prepare a Townsite Strategy for Harvey townsite.</p> <p>Rezone the “Residential” zone as per the allocated zones and density codes of the approved Structure Plans.</p>

3.1.2.8 Myalup (Map 6)

Significantly constrained by the coast, Lake Preston and remnant bushland, it is considered that Myalup has little potential for future residential growth given the extreme bushfire risk, critically endangered habitat vegetation, topographical challenges, coastal setback and emergency access limitations of the locality. It is therefore recommended that residential development be generally restricted to infill development of existing lots.

Infill and possible expansion includes Lot 100 which contains Ottrey Park (approximately 13,500m²) owned by the Shire which is zoned “Residential” and “General Farming”. Emphasis is to be placed on the provision of adequate pedestrian links between the coastal car park and Ottrey Park.

Strategy	Implementation
Retain the current Scheme zoning over the existing townsite	Predominantly infill development with possible expansion to include Lot 100 owned by the Shire and is zoned “Residential” and “General Farming”.

3.1.2.9 Roelands (Map 7)

Roelands has experienced significant “Special Residential” growth east of the main townsite and is expected to continue to grow with the expansion of the existing school (Hope Christian College). Additional “Special Residential” lots on the eastern section of Waterloo Road are constrained by the existence of a granite quarry owned by the State Government, however Roelands is well situated for future growth given its proximity to the centres of Australind, Bunbury and Collie.

Under DPS. No. 1, “Residential” zoned land is available on portions of Lots 36 and 201 Gardiner Street. Lot 34 Government Road/Colton Street is also recommended for residential development as it is immediately adjacent to existing residential lots and the new Hope Christian College site on Lot 42 Government Road, Roelands.

The density of development of Roelands is restricted by a lack of reticulated sewer and the high costs associated with providing a reticulated water supply to land above 65m AHD contour. Local Structure Planning will need to give consideration to adequate district drainage, the provision of a second access point to Coalfields Highway, improving pedestrian linkages to the School site and enhancing a sense of place for all residents within Roelands.

Strategy	Implementation
Refer to Residential Precincts RD18. (Table 19, Pg. 32)	
Townsite expansion in accordance with this Strategy.	<p>Lot 34 Government Road (corner Colton Street) to be zoned “Urban Development” in LPS No. 2 requiring Local Structure Planning prior to development.</p> <p>Identify most appropriate location for future access to Coalfields Highway.</p>

3.1.2.10 Wokalup (Map 5b)

Land zoned “Residential” in Wokalup is confined to a triangular area bound by South Western Highway, Teesdale Road and Hocart Road. The locality contains a number of large lots, many of which have dual road frontage with the potential to be further subdivided. As short – medium term demand for the Wokalup locality is expected to remain modest and additional crossovers to South Western Highway may raise concern from Main Roads WA, no further expansion of “Residential” zoned properties is proposed in this Strategy.

Strategy	Implementation
No further expansion is envisioned for the townsite	N/A

3.1.2.11 Yarloop (Map 8)

In response to the Yarloop/Harvey/Waroona January 2016 bushfires that had a devastating effect on the Yarloop townsite, the future development scenarios of Yarloop are to be guided by the “Town Development Plan”.

Strategy	Implementation
Consideration be given to incorporating the Yarloop “Town Development Plan” within the Strategy.	Once approved by the WAPC, the Yarloop “Town Development Plan” is to be implemented through an amendment to this Strategy.
Appropriate infill development only, taking into account Yarloop “Town Development Plan” and lack of reticulated sewerage.	Regard is to be given to the outcomes of the “Town Development Plan” (once approved by the WAPC) and available servicing when preparing the new scheme. Some recommendations may require rezoning in LPS No. 2.

3.1.2.12 Lot 522 Ditchingham Place, Australind (Map 2a)

Lot 522 Ditchingham Place is owned in freehold by the Water Corporation, and contained the former Australind Wastewater Treatment Plant from 1982 until 2002. The Water Corporation subsequently conducted extensive decommissioning and groundwater monitoring, and in May 2016, the site was classified “Decontaminated” by DWER and declared fit for unrestricted use. The site has been declared surplus to Water Corporation operational requirements, and will most likely be on-sold for development by a future owner.

Given that the land is zoned “Urban Deferred” under the GBRS and reserved for “Public Utilities” under DPS No. 1, Lot 522 will require rezoning and structure planning in order to prepare the land for sale. The Water Corporation has been liaising with the Shire regarding a prospective Scheme Amendment for Lot 522.

A draft Structure Plan has already been provided to the Shire and has received preliminary support. Key features include the retention of approximately 2.1 ha of banksia woodland, approximately 180-200 low to medium density residential lots and a mixed use precinct located adjacent to the Piggott Drive/Ditchingham Place intersection.

In order that the proposed Scheme Amendment remains consistent with the Shire’s strategic planning objectives, Lot 522 is identified within this Strategy for future urban development.

Strategy	Implementation
Refer to Residential Precinct RD19 (Table 20, Pg. 33)	
Rezone Lot 522 Ditchingham Place from “Public Purpose” to “Urban Development”.	Rezone Lot 522 Ditchingham Place to “Urban Development”. Local structure planning required.

Residential Precincts

Long-term Urban Investigation Area

LUIA – Table 1: East of Treendale Precinct Future Long Term Urban Investigation Area

Planning Precinct:	Strategy Implementation:
<p>East of Treendale Precinct Future Long Term Urban Investigation Area (LUIA)</p> <p>Location:</p> <p>The area on the eastern side of the Forrest Highway located to the north of Raymond Road and to the west of the BORR alignment (portions of Lots 100, 101 and 131 Treendale Road)</p> <p>Land Area:</p> <p>Approx. 200 ha</p> <p>Developable Area:</p> <p>To be determined</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 1</p> <p>Bushfire mapping Figures 19, 20 & 21 – Note – the bushfire mapping was undertaken prior to the BORR alignment finalisation.</p> <p>Strategy Reference:</p> <p>Clause 3.1.1</p>	<p>Proposed Land Use: Long-Term Urban (investigation area) – residential, commercial and other.</p> <p>Current GBRS Zoning: “Rural”.</p> <p>Current TPS Zoning: “General Farming”.</p> <p>Required GBRS Zoning Change: Yes to “Urban Deferred”</p> <p>Required TPS Zoning Change: No zoning change, but provisions or a special control area to be identified in LPS No. 2 to guide and protect future land use.</p> <p>Lot size/Density: To be determined upon further investigation, mix residential densities, appropriate commercial and recreational facilities and supporting services.</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to the Urban Deferment being lifted and prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations (Environmental Review, Regional Open Space); • General site constraints (e.g. Soils); • Servicing; • Amenity issues (Proximity to Forrest Highway and BORR – Sound buffers); • Road access and connectivity between existing Treendale area (west of site) and subject site; • The Bushfire Hazard Mapping report (AE2, Figures 19, 20 & 21) identified areas of moderate and extreme bushfire hazards Water supply for open space; • Hydrogeological settings/drainage; • Roles and responsibilities for arterial drainage system; • Identification of foreshore areas for ‘living streams’; • State Planning Policy 5.4 – Road and Rail Noise; • ATCO Gas pipeline setbacks/buffers; • Main Roads/Freeway/Fast train corridor alignments (BORR); and • Development to be staged so that it is not commenced before significant development has occurred within the urban expansion area ‘Wanju’ (+2021). <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • To be determined at rezoning/structure planning stage and to be guided by the Bunbury Geopraphe Sub-regional Strategy; • Identify this land in LPS No. 2 as a “Special Control Area” to protect the future consideration of the long term prospects for urban settlement; and • Future BAL Assessment or clearing may be required. <p>General Comments:</p> <ul style="list-style-type: none"> • Feasibility studies.

Short to Mid Term

RD1 – Table 2: Australind – Paris Road

Planning Precinct:	Strategy Implementation:
Australind Paris Road (RD1)	Proposed Land Use: Residential infill.
Location: Lots 3 and 4 Paris Road, Australind	Current GBRS Zoning: "Urban".
Land Area: 1.61 ha	Current TPS Zoning: "Residential R15/30/50".
Developable Area: 1.29 ha	Required GBRS Zoning Change: No.
Estimated Lot Yield: 36 lots at 330m ² average	Required TPS Zoning Change: No.
Plan/Map Schedule: Strategy Plan Map 2a and 2b	Lot size/Density: R30.
Strategy Reference: Clause 3.1.2.2	Structure Planning required: No.
	Planning Matters to be Addressed: <ul style="list-style-type: none"> • Access from Break O'Day Drive; • Dwellings to address Paris Road; • General servicing (water, electricity, roads, telecommunications, etc.); and • Provision for Public Open Space should the site be subdivided.
	Envisaged Development Controls: <ul style="list-style-type: none"> • R-Codes; • Scheme provisions; and • Liveable Neighbourhoods.

RD2 – Table 3: Australind – Kingston Estate Stage 10C, D and E

Planning Precinct:	Strategy Implementation:
<p>Australind - Kingston Estate Stage 10C, D and E (RD2)</p> <p>Location:</p> <p>Lot 9023 Waterford Way, Australind</p> <p>Land Area:</p> <p>9 ha</p> <p>Developable Area:</p> <p>N/A</p> <p>Estimated Lot Yield:</p> <p>158 lots approved (modified plan)</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 2a</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.2</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: "Urban".</p> <p>Current TPS Zoning: "Residential Development".</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes – densities and zones to reflect Kingston Estate Outline Development Plan.</p> <p>Lot size/Density: R20 (670m² average).</p> <p>Structure Planning required: No.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Approved for subdivision (WAPC Ref: 148219) issued in September 2013 – subject to conditions (Bushfire Management Plan, Mosquito Management Plan); and • General servicing (water, electricity, roads, telecommunications, etc.). <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Kingston Estate Outline Development Plan (R20); • Scheme provisions; • R-Codes; and • Bushfire Management Plan and BAL Assessment. <p>General Comments:</p> <ul style="list-style-type: none"> • Plan was modified in October 2013 and approved.

RD3 – Table 4: Australind – Kingston Estate Stage 7B

Planning Precinct:	Strategy Implementation:
<p>Australind - Kingston Estate Stage 7B (RD3)</p> <p>Location:</p> <p>Lot 9012 Braidwood Drive, Australind</p> <p>Land Area:</p> <p>18.43ha</p> <p>Developable Area:</p> <p>N/A</p> <p>Estimated Lot Yield:</p> <p>99 lots</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 2a</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.2</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: "Urban".</p> <p>Current TPS Zoning: "Residential Development".</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes – densities and zones to reflect Kingston Estate Outline Development Plan.</p> <p>Lot size/Density: R20 (508m² – 950m²).</p> <p>Structure Planning required: No.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Subdivision approval issued (WAPC Ref: 150924) in April 2014 lodged for the area. Conditions included: <ul style="list-style-type: none"> - Mosquito Management Plan; and - Foreshore Management Plan. • General servicing (water, electricity, roads, telecommunications, etc.); • Since the subdivision was approved, bushfire prone vegetation has been identified on the periphery of the site by DFES. A BAL Assessment will need to be conducted; and • Foreshore Reserve to be created and hazard separation requirements to be provided outside of the Foreshore Reserve. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Foreshore Management Plan; • Kingston Estate Outline Development Plan (R20); • Scheme provisions; • R-Codes; and • Bushfire Management Plan and BAL Assessment. <p>General Comments:</p> <ul style="list-style-type: none"> • A Bushfire Management Plan was not requested at the time of subdivision approval.

RD4 – Table 5: Australind – Kingston Estate Retirement Village

Planning Precinct:	Strategy Implementation:
<p>Kingston Estate Retirement Village (RD4)</p> <p>Location:</p> <p>Lot 9000 Kingston Drive, Australind</p> <p>Land Area:</p> <p>8.34 ha</p> <p>Developable Area:</p> <p>6.13 ha</p> <p>Estimated Lot Yield:</p> <p>91 aged care lots at 500m² average</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 2a</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.2</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: “Urban”.</p> <p>Current TPS Zoning: “Residential Development”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes – densities and zones to reflect Kingston Estate Outline Development Plan.</p> <p>Lot size/Density: Aged Care housing.</p> <p>Structure Planning required: No.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Previous subdivision approval (WAPC Ref 147517) issued May 2013 subject to conditions including: <ul style="list-style-type: none"> - No vehicle access onto Leisure Drive; - Noise mitigation notification (proximity to Forrest Highway); and - General servicing (water, electricity, roads, telecommunications, etc.). • Kingston Estate Outline Development Plan identifies a 2000m² Special Purpose Site and a 4000m² Community Purpose Site; and • Communal facilities will need to be provided. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Kingston Estate Outline Development Plan (R20); • R-Codes; • Scheme provisions.

RD5 – Table 6: Australind – Kingston Estate – Leisure Drive

Planning Precinct:	Strategy Implementation:
<p>Kingston Estate – Leisure Drive (RD5)</p> <p>Location:</p> <p>Lot 101 Leisure Drive, Australind</p> <p>Land Area:</p> <p>8.97 ha</p> <p>Developable Area:</p> <p>N/A</p> <p>Estimated Lot Yield:</p> <p>74 lots created</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 2a</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.2</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: “Urban”.</p> <p>Current TPS Zoning: “Residential Development”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes – densities and zones to reflect Kingston Estate Outline Development Plan.</p> <p>Lot size/Density: R20, average lots size 733m².</p> <p>Structure Planning required: No.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Subdivision approval granted WAPC (ref 150410) in October 2014 subject to conditions (Bushfire Management Plan, Public Open Space and urban water management); • No lots having direct access to Kingston Drive; and • General servicing (water, electricity, sewer, roads, etc.). <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Kingston Estate Outline Development Plan (R20); • Local Development Plan; • R-Codes; • Scheme provisions; and • Bushfire Management Plan and BAL Assessment.

RD6 – Table 7: Australind – Kingston Estate – Paris Road

Planning Precinct:	Strategy Implementation:
<p>Kingston Estate – Paris Road (RD6)</p> <p>Location:</p> <p>Lots 1, 5813 and 5883 Paris Road, Australind</p> <p>Land Area:</p> <p>5.76ha</p> <p>Developable Area:</p> <p>N/A</p> <p>Estimated Lot Yield:</p> <p>63 lots</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 2a</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.2</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: “Urban”.</p> <p>Current TPS Zoning: “Residential Development”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes – densities and zones to reflect the approved Local Structure Plan, the Kingston Estate Outline Development Plan – Extension Plan.</p> <p>Lot size/Density: Low (R12.5) to medium (R30 and R40).</p> <p>Structure Planning required: No.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Subdivision application to address the following as per the approved Structure Plan (approved by the Shire in September 2014): <ul style="list-style-type: none"> - Landscape buffers from Forrest Highway; - Uniform fencing; - Provision for Public Open Space (0.45ha); and - General servicing (water, electricity, sewer, roads, etc.). • State Planning Policy 5.4 – Road and Rail Noise; and • Since the Structure Plan was approved, bushfire prone vegetation has been identified on the periphery of the site by DFES. A Bushfire Hazard Mapping report and Management Plan will be required as part of the subdivision application. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Kingston Estate Outline Development Plan; • Local Development Plan (referring to section o) of Structure Plan); • R-Codes; • Scheme provisions; and • Bushfire Management Plan and BAL Assessment.

RD7 – Table 8: Australind – Treendale South

Planning Precinct:	Strategy Implementation:
<p>Australind - Treendale South (RD7)</p> <p>Location:</p> <p>Lot 9200 Forrest Highway, Australind</p> <p>Land Area:</p> <p>79.3ha</p> <p>Developable Area:</p> <p>50.97ha</p> <p>Estimated Lot Yield:</p> <p>904 lots</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 2a</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.2</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: “Urban”.</p> <p>Current TPS Zoning: “Residential Development”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes – densities and zone to reflect Treendale South Local Structure Plan.</p> <p>Lot size/Density: Mixed densities (R20, R30 and R40) ranging from 270m² to 7000m².</p> <p>Structure Planning required: No.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Approved for subdivision (WAPC Ref: 150466) issued in September 2014 subject to following conditions: <ul style="list-style-type: none"> - Mosquito Management Plan; - Foreshore Management Plan; - Landscaping buffer plans; - Noise mitigation from Forrest Highway; - Public Open Space; and - General servicing (water, electricity, sewer, roads, etc.); • Since the subdivision was approved, bushfire prone vegetation has been identified on the periphery of the site by DFES. A BAL Assessment will need conducted for affected individual sites; • Joint Town Planning Scheme No. 1 – for the construction of the Treendale to Millbridge Bridge and other infrastructure; • Foreshore Reserve Hazard Separation Zone to be identified, where required; and • Water supply for Public Open Space. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • Treendale South Structure Plan; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

RD8 – Table 9: Binningup Residential Development Area – Lakes Parade

Planning Precinct:	Strategy Implementation:
<p>Binningup Residential Development Area – Lakes Parade (RD8)</p> <p>Location:</p> <p>Lot 9005 Lakes Parade, Binningup</p> <p>Land Area:</p> <p>220ha</p> <p>Developable Area:</p> <p>200ha</p> <p>Estimated Lot Yield:</p> <p>1041 (according to the approved Structure Plan)</p> <p>3,387 lots at R30 density (330m²)</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 3</p> <p>Bushfire mapping Figures 14, 17 & 18</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.3</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning/Reservation: “Part “Urban”, Part “Regional Open Space”.</p> <p>Current TPS Zoning: Part “Residential Development”, Part “General Farming”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes. “Residential Development” to “Urban Development”.</p> <p>Lot size/Density: Low to medium mixed residential densities as per approved structure plan.</p> <p>Structure Planning required: Has been approved (18 December 2013).</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations (proximity to the coast); • General site constraints (e.g. Soils); • Bushfire Hazard Mapping report 2015 (BU2, Figures 14, 17 & 18) identified the following: <ul style="list-style-type: none"> - Extreme to moderate vegetation located within the area; - Single district access; and - BAL-29 vegetation clearing requirements. • The pending Foreshore and Golf Course Management Plans will ensure residents will enjoy the coastal and recreational attributes of Binningup; • The second access way via Springhill Road to alleviate current traffic along Binningup Road; • Ceding of land for Regional Open Space; • Water supply for Public Open Space; and • Reticulated sewerage. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • Local Development Plans to take into consideration unique character of the area; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

RD9 – Table 10: Binningup Residential Development Area – Binningup Road

Planning Precinct:	Strategy Implementation:
<p>Binningup Residential Development Area – Binningup Road (RD9)</p> <p>Location:</p> <p>Lot 76 Binningup Road, Binningup</p> <p>Land Area:</p> <p>Total 35.17ha</p> <p>Zoned land 19.13ha</p> <p>Developable Area:</p> <p>9.44ha</p> <p>Estimated Lot Yield:</p> <p>114 lots at R15</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 3</p> <p>Bushfire mapping Figures 14, 15 & 16</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.3</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: Part “Rural”, Part “Urban”.</p> <p>Current TPS Zoning: Part “General Farming”, Part “Residential R15/30/50”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes. “Residential Development” to “Urban Development”.</p> <p>Lot size/Density: Low residential densities to reflect existing area. Larger lots maybe required to be sympathetic to surrounding area.</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations (Ecological Linkages); • Site constraints (Topographical constraints); • Water supply for Public Open Space; • Bushfire Hazard Mapping report 2015 (BU1 Figures 14, 15 & 16) identified the following: <ul style="list-style-type: none"> - Extreme to moderate vegetation located within the area - Second access to the south; - Environmental areas; and - BAL-29 vegetation clearing requirements. • Any future structure planning over the area should address the following issues: <ul style="list-style-type: none"> - The Structure Plan must demonstrate that the function of the site as an Ecological Linkage is maintained; - It can be demonstrated that approval will not result in an unacceptable environmental impact; and - Housing and subdivision design which achieves: <ol style="list-style-type: none"> a. A road and lot layout in keeping with the existing landscape and subdivision character of the Binningup townsite within the immediate vicinity of the site; b. Minimal retaining walls; c. Lots of a similar size to the predominant lot sizes in the Binningup townsite adjacent to the Structure Plan site; d. Fuel reduction zones located within private land and not in Public Open Space areas; and e. Drainage contained within the property to the satisfaction of the Shire. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions - Cut and fill to ensure sympathetic subdivision design to nature site contours; • Local Development Plans to be adopted for Residential development (lot size and design) to reflect the existing Binningup area; • Local Development Plans to take into consideration the unique character of the area; and • Bushfire Management Plans and BAL Assessments.

RD10 – Table 11: Brunswick Potential Residential Development Area – Heppingstone Road

Planning Precinct:	Strategy Implementation:
<p>Brunswick Potential Residential Development Area – Heppingstone Road (RD10)</p> <p>Location:</p> <p>Lot 57 Heppingstone Road, Brunswick Junction</p> <p>Land Area:</p> <p>4.8ha</p> <p>Developable Area:</p> <p>3.6ha</p> <p>Estimated Lot Yield:</p> <p>54 lots at R15 density</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 4</p> <p>Bushfire mapping Figure 32, 37 & 38</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.4</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: “Rural.”</p> <p>Current TPS Zoning: “General Farming.”</p> <p>Required GBRS Zoning Change: Yes to “Urban Deferred” with supporting justification.</p> <p>Required TPS Zoning Change: Yes to “Urban Development” subject to “Urban Deferred” progressing.</p> <p>Lot size/Density: Low Residential Densities.</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to Urban Deferment being lifted and prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <p>The following matters are to be addressed at the GBRS amendment stage</p> <ul style="list-style-type: none"> • Amenity issues (proximity to Rail Corridor – Sound buffers to be addressed via Notification on Title); • State Planning Policy 5.4 – Road and Rail Noise; • General infrastructure servicing (water, power, sewer, etc.); and • Bushfire Hazard Mapping report 2015 (BWK5, Figures 32, 37 & 38) identified no bushfire hazards on the site. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; and • Local Development Plan to address potential noise concerns.

RD11 – Table 12: Brunswick Residential Development Area – South of Brunswick River

Planning Precinct:	Strategy Implementation:
<p>Brunswick Residential Development Area – South of Brunswick River (RD11)</p> <p>Location:</p> <p>Lots 15, 16, 100, 102, 103, 150, 153 and 500 Clifton Road and Lots 100 and 101 Wellesley Road</p> <p>Land Area:</p> <p>26.63 ha Special Residential</p> <p>10.90 ha Special Rural</p> <p>Total area 37.53 ha (excluding reserve area)</p> <p>Developable Area:</p> <p>18.13ha</p> <p>Estimated Lot Yield:</p> <p>343 lots at 666m² average</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 4</p> <p>Bushfire mapping Figure 32, 33 & 34</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.5</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: Part “Urban”, Part “Rural”</p> <p>Current TPS Zoning/Reservation: Part “Special Residential”, Part “Special Rural”, Part “Recreation” and “Public Utilities”.</p> <p>Required GBRS Zoning Change: Yes from “Part Rural” to “Urban/ Urban Deferred.”</p> <p>Required TPS Zoning Change: Yes from “Special Residential” and “Special Rural” to “Urban Development.”</p> <p>Lot size/Density: To be determined upon further investigation.</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to Urban Deferment being lifted and prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations (Proximity to Brunswick River); • GBS Regional Open Space ceding; • Foreshore Management Plan; • Foreshore Reserve fire separation buffer to be identified, where required; • Water supply for Public Open Space; • General site constraints (slope and topographical constraints); • General servicing issues (water, power, etc.); • Sewer constraints – likely infrastructure upgrades and/or fill requirements; • Odour from the Sewer Ponds south of Clifton Road (Lot 300); and • Bushfire Hazard Mapping report 2015 (BWK2, 32, 33 & 34) identified the following: <ul style="list-style-type: none"> - Extreme and moderate hazard vegetation (river corridor only); - River corridor and possible linkages; and - Not considered a significant constraint to hinder development and should be able to be effectively addressed. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • R-Codes; and • Building Envelopes for Rural Residential properties ensuring sufficient setbacks from river corridor and bushfire hazards. <p>General Comments:</p> <ul style="list-style-type: none"> • Part Lot 153 (south of Clifton Rd) should be rezoned Industry if the Effluent Ponds on Lot 300 are not relocated.

RD12 – Table 13: Harvey Residential Development Investigation Area – King Street

Planning Precinct:	Strategy Implementation:
<p>Harvey Residential Development Investigation Area – King Street (RD12)</p> <p>Location:</p> <p>Lots 2 – 4, 14, 15, 102, 200, 201 and 233 King Street, Harvey</p> <p>Land Area:</p> <p>14.77 ha</p> <p>Developable Area:</p> <p>11.08 ha</p> <p>Estimated Lot Yield:</p> <p>102 lots at R15 average</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 5a</p> <p>Bushfire mapping Figure 27, 28 & 29</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.7</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning/Reservation: “Urban”, Part “Regional Open Space”.</p> <p>Current TPS Zoning: Part “Residential R15/30/50”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes “Residential R15/30/50” to “Urban Development”.</p> <p>Lot size/Density: Low residential densities (potentially between R5 to R25).</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations (linkages with the Harvey River North of sites); • Abuts Regional Open Space (Harvey River corridor); • Foreshore Management Plan; • Foreshore Reserve fire separation buffer to be identified, where required; • Subdivision and development should complement the existing surrounding residential area; • State Planning Policy 5.4 – Road and Rail Noise; • Consolidate and integrated road and pedestrian/cycle networks, passive and active Public Open Space, drainage and other infrastructure; and • Bushfire Hazard Mapping report 2015 (H1, Figures 27, 28 & 29) identified the following: <ul style="list-style-type: none"> - Extreme vegetation along river corridor; and - River corridors vegetation and possible linkages. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • Local Development Plans; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

RD13 – Table 14: Harvey Residential Development Investigation Area – Calder Grove and Roy Street

Planning Precinct:	Strategy Implementation:
<p>Harvey Residential Development Investigation Area – Calder Grove and Roy Street (RD13)</p> <p>Location:</p> <p>Lots 3 and 250 Calder Grove, and Lot 4 Roy Street, Harvey</p> <p>Land Area:</p> <p>9.22 ha</p> <p>Developable Area:</p> <p>7.38 ha</p> <p>Estimated Lot Yield:</p> <p>82 lots at R15 average</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 5a</p> <p>Bushfire mapping Figure Figures 27, 28 & 29</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.7</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: “Urban Deferred”.</p> <p>Current TPS Zoning: “Residential Development”.</p> <p>Required GBRS Zoning Change: Yes – Lifting of the “Urban Deferred”</p> <p>Required TPS Zoning Change: Yes “Residential Development” to “Urban Development”.</p> <p>Lot size/Density: Low residential densities (potentially between R5 to R25).</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to subdivision/development and prior to the lifting of the Urban Deferred.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations (linkages with the Harvey River North of sites); • Abuts Regional Open Space (Harvey River corridor); • Foreshore Management Plan; • Foreshore Reserve fire separation buffer to be identified, where required; • Subdivision and development should complement the existing surrounding residential area; • Sewer constraints related to site gradients/fill and connection points; • There is a memorial on the Title of Lot 4 identifying possible site contamination; • State Planning Policy 5.4 – Road and Rail Noise; • Consolidate and integrated road and pedestrian/cycle networks, passive and active Public Open Space, drainage and other infrastructure; and • Bushfire Hazard Mapping report 2015 (H1, Figures 27, 28 & 29) identified the following: <ul style="list-style-type: none"> - Extreme vegetation along river corridor and Calder Grove; and - River corridors vegetation and possible linkages. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • Local Development Plans; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

RD14 – Table 15: Harvey Residential Development Investigation Area – Kidson Street and Hackett Road

Planning Precinct:	Strategy Implementation:
<p>Harvey Residential Development Investigation Area – Kidson Street and Hackett Road (RD14)</p> <p>Location:</p> <p>Lots 30, 100 and 101 Kidson Street, and Lots 9, 69, 70, 74, & 75 Hackett Road, Harvey</p> <p>Land Area:</p> <p>33.92 ha</p> <p>Developable Area:</p> <p>25.44 ha</p> <p>Estimated Lot Yield:</p> <p>239 lots at R15 average</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 5a</p> <p>Bushfire mapping Figures 27, 30 & 31</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.7</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: “Urban”, “Urban Deferred”</p> <p>Current TPS Zoning: “Residential R15/30/50”, “Residential Development”, “Intensive Farming”.</p> <p>Required GBRS Zoning Change: Yes – Lifting of the “Urban Deferred”</p> <p>Required TPS Zoning Change: Yes “Residential R15/30/50”, “Residential Development” and “Intensive Farming” to “Urban Development”.</p> <p>Lot size/Density: Low residential densities (R15 to R25).</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to the Urban Deferment being lifted and prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations (abutting Region Open Space); • Water supply for Public Open Space; • Hydrogeological settings/drainage; • Continuity and interface with existing Residential development; • Noise mitigation from Railway Corridor; • Sewer servicing constraints; • Potential land use conflicts between existing “Intensive Farming” lots and residential development; • WWTP land use considerations; • State Planning Policy 5.4 – Road and Rail Noise; • Consolidate and integrated road and pedestrian/cycle networks, passive and active Public Open Space, drainage and other infrastructure; and • Bushfire Hazard Mapping report 2015 (H3, Figures 27, 30 & 31) identified the following: <ul style="list-style-type: none"> - Extreme vegetation along diversion drain; - Vegetation along diversion drain; and - Access to the western portion. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • Local Development Plans; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

RD15 – Table 16: Harvey Residential Development Investigation Area – Fryer Road and Anthony Street

Planning Precinct:	Strategy Implementation:
<p>Harvey Residential Development Investigation Area – Fryer Road and Anthony Street (RD15)</p> <p>Location:</p> <p>Lots 23 and 24 Fryer Road, and Lot 12 Anthony Street, Harvey</p> <p>Land Area:</p> <p>22.15ha</p> <p>Developable Area:</p> <p>16.61ha</p> <p>Estimated Lot Yield:</p> <p>165 lots at R15 density</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 5a</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.7</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: “Urban Deferred”.</p> <p>Current TPS Zoning: “Residential Development”.</p> <p>Required GBRS Zoning Change: Yes – Lifting of the “Urban Deferred”.</p> <p>Required TPS Zoning Change: Yes “Residential Development” to “Urban Development”.</p> <p>Lot size/Density: Low residential densities (R15 to R25).</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to the Urban Deferment being lifted and prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations; • Prevent potential land use conflicts between Residential development and Intensive Farming areas; • Water supply for Public Open Space; and • Hydrogeological settings/drainage. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • Local Development Plans; and • R-Codes.

RD16 – Table 17: Harvey Residential Development Investigation Area – West of Third Street and North of Sir James Avenue and Roy Street

Planning Precinct:	Strategy Implementation:
<p>Harvey Residential Development Investigation Area – west of Third Street and north of Sir James Avenue and Roy Street (RD16)</p> <p>Location:</p> <p>Area generally bounded by west of Third Street, north of Uduc Road, east of Fourth Street, and north of Sir James Avenue and Roy Street, Harvey</p> <p>Land Area:</p> <p>Approx. 50ha</p> <p>Developable Area:</p> <p>Potentially 33.94 ha</p> <p>Estimated Lot Yield:</p> <p>310 lots at R15 density</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 5a</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.7</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: “Urban”.</p> <p>Current TPS Zoning: “Residential R15/30/50” and “Other Categories – Area - Policy”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: No.</p> <p>Lot size/Density: Low residential densities (R15 to R25).</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations; • State Planning Policy 5.4 – Road and Rail Noise; • Prevent potential land use conflicts between Residential development and Intensive Farming areas; and • Local and State Heritage listed properties (e.g. Lot 50 and 12 Young Street). <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • Local Development Plans; and • R-Codes.

RD17 – Table 18: Harvey Residential Development Investigation Area – Korijekup Heights

Planning Precinct:	Strategy Implementation:
<p>Harvey Residential Development Investigation Area – Korijekup Heights (RD17)</p> <p>Location:</p> <p>Lots 109, 116, 119 and 108 Sittella Drive, Lots 106 and 107 Rosella Loop, Lot 120 Butcherbird Road and portion of Lot 500 Wallam Road, Harvey</p> <p>Land Area:</p> <p>39.49 ha</p> <p>Developable Area:</p> <p>29.62 ha</p> <p>Estimated Lot Yield:</p> <p>226 lots remaining at R12.5 density</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 5a</p> <p>Bushfire mapping Figures 27, 30 & 31</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.7</p>	<p>Proposed Land Use: Residential.</p> <p>Current GBRS Zoning: “Urban”.</p> <p>Current TPS Zoning: “Residential Development”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: No.</p> <p>Lot size/Density: Low residential densities (R15 to R25).</p> <p>Structure Planning required: Yes. Note there was a structure plan (Korijekup Heights) that was previously approved in late 1990s.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • South West Native Title Claim; • Environmental considerations (abutting regional open space); • Water supply for Public Open Space; • Abutting Primary Regional Road (South Western Highway); • Bushfire risk management (given proximity to regional open space); • Prevent potential land use conflicts between Residential development and Industry lots south of residential areas; • Local and State Heritage listed properties (Harvey Cemetery); • State Planning Policy 5.4 – Road and Rail Noise; and • Bushfire Hazard Mapping report 2015 (H4, Figures 27, 30 & 31) identified the following: <ul style="list-style-type: none"> - Extreme and moderate hazard vegetation surrounding the area; - Development above existing hazard vegetation; - Single access and sensitive land uses which require second access either to the industrial estate or to Weir Road; and - Management of the adjacent Conservation Park. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • Local Development Plans; • R-Codes; and • and Bushfire Management Plans and. BAL Assessments. <p>General Comments:</p> <ul style="list-style-type: none"> • The previous Structure Plan approved identified 320 lots and 12 composite lots were to be developed. Only 77 lots have been developed since then (WAPC ref: 109377).

RD18 – Table 19: Roelands Residential Development Area – Gardiner Street

Planning Precinct:	Strategy Implementation:
<p>Roelands Residential Development Area – Gardiner Street (RD18)</p> <p>Location:</p> <p>Lots 36 and 201 Gardiner Street, and Lot 34 Colton Street, Roelands</p> <p>Land Area:</p> <p>18.84 ha</p> <p>Developable Area:</p> <p>14.13 ha</p> <p>Estimated Lot Yield:</p> <p>145 lots at R10 density</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 7</p> <p>Bushfire mapping Figures 39, 40 & 41</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.9</p>	<p>Proposed Land Use: Urban expansion (investigation area) – residential, commercial and other.</p> <p>Current GBRS Zoning: Part “Urban” part “Urban Deferred.”</p> <p>Current TPS Zoning: Part “General Farming”, Part “Residential R15/30/50”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes from Part “General Farming”, Part “Residential R15/30/50” to “Urban Development”.</p> <p>Lot size/Density: To be determined upon further investigation, potential low residential densities.</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to the lifting of Urban Deferment and prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Site constraints including the high costs associated with providing reticulated water supply to land above the 65m AHD contour; • Servicing provisions; • Amenity issues (proximity to South West Highway, Rail Corridor and Granite Mine on Lot 6209 – noise & dust buffers); • Local Structure Planning will need to give consideration to: <ul style="list-style-type: none"> - Adequate district drainage - Water management including the suitability of the site for on-site wastewater disposal; - Improving pedestrian linkages to the School site; and - Enhancing a sense of place for all residents within Roelands; • Bushfire Hazard Mapping report 2015 (R2, Figures 39, 40 & 41) identified the following no bushfire vegetation hazard; and • Hydrogeological settings/drainage. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions. <p>General Comments:</p> <ul style="list-style-type: none"> • Despite the existence of a granite quarry owned by the State Government, Roelands is well situated for future growth given its proximity to the centres of Australind, Bunbury and Collie.

RD19 – Table 20: Australind Residential Development Area – Ditchingham Place

Planning Precinct:	Strategy Implementation:
<p>Australind Residential Development Area – Ditchingham Place (RD19)</p> <p>Location:</p> <p>Lot 522 Ditchingham Place, Australind</p> <p>Land Area:</p> <p>14.19 ha</p> <p>Developable Area:</p> <p>To be determined</p> <p>Estimated Lot Yield:</p> <p>To be determined</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 2a</p> <p>Bushfire mapping Figures n/a</p> <p>Strategy Reference:</p> <p>Clause 3.1.2.12</p>	<p>Proposed Land Use: Residential/Mixed Uses</p> <p>Current GBRS Zoning: “Urban Deferred.”</p> <p>Current TPS Zoning: “Public Purpose”.</p> <p>Required GBRS Zoning Change: Yes. Lifting of the “Urban Deferred”.</p> <p>Required TPS Zoning Change: Yes from “Public Purpose” to “Urban Development”.</p> <p>Lot size/Density: Low to medium residential densities and mixed use precinct.</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to the lifting of Urban Deferment and prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations (abutting Regional Open Space); • Continuity and interface with existing Industrial, Residential and Commercial development; • Consolidated and integrated road and pedestrian/cycle networks, passive and active Public Open Space, drainage and other infrastructure; and • Bushfire hazard mapping. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • Local Development Plans; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

3.2 Low Density Residential (formerly Special Residential)

Historically, the “Special Residential” zone has been used to support the subdivision and development of residential land with lot sizes ranging between 2,000m² and 1ha with the intent of retaining portions of remnant vegetation. Instead, these areas will be zoned “Residential” utilising the development controls (such as setbacks and site coverage) under the R-Codes where appropriate.

Currently under DPS No. 1, the minimum lot size for land zoned “Special Residential” is 4,000m². There are many areas within the Shire (in particular Leschenault) that are zoned “Special Residential” with site specific subdivision and development provisions listed under Schedule 3 of DPS No. 1. Many of these provisions are similar in nature and/or are no longer applicable as these areas have already been developed. Building envelopes have also been applied as an additional layer of development control.

It is suggested to rezone areas zoned “Special Residential” to “Residential” zone with an allocated low density code to be adopted. It is recommended that the density code of R2.5 (which has a minimum lot size of 4,000m² and minimum lot frontage of 40m) or the R5 (which has a minimum lot size of 2,000m² and a minimum lot frontage of 30m) be appropriately applied. Notwithstanding, it is recommended that the building envelopes are retained for the established special residential areas as, in some instances, greater setbacks than that permitted by the R-Codes exist.

In addition, the Strategy also recommends the relevant provisions of the “Special Residential” zone be consolidated into a single set of provisions that can be adopted in LPS No. 2 where they are not already covered under the R-Codes that can be applied broadly. It should be noted that there may be certain unique site specific provisions that seek to protect an existing character of a Special Residential estate (such as those areas located within the Leschenault locality) that may need to be retained.

The Strategy recommends that provisions for onsite effluent disposal and water management assessments be made in line with the Government Sewerage Policy.

Strategy	Implementation
Review DPS No. 1 scheme provisions relating to the number of individual site area specific requirements.	<p>LPS No. 2 to be prepared with a view to consolidating site specific provisions currently listed under the “Special Residential” zone as a list of development standards in a statutory mechanism within the LPS No. 2 or a Local Planning Policy.</p> <p>Retention of building envelopes.</p> <p>An additional clause should be included in LPS No. 2 to not allow any further subdivision.</p>
Remove the “Special Residential” zone.	<p>Rezone all “Special Residential” zoned land with a lot average of less than 1ha to “Residential” with an appropriate density code.</p> <p>No further subdivision will be permitted.</p>

3.2.1 Key Localities

3.2.1.1 Brunswick, Beela Road (Map 4)

Lots 166, 167, 168 and 169 Beela Road comprise an area of land that is located east of Brunswick Road and south of Beela Road. The area is currently zoned “General Farming” and provides an entry statement from vehicles along Beela Road coming westward into Brunswick. This site is not identified as being within the Strategic Agriculture Resource policy area and has limited agricultural opportunities. The proposal would be consistent with the Greater Bunbury Strategy.

Strategy	Implementation
Refer to Low Residential Density Precinct LD-RD1. (Table 21, Pg. 39)	
Rezone Lots 166, 167, 168 and 169 Beela Road from “General Farming” to “Urban Development”	Consider rezoning this area as part of preparation of LPS No. 2 after a GBRS amendment has been finalised. Local structure planning required.

3.2.1.2 Harvey, Fryer Road (Map 5a)

Lot 120 Fryer Road, Harvey is approximately 8ha in area and currently being utilised for agricultural purposes. Once developed, this land will act as a buffer between residential land to the east and agricultural land to the west and include a vegetated buffer to be established along the western boundaries of the newly created lots. The approved Structure Plan has proposed 31 lots be developed at R5 and R10 densities.

Lots 3 & 4 Fryer Road, Harvey to the north of Lot 120 have been rezoned from “Intensive Farming” to “Residential Development”. In order to achieve consistent development with the land to the south and provide a suitable buffer from neighbouring agricultural activities, it is considered appropriate to rezone Lots 3 and 4 to “Urban Development” in LPS No. 2. Local Structure Planning will need to consider an integrated road and pedestrian network focusing on the connection with Uduc Road, the provision of passive and active public open space and drainage.

Strategy	Implementation
Refer to Low Residential Density Precinct LD-RD2 and LD-RD3. (Tables 22 & 23, Pg. 40 - 41)	
Rezone Lot 120 Fryer Road in accordance with the approved structure plan.	Consider rezoning Lot 120 Fryer Road as part of preparation of LPS No. 2.
Rezone Lots 3 and 4 Fryer Road from “Residential Development” to “Urban Development”.	Consider rezoning Lots 3 and 4 Fryer Road as part of preparation of LPS No. 2. Local structure planning required.

3.2.1.3 Harvey, Logue Road (Map 5a)

The Logue Road locality consists of 31 “Special Residential” zoned lots which are mostly developed and 11 larger “Special Rural” zoned lots. Further expansion is considered undesirable due to the proximity to the Harvey Light Industrial Area (LIA) and the existence of surrounding viable agricultural land.

Strategy	Implementation
No further expansion of development in the Logue Road locality.	Areas to be rezoned to “Residential R2” with provisions limiting any further subdivision.

3.2.1.4 Harvey, Weir Road (Map 5a)

Within the Weir Road area exists 11 lots which are mostly developed. There are several larger lots (4,000m²+) which may have potential for further subdivision. It is recommended that consideration be given to amending the GBRS and rezoning Lot 4 (General Farming) to enable “Residential R2.5” in this locality.

R24002 is owned by the Department of Education and formed part of the former Harvey Agricultural College, prior to it re-locating to Wokalup. The Department of Lands has indicated the objective of the State Government is to establish it as a cultural heritage precinct and subdivide it from the larger parent lot (Lot 298). The remainder of the site can accommodate a higher level of development and a GBRS Amendment and Local Structure Planning for this locality will need to be undertaken.

Strategy	Implementation
	Refer to Low Residential Density Precinct LD-RD4. (Table 24, Pg. 42)

3.2.1.5 Leschenault (Map 2a and 2c)

The Leschenault “Special Residential” areas consist of the estates of Leschenault Parklands, Marina Waters, Riverlands, Ashmere Heights and Bountiful Estate as shown on Map 2c. These estates have been progressively developed over the past 25 years and are essentially complete. No further subdivision of these areas is recommended.

Strategy	Implementation
No further expansion of Residential development in the Leschenault locality. No further subdivision of existing lots.	Areas to be rezoned to “Residential R2.5 or R5” and retention of appropriate scheme provisions regarding building envelopes.

3.2.1.6 Myalup Beach Road (Map 6)

Lots 1 and 2 Myalup Beach Road are identified as “Special Residential – Area 6” under DPS No. 1 and corresponding development provisions are contained within Schedule 3. The provisions make reference to a “Subdivision Guide Plan” created in 1990 and which contains lots with a minimum lot size of 1,000m². The land parcel is significantly constrained and contains undulating sand dunes and remnant vegetation and therefore development with a reduced environmental impact is considered more appropriate. A Local Structure Plan for this locality will need to:

- Outline extensive environmental management measures and a bushfire management plan for the site and its potential development;
- Identify appropriate setbacks from the primary dunes and waterways;
- Facilitate maximum retention of native vegetation;
- Provide guidelines to prevent “Cut and Fill” type development; and
- Attempt to retain the natural contours of the locality as much as possible.

Strategy	Implementation
Structure Planning	<p>Modified Local Structure Plan required and provisions of DPS No. 1 to be replaced with new provisions in LPS No. 2 as follows:</p> <ul style="list-style-type: none"> • Outline extensive environmental management measures for the site and its development; • Identify appropriate setbacks from the primary dunes and waterways; • Facilitate maximum retention of native vegetation; • Provide guidelines to prevent “Cut and Fill” type development; and • Retain the natural contours of the locality as much as possible.

3.2.1.7 Myalup, Lot 100 Lake Preston Road (Map 6)

Lot 100 has been developed as a strata titled development and no modifications to the management provisions are considered necessary. The majority of these lots have a lot size of approximately 3,000m² which is equivalent to the R5 density code.

Strategy	Implementation
No change proposed for the strata title development on Lot 100.	Retain the current Scheme zoning

3.2.1.8 Roelands, Meadow Landing (Map 1)

Development on the eastern side of the Forrest Highway south of Raymond Road is dominated by Special Residential development with lots of approximately 2,000m² to 4,000m². Lot 568 Raymond Road is currently zoned “Special Residential”. As part of the Scheme Review, the area will need to be rezoned to “Residential” with an appropriate density code.

Strategy	Implementation
No further expansion of subdivision or development in this locality.	Zone appropriately in LPS No. 2.

3.2.1.9 Roelands, Lot 9000 and 9001 Waterloo Road (Map 7)

“Special Residential” growth has occurred east of the Roelands townsite, however further expansion is compromised by the existence of a granite quarry on Lot 6209. It is considered that upon existing “Special Residential” developments being completed, any future development of Roelands should be higher density “Residential” type development as outlined in Clause 3.1.2.8 to ensure efficient land use.

Strategy	Implementation
Refer to Low Residential Density Precincts LD-RD5. (Table 25, Pg. 43)	
No further expansion upon completion of currently endorsed Special Residential developments.	Zone appropriately in LPS No. 2 Preclude any new dwellings located on the eastern side of Lot 9001 within 1,000m of the quarry for public safety and amenity reasons.

3.2.1.10 Warrawarrup (Map 5b)

This locality was originally established to support the harness racing facility located on private land on Lot 40 Peterson Road, with provisions in DPS No. 1 reflecting this use. The pattern of settlement within this locality has included the provision of rear laneways to facilitate the movement of horses.

In recent years however the site has not been sufficiently maintained, much to the detriment of the local community. Provisions should be imposed to ensure it is effectively maintained and protected with strict development controls imposed in LPS No. 2. No further expansion of the “Special Residential” land in this locality is considered appropriate.

Strategy	Implementation
No further expansion of Special Residential development in the Warrawarrup locality.	Zone appropriately in LPS No. 2.

3.2.1.11 Yarloop, Bishop Place (Map 8)

Bishop Place comprises a small “Special Residential” development of 15 lots within a cul-de-sac arrangement. Approximately half of the lots have been developed. No further expansion of this locality is considered appropriate.

Strategy	Implementation
No further expansion of Special Residential development in the Bishop Place locality.	Zone appropriately in LPS No. 2.

Low Density Residential (formerly Special Residential) Precincts

LD-RD1 – Table 21: Brunswick Low Density Residential Development Area – Beela Road

Planning Precinct:	Strategy Implementation:
<p>Brunswick Low Density Residential Development Area – Beela Road (LD-RD1)</p> <p>Location:</p> <p>Lot 166, 167, 168 & 169 Beela Road</p> <p>Land Area:</p> <p>7 ha</p> <p>Developable Area:</p> <p>5.25 ha</p> <p>Estimated Lot Yield:</p> <p>15 lots at 2,000m² average</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 4</p> <p>Bushfire mapping Figures 32, 35 & 36</p> <p>Strategy Reference:</p> <p>Clause 3.2.1.1</p>	<p>Proposed Land Use: Low Density Residential.</p> <p>Current GBRS Zoning: “Rural”.</p> <p>Current TPS Zoning: “General Farming”.</p> <p>Required GBRS Zoning Change: Yes from “Rural” to “Urban deferred”.</p> <p>Required TPS Zoning Change: Yes to “Urban Development” following a GBRS amendment.</p> <p>Lot size/Density: To be determined upon further investigation, low residential densities (R2.5 – R5).</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to subdivision/development prior to lifting of the urban deferment.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Site constraints (creek lines, slope and topographical constraints, irrigation channel - Roelands); • Servicing considerations (onsite effluent disposal/servicing); • Hydrogeological settings/drainage; and • Bushfire Hazard Mapping report 2015 (BWK4, Figures 32, 35 & 36) identified moderate hazard vegetation in south east corner. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; and • R-Codes.

LD-RD2 – Table 22: Harvey Low Density Residential Development Area – Fryer Road

Planning Precinct:	Strategy Implementation:
<p>Harvey Low Density Residential Development Area – Fryer Road (LD-RD2)</p> <p>Location:</p> <p>Lot 120 Fryer Road</p> <p>Land Area:</p> <p>7.985ha</p> <p>Developable Area:</p> <p>N/A</p> <p>Estimated Lot Yield:</p> <p>15 at R5 density 16 at R10 density</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 5a</p> <p>Strategy Reference:</p> <p>Clause 3.2.1.2</p>	<p>Proposed Land Use: Low Density Residential.</p> <p>Current GBRS Zoning: “Urban”.</p> <p>Current TPS Zoning: “Special Residential” (SRes12).</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes to “Residential R10” and “R5” accordingly.</p> <p>Lot size/Density: Low residential densities (R10 to R5)</p> <p>Structure Planning required: No. There is an existing Structure Plan that has been endorsed by WAPC on 23/7/2013</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Subdivision to be submitted for approval; • General servicing (sewer, water, power, roads, etc.); • Sewer constraints due to site gradient/fill requirements; • The existing Special Residential provisions (Schedule 3, Area 12) to be reviewed and consolidated into new scheme for this area were appropriate; and • Public Open Space requirement identified in Structure Plan. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; and • R-Codes.

LD-RD3 – Table 23: Harvey Low Density Residential Development Area – Fryer Road

Planning Precinct:	Strategy Implementation:
<p>Harvey Low Density Residential Development Area – Fryer Road (LD-RD3)</p> <p>Location:</p> <p>Lot 3 & 4 Fryer Road</p> <p>Land Area:</p> <p>7.75 ha</p> <p>Developable Area:</p> <p>5.81 ha</p> <p>Estimated Lot Yield:</p> <p>10 at R5 density 30 at R10 density</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 5a</p> <p>Strategy Reference:</p> <p>Clause 3.2.1.2</p>	<p>Proposed Land Use: Low Density Residential.</p> <p>Current GBRS Zoning: “Urban Deferred”.</p> <p>Current TPS Zoning: “Residential Development”.</p> <p>Required GBRS Zoning Change: Yes – Lifting of the “Urban Deferred”.</p> <p>Required TPS Zoning Change: Yes, update to “Urban Development”.</p> <p>Lot size/Density: Low residential densities (R5 to R10).</p> <p>Structure Planning required: Yes. To be endorsed by the WAPC prior to the Lifting of Urban Deferment.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Structure Plan will need to address the following <ul style="list-style-type: none"> - General servicing; - Separation distances and buffers; - Integration with Intensive Farming to the west and Urban lots to the east; - Public Open Space requirements; and - Sewer constraints due to site gradient/fill requirements. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; and • R-Codes.

LD-RD4 – Table 24: Harvey Low Density Residential Development Area – Weir Road

Planning Precinct:	Strategy Implementation:
<p>Harvey Low Density Residential Development Area – Weir Road (LD-RD4)</p> <p>Location:</p> <p>Lot 4 & 2 Weir Rd, Harvey</p> <p>Land Area:</p> <p>2.13 ha</p> <p>Developable Area:</p> <p>1.70 ha</p> <p>Estimated Lot Yield:</p> <p>6 lots at 3,000m² average</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 5a</p> <p>Bushfire mapping Figures 27, 28 & 29</p> <p>Strategy Reference:</p> <p>Clause 3.2.1.4</p>	<p>Proposed Land Use: Low Density Residential</p> <p>Current GBRS Zoning: “Urban”, “Rural”</p> <p>Current TPS Zoning: “Special Residential” (SRes 3), “General Farming”</p> <p>Required GBRS Zoning Change: Yes to “Urban Deferred”</p> <p>Required TPS Zoning Change: Yes to “Residential R5” and “Urban Development” subject to “Urban Deferred” progressing.</p> <p>Lot size/Density: Low residential densities (R5)</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to the Lifting of Urban Deferment and prior to subdivision/development</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations; • Consolidate and integrated road and pedestrian/cycle networks, passive and active Public Open Space, drainage and other infrastructure; • Sewer extension may be unviable; • Subdivision and development should complement the existing surrounding residential area; and • Bushfire Hazard Mapping report 2015 (H2, Figures 32, 35 & 36) identified the following: <ul style="list-style-type: none"> - Extreme and moderate hazard vegetation (river corridor only); - River corridor and possible linkages; - Slope steepness; - Single access to northern portion; and - BAL-29 vegetation clearing requirements. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • R-Codes; and • Bushfire Management Plans and BAL Assessments.

LD-RD5 – Table 25: Roelands Low Density Residential Area – Waterloo Road

Planning Precinct:	Strategy Implementation:
<p>Roelands Low Density Residential Development Area – Waterloo Road (LD-RD5)</p> <p>Location:</p> <p>Lots 9000 and 9001 Waterloo Road, Roelands</p> <p>Land Area:</p> <p>52.77 ha</p> <p>Developable Area:</p> <p>34.30 ha</p> <p>Estimated Lot Yield:</p> <p>50 lots range from 3,000m² to 15,000m² on Lot 9001.</p> <p>25 lots range from 3,000m² to 15,000m² on Lot 9000.</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 7</p> <p>Bushfire mapping Figures 39, 40 & 41</p> <p>Strategy Reference:</p> <p>Clause 3.2.1.9</p>	<p>Proposed Land Use: Low density residential.</p> <p>Current GBRS Zoning: “Urban” and “Urban Deferred”.</p> <p>Current TPS Zoning: “Special Residential”.</p> <p>Required GBRS Zoning Change: Yes – Lifting of the “Urban Deferred”.</p> <p>Required TPS Zoning Change: Yes to “Urban Development”.</p> <p>Lot size/Density: To be determined upon further investigation, low residential densities (5,000m² average, R2) for the balance of the land not yet rezoned.</p> <p>Structure Planning required: Yes already endorsed by WAPC prior to the lifting of Urban Deferment prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Environmental considerations (Environmental Review); • Servicing provisions; • Amenity issues (proximity to South West Highway, Rail Corridor and Granite Mine on Lot 6209 – noise & dust buffers); • Hydrogeological settings/drainage; and • Bushfire Hazard Mapping report 2015 (R1, Figures 39, 40 & 41) identified the following: <ul style="list-style-type: none"> - Extreme and moderate hazard vegetation along southern and eastern boundary; - Second Road access is required; and - Slope steepness. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • R-Codes; and • Bushfire Management Plans and BAL Assessments. <p>General Comments:</p> <ul style="list-style-type: none"> • Additional “Special Residential” lots on the eastern section of Waterloo Road is constrained by the existence of a granite quarry owned by the State Government, however Roelands is well situated for future growth given its proximity to the centres of Australind, Bunbury and Collie; and • Area subject to existing Scheme Amendment 109.

3.3 Rural Residential (formerly Special Rural)

There are a number of properties located within the Shire which are currently zoned “Special Rural”. The *Planning and Development (Local Planning Schemes) Regulations 2015* has sought to standardise the names of zones used in Schemes by Local Governments. In order to be consistent with the terminology used in the LPS Regulations, it is proposed to re-term the “Special Rural” zone as the “Rural Residential” zone.

Rural residential developments have historically been attractive due to the lifestyle options they provide and in certain locations also serve an important function of acting as buffers between potentially conflicting land uses, particularly residential and agricultural land.

In recent years there has been reduced support for rural residential type developments at a State Government level such as the South West Regional Planning and Infrastructure Framework, SPP 2.5 and the GBS. No additional “Rural Residential” or similar development will be permitted unless already identified in the Greater Bunbury Structure Plan and the Local Governments’ Local Planning Schemes and Local Planning Strategies.

Clause 6.3 of DPS No. 1 outlines the development standards and requirements relating to the “Rural Residential” zone however there are also a number of area specific provisions outlined in Schedule 4 of DPS No. 1 for specific areas. Many of the clauses however are identical (size of rain water tanks or effluent disposal) or redundant as these areas have now been developed. As part of the preparation of LPS No. 2, it is proposed that these provisions are consolidated.

The Strategy recommends that provisions for onsite effluent disposal and water management assessments be made in line with the Government Sewerage Policy.

Strategy	Implementation
Replace the terminology “Special Rural” with “Rural Residential”.	Revised terminology to be included in LPS No. 2.
Review DPS No. 1 scheme provisions relating to site area specific requirements.	LPS No. 2 to be prepared with a view to consolidating site specific provisions for “Rural Residential” areas.

3.3.1 Key Localities

3.3.1.1 Cookernup (Map 9)

There are a significant number of “Intensive Farming” zoned properties with lot sizes below the minimum required under DPS No. 1 surrounding the Cookernup townsite (Refer to Map 9). As the predominant size of these lots is consistent with the “Rural Residential” zone, it is considered appropriate to amend the zoning to “Rural Residential” in LPS No. 2, to better reflect the existing settlement pattern.

As part of the rezoning process, a review of the land use permissibility and development controls will need to be considered overall for the “Rural Residential” zone and having particular regard to the Cookernup locality. Many of the existing land uses and structures may become non-conforming land uses that may cause conflicts and should be addressed.

Currently the Shire’s Local Planning Policy restricts the size of outbuildings in the “Special Rural” and the “Rural Residential” zones to 190m². There are, however, no size restriction in

the “Intensive Farming” zone in the Shire’s Scheme or a Local Planning Policy. To ensure a consistency across all lots and to maintain the rural amenity of the locality, retention of the 190m² is recommended.

Strategy	Implementation
Rezone applicable undersized “Intensive Farming” lots to “Rural Residential”	<p>Consider rezoning in preparation of LPS No. 2.</p> <p>Review the land use permissibility for the Rural Residential zone in general and for the Cookernup area.</p> <p>Retain current shed size at 190m².</p>

3.3.1.2 Harvey, Herbert Road (Map 5a)

Portions of Lots 25 and 92 Herbert Road are zoned “Special Rural”. When developed, these lots will provide an important buffer between residential properties to the north and agricultural properties to the south. To the east Lots 101 – 105 are between 1-2ha in area and zoned “Intensive Farming”. It is considered appropriate these properties are rezoned to “Rural Residential” which will reinforce the buffer to agricultural land.

Development in this locality will need to take into account the buffer from the waste water treatment plant to the south and will require building envelopes to be established in the northern portion of the lots.

Strategy	Implementation
Rezone Lots 101-105 from “Intensive Farming” to “Rural Residential”.	<p>Consider rezoning as part of preparation of LPS No. 2.</p> <p>Development in this locality will need to take into account the buffer from the waste water treatment plant to the south and will require building envelopes to be established in the northern portion of the lots.</p>

3.3.1.3 Harvey, Korijekup Avenue (Map 5a)

At the corner of Korijekup Avenue and Sixth Street, Harvey are 10 lots which are currently zoned “Intensive Farming” and all approximately 2,000m² in area. As the lot sizes in this locality are consistent with the “Rural Residential” zoning it is considered appropriate to rezone these properties under LPS No. 2 to “Rural Residential”. Several of the properties are utilised for a “Farm Machinery Sales and Servicing” business, which would be permitted to continue to operate as a non-conforming use.

Strategy	Implementation
Rezone Lots 1-10 from “Intensive Farming” to “Rural Residential”.	Consider rezoning as part of preparation of LPS No. 2.

3.3.1.4 Harvey, Logue Road (Map 5a)

The 11 lots zoned “Special Rural” in Logue Road act as a buffer between the adjoining “Special Residential” lots and neighbouring agricultural land. It is considered that these lots serve an important function and therefore should be retained. No further expansion of “Rural Residential” type development should be considered in this locality.

Strategy	Implementation
No further expansion of Rural Residential development in the Logue Road locality.	N/A

3.3.1.5 Leschenault, Cathedral Avenue – west of Forrest Highway (Map 2c)

Along Cathedral Avenue in Leschenault exists a corridor of “Special Rural – Landscape Protection” zoned properties which have provisions in DPS No. 1 addressing both visual and land management concerns. Clause 4.4 of Schedule 4 of the DPS No. 1 also contains restrictions on subdivisions with a minimum lot size of 2ha required south of Crimp Crescent and 5ha north of Crimp Crescent. Due to environmental constraints and the high value placed on the visual amenity of the locality, it is considered that these restrictions be retained in LPS No. 2.

It is considered that using appropriate zonings is a more effective way to control lot size and impose development restrictions rather than the current reference to Crimp Crescent. To this effect lots along Cathedral Avenue are to be zoned “Rural Residential” in LPS No. 2. Notwithstanding, the Cathedral Avenue locality should be identified in LPS No. 2 as a “Special Control Area” with consolidated management provisions.

Within the locality of Leschenault exists a network of lineal open space corridors which should be investigated and where appropriate upgraded to allow for nature based recreation and improved pedestrian, horse-riding and bike networks. Development in this manner will reflect the original intention of these corridors and provide the opportunity for improved health and wellbeing of the community.

Strategy	Implementation
No further subdivision or expansion of Rural Residential development	<p>Lots to be zoned “Rural Residential”. Identify as a “Special Control Area” in LPS No. 2 with specific provisions to this locality.</p> <p>Consideration to developing a connected path network using existing open space reserves for multiple user groups.</p>

3.3.1.6 Myalup, Lot 200 Lake Preston Road (Map 6)

Lot 200 Lake Preston Road has been developed as a purple title development and no further development or subdivision potential is proposed.

3.3.1.7 Uduc, Forestry Road (Map 5b)

Thornton Drive has been developed with lots approximately 2ha in area and there is also several larger neighbouring “Special Rural” zoned properties to the east. Due to the lack of available services in this locality and environmental constraints, particularly the existence of a high water table which results in seasonal wetlands, it is considered that no further subdivision should be considered.

Strategy	Implementation
No further expansion or intensification of Special Rural development.	Lots to be zoned “Rural Residential”.

3.4 Rural

Under DPS No. 1, rural properties are presently zoned “General Farming” or “Intensive Farming”, and this Strategy recommends retention of these zones to ensure appropriate protection of the irrigated and non-irrigated farmland within the Shire.

It is acknowledged the WAPC is the determining authority for subdivision applications. SPP 2.5 and Development Control Policy (DCP) 3.4 provide the WAPC with guidance and policy framework in the subdivision of rural land. On this basis, it is recommended that the LPS No. 2 adopt criteria for rural land that is consistent with SPP 2.5 and DCP 3.4.

Strategy	Implementation
Retain “Intensive Farming” and “General Farming” zones.	Include subdivision criteria within LPS No. 2 consistent with SPP 2.5 and DCP 3.4 in regard to applications for rural subdivision.

3.4.1 Rural Land with Significant Environmental Values

The Shire acknowledges that in certain locations within the Shire rural land parcels possess significant environmental values which reduce their capacity to be utilised for agricultural purposes. In particular, the existence of remnant native vegetation, conservation status waterways, ecological linkages and lots in coastal areas are most affected.

The *Shire of Harvey Biodiversity Strategy* (HBS) outlines the direction of the Shire with regards to management of natural resources and protection of environmentally important areas. The document contains mapping of native vegetation located throughout the Shire on both public and privately owned land. Much of the privately owned land is zoned “General Farming” under DPS No. 1 which creates a difficult situation for landowners as they are often unable to use that land in accordance with its zoning, nor able to obtain a clearing permit to clear the native vegetation.

As such, it is recommended that an additional zoning of “Rural Conservation” be established under LPS No. 2 for rural land parcels containing high quality native vegetation, including riparian vegetation and associated waterways, in order to preserve significant environmental features and remnant vegetation.

Consistent with the Shire’s Biodiversity Strategy the zoning of land as “Rural Conservation” will be voluntary and incentive based. This Strategy identifies properties which may be appropriate for a “Rural Conservation” zoning to be pursued by the landowners. A number of other properties within the Shire may also qualify for this zoning and the Shire will assess rezoning requests on their merits against the criteria outlined above.

Strategy	Implementation
To update the Shire’s Biodiversity Strategy for approval by the WAPC.	Consider a “Rural Conservation” zoning for rural properties with significant environmental values, inclusive of incentives for voluntary rezonings in LPS No. 2 or as a Scheme Amendment.

3.4.2 Rural Land with Priority Agricultural Values

The GBRS identifies land within the Shire which is classified as “Priority Agriculture”. The Shire will give due regard to this classification during the assessment of development applications. Consideration will be balanced against the environmental, visual and community objectives contained within proposed LPS No. 2.

The proposed Myalup Horticultural Area is currently depicted within the GBRS as “Public Purpose State Forest Reserve” and this designation is reflected on the Strategy Map. However, a proposed Amendment to the GBRS is currently being investigated to change the purpose of the State Forest Reserve to a reserve purpose that reflects the intended development of the area for a variety of land uses primarily based around the development of this locality for horticultural land use.

Strategy	Implementation
Priority Agriculture	<p>The Priority Agriculture classification will be applicable and given due regard during the assessment of development applications.</p> <p>Consideration is to be balanced against the environmental, visual and community objectives contained within proposed LPS No. 2.</p>
Align the land use controls applicable to the Myalup Horticultural Area with the GBRS.	A GBRS reservation will automatically be imposed in the local scheme if and when it occurs.

3.4.3 Issues for Development in Rural Areas

The Shire has vast areas of rural land that needs to be protected from urban expansion and non-rural land uses in bona fide rural areas. The rural areas within the Shire do not have a uniform character or amenity as each rural locality has a number of different environmental and agricultural attributes, for example horticultural areas on the Swan Coastal Plain, irrigated farmland and the broad acre areas within the scarp.

In 2015, the term “amenity” was defined in the Scheme via the *Planning and Development (Local Planning Schemes) Regulations 2015*. The introduction of this definition provides an opportunity to identify the character and the amenity of the Shire’s distinct rural localities.

It is recommended that within proposed LPS No. 2 consideration be given to defining rural amenity to establish a stronger statutory planning framework for rural land within the Shire, protecting each locality’s current and future rural attributes, and deter any detrimental impacts via changes in land use. An appropriate approach and methodology will be determined to identify the amenity of these areas as part of the review process. Notwithstanding, it is acknowledged that the current known development issues in the rural areas include (but are not limited to) the following:

- controls for the establishment of a second house (caretaker dwelling/ancillary accommodation);
- appropriate and compatible non-rural uses in specific rural localities such as rural processing activities;

- unanticipated or current uses creating issues as a result of future and developing rural and agricultural industries and technologies;
- adequacy of existing scheme and local planning policies in protecting Places of Landscape Value – with regards to setbacks, design and materials; and
- appropriate separation distances/buffers for agricultural activities such as poultry farms in relation to surrounding land uses to ensure potential land use conflicts are minimised.

Strategy	Implementation
Development controls.	<p>To determine and identify the amenity of the rural areas and whether amenity should be defined in context of the zone or specific areas.</p> <p>Review the zoning and land use permissibility as part of the Scheme Review for rural zoned land.</p> <p>Review development controls relating to:</p> <ul style="list-style-type: none"> • appropriate and compatible non-rural uses in specific rural localities; • unanticipated or current uses creating issues as a result of future and developing rural and agricultural industries and technologies; • adequacy of existing scheme and local planning policies in protecting Places of Landscape Value – with regards to setbacks, design and materials; and • appropriate separation distances/buffers for agricultural activities in relation to surrounding land uses to ensure potential land use conflicts are minimised, with due regard given to the Department of Health's <i>Guidelines for the Separation of Agricultural and Residential Land Uses</i>. • secondary housing in rural areas • protection of landscape character areas. • separation distances/buffers to water resources.

3.5 Retail and Commercial

The Strategy Maps identify proposed locations for expansion of commercial activities and identifies three key Activity Centres - the Harvey Town Centre, Australind Village (Neighbourhood Centre) and the Treendale District Centre. Currently in DPS No. 1, there are several zonings related to commercial activities including “Shop”, “Office” and “Other Commercial – Showroom”. Given the current similarity of uses permitted within each zone it is considered appropriate that the “Shop” and “Office” zones be combined to a single “Commercial” zoning under LPS No. 2. “Other Commercial – Showroom” will be retained and will relate specifically to the retailing and wholesaling of larger goods (e.g. white goods, car sales etc.). In addition, it would be appropriate to consider mixed use residential and commercial developments within the Town Centre locations.

3.5.1 Key Localities

3.5.1.1 Australind Neighbourhood Centre (Maps 2a and 2b)

The Australind Village (Neighbourhood Centre) consists of a number of individual lots which are owned both privately and by the Shire. The Australind Village on Lot 225 is zoned “Shop” with additional use rights listed in Schedule 7 of DPS No. 1. The other privately owned lots in the precinct are zoned “Shop” or “Office” and Lot 208, which is owned freehold by the Shire is zoned “Special Use – Other Community”.

The lots comprising the Australind Village are fully developed, consisting of built form and car parking. Any expansion would need to be vertical and would require the provision of additional parking which is currently at capacity. Vertical expansion may be unviable at present however an increase in the permissible uses can be achieved by rezoning all lots within the centre to “Commercial”. This is consistent with the recommendations of the WAPC’s Activity Centre Policy and the objective of creating a diverse built environment through mixed-use planning.

In the longer term the retail capacity of the activity centre may be able to increase through appropriate mixed-use development of Lot 210 Mulgara Street, (owned by the Shire) which is immediately east of the existing shopping centre.

Strategy	Implementation
Refer to Retail and Commerce Precinct AC1. (Table 26, Pg. 57)	
Rezone Lot 225 Old Coast Road, Lots 224, 226, 227 Mardo Avenue, and Lots 207, 210, 220 Mulgara Street, Australind from “Shop” / “Office” to “Commercial”.	Consider rezoning as part of preparation of LPS No. 2.
Consider long term expansion of Centre to include Lot 210 Mulgara Street.	Consider rezoning as part of preparation of LPS No. 2 with provisions for “Mixed-Use” zoning to be developed.
Consider appropriate zoning for Lot 1 Old Coast Road.	Consider appropriate zoning.
Improve connectivity between all commercial centres.	Implementation of local and regional path plans.

3.5.1.2 Binningup (Map 3)

There are currently three lots in Binningup which are zoned as “Shop” located in a cluster along Ilyarrie Street. The Binningup General Store occupies one of the lots with the other two remaining vacant. The current zoning of “Shop” will be amended to “Commercial” under LPS No. 2.

The Binningup Beach Local Structure Plan includes the provision of a “Village Centre” which may provide up to 900m² of retail floor space. It is considered that this Village Centre will cater for the additional population created by the new development, whilst the existing town centre will service the population to the north. Both commercial centres should be well connected, catering for all modes of transport, whilst establishing their own individual but complimentary sense of place.

Strategy	Implementation
Rezone 3 lots along Ilyarrie Street from “Shop” to “Commercial”.	Consider rezoning as part of preparation of LPS No. 2.
Improve connectivity between both commercial nodes and develop each with their own sense of place.	Implementation of local and regional path plans.

3.5.1.3 Brunswick (Map 4)

The majority of properties located in the Brunswick main street are zoned “Shop”, however there are a number which are not currently occupied. As such, it is recommended that no additional properties be identified for commercial purposes in order that existing properties are fully utilised. Whilst additional commercial properties are not required in the short – medium term, rezoning existing properties from “Shop” to “Commercial” will provide a greater mix of available uses and maybe a sufficient catalyst to reduce current vacancies.

Strategy	Implementation
Rezone all lots currently zoned “Shop” to “Commercial”.	Consider rezoning as part of preparation of LPS No. 2.

3.5.1.4 Cookernup (Map 9)

Currently there is one property in Cookernup zoned “Shop”. Due to the low residential density in Cookernup, it is considered that this is sufficient to service the community for the short – medium term and therefore no further expansion is proposed. Notwithstanding, the existing property is to be rezoned to “Commercial” in LPS No. 2.

Strategy	Implementation
Rezone existing property zoned “Shop” to “Commercial”.	Consider rezoning as part of preparation of LPS No. 2.

3.5.1.5 Harvey Town Centre (Maps 5a)

The Harvey townsite contains a vibrant commercial centre with “Shop” zoned properties generally located along Uduc Road, Hayward Street and Harper Street and “Office” zoned properties along Becher and Gibbs Streets. Consistent with recommendations contained in the previous sections of this Strategy, it is considered that these two zonings be combined to create a single “Commercial” zoning. This has the potential to result in additional shops being located on the side streets of Becher and Gibbs Streets, however, it is considered that both uses are compatible.

To ensure the continuing dominance of Uduc Road as the main commercial street within Harvey, Lots 12 – 14 and 34 currently zoned “Residential” between Harper Street and Sutton Street on the northern side of Uduc Road should be rezoned to “Commercial” in LPS No. 2. Although currently used as residences, non-conforming use rights would apply which would enable their ongoing use for residential purposes, until such time as demand dictates a change in use.

The area bound by Newell Street, Herbert Road, Buckby Road and Young Street is predominantly zoned “Other Commercial – Showroom” with one property zoned “Special Use” (church) and six “Residential” zoned properties. The six residential properties are to be rezoned to “Other Commercial – Showroom” to provide for additional growth. Although currently used as residences, non-conforming use rights would apply which would enable their ongoing use for residential purposes until such time as demand dictates a change in use.

A portion of Lot 500 (107) Uduc Road (Harvey Police Station) is zoned “Residential” with the remaining section being zoned “Special Use - Other Community”. It is recommended that this be amended in LPS No. 2 to make the entire lot “Special Use - Other Community”. The remaining residential lot on the corner of Young and Newell Streets will be rezoned to “Commercial” to match adjoining properties.

Strategy	Implementation
Refer to Retail and Commerce Precinct AC2	(Table 27, Pg. 58)
Rezone all lots from “Shop” / “Office” to “Commercial”. Rezone Lots 12, 13, 14 and 34 Uduc Road from “Residential” to “Commercial”. Rezone Lots 1 & 2 Young Street, Lots 3 and 4 Newell Street and Lots 9 & 80 Buckby Road from “Residential” to “Other Commercial – Showroom”.	Consider rezoning as part of preparation of LPS No. 2.

3.5.1.6 Roelands (Map 7)

Lots 12 and 13 Government Road, Roelands are both partially zoned “Shop”. In the short - medium term this amount of commercial zoned land may be sufficient, however, it is considered appropriate to rationalise the zonings so that all of Lot 12 is zoned “Commercial”, and the entirety of Lot 13 is zoned “Residential”.

Furthermore, the neighbouring property at Lot 23 (No. 10) Hayward Street, is “Reserved for Public Utilities” under DPS No. 1. The property is developed as a private dwelling and no longer contains any of its original use as a public works depot. Rezoning the property to “Residential” is considered appropriate.

Strategy	Implementation
Rezone Lot 12 Government Road from "Shop / Residential" to "Commercial". Rezone Lot 13 Government Road from "Shop / Residential" to "Residential".	Consider rezoning as part of preparation of LPS No. 2.

3.5.1.7 South Treendale (Maps 2a)

The South Treendale Structure Plan contains one commercial site of 300m² net lettable area on the south-western boundary abutting The Boulevard. The Treendale District Centre is required to retain its commercial dominance within this locality, however, there is an opportunity to provide for additional commercial land within the vicinity of the Collie River, particularly for uses such as restaurants, cafés, higher density residential and recreation. This could be achieved as part of "mixed-use" development with a vertical separation of commercial and residential uses. This outcome would further promote a healthy built environment within the Australind locality. The structure plan restricts commercial lots to have a maximum net lettable area to 300m².

Strategy	Implementation
Consider commercial precinct adjacent to river, particularly café / restaurant / mixed use type development.	"Mixed-use" zoning to be included in LPS No. 2. Modifications to the South Treendale Local Structure Plan as required.

3.5.1.8 Treendale Activity Centre (District Centre) (Map 2a)

The Treendale District Centre Structure Plan outlines the future growth of the commercial precinct and includes, but is not limited to, the provision of a mix of residential, retail, office, mixed-use, food and entertainment and community uses amongst others. The approved Structure Plan identified a maximum of 20,000m² of net lettable retail floor space. The first stage has been constructed and it is anticipated that the Structure Plan will provide suitable guidance for the ongoing development of this precinct. It is considered important to retain or increase building bulk and residential densities around the activity centre which will ensure the ongoing viability of the commercial precinct which may be achieved through the introduction of an "Activity Centre" zone. Further research regarding the most appropriate means of implementing this zoning will be required, prior to implementation.

Strategy	Implementation
Development in accordance with the endorsed Treendale District Centre Structure Plan.	Ongoing.
Impose minimum residential densities around town centre in accordance with Activity Centres policy.	Include increased minimum densities and building bulk around Treendale in LPS No. 2 to ensure maximum efficiency of strategically located land. Investigate possibility of introducing "Mixed-Use" zoning in LPS No. 2.

3.5.1.9 Kingston (Neighbourhood Centre) (Map 2a)

Lot 9020 Leisure Drive within the Kingston Estate is dedicated for a Local Shopping Centre under the Kingston Structure Plan and identified as a Neighbourhood Centre within the WAPC's Activity Centre Policy. The site is yet to be developed and retention of its retail and commercial capacity is recommended. The Structure Plan acknowledged that there should be 4,500m² net lettable area be available for a mixture of retail and/or office land uses.

Strategy	Implementation
Retention of Lot 9020 Leisure Drive as a Neighbourhood Centre.	Consider rezoning under LPS No. 2 to preserve potential Neighbourhood Centre site.

3.5.1.10 Wokalup (Map 5b)

There are currently no commercial zoned properties in Wokalup, however there are four sites on South Western Highway with commercial uses being permitted:

- Lot 36 – portion zoned “Special Use – Service Station”;
- Lot 13 – portion zoned “Special Use – Additional Use No. 1” (allowing for an “Eating House”, “Craft Studio” and “Shop”;
- Lot 56 – portion zoned “Tourist”; and
- Lot 100 – zoned “Special Use – Hotel”.

It is recommended that the eastern portion of Lots 13 and Lot 56 be rezoned to “Residential” in LPS No. 2.

Strategy	Implementation
Rezone Lot 13 South Western Highway from “Special Use – Service Station” to “Residential”.	Consider rezoning as part of preparation of LPS No. 2.
Rezone Lot 56 South Western Highway from “Tourist” to “Residential”.	

3.5.1.11 Yarloop (Map 8)

The Yarloop townsite currently contains seven lots zoned “Shop” which are located along Station Street. Some premises survived the Yarloop/Harvey/Waroona January 2016 Bushfire, while most of the lots are now vacant. Redevelopment of the commercial premises is to be guided by the Yarloop Town Development Plan.

There is one single property zoned “Special Use – Other Community” on the corner of Station Street and Kendell Street which has been developed as a shop that should be rezoned “Commercial” or “Public Purpose” under LPS No. 2. Consideration is to be given to allowing for residential development on commercially zoned lots.

Strategy	Implementation
<p>Rezone all lots currently zoned “Shop” to “Commercial”.</p> <p>Rezone Lot 21 Station Street from “Special Use – Other Community” to “Commercial/Public Purpose”</p> <p>Consideration is to be given to allowing for residential development on commercially zoned lots.</p>	<p>Consider rezoning as part of preparation of LPS No. 2.</p>

Retail and Commercial Precincts

AC1 – Table 26: Australind Neighbourhood Centre Precinct

Planning Precinct:	Strategy Implementation:
<p>Australind Neighbourhood Centre (AC1)</p> <p>Location:</p> <p>Lots 88, 89, 90, 91, 92 Paris Road, Lots 1, 209, 225 Old Coast Road, Lots 224, 226, 227 Mardo Avenue, and Lots 207, 208, 210, 220 Mulgara Street, Australind</p> <p>Land Area:</p> <p>8.30ha</p> <p>Developable Area:</p> <p>N/A</p> <p>Maximum Estimated Floor Space:</p> <p>15,000m²</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 2a and 2b</p> <p>Strategy Reference:</p> <p>Clause 3.5.1.1</p>	<p>Proposed Land Use: Activity Centre (Neighbourhood Centre) consisting of Mixed Residential, Commercial, Civic and Recreational.</p> <p>Current GBRS Zoning: “Urban”.</p> <p>Current TPS Zoning/Reservation: “Residential R15/30/50”, “Shop”, “Office”, “Special Use: Service Station”, “Recreation” “Public Purpose”.</p> <p>Required GBRS Zoning Change: No</p> <p>Required TPS Zoning Change: Yes as follows:</p> <ul style="list-style-type: none"> • “Shop”, “Office” and “Special Use: Service Station” to either “Commercial”, “Mixed-use” or “Centre”; and • “Residential R15/30/50” to “Residential” allow for an appropriate mix of “Medium and High” in line with Activity Centres Policy. <p>Lot size/Density: Mix density residential and commercial, medium to high residential densities (R40 to R60) being conducive to a Neighbourhood Centre.</p> <p>Structure Planning required: Yes (Activity Centre plan) to be endorsed by WAPC prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Flooding Risk Assessment (1:100 Flood Level); • Remnant vegetation on Council owned Lot 201; • R60 density to consider character and interface issues; • Identify 400m and 800m ped-shed and accessibility; • Clearly identify the potential higher density/infill and any mixed use areas; • Context in Greater Bunbury Region Activity Centres Policy and Liveable Neighbourhoods; and • Local and State Heritage listed sites. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • Activity Centre Structure Plan with a mixture of residential/commercial uses; and • Supporting Local Planning Policies or Local Development Plans. <p>General Comments:</p> <ul style="list-style-type: none"> • Implementation of local and regional path plans; • Identified in SWRPIF, GBS, SPP’s and Guidelines requirements; and • Consider long term expansion of Centre to include Lot 210 Mulgara Street.

AC2 – Table 27: Harvey Town Centre

Planning Precinct:	Strategy Implementation:
<p>Harvey Town Centre (AC2)</p> <p>Location:</p> <p>Area bound east of Young Street (inclusive of Lots 1, 2, 4 Uduc Road), north of Buckby Road (west of Herbert Road), south of Gibbs Street (west of Hayward Street), continuing over the Railway to include Lots 12 - 14, 22 – 26, 28 – 30, 34, 36 – 39 and 44 Uduc Road and Lots 11, 15, 31, 32, 34, 35, 36 and 43 Harper Street, Harvey</p> <p>Land Area:</p> <p>4.8ha</p> <p>Developable Area:</p> <p>N/A</p> <p>Maximum Estimated Floor Space:</p> <p>5,000m²</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 5a</p> <p>Strategy Reference:</p> <p>Clause 3.5.1.5.</p>	<p>Proposed Land Use: Town Centre.</p> <p>Current GBRS Zoning: “Urban”.</p> <p>Current TPS Zoning: “Shop”, “Office”, “Special Use: Other Community”, “Special Use: Service Station”, “Special Use: Public Purpose”, “Special Use: Hotel”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes:</p> <ul style="list-style-type: none"> Police Station and Shire of Harvey rezoned “Special Use – Other Community” and “Residential” to “Reserve: Civic and Community” “Residential R15/30/50”, “Shop” and “Office” to either “Commercial”, “Mixed-use” or “Centre”; “Other Commercial – Showroom” to “Service Commercial”; and Harvey Hotel site rezoned “Special Use: Hotel” to “Tourist”. <p>Lot size/Density: Medium to high residential densities (R40 to R60) being conducive to a major town centre.</p> <p>Structure Planning required: Yes (Activity Centre Plan) to be endorsed by WAPC prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> Local heritage considerations; Railway Corridor and Train Station: future passenger and freight line use; Urban residential development to be designed to complement surrounding area and to be attractive to the types of people expected to live in the town; Address shortage in car parking through a cash in lieu mechanism - consider utilizing portion of railway reserve to build a car park; Non-conforming use rights for residential areas to be designated a non-residential zone (e.g. Commercial); and Prevention or mitigation of potential land use conflicts between commercial and residential land uses. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> Scheme provisions – potential for precinct specific controls; Activity Centre Structure Plan - mixed use residential/commercial; Heritage design elements; and Supporting Local Planning Policies or Local Development Plans. <p>General Comments:</p> <ul style="list-style-type: none"> The area proposed includes many existing shops and commercial entities.

3.6 Industrial

3.6.1 Key Localities

3.6.1.1 Australind (Map 2a)

The Australind Light Industrial Area adjacent to the Forrest Highway is mostly undeveloped and will provide adequate “Light Industry” zoned land in the short – medium term. As such, no additional land is proposed for industrial uses within the Australind locality. The site will require a comprehensive structure plan prior to any further development and subdivision can be considered.

Lots 350 and 355 Old Coast Road are occupied by a Titanium Oxide Plant operated by Tronox (formerly Cristal Pigment Australia). There have been a number of environmental, amenity and traffic concerns raised by the Shire and the community over the sites continued operation.

It should be noted that the development of these sites and the lease agreements are largely controlled by State Government. In 2011, the State Government approved the extension of the lease to use the site until 31st December 2036, with a review period every 5 years. Notwithstanding this however, the Shire has continued efforts to encourage its relocation.

Strategy	Implementation
Refer to Industrial Precinct LIA1. (Table 28, Pg. 62)	
Ensure comprehensive planning for the Australind Light Industrial Area (which includes the Spud Shed site).	<p>Require a comprehensive structure plan prior to further subdivision or development.</p> <p>Consider consequential amendments to the Scheme to reflect the outcomes of the structure plan for the locality – particularly the suitability of the industrial area for any further high trip generating land uses such as growers markets and the need for suitable industrial uses in the locality.</p>

3.6.1.2 Brunswick (Map 4)

Brunswick has an established industrial area which consists of both “General Industry” and “Light Industry” zoned properties. These are generally clustered in a corridor running along the South Western Highway, south of the George Avenue intersection. There is approximately 27ha of available industrial zoned land on Lot 200, which is largely undeveloped. It is considered that the available land for industrial purposes in Brunswick is sufficient for future needs within the existing zoned properties.

Lot 300 George Avenue is zoned “Residential”, however contains an area of approximately 6ha which is used for settling ponds associated with the milk processing plant on Lot 2 South Western Highway (corner George Avenue). Consideration will need to be given to the long-term use of the site for residential, industrial or mixed use at the Scheme review stage. The settling ponds are in proximity to nearby residences, the closest of which is approximately 280m away. Under the Environmental Protection Authority Guidelines, the recommended separation distance between milk processing and the nearest sensitive land uses is 200-500m. Site specific studies will need to be prepared to determine the exact distance/extent of any Special Control Area through LPS No. 2 or any amendments to expand the settling ponds’ use or develop the land for residential use in this locality.

Strategy	Implementation
Refer to Precinct ID1. (Table 29, Pg. 63)	
Minimise potential land use conflict with surrounding residential area.	<p>Consider rezoning as part of preparation of LPS No. 2.</p> <p>Consideration will need to be given to the long-term use of the remainder of the site for residential, industrial or mixed use at the Scheme review stage.</p> <p>Site specific studies are prepared to determine the extent of any Special Control Area or buffer requirements through LPS No. 2.</p>

3.6.1.3 Harvey (Map 5a)

Industrial land in Harvey is located within the Harvey Light Industrial Area (LIA) which contains properties which are zoned both “General Industry” and “Light Industry”. The locality is mostly developed with only two “General Industry” lots remaining undeveloped. The “Light Industrial” lots have not been developed at this stage. Additional industrial land should be made available in the Harvey to Wokalup vicinity to provide for economic growth, however the expansion of the current LIA is not considered appropriate due to the existence of residential properties to the south-east and surrounding areas of native vegetation. Furthermore, the existence of cap-rock in the LIA makes earthworks and drainage challenging.

There is the need for flat accessible industrial land within the vicinity of the Harvey or Wokalup townsites to cater for local demand for rural industry uses such as heavy haulage transport depots and farm machinery related businesses. Further investigation should seek to identify appropriately located land for this purpose. This potential industrial area would need access to existing haulage routes such as Uduc, Forestry and Hocart Roads and be a suitable distance from the Harvey townsite.

It is therefore recommended a study and analysis of a range of sites against some qualitative criteria (Multi Criteria Analysis) be undertaken as part of a Townsite Strategy. This should analyse the types of sites required, investigate industrial area lot demand, traffic movements, servicing requirements and consider constraints to selected sites including environmental, visual impacts and amenity impacts.

Strategy	Implementation
Investigate options for appropriately located land around the Harvey and Wokalup area suitable for industrial uses as part of a Townsite Strategy.	Consider rezoning of appropriate land in LPS No. 2.

3.6.1.4 Kemerton Strategic Industrial Area Precinct (Map 10)

The Kemerton Strategic Industrial Area (KSIA) Structure Plan was approved by the WAPC on 24 May 2017. The KSIA Structure Plan outlines various issues relating to the industrial area including potential future subdivision, provision of rail linkages and environmental measures.

The KSIA Structure Plan provides a planning framework and the implementation requirements to guide future development within the KSIA Precinct. The overall objective of the Structure Plan is to enable the establishment of resource processing industries and associated supporting activity in order to fulfil Kemerton's designated role as the primary strategic industrial area for the South-West region.

Strategy	Implementation
Refer to Kemerton Strategic Industrial Area Precinct. (Table 30 Pg. 64)	
Future development in accordance with the KSIA Structure Plan.	Development and subdivision approvals are consistent with the objectives of the Scheme and KSIA Structure Plan.

3.6.1.5 Yarloop (Map 8)

Yarloop contains a significant "General Industry" zoned property on the northern side of Johnston Road which was the site of the former timber mill. The site is currently being used for machinery storage and processing of vegetables and will continue to be used as an industrial site into the longer term. On the southern side of Johnston Road are ten lots zoned as "Light Industry", which contain a mixture of light industry businesses, residential dwellings and several vacant lots.

It is considered that the available industrial land is sufficient for the short – medium term needs of Yarloop and to this effect no additional land is proposed for this purpose. The proximity of these properties to the Yarloop townsite will need to be considered in the context of protecting employment lands and avoiding any land use conflict that may arise. The future use and role of this land is to be guided by the Yarloop Town Development Plan once approved by the WAPC.

Strategy	Implementation
Refer to Industrial Precinct ID2. (Table 31, Pg. 65)	
Sufficient land available in Yarloop.	N/A

Industrial Precincts

LIA1 – Table 28: Australind Light Industrial Area

Planning Precinct:	Strategy Implementation:
Australind Light Industrial Area (LIA1) Location: Lot 561 Paris Road, Australind Land Area: 18.43ha Developable Area: N/A Estimated Lot Yield: 137 lots Plan/Map Schedule: Strategy Plan Map 2a Strategy Reference: Clause 3.6.1.1	Proposed Land Use: Light Industry. Current GBRs Zoning: "Urban". Current TPS Zoning: "Light industry". Required GBRs Zoning Change: No Required TPS Zoning Change: No. Lot size/Density: 1,500m ² – 4,600m ² . Structure Planning required: Yes Planning Matters to be Addressed: <ul style="list-style-type: none"> Previously a subdivision approval was (WAPC Ref: 147030) issued in January 2013 – subject to conditions mentioned below: <ul style="list-style-type: none"> Buffer requirements to surrounding residential areas (Treendale and Kingston); Landscaping to Forrest Highway; Road widening Paris Road; Environmental protection (Black Cockatoos); and General servicing (water, electricity, roads, telecommunications, etc.). Prior to any further subdivision or development, a Structure Plan will need to address the above concerns particularly the suitability of the industrial area for any further high trip generating land uses such as growers markets and the need for suitable industrial land uses in the locality; and Hydrogeological settings/drainage. Envisaged Development Controls: <ul style="list-style-type: none"> Scheme provisions; Design Guidelines/Local Development Plans; and Bushfire Management Plans and vegetation clearing requirements.

ID1 – Table 29: Brunswick Industrial Area

Planning Precinct:	Strategy Implementation:
<p>Brunswick Industrial Area (ID1)</p> <p>Location:</p> <p>Lots 2, 6, 23, 26, 200, 202, 203 & 203 South Western Highway, and Lots 14, 13, 16, 17, 200, 500 and 501 Papps Road</p> <p>Land Area:</p> <p>72.94ha</p> <p>Developable Area:</p> <p>27 ha (Lot 200 only)</p> <p>Estimated Lot Yield:</p> <p>26 - 65 lots (between 10,000m² and 4,000m²)</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 4</p> <p>Strategy Reference:</p> <p>Clause 3.6.1.2</p>	<p>Proposed Land Use: Industrial.</p> <p>Current GBRS Zoning: “Industry” and “Urban”.</p> <p>Current TPS Zoning: Part “General Industry”, Part “Light Industry”</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: Yes:</p> <ul style="list-style-type: none"> • Rezone Lots 2 and 301 “Industry - Dairy” to reflect its use; and • Rezone remaining “General Industry” to “Light Industry”. <p>Lot size/Density: To be determined upon further investigation based on land capability, servicing and industry needs (potentially 3,000m² to 10,000m², average 4,000m²).</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Amenity issues (Odour & Noise); • Potential land use conflicts between industrial area and surrounding sensitive land uses (commercial and residential); • Significant local employment business area for the townsite; • Consideration will need to be given to the long-term use of the remainder of the site for residential, industrial or mixed use at the Scheme review stage subject to resolution of the odour buffer issues form the effluent ponds; • High employment area and priority given to protect local dairy industries; • Hydrogeological settings/drainage; and • Heritage consideration and protections. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions (Buffer zones or Special Control Area) and require Structure Plan over area with specific development control and objective considerations.

KSIAP – Table 30: Kemerton Strategic Industrial Area Precinct

Planning Precinct:	Strategy Implementation:
<p>Kemerton Strategic Industrial Area Precinct (KSIA)</p> <p>Location:</p> <p>Kemerton Strategic Industrial Area</p> <p>Land Area:</p> <p>7,508 ha (including buffer areas)</p> <p>Developable Area:</p> <p>2,024 ha (Kemerton Strategic Industry zone) 284 ha (Kemerton Ancillary Industry zone)</p> <p>Estimated Lot Yield:</p> <p>157 (indicative only)</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 10</p> <p>Strategy Reference:</p> <p>Clause 3.6.1.4</p>	<p>Proposed Land Use: Strategic Industrial Area.</p> <p>Current GBRS Zoning/Reservation: “Industrial”, “Regional Open Space”, “Public Purpose”, “Special Control Area No. 2 (Rural Zoning)”.</p> <p>Current TPS Zoning: “Kemerton Strategic Industry”, “Kemerton Ancillary Industry”, “Kemerton Industry Buffer”.</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: No.</p> <p>Lot size/Density: Lot yield to be taken on a case by case scenario based on proposed land use. The structure plan indicates the following lot sizes ranges:</p> <ul style="list-style-type: none"> • Kemerton Strategic Industry Zone (the Core) – 5ha to 71ha • Kemerton Ancillary Industry Zone (north of Wellesley Rd and adjacent to Wellesley River) – 5,000m² to 2ha • Kemerton Ancillary Industry Zone (between Wellesley Rd and Marriot Rd, and Marriot Rd and Develin Rd) – 4,000m² to 5.5ha <p>Structure Planning required: Kemerton Strategic Industrial Area Structure Plan approved by WAPC on 24 May 2017.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Part One of the Kemerton Strategic Industrial Area Structure Plan sets out the land use, subdivision and development, and environmental management requirements to be addressed as part of future development; • Environmental considerations (Environmental Review); • Amenity concerns depending on types of industries to be considered (such as waste discharge, noise, odours, light, etc.) in relation to adjoining land owners and proximity to urban areas; • Coordination of State Government approvals (which may include but not necessarily limited to DWER, EPA, DevelopmentWA and JTSI); • Fit for purpose water supply; and • Abutting Primary Regional Road reserve (Forrest Highway). <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions; • Kemerton Strategic Industrial Area Structure Plan; • GBRS SCA No. 2 provisions; and • State Government approvals (which may include but not necessarily limited to DWER, EPA, DevelopmentWA and JTSI).

ID2 – Table 31: Yarloop Industrial Area

Planning Precinct:	Strategy Implementation:
<p>Yarloop Industrial area (ID2)</p> <p>Location:</p> <p>Lots 5 – 19, 500 and 4636 Johnston Road, and 3 and 60 Francklyn Road, Yarloop</p> <p>Land Area:</p> <p>Approx. 23.3 ha</p> <p>Developable Area:</p> <p>23.3 ha</p> <p>Estimated Lot Yield:</p> <p>N/A</p> <p>Plan/Map Schedule:</p> <p>Strategy Plan Map 8</p> <p>Strategy Reference:</p> <p>Clause 3.6.1.5</p>	<p>Proposed Land Use: Industrial</p> <p>Current GBRS Zoning: “Industry”</p> <p>Current TPS Zoning: “General Industry”, “Light Industry”</p> <p>Required GBRS Zoning Change: No.</p> <p>Required TPS Zoning Change: No.</p> <p>Lot size/Density: No proposal to further subdivision/development.</p> <p>Structure Planning required: Yes to be endorsed by WAPC prior to subdivision/development.</p> <p>Planning Matters to be Addressed:</p> <ul style="list-style-type: none"> • Heritage considerations; • Servicing (water, power and sewer/effluent disposal); • Within close proximity to existing residential area will likely restrict any future intensification of industrial area; • The area was recently affected by the Yarloop/Harvey/Waroona bushfires in January 2016; • Fit for purpose water supply; and • Any redevelopment of the precinct into an industrial area will need to take into consideration SPP 3.7 and the “Town Development Plan” outcomes, once endorsed by the WAPC. <p>Envisaged Development Controls:</p> <ul style="list-style-type: none"> • Scheme provisions (buffers and land uses); and • Local Planning Policies (design criteria such as setbacks, building design and parking). <p>General Comments:</p> <ul style="list-style-type: none"> • The Yarloop area is expected to have little to modest growth; • The GBS and South West Regional Planning and Infrastructure Framework suggest Yarloop is not expected to grow; and • The existing industrial area is considered sufficient for the Town.

3.7 Tourism

Tourism is an important industry in the South West region. The *Planning Tourism Guidelines 2014* and Planning Bulletins 83, 99 and 49 outlines the State's planning policy position for tourism in Western Australia. These documents also provide guidance to strategic planning and statutory decision making. Some of the key aspects of these documents that relate to the Shire include:

- the need to protect and promote caravan and camping sites,
- ensure consistent approach to the development of tourism sites and facilities, and
- provide for flexibility in the design and assessment of tourism and mixed use development.

In order to encourage the growth of tourism in the Shire, it is considered a broad and flexible approach should be adopted which recognises the various forms that tourism development may take.

This is particularly the case in the Shire where both urban and rural styles of tourist ventures are possible. It is considered that greater recognition and promotion of the tourism attributes of all localities throughout the Shire needs to be addressed.

This Strategy recommends the adoption of a broad approach to tourism that:

- Provides considerable flexibility in relation to the uses that can be carried out in appropriate zonings;
- Inherently provides for the delivery and physical dispersal of tourism related activities;
- Promotes tourism in competition with other land use activities;
- Protects existing caravan and camping parks;
- Recognises tourism as an activity that can be provided as part of a mixed-use offering; and
- Introduces levels of assessment that support the delivery of tourism related outcomes where appropriate.

DPS No. 1 contains a "Tourist" zone as well as tourism type uses within other zonings such as "Bed & Breakfast" or "Short-Stay Accommodation". In developing a broad approach to tourism, it is considered that more flexibility is required to encourage a mixed-use approach. For example, a rural property may also be developed with accommodation and/or recreational activities, whilst retaining use for its predominance as a rural lot.

It is recommended that the existing "Tourist" zoning contained within DPS No. 1 be redefined as "Tourism" (in accordance with the new *Planning and Development (Local Planning Regulations) 2015*) for those properties which are specific to this purpose (e.g. caravan parks), whilst expanding the permissibility of tourist type uses across the Shire. All uses will need to be considered on their merits and Scheme provisions developed to address issues of servicing, visual amenity, retention of the predominant land use and the mitigation of land use conflict within and external to the development.

The development of passive and active recreation which caters for all user groups should not be the sole responsibility of private industry. The Shire has many natural and built assets both on freehold land and on land Reserved for "Recreation". Their ongoing development will encourage a healthy balance between the built and natural environments. In addition, creating a variety of destinations and activities will facilitate a sense of community wellbeing and improved interaction between residents and tourists. An example of where a dedicated tourism precinct may be established is within the vicinity of the Harvey Dam.

Strategy	Implementation
Identify the need for provisions and criteria to be included in LPS No. 2 for the assessment of tourist development applications.	LPS No. 2 to contain provisions specific to the assessment of tourist development applications.
Identify appropriate tourist land uses and appropriate zonings for tourist development in LPS No. 2.	<p>The “Tourist” zoning to be redefined as “Tourism” in accordance with the <i>Planning and Development (Local Planning Scheme) Regulations 2015</i> for specific tourist developments.</p> <p>Identify appropriate area zonings which can accommodate tourist development in addition to their primary zoning (for example – Harvey Dam).</p> <p>Include appropriate definitions and Scheme provisions for all tourist developments in LPS No. 2.</p> <p>All tourist developments to be considered on merit.</p>
Identify opportunities to develop Shire owned passive and active recreation assets throughout the Shire to encourage increased utilisation by visitors and residents.	Undertake audit of Shire owned assets with tourism potential and develop recommendations to better utilise them for tourism purposes.

3.7.1 Point Douro – Lots 50 and 51 Old Coast Road, Australind (Map 2a)

Lots 50 and 51 (previously Lot 30) Old Coast Road are located on the Leschenault Estuary, with frontage to the Old Coast Road on its eastern boundary.

In 1997, the Shire initiated Scheme Amendment No. 13 to DPS No. 1 to rezone the site to facilitate a canal based residential and tourist development, including a conservation area and commercial node. Following initiation of this Amendment, the proposal was referred to the EPA for assessment. The EPA determined that an Environmental Review was required, which was subsequently undertaken and endorsed by the EPA for advertising in 2000.

The Amendment was advertised in conjunction with the Environmental Review in late 2001 for a period of 60 days, during which a large number of submissions were received. In 2004, the Shire advised the WAPC that due to the complexity of the submissions received, no formal consideration of them had been made and that it was awaiting further advice from the Department of Environment.

In response to the public submissions, in December 2007, the EPA released Bulletin 1275, which outlined its report and recommendations on the proposed canal development on the site. The EPA determined that the development could be implemented, subject to a number of detailed plans being prepared for approval by relevant State agencies and the Shire, including;

- Environmental Management Plan (addressing the management of the foreshore and conservation reserves, terrestrial fauna and waterbird protection, and control of mosquito nuisance);
- Sea level rises and Climate Change;
- Acid Sulphate Soils Management Plan;
- Water Management Plan (including surface and ground water quantity and quality); and
- Construction Management Plan.

In late 2009, the applicant proposed to remove the canal component of the Scheme Amendment, which would have required readvertising or a new Amendment. The Amendment has since been withdrawn.

Recently, Lot 51 was purchased by the WAPC, with the intent to reserve the land for “Regional Open Space” and “Waterways” and include it within the Leschenault Regional Park.

Strategy	Implementation
To retain the existing “Tourist” zone over Lot 50 and Lot 51 to be reserved for “Regional Open Space” and “Waterways” under the GBRS.	Retain Lot 50 as “Tourism”. Lot 51 to be reserved for “Regional Open Space” and “Waterways” under the GBRS.

3.7.2 Myalup, Freshwater Lakes (Map 6)

The estate was originally approved as a tourism venture and is located on land zoned as “General Farming”, which is subject to “Restricted Use” provisions contained within DPS No. 1 (R16). The development consists of ten lots in Kookaburra Close which are approximately 1ha in area and 63 lots which surround an artificial lake which are approximately 1,000m² in area. There are also an additional five lots that border the State Forest which are between 9,000m² - 1ha in area. Provisions relevant to this development contained in DPS No. 1 include a length of stay restriction of three months per year. There have been a number of requests to amend this restriction to allow permanent occupancy.

To date, each of the ten lots on Kookaburra Close contain dwellings and only six of the lakeside lots have been developed. The restriction on permanent residency on lots adjoining the lake has contributed to the limited development in this portion of the estate.

Lots 1 - 63 Lakeside Drive should be rezoned to remove the short stay restriction and provide the opportunity for permanent accommodation. The lifting of this restriction will not avoid the need for adequate studies being undertaken to demonstrate the capability of the current effluent disposal system to accommodate the estimated increase in usage. The need to provide communal recreation or a ‘civic place’ to promote a sense of community within this isolated development is also considered appropriate which should be managed by the landowners. Provisions specific to this development should be retained in LPS No. 2.

Strategy	Implementation
Retain as Tourist/Special Use with an unrestricted length of stay occupancy entitlement.	<p>Remove the short stay restriction from LPS No. 2 subject to demonstrating the capability of the current effluent disposal system to accommodate the estimated increase in usage.</p> <p>Investigate the need for communal recreation or civic place, to establish a sense of community, to be managed by the land owners.</p>

3.8 Heritage Protection

3.8.1 European Heritage

Under the guidance of its Heritage Advisory Committee, the Shire has reviewed its Local Municipal Heritage Inventory (MHI) and was adopted by Council at its Ordinary Meeting in October 2015. The Shire's MHI lists approximately 235 places considered to be of heritage significance and identifies a recommended Management Category for each place, thus providing the basis for establishing a revised Heritage List. Currently, the Shire's Heritage List of Places is listed under Schedule 1 of the DPS No. 1.

At the October 2015 Meeting, Council also adopted two supporting heritage Local Planning Policies: Local Planning Policy for Heritage Places and Local Planning Policy for the Yarloop Heritage Area. The Local Planning Policy for Heritage Places provides guidance and support with regards to the assessment of development applications for places to be registered in the Shire's future Heritage List.

The Local Planning Policy for the Yarloop Heritage Area has been revoked in response to the Yarloop/Harvey/Waroona January 2016 Bushfire.

Strategy	Implementation
Examine opportunities to interpret, recognise and encourage conservation of heritage places.	<p>The Heritage Advisory Committee to explore opportunities for:</p> <ul style="list-style-type: none"> the ongoing conservation of Shire owned heritage buildings; establishing incentives for landowners of heritage places to encourage conservation; interpreting heritage places throughout the Shire; and establishing heritage awards for landowners demonstrating best-practice conservation measures.
Develop a new Heritage List based on the findings of the Municipal Heritage Inventory.	To be prepared and adopted in conjunction with the Scheme review.

3.8.2 Aboriginal Heritage and Native Title

This Strategy acknowledges the past and present traditional owners of the Shire of Harvey sub-region. The Shire of Harvey sub-region is entirely within Gnaala Karla Booja country.

The *Native Title Act 1993* provides for the recognition and protection of Aboriginal and Torres Strait Islander people's native title rights and interests. Certain government actions, such as grants of freehold, have been found to extinguish native title.

When planning for urban growth and development, native title is an important consideration as land in and around towns that may be identified for certain development options may be subject to a native title claim or determination. Broadly however, native title has been extinguished on the majority of land in the Strategy area by the granting of freehold title.

The recognised traditional owners for the Shire of Harvey sub-region are the Gnaala Karla Booja, one of the six groups collectively recognised as the Noongar traditional owners of the South West under the South West Native Title Settlement. This has been recognised in the *Noongar (Koorah, Nitja, Boordahwan) (Past, Present, Future) Recognition Act 2016*.

On 8 June 2015, after extensive negotiations and authorisation by the Noongar people, the Western Australian Government signed (executed) the six South West Native Title Settlement Agreements with the Ballardong, Gnaala Karla Booja, South West Boorah, Wagyl Kaip & Southern Noongar, Whadjuk and Yued groups. Following successful registration of the Settlement Agreements, and Settlement commencement, any native title rights that may exist will be surrendered in exchange for a negotiated package of benefits, including formal recognition of the Noongar people as traditional owners (already complete – see above), land, investments and the establishment of Noongar Regional Corporations.

A major component of the Settlement is the establishment of the Noongar Land Estate through the transfer of a maximum of 320,000ha of Crown land for cultural and economic development, comprising 300,000ha as reserve land and 20,000ha as freehold title. Under the Settlement, the Noongar Boodja Trust will be a major landholder in the Wheatbelt and South West regions. Traditional owners are expected to be more closely involved in land use planning in the district upon commencement of the Settlement. This land will provide cultural and economic development opportunities for the Noongar Regional Corporations representing the recognised Noongar groups. Until the South West Native Title Settlement commences, the *Native Title Act 1993 (Cth)* still applies to all land users planning activities in the Settlement Area.

Across the sub-region the *Aboriginal Heritage Act 1972 (WA)* applies at all times, and will continue to do so after all native title processes are resolved. Land users must always consider Aboriginal Heritage in their planning processes.

The South West Native Title Settlement is not yet finalised. Once it is, the Gnaala Karla Booja people are expected to be more closely involved in land-use planning in the relevant parts of the sub-region. Following resolution of the South West Native Title Settlement, the Strategy will need to be reviewed in consultation with the Gnaala Karla Booja Noongar people and possibly amended to incorporate any changes that may be required.

3.9 Natural Resource Areas

3.9.1 Basic Raw Materials

Extractive industries comprise an important component of the Shire's economy and are located throughout all areas of the Shire. The Shire contains approximately 40 active extractive industry sites which contain a variety of materials including sand, limestone and gravel. Generally, gravel is extracted from the hills area, sand from the Swan Coastal Plain and limestone from coastal areas, particularly around the Myalup area.

Studies, including the publication "*Basic Raw Materials – Demand and Supply Study for the Bunbury – Busselton Region*" (WAPC 2012), indicate that there will be increasing demand for basic raw materials within the Harvey region and therefore consideration will need to be given as to how to best manage this land use from a governance and operator perspective, whilst ensuring environmental and off-site impacts are mitigated.

The Shire's "*Extractive Industry Local Law 2017*" contains provisions to manage this land use and it is considered that the current process is operating effectively in terms of management and rehabilitation. As such, there is no requirement for additional measures to be proposed under this Strategy.

It is noted that the GBRs *Strategic Minerals and Basic Raw Materials Resource Policy 2005* identifies several areas as "Strategic Minerals and Basic Raw Materials Resource Policy Areas". It is a requirement of the Policy that these areas are shown on Local Planning Scheme maps and the provisions of the Policy are applied to protect these areas for future mining/extraction. The identification of these areas and appropriate provisions will be included in LPS No. 2.

Strategy	Implementation
Identify strategic minerals and basic raw materials as provided in the GBRs policy.	To be incorporated into Scheme maps in LPS No. 2. Provisions reflecting the GBRs policy to be included in LPS No. 2.

3.9.2 Water Catchment Areas

The GBRs identifies a significant area within the eastern portion of the Shire as Special Control Area No. 1 for "Water Catchments". This area is subject to the *Public Water Supply Catchment Policy* of the GBRs, the purpose of which is to prevent uses or development that would prejudice the quality of water supplies for public use. Much of the Special Control Area No. 1 is Crown land containing native vegetation which should be delineated in LPS No. 2.

Strategy	Implementation
Identify water catchment areas (SCA No. 1) as provided in the GBRs policy.	To be incorporated into Scheme maps in LPS No. 2. Provisions reflecting the GBRs policy to be included in LPS No. 2.

3.9.3 Water Supply and Wastewater Disposal

It is the intent of the Strategy to ensure developments are required to connect to scheme water, reticulated sewerage (if available) in accordance with the Government Sewerage Policy and where there is no scheme water available, to have access to a sufficient supply of potable water that is of the quality specified under the Australian Drinking Water Quality Guidelines 2004.

Where reticulated sewerage is not available, proposals will need to be guided by the Government Sewerage Policy. The Scheme should incorporate requirements for on-site effluent disposal and potable water supply where these services are not by reticulation. To assess the type of on-site wastewater disposal systems, a 'site-and-soil evaluation', in accordance with Australian Standard 1547 (AS/NZS 1547), is required and should be referenced in the documentation in support of proposals.

Scheme provisions should be included to reflect the above.

Strategy	Implementation
Ensure LPS No. 2 reflects contemporary potable water and wastewater disposal requirements.	Ensure LPS No. 2 incorporates suitable provisions which reflect the requirements of the Government Sewerage Policy and public health requirements in regard to potable water supply.

3.10 Transport

3.10.1 Major Transport Routes

Major roads servicing the Shire include the Forrest Highway, South Western Highway and Coalfields Highway. The Forrest Highway links the South-west region to Perth and, whilst it passes through the Shire, it bypasses all major towns and settlements. The South Western Highway passes through a number of towns including Harvey, Brunswick, Roelands, Wokalup and Yarloop, however has experienced a significant decrease in traffic since the opening of the Forrest Highway in 2009. The Coalfields Highway is the main road connecting the coastal towns of Bunbury, Australind and Eaton with Collie, a major mining hub which employs many residents from the coastal areas.

It is anticipated that road usage will continue to increase and Main Roads WA, being the responsible authority, will continue to maintain the primary roads to a suitable standard. Whilst the South Western Highway runs through a number of inland towns, there are no plans to create bypasses at this stage.

There is a need for assessment and consideration of Marriott Road to be reclassified as a Main Roads controlled road in the context of further planned industrial expansion at Kemerton.

The Shire and Main Roads WA hold concerns regarding the increase of horticulture related farm machinery on Forrest Highway and the potential for road safety and as such are currently developing an alternative road network to provide a safer option for farm machinery.

The GBS identifies a further bridge over the Collie River, east of the Forrest Highway, to link future development proposed for each side of the river. The bridge is being planned as part of the BORR project.

It is the intent of the Strategy to seek to avoid the risk of future land-use conflict with noise by identifying the location of relevant transport corridors on the Strategy maps and clearly distinguishing the function of the transport corridor.

Design solutions commensurate with the function of the transport corridor and preferred land use interface will be required in accordance with SPP 5.4.

The noise impact on a proposed noise sensitive land-use and/or development is to be addressed at the next stage of the planning process to meet the SPP's noise targets.

3.10.2 Bunbury Outer Ring Road (BORR)

The Main Roads WA BORR planning project interfaces with the Shire's East Australind Long-Term Urban Investigation Area (LUIA), as defined on the Strategy Map.

Land to the east of the BORR will be retained for rural land uses. The suitability of this area for a change of use will be investigated as part of the Bunbury Geographe Sub-regional Strategy.

A grade separated interchange is planned at the BORR northern tie-in, including an east-west connection from Clifton Road to Paris Road. However, it is noted that in order to limit impacts on land and environmental at this location, only limited traffic movements are being considered (primarily movements to and from the north and cross-connection from Clifton Road to Paris Road).

It is noted that the BORR will also sever Treendale Road. A new intersection is proposed to allow for north-facing ramps thereby avoiding heavy vehicle congestion at the intersection of Forrest Highway and Raymond Road. The existing intersection with Raymond Road west of the BORR will also need to be reconfigured to accommodate the existing lots and secondary access to the Meadow Landing estate.

To ensure all landowners are aware of the likely impacts these intersections may have on affected properties, these intersections should be depicted on the Scheme Maps in LPS No. 2 through appropriate reservations once final designs have been completed.

Strategy	Implementation
Flyovers and intersection upgrades to be depicted on the Scheme maps.	Include in LPS No. 2 as appropriate reservations.

3.10.3 Rail

Rail services run adjacent to the South Western Highway and are mainly used for freight purposes, however a daily passenger service (the Australind) connects Bunbury and the inland towns with Perth. An east-west spur linking Brunswick to the Worsley Industrial Area near Collie also exists.

The railway infrastructure has in recent years been upgraded and caters for significant movement of freight, most of which is transported to the Bunbury Port. The Kemerton Strategic Industrial Area Structure Plan reflects the potential for an additional rail freight spur off the southwest mainline connecting the Kemerton Strategic Industrial Area to the Port of Bunbury. Preliminary planning identified the need for grade separation of South Western Highway to facilitate the addition of a rail spur into Kemerton.

The GBS indicates a future fast passenger rail service adjacent to the Forrest Highway with a station in the Bunbury CBD and a connecting service to Busselton.

3.10.4 Public Transport

The GBS makes reference to the need for high quality public transport hubs, however, the current level of public transport in the Harvey area is of a low standard to encourage regular patronage. Presently there are no options for catching public transport to Bunbury from any of the inland towns along the South Western Highway. Whilst there are some buses that service the Australind area, they are both infrequent and have limited routes which would prevent many residents from using them. Without significant investment from the State Government, it is considered that residents of the Shire will continue to be heavily reliant on private motor vehicle use. It is recommended that a high frequency public transport service between Treendale, Eaton and other important public destinations be investigated.

3.10.5 Boating Facilities

There are presently several boat launching facilities around the Australind area, with the most significant being the boat ramp located at Ridley Place. The Shire has recently completed an extensive upgrade to the facilities at Ridley Place.

An audit of existing formal and informal boat launching facilities within the Shire is presently being undertaken with a view to rationalisation. This will be achieved by upgrading required boat ramps and closing those which are contributing to unnecessary environmental impacts along the foreshores and banks of the Shire's water ways.

Strategy	Implementation
Upgrade Ridley Place boat launching facilities to enable more efficient use.	Completed as part of the Ridley Place foreshore re-development.

3.10.6 Pedestrian and Cycle Paths

In order to reduce reliance on motor vehicles and to encourage a connected, healthy and active community it is important that the Shire continues to invest in establishing a high quality and safe pedestrian and cycle network in all localities throughout the Shire, but particularly where vehicle traffic congestion is an issue. The network should endeavor to provide safe and efficient connections linking both recreational and commercial nodes.

The Shire also has a variety of destinations including foreshores and naturally vegetated areas adjacent to townsites that would be more widely utilised if the pedestrian and cycle networks were upgraded. The organisation *Healthy Spaces and Places* produces a guide containing design principles to support communities to be healthy through quality urban design and should be used as a reference by the Shire.

Strategy	Implementation
Continue to promote a healthy built environment by investing in pedestrian / cycle paths to increase connectivity within and between townsites.	Consider using funds from developer contributions to connect existing paths / cycleways and promote them as a safe and healthy alternative.

3.11 Local Scheme Reserves

There are a variety of landholdings within the Shire which are “Reserved” and include Council and State Government owned land and privately owned properties. Under DPS No. 1, reserves serve a number of different purposes including “Recreation”, “Railway”, “Public Purposes” and “Important Regional Roads” amongst several others. Importantly, GBRS reserves are not to be overridden by LPS No.2 reserves.

It is noted that under Scheme Amendment No. 63, a “Reserve for Conservation” was introduced for the South Binningup locality. It is considered that there are many reserves currently Reserved for “Recreation” throughout the Shire which should also be included in this newly created “Conservation” reserve category. This would clearly distinguish between landholdings which are specifically developed for recreation such as parks and sports grounds and other areas which contain significant remnant vegetation and/or wetlands.

Furthermore, DPS No. 1 also contains the reserve category “Reserve for Wetland Protection” which is considered to be under-utilised in the Scheme. Many of the river and wetland buffers in the Shire are also currently reserved for “Recreation”. An audit of all reserves is considered necessary to accurately classify them according to their primary function.

It is accepted that conservation reserves and wetland protection reserves may also be used for passive recreation. However, it is considered that a set of management criteria should be established to ensure these reserves are sufficiently managed from an environmental perspective including weed control, fire management, fencing and pedestrian/cycling networks.

In addition to the above, it is also considered appropriate to clearly identify cemeteries within the Shire. Currently these are identified as “Other Community”, however in order to be consistent with the Model Scheme Text, it is recommended the Public Purpose reserve “Cemetery” is introduced into the LPS No. 2.

Strategy	Implementation
Audit all reserves in the Shire to determine the appropriate category, particularly Recreation, Conservation and Wetland Protection.	Include revisions in LPS No. 2 with appropriate management provisions.
Identify applicable landholdings to be categorised as “Reserve for Conservation”.	Undertake review of all reserves in the preparation of LPS No. 2.
Introduce a Public Purpose Reserve “Cemetery” in LPS No. 2.	Include in LPS No. 2.

3.12 Constraints

3.12.1 Environmental Constraints

3.12.1.1 Flood Prone Areas

The GBRS *Floodplain Management Policy* contains floodplain mapping relevant to the Australind area, and is generally applicable to land within 200m of other watercourses for which a floodplain has not been defined (refer to Map 2a and 2b).

The Strategy Maps illustrate the flooding potential of the Collie, Brunswick and Wellesley Rivers and the Leschenault Estuary, including the Cathedral Avenue locality. The GBRS Policy recommends all affected land be defined in LPS No. 2 as being within a “Special Control Area” with specific provisions controlling development in these areas, which may include, but is not limited to, setbacks and finished floor levels.

The Shire recognises the issue of climate change and the potential for sea level increases as identified under SPP 2.6 *State Coastal Planning*. In this regard, the Shire is committed to working with the Peron Naturaliste Partnership with a goal of establishing an appropriate planning framework to adequately deal with these matters into the future.

The Shire completed its “Coastal Hazard Risk Mapping and Adaptation Plan” (CHRMAP) for the entire coastline in 2016 and the CHRMAP was adopted in February 2017. Appropriate Scheme provisions will be included within LPS No. 2 to provide guidance on the best way to manage (defend or retreat) coastal infrastructure and areas of future development.

In June 2017, the Shire adopted a Geophysical Assessment associated with the Binningup coastline.

Strategy	Implementation
Flood prone areas for the Australind area as indicated in the GBRS Floodplain Management Policy be defined in LPS No. 2.	A Special Control Area to be included in LPS No. 2 and Strategy Part 2 and appropriate scheme provisions are to be established for development in these areas in accordance with the GBRS Floodplain Management Policy.
Spatially define flood prone areas for the Collie, Wellesley and Brunswick Rivers which are not included in the GBRS policy.	Create Special Control Areas if deemed appropriate for land located within 200m of a watercourse with provisions to be included in LPS No. 2.
Spatially define (Coastal Hazard Risk Mapping and Adaptation Plan) coastal areas which are prone to sea level increases and include provisions within LPS No. 2 to ensure development is undertaken accordingly.	A Special Control Area to be included in LPS No. 2 and appropriate scheme provisions are to be established for development.

3.12.1.2 Bush Fire Risk Areas

In accordance with SPP 3.7 “*Planning for Bushfire Protection*” a Bushfire Hazard Assessment Report (BHLA 2015) has been prepared for the Shire which focuses on the Precinct Areas identified within this Strategy (excluding Australind, Treendale and Kingston). All future Structure Plans will be required to include fire mitigation measures addressing the known risks identified within the BHLA 2015. Management Plans for waterways, wetlands and remnant vegetation will be developed concurrently with Bushfire Management Plans to ensure that the plans align. These plans are to be implemented by the developer at the time of subdivision.

Additionally, Scheme provisions will need to be included within LPS No. 2 to make reference to the Planning and Development Regulations in regard to fire risk.

Of note, the BHLA 2015 identified that single access into the Myalup townsite via Myalup Beach Road is a significant bushfire management issue that should be given priority in any planning for the locality. SPP 3.7 and the associated Guidelines recommend a minimum of two vehicle access ways leading to two different destinations are to be available in order to ensure alternative evacuation routes are available in the event of a significant bushfire.

Strategy	Implementation
Implement the recommendations of the BHLA 2015.	Scheme provisions to be established in LPS No. 2 to control development standards dependent on the level of bushfire risk.
Second Access way required for Myalup.	Shire to liaise with private landowners and DBCA with a view to securing land for a second access way for Myalup.

3.12.2 Other Constraints

3.12.2.1 Funding of Public Infrastructure

The population of the Shire is growing at a steady rate. The increase in population places pressure on the Shire to provide additional facilities, services and infrastructure for the community. SPP 3.6 *Development Contributions for Infrastructure* recognises the challenge that local authorities face and provides mechanisms for local authorities to collect “developer contributions” to assist. SPP 3.6 sets out the principles underlying development contributions for community infrastructure and the form, content and process for the preparation of development contribution plans.

This process involves the identification of required services, facilities and/or infrastructure and the associated costs with their provision, for particular localities and establishing corresponding “developer contribution areas”. New development within the designated area requires the payment by the developer of a contribution per newly created lot which is placed in a trust account for future use to provide the identified community infrastructure to that locality.

Provisions for developer contributions will be included in LPS No. 2 consistent with the provisions of the Model Provisions and SPP 3.6 to enable the Shire to collect funds to provide the services required by the community. However, prior to this occurring, the Shire will need to undertake the necessary background work to establish where developer contribution areas will apply and identify the necessary services, facilities and/or infrastructure required to service

those communities and associated costs through the development of a Developer Contribution Plan.

Strategy	Implementation
Mechanisms for developer contributions to be included in LPS No. 2.	Produce a Developer Contribution Plan in accordance with SPP 3.6. Introduce Scheme provisions in LPS No. 2 for Developer Contributions.

3.12.2.2 High-Pressure Gas Pipelines

The Shire contains corridors for the ATCO Gas Australia (ATCO) and Dampier to Bunbury Natural Gas (DBNG) Pipelines. Portions of the ATCO Pipeline corridor is located within Australind, Brunswick and Roelands with a small section in Wellesley. Portions of the DBNG Pipeline corridor traverses Yarloop, Cookernup, Uduc, Wokalup, Wellesley and Brunswick.

The WAPC's draft DCP 4.3 (Planning for High-Pressure Gas Pipelines) is therefore relevant within the Shire. The provisions of the Policy are to be considered during the preparation of LPS No. 2.

Strategy	Implementation
Due regard shall be given to the WAPC's draft DCP 4.3 (Planning for High-Pressure Gas Pipelines) when preparing LPS No. 2.	Provisions of the Policy are to be given due regard and including in LPS No. 2, where required.

3.12.2.3 Waste Water Treatment Plants and Other Buffers

In accordance with draft SPP 4.1 and the EPA Guidelines for Separation of Industrial and Sensitive Land Uses, measures and separation distances are required to be outlined in the Strategy to provide suitable separation of sensitive land uses from uses which generate off-site impacts, such as industrial areas, waste water treatment plants, priority agricultural activities and State infrastructure of regional significance.

Strategy	Implementation
Ensure suitable separation of sensitive land uses from waste water treatment plants.	Include Special Control Areas in order to manage land use conflict in accordance with draft SPP 4.1 (s.6.4 (c)).
Provide mechanisms to protect key infrastructure from land use conflict such as industrial areas, horticulture, servicing and waste water disposal infrastructure.	Consider appropriate controls within LPS No. 2 for statutory buffers around industrial areas, horticulture, service infrastructure and waste water disposal sites. Specific provisions in LPS No. 2 in accordance with EPA Guidelines and draft SPP 4.1.

4. Implementation, Monitoring and Review

This Strategy will guide the development of the Shire over the next 10 to 15 years and will also guide the preparation of the new LPS No. 2. The majority of the recommended outcomes of the Strategy will be incorporated into the new LPS No. 2. In addition, it is recommended that Townsite Strategies be prepared for the hinterland towns, such as Harvey and Brunswick. The purpose of these Townsite Strategies will be to further investigate potential employment and residential opportunities and infrastructure requirements of these towns.

The Shire considers that it is important that the Strategy remains relevant and up-to-date. As such, the Strategy will be regularly monitored and reviewed to reflect the changing State, regional and local planning objectives.

A Local Planning Scheme is required to be reviewed every five years and as such, the Strategy is best to be reviewed at this time. Notwithstanding this, a review of the Strategy can be undertaken prior to this five year period if needed.

Shire of Harvey Local Planning Strategy

Part 2 – Background Information Report

April 2020

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1. Introduction

1.1 Background

This Local Planning Strategy (LPS) applies to the whole of the Shire of Harvey. The Shire of Harvey is located in the South West Region of Western Australia. The Shire's principal centre Harvey is located 140km south of Perth, 36km north east from the South West's principal regional centre Bunbury.

The Shire is a diverse region consisting of 42km of coastline, the urbanised locality of Australind, eight rural townsites, a variety of environmentally sensitive areas, a dedicated heavy-industrial park, and a thriving agricultural sector. This diversity creates a complex mixture of opportunities, constraints and community aspirations.

1.2 Purpose of Local Planning Strategy

Regulation 11(2) of the *Planning and Development (Local Planning Schemes) Regulations 2015* (Regulations) states:

"A local planning strategy must –

- (a) set out the long term planning directions for the local government; and
- (b) apply State and regional planning policies; and
- (c) provide the rationale for any rezoning or classification of land under the local planning scheme."

The purpose of the LPS is to set out the Shire's broad vision for its municipal area. It provides the interface between regional and local planning and is increasingly seen as the means to address economic, resource management, environmental and social considerations at a strategic level.

A Strategy is usually focused on town planning outcomes which can be incorporated into a statutory Local Planning Scheme at an appropriate time. However, a Strategy can also be used to articulate a community vision and identify objectives which may be pursued through means other than the accepted planning process.

A Local Planning Strategy is therefore a tool for:

- Applying the State Planning Strategy and interpreting the framework of State and Regional Policies and Plans for local areas;
- Establishing the local government's aims for the Shire and the strategies, policies and general proposals to achieve those aims;
- Providing a planning context for the statutory provisions of the future Local Planning Scheme (LPS No. 2) and to assist the Shire in making decisions under the Scheme;
- Explaining the Shires's strategy for the area in a way which is understandable to the public; and
- Providing a basis for continuing public and private development.

This LPS for the Shire has been prepared by the Local Government pursuant to the requirements of the above mentioned Regulations under the provisions of the *Planning and Development Act 2005* (Act), and has given due regard to all relevant State and regional planning policies (Section 2).

1.3 Structure of the Strategy

The Strategy is set out into the following sections:

Part 1 – Strategy

This sets out the major characteristics and issues relevant to the future planning and development of the Shire and is set out as follows:

1. Vision and Planning Principles
2. Objectives
3. Strategic Plan which includes the Strategic and Implementation Actions and Precinct areas
4. Implementation, Monitoring and Review
5. Maps

Part 2 – Background Information and Analysis

This sets out the major characteristics of the area relevant to the future planning and development of the Shire in context of the State, Regional and Local Planning framework. Part 2 is set out as follows:

1. Introduction
2. State and Regional Planning Context
3. Local Planning Context
4. Local Profile
5. Constraints

2. State and Regional Planning Context

2.1 State Planning Strategy 2050, WAPC

The State Planning Strategy was released in June 2014 by the State Government to provide Western Australia with a strategic guide for land use planning through to the year 2050. The Strategy sets out a common vision for the State and its regions, identifies the likely changes and prepares for them and establishes the mechanisms for implementation of strategic guidance. The State Planning Strategy outlines six interrelated State planning principles intended to guide and coordinate action at all levels of government and across all agencies and are as follows:

- *Community: Enable diverse, affordable, accessible and safe communities*
- *Economy: Facilitate trade, investment, innovation, employment and community betterment*
- *Environment: Conserve the State's natural assets through sustainable development*
- *Infrastructure: Ensure infrastructure supports development*
- *Regional Development: Build the competitive and collaborative advantages of the regions*
- *Governance: Build community confidence in development processes and practices*

The Strategy further also defines the State into three spatial dimensions (sectors) that identifies their unique attributes and contributions to the State's environment, economy and urban development. These areas are defined as the North, Central and South West sectors. The Shire falls within the South West sector, which includes the Perth, Peel, South West and Wheatbelt regions. In context of the Shire, the sector identifies the following attributes and challenges:

- Bunbury is the largest population area in regional WA and is acknowledged to become the State's second CBD outside metropolitan Perth. This would present significant urban development challenges and opportunities for the residential development of the Shire in key strategic areas such as Treendale, Australind and Kingston;
- Mining, transport and agricultural industries and resources play an important part of the region's and State's economies, and needs to be protected from incompatible development and land use conflicts;
- The large majority of the sector lies within an international global biodiversity hotspot with Australia's highest concentration of rare and threatened species. Notwithstanding the need to protect our local environment, this also provides for significant and unique economic opportunities for the region;
- Protecting productive agricultural land of State and regional significance, including land suitable for intensive and/or irrigated uses; and
- Competition for land and water availability between urbanisation, industry, mining and agricultural economies.

Guiding planning principles and the challenges identified for this region in the State Planning Strategy have been used in the preparation of this Strategy.

2.2 State Planning Framework 2017, WAPC

The State Planning Framework provides overall direction in methods of growth and development throughout the State of Western Australia. The State Planning Framework Policy (Statement of Planning Policy No. 1) was gazetted in November 2017 by the Western Australian Planning Commission (WAPC) and was prepared under Section 26 of the Act.

The State Planning Framework provides general principles for land use and development and a listing of plans, policies and strategies that form the State Planning Framework, as shown in Figure 1 on page 5. The general principles of the Policy relate to:

- Protection and enhancement of the environment;
- Responding to social change and facilitating the creation of vibrant, safe and self-reliant communities;
- Assists in economic growth in accordance with sustainable development principles;
- Provision of efficient and equitable transport and public utilities; and
- Accommodating the special assets and individual requirements of each region.

The plans, policies and strategies prepared by the WAPC that have an impact on the Shire are outlined in the following sections.

2.3 State Planning Policies

The following State Planning Policies (SPP) are relevant in the preparation of this Strategy:

- | | |
|-----------|---|
| • SPP 1.0 | State Planning Framework Policy (2017) |
| • SPP 2.0 | Environment and Natural Resources Policy (2003) |
| • SPP 2.1 | Peel-Harvey Coastal Plain Catchment (1992) |
| • SPP 2.5 | Rural Planning (2016) |
| • SPP 2.6 | State Coastal Planning Policy (2013) |
| • SPP 2.7 | Public Drinking Water Source Policy (2003) |
| • SPP 2.9 | Water Resources (2006) |
| • SPP 3.0 | Urban Growth and Settlement (2006) |
| • SPP 3.5 | Historic Heritage Conservation (2007) |
| • SPP 3.6 | Development Contributions for Infrastructure (2009) |
| • SPP 3.7 | Planning in Bushfire Prone Areas (2015) |
| • SPP 4.1 | State Industrial Buffer Policy (1997) |
| • SPP 5.4 | Road and Rail Noise (2019) |
| • SPP 7.0 | Design of the Built Environment (2019) |
| • SPP 7.3 | Residential Design Codes Volume 1 (2019) |
| • SPP 7.3 | Residential Design Codes Volume 2 – Apartments (2019) |

The following draft and revised State Planning Policies (SPP) are relevant in the preparation of this Strategy:

- | | |
|-----------|---|
| • SPP 4.1 | Draft State Industrial Interface (2017) |
|-----------|---|

Figure 1: Western Australian Planning Framework



Figure 1: Western Australian Planning Framework

Source: State Planning Policy No. 1

2.4 Greater Bunbury Strategy 2013, WAPC

The Greater Bunbury Strategy (GBS) has been prepared to guide urban and regional land use planning, growth and infrastructure delivery in the Greater Bunbury region until the year 2031 and beyond. Within the Shire, the GBS identifies five 'investigation areas' which are "considered to have planning merit as they provide a logical extension of existing urban areas, bound by a defining boundary. However, each of the sites has various constraints that need to be overcome or negotiated before development can progress."

The investigation areas are:

- Area East of Treendale (major urban investigation area);
- Roelands townsite;
- Brunswick townsite; and
- Harvey townsite.

The GBS indicates the major urban investigation area East of Treendale will not be considered for development until at least the year 2021 and is subject to the "major Urban Expansion Area" south of the Collie River (Shire of Dardanup) being 'significantly developed'.

The GBS is in the process of being reviewed and will be replaced by a new document – the Bunbury-Geopraphe Sub-regional Strategy. The Sub-regional Strategy is expected to be advertised for the purpose of public consultation in 2020 following which it will be finalized and then inform amendments and updates to the Greater Bunbury Region Scheme and local planning strategies.

2.5 Greater Bunbury Region Scheme 2008, WAPC

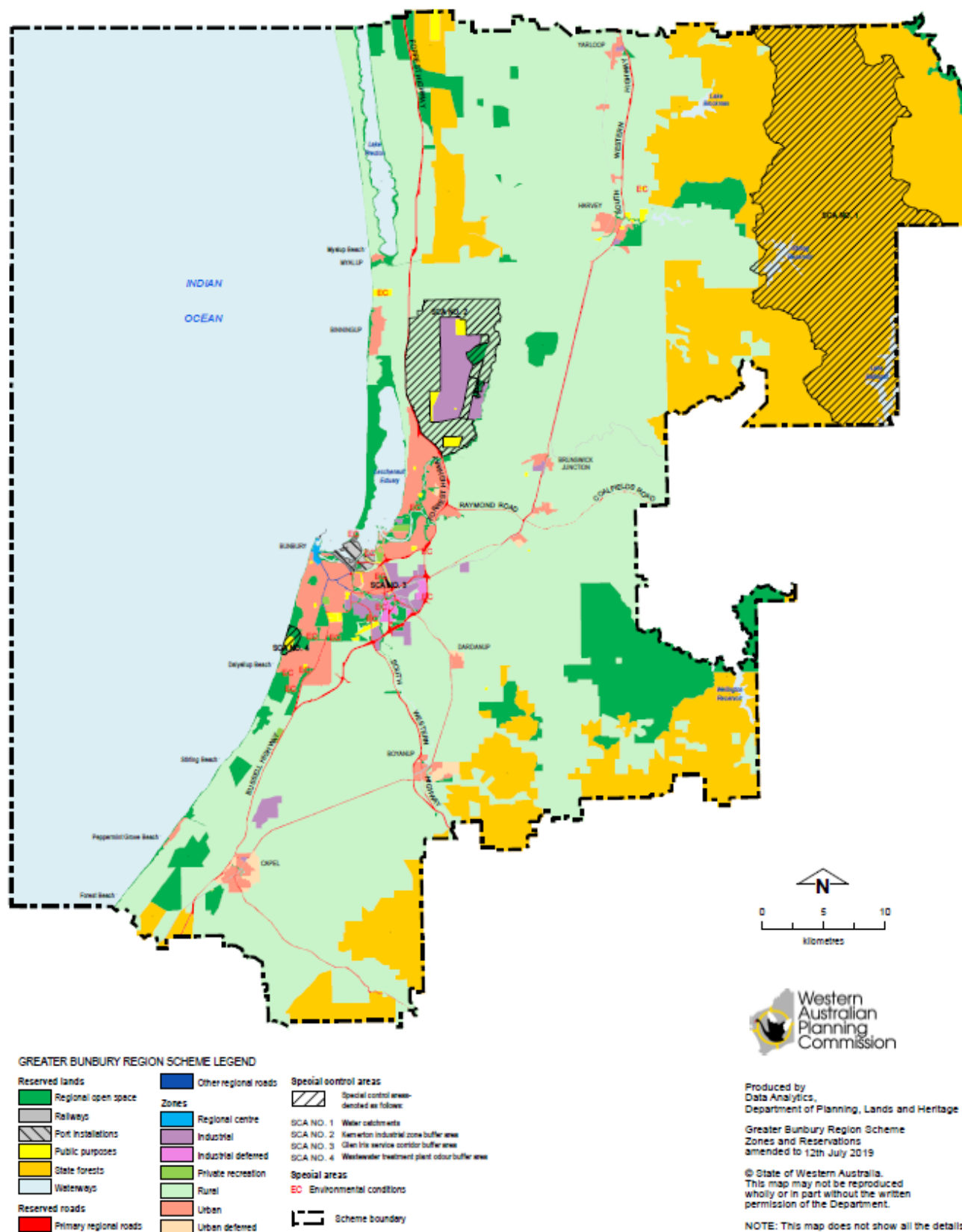
The Greater Bunbury Region Scheme (GBRS) sets out the broad land use components of the region and provides the statutory basis for planning in the Region. The GBRS provides the legislative mechanisms to secure land for regional purposes.

The Local Governments subject to the GBRS consists of the Shires of Harvey, Dardanup and Capel and the City of Bunbury. The GBRS prescribes the basic land use zones and regional reservations, which are divided into broad categories.

The GBRS also defines the locations of Special Control Areas (SCA), which in the case of the Shire, relates to SCA No. 1 – Water Catchments and SCA No. 2 – Kemerton Industrial Zone Buffer Area. The GBRS also forms the basis for associated policies, which are:

- *Floodplain Management Policy* – Relates to floodplain management of fringes of the Collie and Brunswick Rivers and the Leschenault Estuary.
- *Priority Agricultural Land Policy* – Relates to the land within the South Western Irrigation District and rural land north of Leschenault Estuary and parallel to the coast.
- *Strategic Minerals and Basic Raw Materials Resource Policy* – In general this relates to mineral sands resource areas at the toe of the Darling Scarp and in central parts of the coastal plain, as well as identifying the clay, gravel, rock aggregate, sand and limestone deposits.
- *Activity Centres for Greater Bunbury Policy*.

Figure 2: Greater Bunbury Region Scheme



Source: Department of Planning, Lands and Heritage, 2020

2.6 South-West Framework 2009, WAPC

The *South West Regional Planning and Infrastructure Framework 2015* was published in December 2015. It updates the 2009 Framework and identifies infrastructure and planning priorities for the region to achieve sustainable growth.

The Framework is a “broad planning blueprint which seeks to guide the future development of the South-West region over the next 20 years.” The Framework seeks to “ensure that growth and development in the South-West region is achieved in a way that improves people’s lives and enhances the unique character and environment of the region.” The Framework’s vision for the region is to generate “high standards of social amenity, diverse economic activities and high quality food, while preserving and enhancing the natural environment.”

The Framework identifies parts of the Shire, including Australind (as part of the Greater Bunbury Area) and Brunswick, as having potential for high growth potential.

2.7 Activity Centres for Greater Bunbury Policy 2012, WAPC

The Activity Centres Policy (which is linked to the GBRS) specifies “broad planning requirements for the planning and development of new activity centres and the redevelopment and renewal of existing centres”. The Policy is “mainly concerned with the distribution, function, broad land use and urban design criteria of activity centres and with coordinating their mixed land uses and infrastructure planning”.

As provided in Figure 3, it defines localities within a hierarchy, dependent on their size and function. In context of the Shire, the Policy identifies the following:

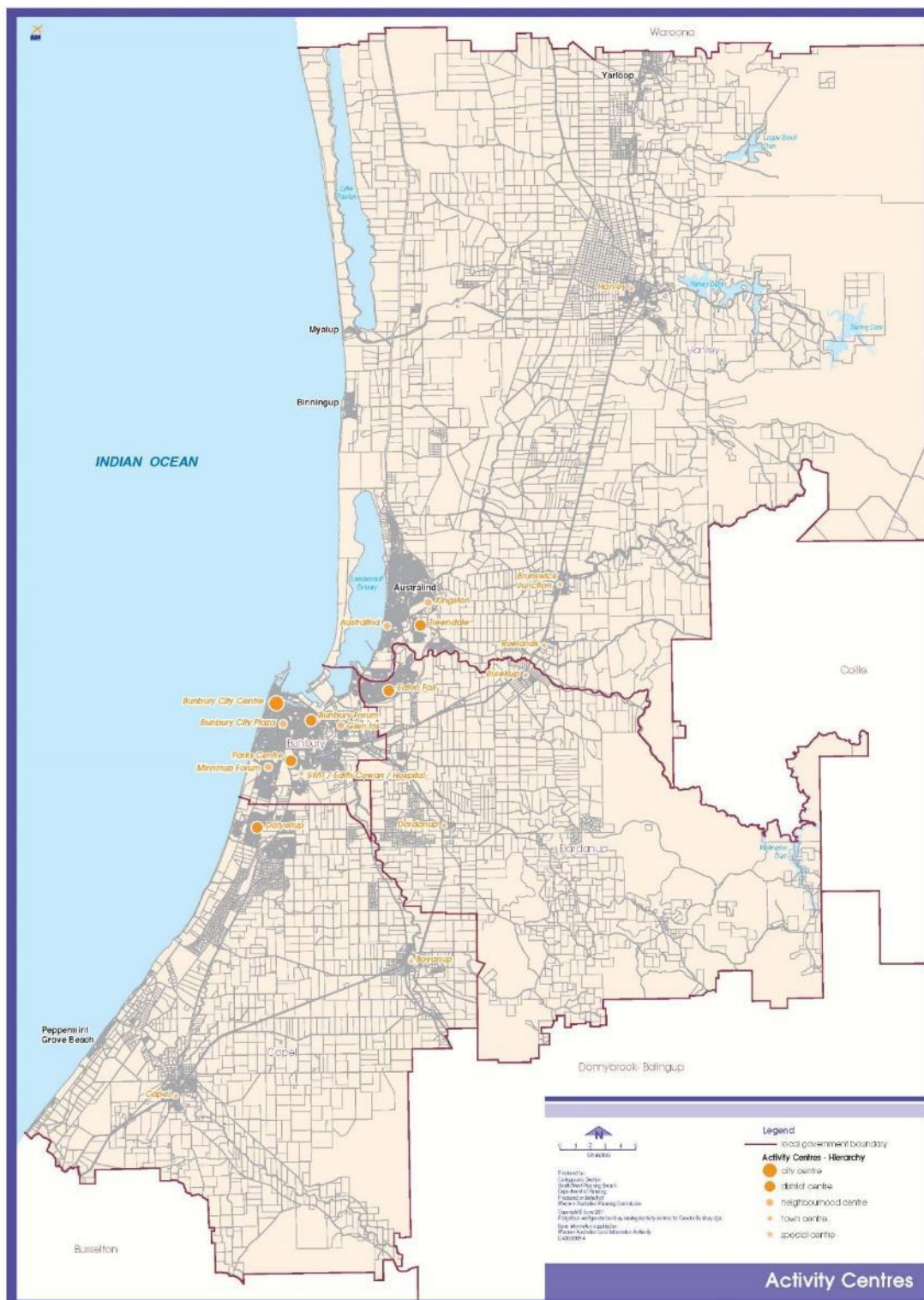
- Treendale is identified as a “district centre”,
- Australind and Kingston are “neighbourhood centres” and
- Harvey, Brunswick and Roelands are “town centres”.

2.8 Development Control Policies

There are numerous Development Control (DC) Policies that control the subdivision and development of land within Western Australia. Those considered most relevant to this Strategy are:

- Liveable Neighbourhoods
- DC 1.1 Subdivision of Land – General Principles
- DC 1.2 Development Control – General Principles
- DC 2.2 Residential Subdivision
- DC 3.4 Subdivision of Rural Land
- DC 4.1 Industrial Subdivision

Figure 3: Activity Centres Areas for the Greater Bunbury Region



Source: Activity Centres for Greater Bunbury Policy 2012

2.9 Guidelines

The following are WAPC guidelines which are relevant to this Strategy:

- Rural Planning Guidelines
- Guidelines for Planning in Bushfire Prone Areas
- Local Planning Manual.

2.10 National Tourism Planning Guide

The National Planning Tourism Guide – A Best Practice Approach 2011 has been prepared by the Tourism and Transport Forum and is intended to support the delivery of a long term and consistent platform to foster the strategic alignment of tourism planning policy across the nation.

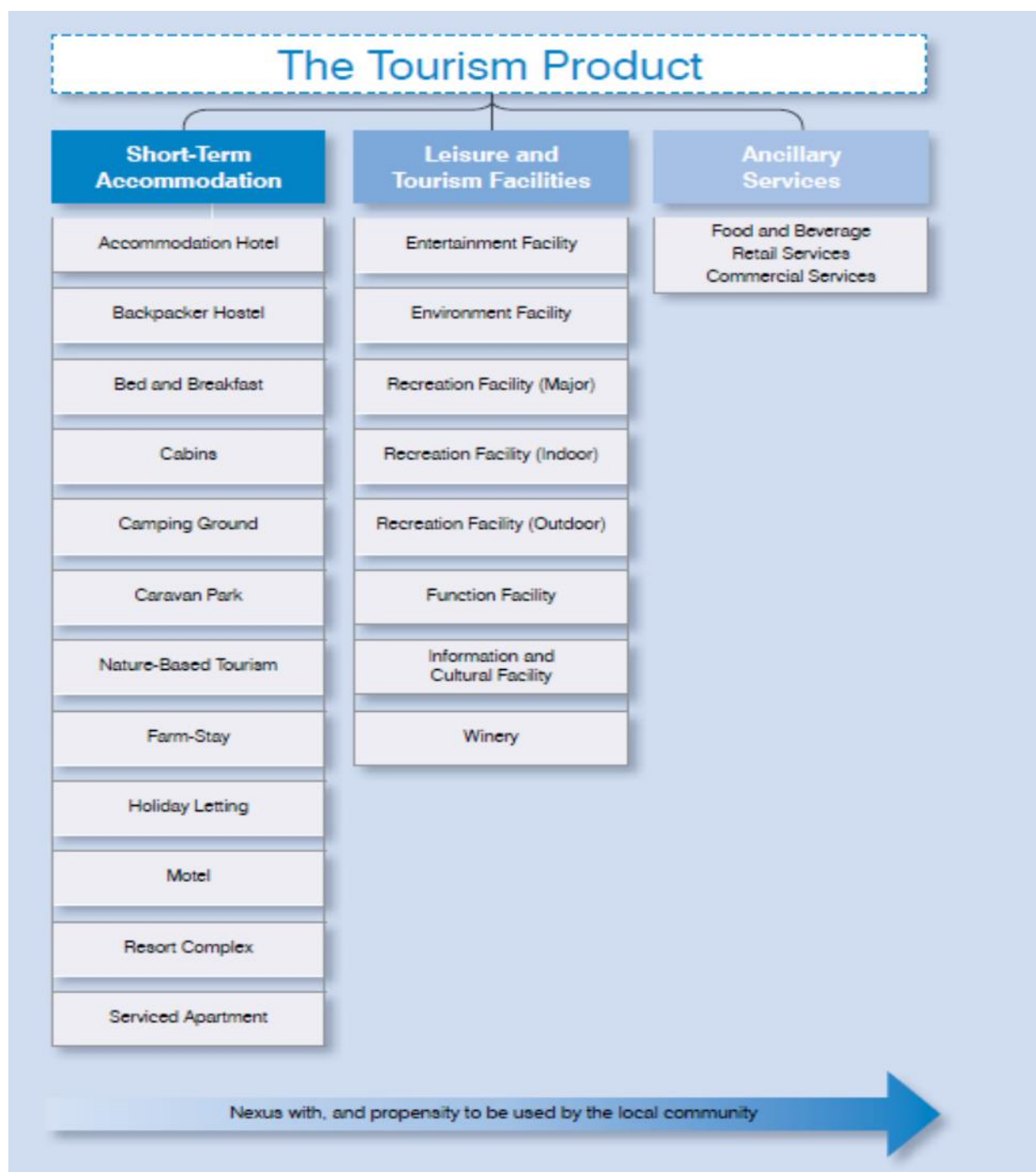
The Guide is primarily designed to:

- Ensure that planners understand the importance of tourism and take this fully into account when preparing plans and making planning decisions; and
- Ensure that planners and the tourism industry work together effectively to facilitate, promote and deliver new tourism developments in a sustainable way.

The Guide provides three distinct categories for tourism products: Short-term Accommodation, Tourist Facilities and Other Ancillary Services and provides recommendations as to how each can be supported from a planning perspective. Figure 4 outlines the range of possible land uses under each of the three categories.

The National Tourism Planning Guide (NTPG) is considered a useful tool in establishing a planning framework for tourism land use development for local governments. In order to encourage the growth of tourism in the Shire, it is considered a broad and flexible approach should be adopted which recognises the various forms that tourism development may take. This is particularly the case in our local authority where both urban and rural styles of tourist ventures are possible. It is considered that greater recognition and promotion of the tourism attributes of all localities throughout the Shire needs to be addressed.

Figure 4: National Tourism Planning Guide



Source: National Tourism Planning Guide, 2011

3. Local Planning Context

3.1 Vision and Mission Statement

The Shire is a diverse region consisting of 42km of coastline, the urbanised locality of Australind, eight rural townsites, a variety of environmentally sensitive areas, a dedicated heavy-industrial park, and a thriving agricultural sector. This diversity creates a complex mixture of opportunities, constraints and community aspirations. The Local Planning Strategy is intended to set out the Shire's broad vision in respect to balancing growth, environmental responsibilities, land use management, appropriate development control, housing affordability and the health and wellbeing of our community. The Strategy will provide a foundation by which the Shire can be protected from unwarranted development proposals and provide a strategic basis for approaching and partnering with State and Federal Government agencies to achieve outcomes which benefit our community.

In support of the values and aspirations identified within the Shire's *Strategic Community Plan 2017 – 2027*, the Shire's vision for the future from a land-use perspective is to actively pursue:

- Appropriate development of the Shire while recognising community needs and the creation and maintenance of a quality lifestyle and environment for all to enjoy;
- Effective delivery of services to ensure that the Shire is a progressive and enjoyable place to live and work; and
- A sustainable balance of rural and urban lifestyle with ecologically sustainable tourism and economic development.

The following Guiding Principles that support the land use plan of this Strategy are:

- To provide a strategic land-use plan which provides for the future in a responsible manner that reflects the aspirations of the Shire and its community, accommodates future needs and creates opportunities to enhance local attributes;
- To provide a strategic land-use plan that is consistent with State and regional planning policies, strategies, structure plans and strategic development initiatives;
- To provide a strategic land-use plan that is clear, comprehensive, accessible, informative, logical, practical, transparent and is a 'leadership' document that provides strategic planning directions for the next fifteen years and beyond; and
- To provide a strategic land-use plan that provides the basis for the preparation of the Shire's new Local Planning Scheme, to be referred to as Local Planning Scheme No. 2 (LPS No. 2).

3.2 Strategic Community Plan (2017)

The Shire's Strategic Community Plan 2017 - 2027 provides a valuable management tool to the Shire and its Staff and establishes clear goals and objectives and the measures by which they will be achieved. There was significant community consultation in the preparation of the Plan.

The Strategic Plan categorises individual outcomes under four overarching strategic objectives: Economic, Environment, Social and Civic Leadership. The summaries of the overarching objectives, the individual outcomes and key indicators that will measure the success of the outcomes is shown in Figure 5.

Figure 5: Strategic Community Plan Summary Table

	Objectives		Outcomes	Key Indicators
ECONOMIC	<i>To be a diverse and innovative economy supporting a range of local employment opportunities.</i>	1.1	Increased opportunities for diverse socially and environmentally responsible commercial, agricultural and industrial enterprises, and residential development.	Number of building licenses issued.
		1.2	Develop the Shire as a tourist destination based on the Shire's distinct characteristics and natural assets and qualities.	Visitor centre numbers.
		1.3	A range of employment, education and training opportunities that will attract a diverse workforce.	Level of unemployment. Number of education facilities.
		1.4	Essential services and infrastructure are available to support the growing community and local economy.	Number of development applications.
		1.5	Irrigation areas and water supply are protected and preserved.	Continued access to water supplies.
ENVIRONMENT	<i>We have a balanced respect for our natural assets and built environment, retaining our lifestyle values and community spirit.</i>	2.1	Heritage buildings and places are utilised, preserved and maintained.	The condition and usage rate of heritage assets.
		2.2	Town centres are welcoming, well presented and development enhances their character and value.	Community and visitor satisfaction levels. Number of documented complaints.
		2.3	Land use provisions within the rural, industrial and urban areas reflect current and future needs.	Number of development applications.
		2.4	Natural assets and public open spaces are accessible, well utilised and managed.	Community and visitor satisfaction levels. Number of documented complaints.
		2.5	Waste recovery will minimise environmental impacts.	Quantity of waste (recyclables) diverted from landfill.
		2.6	Local heritage, lifestyle and eco-systems are protected and promoted.	Progress to implementation of relevant plans.
		2.7	Forests, rivers, coastline, wetlands and estuary are valued, protected and managed.	Progress to implementation of relevant plans.
		2.8	Activities to mitigate the impacts of climate change are supported.	Number of environmental related initiatives implemented.

	Objectives		Outcomes	Key Indicators
Social	<i>A safe and welcoming community, which embraces its diversity and heritage, where everyone is valued and has the opportunity to contribute and belong.</i>	3.1	The community is supported by a strong volunteer base.	Number of active volunteer groups.
		3.2	A safe and healthy community with a strong sense of community pride.	Number of police incidents related to households. Number of community events.
		3.3	The history of the Shire and its rich and varied cultural heritage and natural environment is valued, respected, promoted and celebrated.	Number of community events.
		3.4	Services, infrastructure and facilities continue to meet community needs.	Number of documented complaints.
		3.5	Affordable, diverse and quality accommodation options for both residential and business use.	Number of dwellings and commercial premises constructed. Median house price.
		3.6	A local transport network that ensures equity of access across the community to a safe standard.	Length of roads and paths added. The assessed condition of roads. Progress to implementation of relevant plans.
CIVIC LEADERSHIP	<i>Strong civic leadership representing the whole of the Shire which engages in effective partnerships and reflects the aspirations of an engaged community.</i>	4.1	A long term strategically focused Shire that is efficient, respected and accountable.	Compliance with IPR framework. Adoption of Compliance Return.
		4.2	Services and infrastructure are provided with a customer focus and reflect the needs of the Shire's residents.	Number of documented complaints.
		4.3	Good business performance and quality service delivery within the regulatory framework continues to be provided.	Compliance with regulatory requirements. Progress to implementation of relevant plans.
		4.4	A well informed, connected and engaged community that actively participates.	Attendance at community meetings. Number of nominations for Council vacancies.
		4.5	The revenue needs of the Shire are managed in an equitable, proactive and sustainable manner.	Financial ratios within target.
		4.6	Effective collaboration and shared services with other Local, State and Federal Government agencies, industry and community organisations.	The level of Regional participation.

Source: Shire of Harvey Strategic Community Plan 2013

The Strategic Community Plan and the Local Planning Strategy share common goals in providing for the responsible development and expansion of the Shire whilst retaining our enviable lifestyle, protecting heritage assets and the natural environment and creating economic opportunities. The documents will work collaboratively to provide guidance in this regard.

3.3 Municipal Inventory of Heritage Places 2014

In October 2015, the Council resolved to adopt its Local Municipal Heritage Inventory 2014. The inventory identifies approximately 235 places located throughout the Shire which are considered to possess cultural and heritage value to the community. The Places with a Management Category of 1 and 2 will be considered for inclusion on the Shire's proposed Heritage List. As part of the local heritage and planning policy framework, the Shire adopted the Local Planning Policy for Heritage Places and the Local Planning Policy for the Yarloop

Heritage Area (YHA). These documents provide guidance for the assessment and appropriate determination of development applications relating to places of Heritage value. There are seven places currently listed on the State Register of Heritage Places, maintained by the State Heritage Office. These properties are listed as follows:

- Alverstoke Farm, Brunswick
- Henton Cottage, Australind
- St. Nicholas Church, Australind
- Upton House, Australind
- Harvey Agriculture College (fmr)(3rd Australian Corps Training School, No. 11 Internment Camp)
- Timber Mill Workshops, Yarloop
- St Joseph's Church, Yarloop

In January 2016, the Yarloop/Harvey/Waroona Bushfire destroyed 75% of properties within the Yarloop Heritage Area and seven properties outside the area that were identified within the Shire's Municipal Heritage Inventory. Two State registered heritage sites were also destroyed – the Yarloop Timber Workshops and St Joseph's Catholic Church, however they remain on the State Register.

In response to the fires, the YHA Policy was revoked and the Local Heritage Policy was modified removing the requirement for a planning approval for the demolition of any badly damaged structures within the YHA and the properties affected by the fire. In addition, further consultation and discussion will need to be had with the Shire and the residents of Yarloop in order to consider the future housing design and character of the area.

Greater emphasis will now be placed on ensuring proactive measures are undertaken by the Shire to interpret and recognise heritage places and encourage their conservation in the longer term.

3.4 Shire of Harvey, Local Planning Policies

The following Local Planning Policies have been considered in the preparation of this Strategy:

- 4.1.1 Town Planning Scheme No. 3
- 4.1.2 Home Occupations
- 4.1.4 Air Quality Control Guidelines
- 4.1.5 Variation to RCodes – Primary Street Setback for Grouped Dwellings in existing Areas
- 4.1.6 Residential Land Slopes
- 4.1.8 Extractive Industry Proposals within the Kemerton Locality Strategic Industrial Area
- 4.1.9 Wind Turbines in Rural Areas
- 4.1.10 Setbacks for Structures on Farming Land
- 4.1.11 Reflective Materials within a "Place of Landscape Value"
- 4.1.12 Development Guidelines – South Australind
- 4.1.13 Local Planning Policy for Heritage Places
- 4.2.6 Variations to RCodes – Outbuildings
- 4.2.9 Housing Standards and Re-located Dwellings
- 4.2.10 Special Residential Zones – Rammed Earth Construction
- 4.2.11 Leschenault, Collie River, Preston River Regional Flood Study and Brunswick River Flood Study (September 1981)

- 4.3.2 Pest Control Premises

As part of the Scheme Review process, the Shire will need to undertake an extensive Local Planning Policy review to remove any provisions or policies that are inconsistent with the State Planning Policy Framework and the outcomes proposed of this Strategy.

3.5 Shire of Harvey, Biodiversity Strategy (2011)

The Shire's Local Biodiversity Strategy is an environmental planning document prepared in 2011. The document identifies areas of significant natural value including waterways, native vegetation and sensitive coastal areas. It also provides guidance for the management and protection of Local Natural Areas on private land through the subdivision and development planning processes. The Biodiversity Strategy was updated in 2015 and the background information used to inform the preparation of the Shire's Local Planning Strategy.

4. Local Profile

4.1 Climate, Physical and Environmental Features

4.1.1 Climate

The Shire has a 'Mediterranean' climate characterised by cool wet winters and warm to hot dry summers. In summer at the Harvey townsite, the mean maximum temperature is 31.3°C with the highest recorded temperature of 42.5°C in February 2007.

Mean rainfall: 853 mm (2000 -2014)

Mean temperature: Maximum 23.7°C
Minimum 12°C

During summer the predominant wind in the mornings is from the south-east at 10-14 knots, swinging to the southwest at 20-25 knots in the afternoon as shown in Figure 6. In the winter, morning winds are light and variable but tend to swing north easterly in the afternoon.

4.1.2 Physiography

There are three main landform units within the Shire:

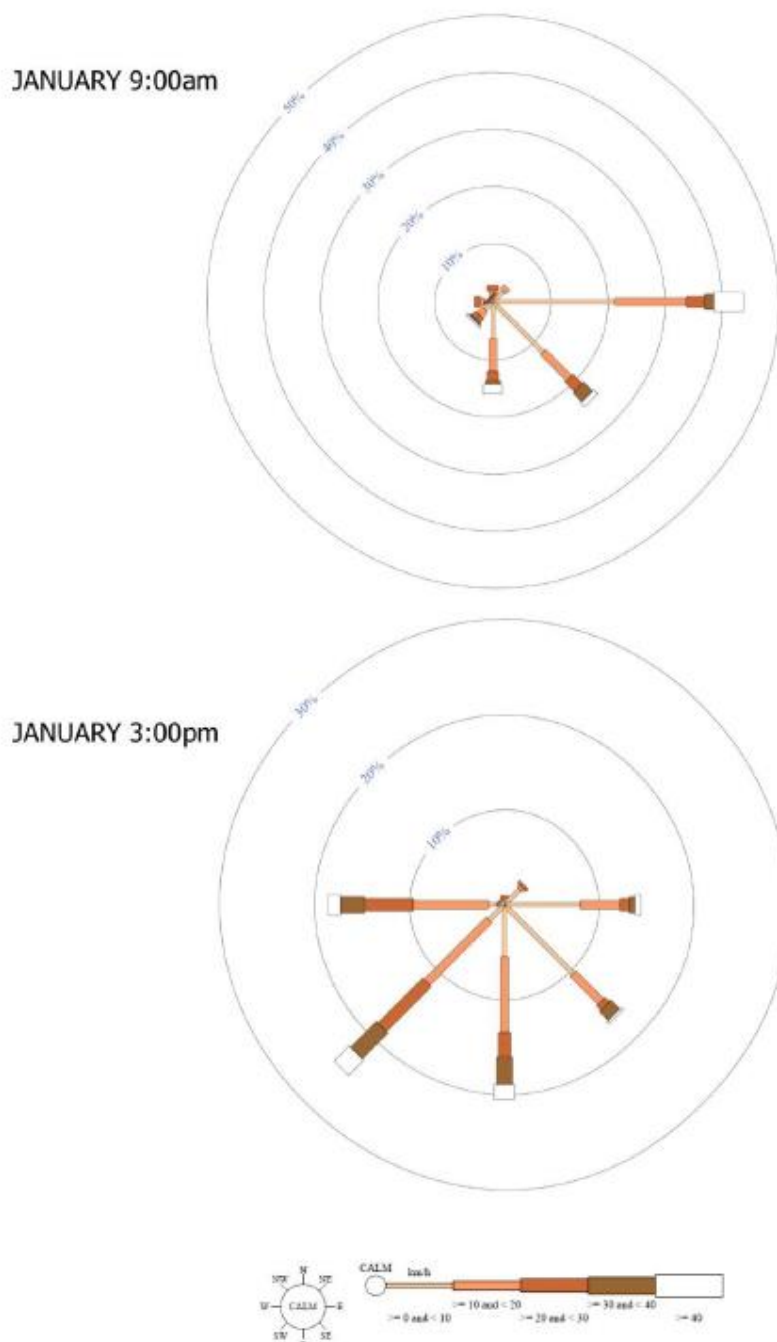
- *The Coastal Plains:*
Occupy the western portion of the Shire, stretching from the Darling Scarp to the Indian Ocean. They are low and flat with a contour of Quindalup dunes parallel to the foreshore, and further inland older, more rounded and vegetated dunes. Approximately, 6 - 7 km inland, a north-south limestone ridge peaks at about 40m AHD. East of the ridge, at approximately 10m AHD, there are a series of north-south orientated wetlands. The land then gradually rises to about 40m AHD to the Ridge Hill Shelf. The Shelf is no more than 3km wide, is highly discontinuous, and largely vegetated by *Eucalyptus marginata* (Jarrah) and *Corymbia calophylla* (Marri), with an understorey of *Banksia*, *Casuarina fraseriana* and *Xylomelum occidentale* (Woody Pear).
- *The Darling Scarp:*
On the eastern edge of the Ridge Hill Shelf, the Darling escarpment runs north-south and rises steeply from approximately 100m to 200m. It is easily identified by massive

granite outcrops and numerous steep sided valleys, of which the most significant contain the Collie, Brunswick and Harvey Rivers.

- The Darling Plateau:**
 Inland from the Scarp, the Plateau rises to approximately 300m and has a rolling topography of hills and valleys, where the hills are can be capped with gravels of precipitated ironstone.

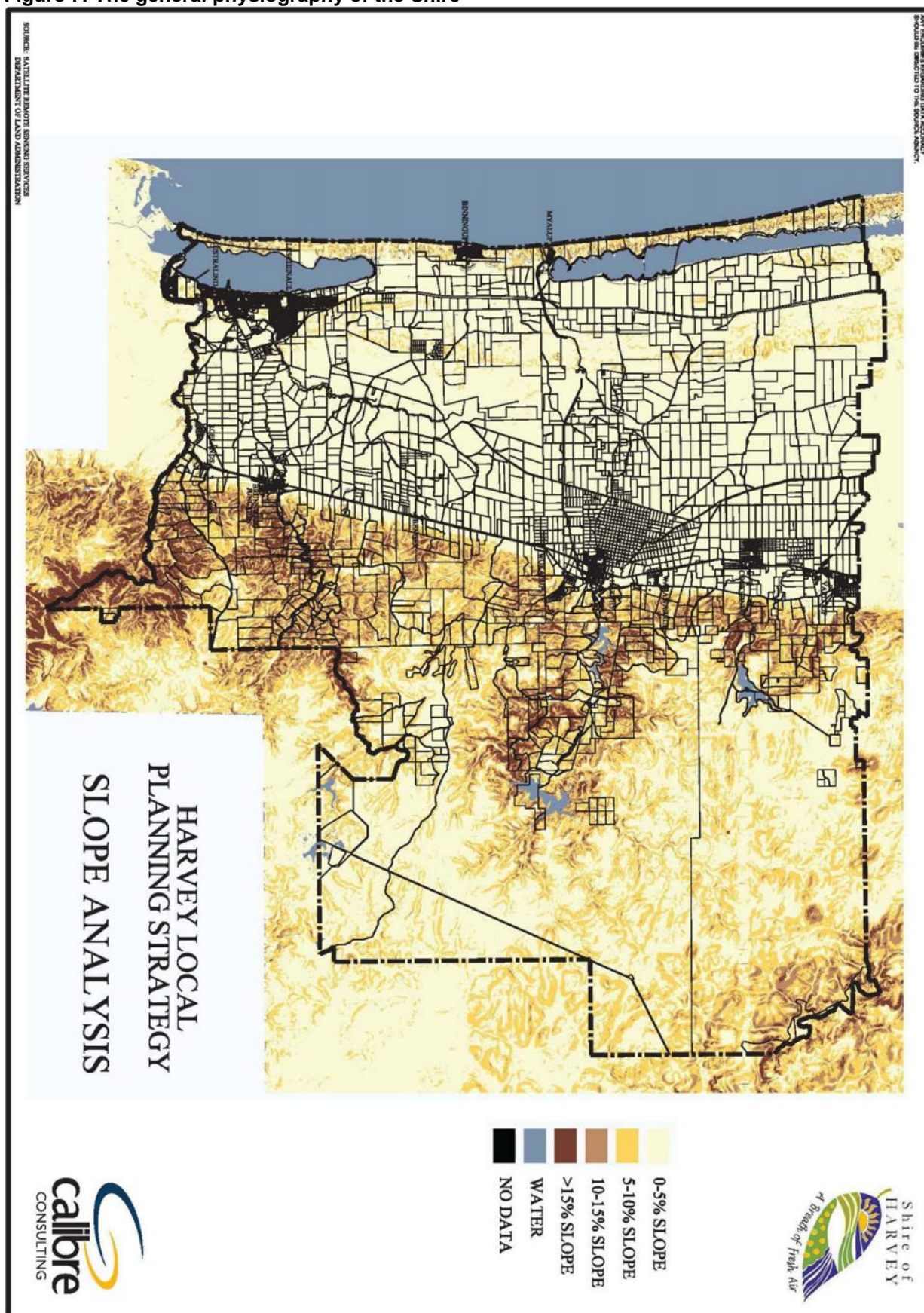
The general physiography of the Shire is shown in Figure 7.

Figure 6: Summer Wind Directions



Source: Shire of Harvey Bushfire Hazard Assessment 2015, 3

Figure 7: The general physiography of the Shire



Source: Shire of Harvey Bushfire Hazard Assessment 2015, 5

4.1.3 Geology

Within the Shire, the geology consists of two general types, which approximate the same physical areas as the Coastal Plains and Darling Plateau discussed in section 4.1.2. The Darling Scarp forms the dividing line between these two formations. The Yilgarn Block is bordered on the west by the Darling Fault and consists of Archaen granite, migmatite, gneiss and various recognisable volcanic and sedimentary rocks. The Harvey area of the Yilgarn Block is notable for its content of bauxite and laterite. The Quaternary sediment of the Perth Basin in the coastal plain area consists of marine sand and limestone, beach and dune deposits. This area contains deposits of heavy mineral sands and silica sand.

4.1.4 Wetlands

Wetland Classification

On the Swan Coastal Plain wetlands are typically surface expressions of groundwater, and along the Scarp and on the Plain as rivers and creeks. Situated between the Quindalup and Spearwood Dune Systems a significant wetland chain provides important breeding habitat for a range of waterbirds. The largest remaining natural wetlands within the Shire include Lake Preston, Benger Swamp and the Kemerton Wetlands.

The Leschenault Estuary lies within a narrow interdunal depression in the southern portion of Shire. It is significant as a nursery for fish species, and for waterbird habitat including migratory species listed under International Agreements. The Collie River system, of which the Wellesley and Brunswick Rivers form part, flows into the Leschenault Estuary.

In the north of the Shire within the Peel Region the Harvey River is one of the major systems contributing to the Peel-Harvey Estuary. The Geomorphic Wetlands Swan Coastal Plain dataset indicates that a variety of wetlands are located within the Shire boundaries. This dataset was originally digitised from the 1996 report, *Wetlands of the Swan Coastal Plain Volume 2B Wetland Mapping, Classification and Evaluation: Wetland Atlas* (Hill et al.). It shows that basin wetlands including lakes, damplands and sumplands are largely concentrated to the west of the Swan Coastal Plain with most of the eastern portions of the plain being low-lying, palusplain wetlands (seasonally waterlogged, flat) (Figure 8).

Table 1 provides the area covered by each natural geomorphic wetland type within the Shire boundaries based on this dataset.

Table 1: Area of Geomorphic Wetland Type

Wetland Type	Area (hectares)
Lake	2,475.32
Sumpland	5,658.94
Dampland	3,311.26
Palusplain	31,077.23
Paluslope	181.81
Estuary - peripheral	665.34
Estuary – waterbody	2,347.85
Floodplain	741.91
TOTAL	46,459.66

Source: *Wetlands of the Swan Coastal Plain Volume 2B Wetland Mapping, Classification and Evaluation: Wetland Atlas*

Current and change in land uses including the clearing of native vegetation and the associated substantial modifications of the natural landscape have resulted in altered drainage patterns of the wetlands of the Swan Coastal Plain. The condition of remaining wetlands within the Shire varies between being in relatively natural condition to being substantially cleared and modified.

Management Categories

The Department of Biodiversity, Conservation and Attractions (DBCA) assign each identified wetland or portion of wetland, a management category (refer to Table 2). The objectives for each management category as described by the DBCA are presented in Table 3.

Table 2: Area of Wetland Assigned to each Management Category

Management Category	Area (hectares)
Conservation	9,243.87
Resource Enhancement	879.86
Multiple Use	36,514.47

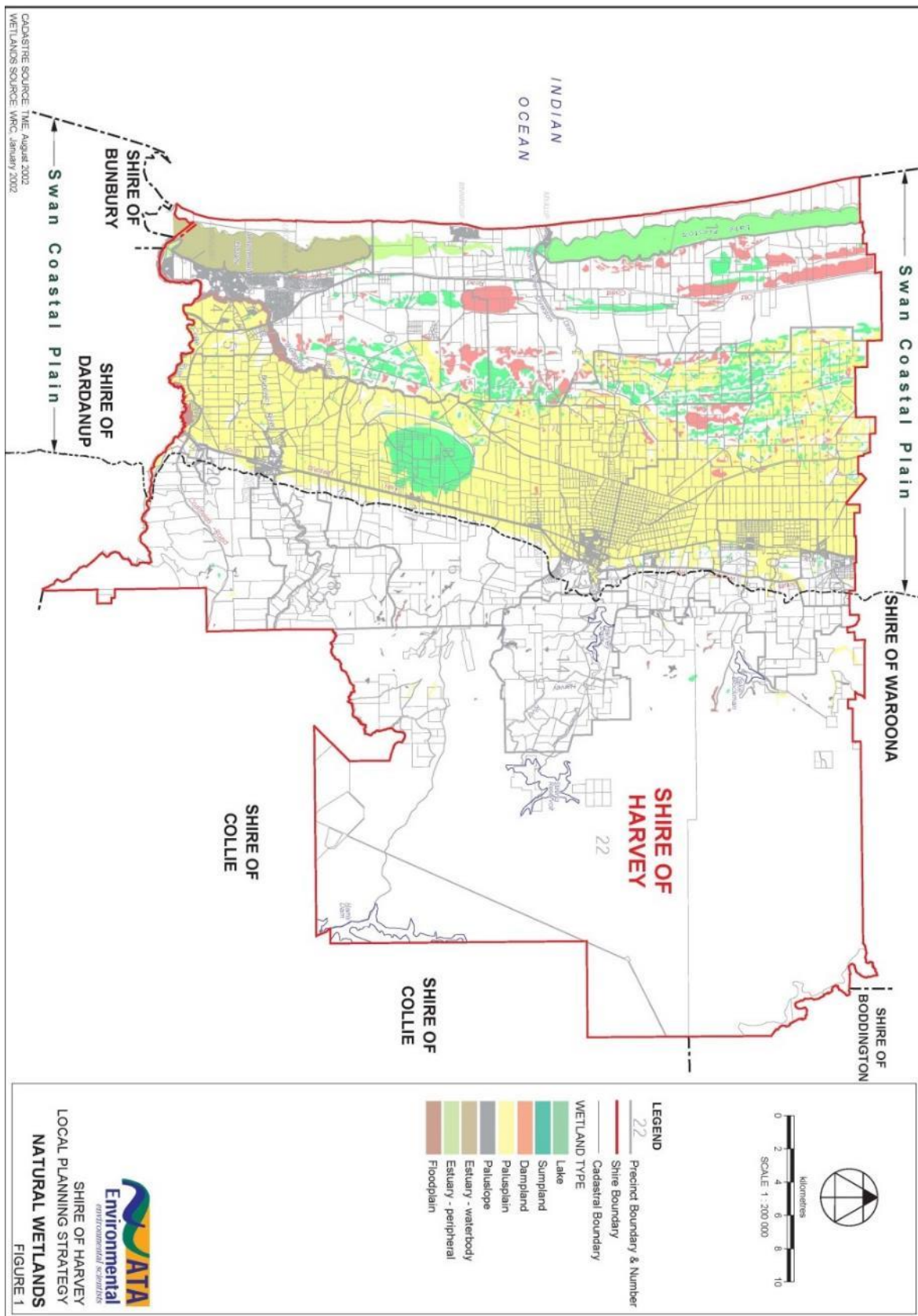
Source: Department of Parks and Wildlife 2017 (adapted from Environmental Protection Authority 2008)

Table 3: Wetland Management Categories and objectives applied to the Swan Coastal Plain (adapted from Environmental Protection Authority 2008)

Management Category	Management Category	Management Objectives
Conservation	Wetlands support a high level of ecological attributes and functions.	<p>Highest priority wetlands.</p> <p>Objective is to preserve and enhance the existing conservation values of the wetlands through various mechanisms including:</p> <ul style="list-style-type: none"> • reservation in national parks, crown reserves and State owned land • protection under Environmental Protection Policies • wetland covenanting by landowners. <p>No development or clearing is considered appropriate. These are the most valuable wetlands and it is expected that lead government organisations will oppose any activity that may lead to further loss or degradation.</p>
Resource Enhancement	Wetlands which may have been partially modified but still support substantial ecological attributes and functions.	<p>Priority wetlands.</p> <p>Ultimate objective is to manage, restore and protect towards improving their conservation value. These wetlands have the potential to be restored to Conservation category. This can be achieved by restoring wetland function, structure and biodiversity.</p> <p>Protection is recommended through a number of mechanisms.</p>
Multiple Use	Wetlands with few important attributes and functions remaining.	Use, development and management should be considered in the context of ecologically sustainable development and best management practice catchment planning through landcare.

Source: Department of Parks and Wildlife 2017 (adapted from Environmental Protection Authority 2008)

Figure 8: Location of Geomorphic Wetland Type within the Shire of Harvey



Source: Wetlands of Swan Coastal Plain Volume 2B

International Significant Wetlands

The Shire contains wetlands of international significance. The Peel-Yalgorup System, which extends through the Local Government Authorities of Mandurah, Waroona and Harvey, is listed under the Ramsar Convention (1971).

The System includes the Peel Inlet, the Harvey Estuary, the adjacent Mealup and McLarty Lakes, and the Yalgorup Lake including Lakes Clifton and Lake Preston, and is one of the most important areas for waterbirds in south-western Australia. The Peel-Harvey Estuary is also one of the largest shallow estuaries in the south west and supports substantial areas of salt marsh.

In addition, several Shire wetlands are identified as supporting migratory birds listed under agreements between Australia and Japan and/ or China and therefore are significant at an international level. These include Yalgorup Lakes, Bengier Swamp and Leschenault Estuary.

National Significant Wetlands

Waterways and wetlands of national significance includes those identified in *The Directory of Important Wetlands in Australia* (Australian Nature Conservation Authority, 1996) and listed on the Register of National Estate by the Australian Heritage Commission. Within the Shire, several wetlands are considered to be of national significance, including:

- ***Bengier Swamp***
Located to the south-west of the Harvey town site this large freshwater wetland is highly modified but is well-vegetated and considered important for birds in Western Australia
- ***Brunswick, Collie and Wellesley Rivers***
This encompasses the Brunswick River downstream from Brunswick Junction, the Wellesley River downstream from about 1km north of its intersection with Wellesley Road, and the Collie River from its mouth to approximately 4km upstream.
- ***Cathedral Avenue Wetlands***
These wetlands are located on the western and northern edges of the Leschenault Estuary and form part of the Leschenault Estuary wetlands, which are recognised as important for recreation and bird life
- ***Yalgorup Lakes System***
This system is located near the coast, north and east of Myalup, and includes Lake Clifton and Lake Preston, which are naturally-saline coastal lakes with a hydrology that includes several types of salinity regimes.

Regional Significant Wetlands

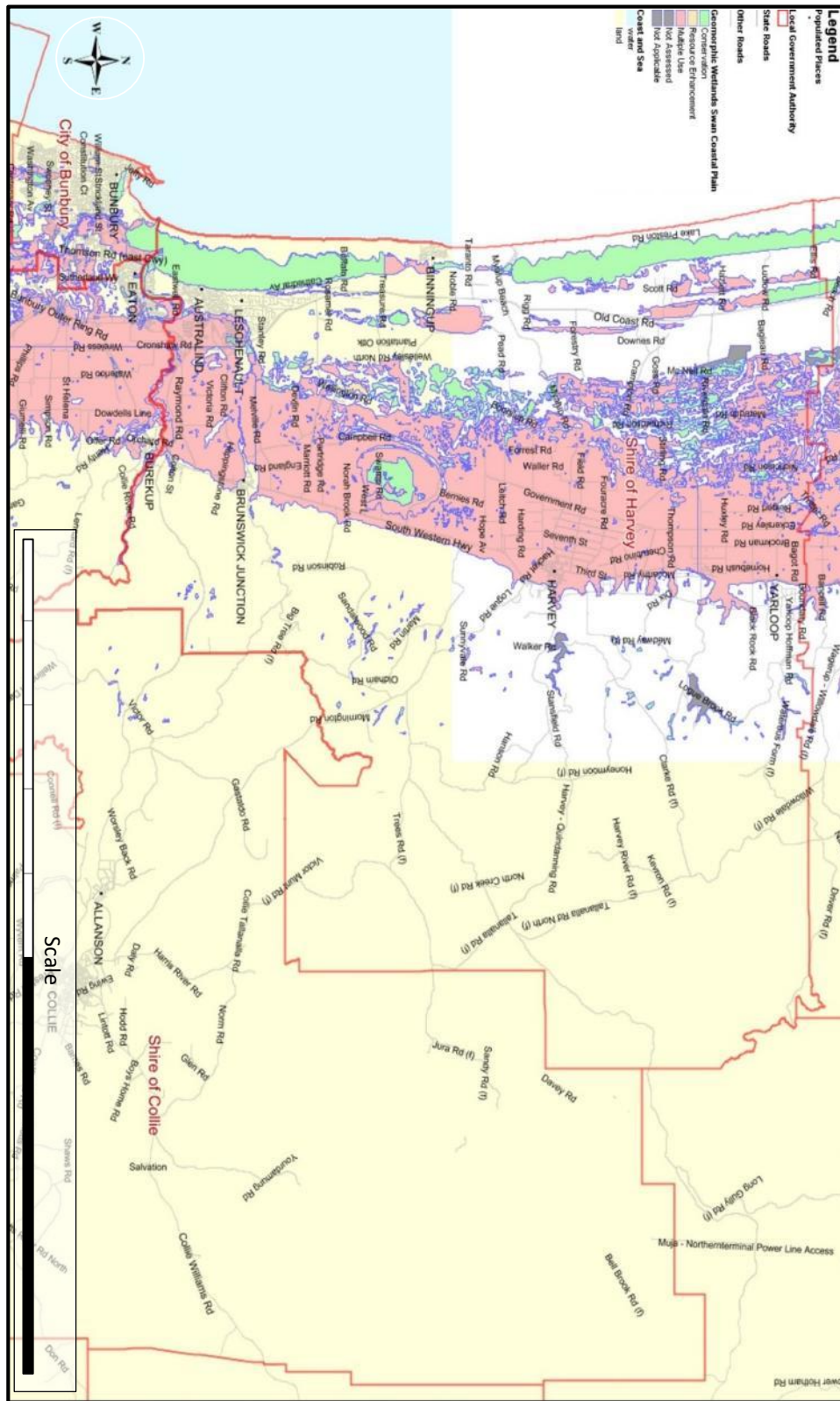
In accordance with the Western Australian, Environmental Protection Agency's (EPA) recommendations, the Greater Bunbury Region Scheme (GBRS) defines regionally significant wetlands as:

- Gazetted by the *Environmental Protection (Swan Coastal Plain Lakes) Policy 1992 (EPP)* – revoked 20 November 2015.
- Listed for protection by international agreements including Ramsar Convention on Wetlands (Ramsar); Japan-Australia Migratory Bird Agreement (JAMBA) and China-Australia Migratory Bird Agreement (CAMBA); and
- Listed in the *Directory of Important Wetlands in Australia* by Australian Nature Conservation Authority (1996).

Within the GBRS there were approximately 230 lakes listed under the former Swan Coastal Plain Lakes EPP. A significant portion of these protected wetlands occur within the Shire, and are mostly concentrated in north-south chain that lie alongside the Forrest Highway and further inland within Bassendean Sands. Notable wetlands such as Lake Preston and Benger Swamp and several wetlands associated with or close to the Collie and Brunswick River systems are included.

Wetlands listed under international agreements and in the Directory of Important Wetlands in Australia are discussed in the preceding sections. Wetlands assigned a Conservation management category can also be considered regionally significant. Conservation Category Wetlands include those wetlands listed under international agreements, national publications and regional policies as per preceding sections. They include wetlands that retain a high level of natural attributes and/or important fauna habitat, and therefore might be significant at a regional scale.

Figure 9: The conservation category wetlands.



Source: Environmental Planning Tool 2017

4.1.5 Flora

Background and Previous Studies

Early floristic maps of the south-west of WA were based on black and white aerial photography and knowledge of the relationship between the woody vegetation and the underlying site conditions. By 1970, this photo-interpretation mapping covered the entire forest region to the stage where it could be used by Smith (1972, 1973, 1974), Heddle *et al.* (1980) and Beard (1981) in association with their own vegetation mapping work (Mattiske Consulting Pty Ltd, 1997).

Heddle *et al.* (1980) mapped the Darling System at a regional Vegetation Complex level based on the relationships between the soils, landform units and defined plant communities. The study defined the vegetation complexes in relation to the landform-soil units, as determined by Churchward and McArthur (1980), and, which where relevant, to the average annual precipitation recordings.

In 1981, Beard prepared vegetation mapping for the south-west of WA which included the entire Shire of Harvey municipality. Beard's mapping was combined with the earlier maps prepared by Smith to form the Swan Vegetation Map 1:1,000,000, however Beard included not only the residual vegetation but potential vegetation in areas cleared for agriculture. Beard's mapping was based on structural changes in the vegetation with reference to natural regions, climate, geology, geomorphology and human influences.

Mattiske Consulting Pty Ltd and Havel Land Consultants (1998) extended the mapping prepared by Heddle *et al.* (1980) to encompass the land contained within the Regional Forest Agreement area (RFA). The maps depict the projected pre-1750 distribution of vegetation complexes using current distribution on cleared land and extrapolated interpretation to cleared land using pockets of remnant vegetation and information from soil and landform systems. The RFA maps cover a portion of this Reports study area from the base of the Darling Plateau inland.

In 1996, Mattiske Consulting Pty Ltd was commissioned by the Shire to prepare a Bushland Management Plan to enhance the management and conservation of bushland reserves within the Shire (Mattiske Consulting Pty Ltd, 1996). The Plan located, mapped and prescribed the land use and conservation value of reserves within the Shire. This value was based on a number of criteria including vegetation condition, presence of significant flora, boundary to area ratio, vegetation associations, adjoining land uses, dieback presence, and community values. The Plan identified management issues for each reserve and further study recommendations.

As a result of the recommendations Mattiske Consulting Pty Ltd (1998) was engaged to undertake flora surveys in the reserves identified as being in very good or better condition. A total of 9 reserves were assessed and key management directions were presented.

Vegetation Types and Complexes

The Shire is located within the Darling System of the South-West Botanical Province. According to Mattiske (1998), in biological terms, the Darling System has several distinctive features which are well recognised and include the predominance of sclerophyllous shrubs and overstorey species.

Within the Shire the changes in vegetation structure and composition are characterised by two distinct landforms: the low relief of the Swan Coastal Plain in the western portion and the

lateritic uplands of the Darling Plateau in the eastern region. Likewise, the vegetation of the Swan Coastal Plain is reflected in the transition of soils and landforms from the Darling Plateau uplands, westward to the coast.

- The erosional soils immediately west of the Darling Scarp support Woodlands of *Corymbia calophylla* (Marri) and *Allocasuarina fraseriana* (Sheoak).
- The Bassendean Dune system, which lies further east, consists of low Woodlands dominated by *Banksia attenuata*, *B. menziesii* and *B. grandis* on grey leached sands.
- The yellow sands of the Spearwood System in the central region of Swan Coastal Plain are dominated by *Eucalyptus* Woodlands of *Eucalyptus gomphocephala* (Tuart) and *Eucalyptus marginata* (Jarrah).
- The Quindalup Complex stretches along the coastal margin and consists of calcareous sands which support a mixture of heath and shrubland communities.

Numerous rivers, drainage courses and swamps dissect the land systems of the Swan Coastal Plain and support a diversity of vegetation associations dominated by *E. rudis* (Flooded Gum). In the eastern portion of the Shire, the Darling Plateau comprises vegetation dominated by an Open Forest of *E. marginata* and *C. calophylla*. In the valley systems (Yarragil, Murray and Helena), *Eucalyptus patens*, *C. calophylla* and *Eucalyptus rudis* become the dominant upper canopy species.

According to mapping prepared for the South-West region (Heddle *et al.*, 1980 and Mattiske *et al.*, 1998), a description of the structure and composition of the Vegetation Complexes recorded on the Swan Coastal Plain and Darling Plateau in the Shire. The vegetation complexes are shown in Figure 10. The Swan Coastal Plain vegetation complexes are described in Table 4, whilst the Darling Plateau vegetation complexes are described in Table 5.

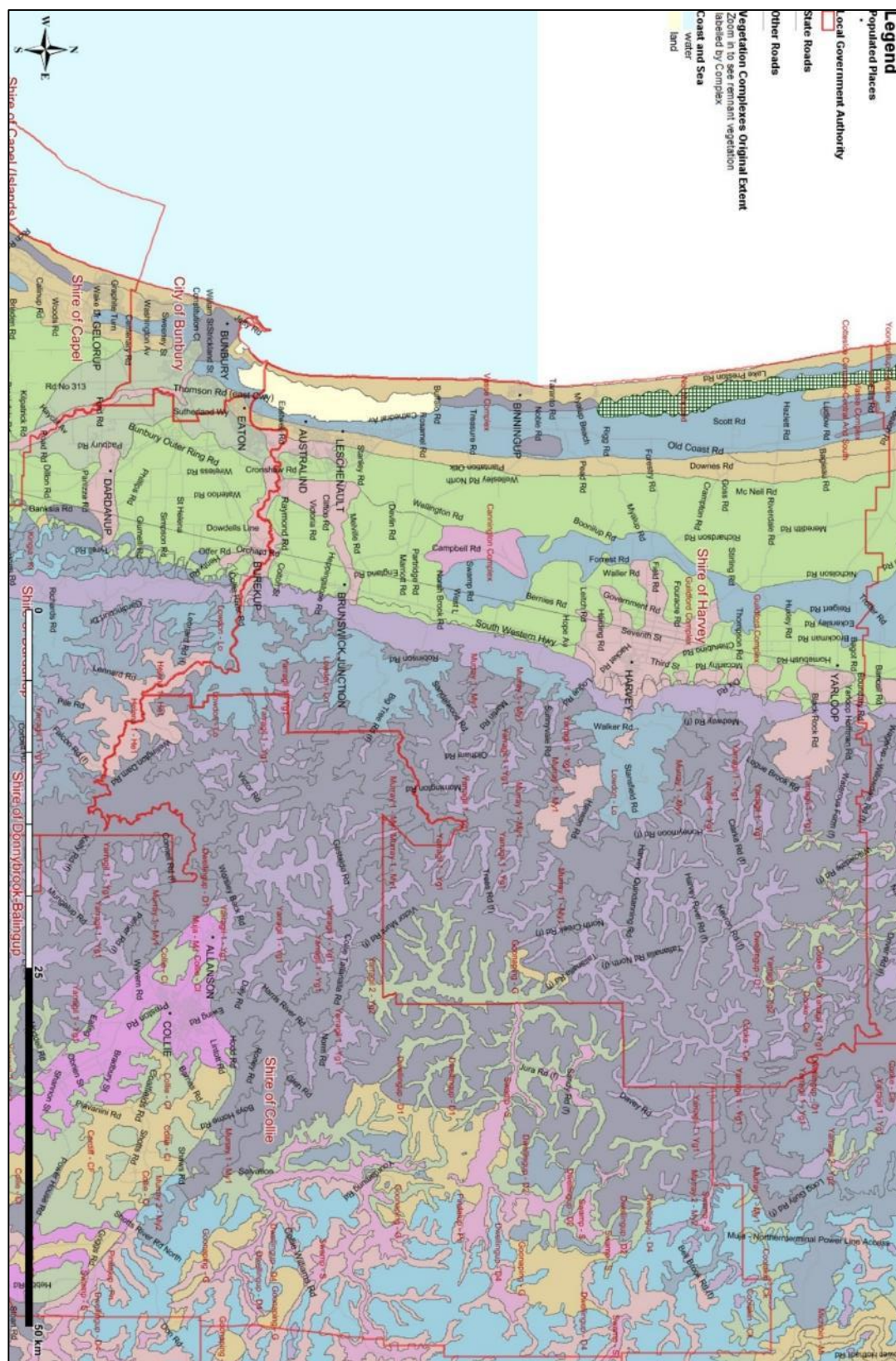
Table 4: Swan Coastal Plain

Landform	Vegetation Complex	Description
Flats	<i>Quindalup</i>	Tall shrubland of <i>Acacia saligna</i> - <i>Agonis flexuosa</i> and open heath on depressions amongst recent dunes in the subhumid zone.
	<i>Cottesloe–Central and South</i>	Includes heaths on the limestone outcrops with deeper sands supporting mosaic woodland of <i>E. gomphocephala</i> and open forest of <i>E. gomphocephala</i> - <i>E. marginata</i> - <i>C. calophylla</i> . ca-Marri.
	<i>Karrakatta – Central and South</i>	Reflects the cooler, moister conditions in the southern section of the Swan Coastal Plain, with the vegetation consisting predominantly of open forest of <i>E. gomphocephala</i> - <i>E. marginata</i> - <i>C. calophylla</i> . Common species include <i>Banksia attenuata</i> , <i>B. menziesii</i> <i>B. grandis</i> , <i>Allocasuarina fraseriana</i> and to a lesser extent <i>Agonis flexuosa</i> .
	<i>Bassendean – Central and South</i>	Woodland of <i>E. marginata</i> - <i>Allocasuarina fraseriana</i> - <i>Banksia</i> spp. on the sand dunes to a low-lying Woodland of <i>Melaleuca</i> spp. and sedgelands on the low-lying depressions and swamps
	<i>Yoongarillup</i>	This complex has strong affinities with the Karrakatta Central and South Complex and includes woodlands of <i>E. gomphocephala</i> and open forests of <i>E. gomphocephala</i> - <i>E. marginata</i> - <i>C. calophylla</i> . Understorey species include <i>Banksia attenuata</i> , <i>Hibbertia hypericoides</i> , <i>Macrozamia fraseri</i> , <i>Hypocalymma robustum</i> and <i>Jacksonia floribunda</i> .
	<i>Vasse</i>	This complex is dominated by a mixture of closed-scrub of <i>Melaleuca</i> spp. fringing woodland of <i>E. rudis</i> - <i>Melaleuca</i> spp., and open forests of <i>E. gomphocephala</i> - <i>E. marginata</i> - <i>C. calophylla</i> . Other species include <i>Melaleuca raphiophylla</i> , <i>M. preissiana</i> , <i>M. cuticularis</i> , <i>A. obesa</i> , <i>M. lateritia</i> and <i>Acacia saligna</i> .
Valleys and Flats	<i>Swan</i>	Woodland of <i>E. rudis</i> - <i>M. raphiophylla</i> with localised occurrences of low open forest of <i>Casuarina obesa</i> and <i>M. cuticularis</i> in the humid zone.
	<i>Southern River</i>	Open Woodland of <i>C. calophylla</i> - <i>E. marginata</i> - <i>Banksia</i> spp. on elevated areas and a fringing Woodland of <i>E. rudis</i> - <i>M. raphiophylla</i> (and occasionally <i>A. flexuosa</i>) along the streams.
	<i>Serpentine River</i>	Dominated by a closed scrub of <i>Melaleuca</i> spp. on the low-lying flats, with fringing woodland of <i>E. rudis</i> - <i>M. raphiophylla</i> along the streams. Common species include <i>Melaleuca uncinata</i> , <i>M. viminea</i> , <i>M. lateritia</i> , and <i>M. preissiana</i> . The uplands support woodlands of <i>C. calophylla</i> - <i>E. marginata</i> - <i>Banksia</i> spp and <i>E. marginata</i> - <i>Banksia</i> spp.
	<i>Cannington</i>	The Cannington Complex is a mosaic of vegetation from the adjacent complexes of Bassendean-Central and South, Southern River and Vasse. Essentially, the uplands support a Woodland of <i>E. marginata</i> - <i>Banksia</i> spp with varying understorey depending on the characteristics of the soils.
	<i>Dardanup</i>	Consists of a mosaic of vegetation from the adjacent complexes of Serpentine River, Southern River and Guildford. The vegetation of the uplands ranges from an Open Forest of <i>C. calophylla</i> - <i>E. wandoo</i> - <i>E. marginata</i> to an open woodland of <i>C. calophylla</i> - <i>E. marginata</i> - <i>Banksia</i> spp. Along the creeks it is dominated by fringing woodland of <i>E. rudis</i> - <i>M. raphiophylla</i> , while on the flats subject to inundation a closed scrub of <i>Melaleuca</i> spp. grows.
Uplands	<i>Forrestfield</i>	Mosaic of open forest of <i>C. calophylla</i> - <i>E. wandoo</i> - <i>E. marginata</i> subsp. <i>elegantella</i> and open forest of <i>E. marginata</i> subsp. <i>marginata</i> - <i>C. calophylla</i> - <i>A. fraseriana</i> - <i>Banksia</i> spp. on the erosional spurs off the Darling Scarp to woodland of <i>E. rudis</i> on the dissecting gullies in humid to semiarid zones.
	<i>Guildford</i>	Mosaic of open forest of <i>C. calophylla</i> - <i>E. wandoo</i> - <i>E. marginata</i> subsp. <i>marginata</i> and woodland of <i>E. wandoo</i> (with rare occurrences of <i>Eucalyptus lane-poolei</i> in north) in humid to semiarid zones.

Table 5: Darling Plateau

Landform	Vegetation Complex	Description
Uplands	<i>Darling Scarp (DS)</i>	Mosaic of open forest of <i>E. marginata subsp. marginata</i> - <i>C. calophylla</i> , with some admixtures with <i>Eucalyptus laeliae</i> in the north (subhumid zone), and occasional <i>E. marginata subsp. elegantella</i> (mainly in subhumid zone) and <i>Corymbia haematoxylon</i> in the south (humid zone) on deeper soils adjacent to outcrops. Woodland of <i>E. wandoo</i> (subhumid and semiarid zones), low woodland of <i>Allocasuarina huegeliana</i> on shallow soils over granite outcrops, closed heath of Myrtaceae-Proteaceae species and lithic complex on or near granite outcrops in all climate zones.
	<i>Cooke (Ce)</i>	Mosaic of open forest of <i>E. marginata subsp. marginata</i> - <i>C. calophylla</i> (subhumid zone) and open forest of <i>E. marginata subsp. thalassica</i> - <i>C. calophylla</i> (semiarid and arid zones) and on deeper soils adjacent to outcrops, closed heath of Myrtaceae-Proteaceae species and lithic complex on granite rocks and associated soils in all climate zones, with some <i>E. laeliae</i> (semiarid), and <i>A. huegeliana</i> and <i>E. wandoo</i> (mainly semiarid to peri-arid zones).
	<i>Dwellingup (D1)</i>	Open forest of <i>E. marginata subsp. marginata</i> - <i>C. calophylla</i> on lateritic uplands in mainly humid and subhumid zones.
	<i>Dwellingup 2 (D2)</i>	Open forest of <i>E. marginata subsp. marginata</i> - <i>C. calophylla</i> on lateritic uplands in subhumid and semiarid zones.
Depressions and Swamps on Uplands	<i>Goonaping (G)</i>	Mosaic of open forest of <i>E. marginata subsp. marginata</i> (humid zones) and <i>E. marginata subsp. thalassica</i> (semiarid to perarid zones) on the sandy-gravels, low woodland of <i>B. attenuata</i> on the drier sandier sites (humid to perarid zones) with some <i>B. menziesii</i> (northern arid and perarid zones) and low open woodland of <i>M. preissiana</i> - <i>Banksia littoralis</i> on the moister sandy soils (humid to perarid zones).
Valleys	<i>Helena 1 (He1)</i>	Mosaic of open forest of <i>C. calophylla</i> - <i>Eucalyptus patens</i> - <i>E. marginata subsp. marginata</i> with some <i>E. rudis</i> on the deeper soils ranging to closed heath and lithic complex on shallow soils associated with granite on steep slopes of valleys in humid and subhumid zones.
	<i>Lowdon (Lo)</i>	Open forest of <i>C. calophylla</i> - <i>E. marginata subsp. marginata</i> - <i>A. flexuosa</i> with some <i>E. wandoo</i> and occasional <i>Corymbia haematoxylon</i> on slopes, and woodland of <i>E. rudis</i> - <i>M. raphiophylla</i> on valley floor in the humid zone.
	<i>Murray 1 (My1)</i>	Open forest of <i>E. marginata subsp. marginata</i> - <i>C. calophylla</i> - <i>E. patens</i> on valley slopes to woodland of <i>E. rudis</i> - <i>M. raphiophylla</i> on the valley floors in humid and subhumid zones.
	<i>Yarragil 1 (Yg1)</i>	Open forest of <i>E. marginata subsp. marginata</i> - <i>C. calophylla</i> on slopes with mixtures of <i>E. patens</i> and <i>Eucalyptus megacarpa</i> on the valley floors in humid and subhumid zones.
	<i>Yarragil 2 (Yg2)</i>	Open forest of <i>E. marginata subsp. thalassica</i> - <i>C. calophylla</i> on slopes, woodland of <i>E. patens</i> - <i>E. rudis</i> with <i>Hakea prostrata</i> and <i>M. viminea</i> on valley floors in subhumid and semiarid zones.

Figure 10: Original Vegetation Complexes



Source: Environmental Planning Tool 2017

Extent of Remnant Vegetation in the Shire of Harvey

Native vegetation covers approximately 90,131ha of the Shire or 51% of the total area of the municipality. The greatest areas of remnant vegetation occur in the eastern portion on the Scarp and as fragmented parcels in the west of the Shire. The inland regions of the Plain have been heavily cleared and the remaining areas of native vegetation are generally small and dispersed.

Table 6: Extent of Native Vegetation

	Shire of Harvey
Total Area (ha)	176,600
Total Area of Native Vegetation (ha)	90,131
%Total Vegetation Area	51%

Source: Shire of Harvey Biodiversity Strategy 2011

Very little native vegetation on the Swan Coastal Plain still exists within the Shire. This is principally due to the relatively long history of farming and agricultural activities that have occurred. The extent of remnant vegetation in the Shire is shown in Figure 11.

Tenure of Native Vegetation in the Shire of Harvey

The Shire encompasses a number of National Parks, Nature Reserves, 5(g) Reserves and other areas managed and vested with the Department of Parks and Wildlife (DPaW) for conservation, as shown in Figure 11.

The Conservation reserves have been identified by Mattiske (1996) and include Yalgorup National Park (Lake Preston), Byrd Swamp Nature Reserve, Harvey Flats Nature Reserve, Crampton Nature Reserve, Bengier Swamp Nature Reserve, Falls Brook Nature Reserve, Korijekup Conservation Park and Lane Poole Reserve. In addition, a large area of land on the Darling Plateau is gazetted as State Forest – Timber Reserve which has a dual use as water catchment areas for the Harvey, Stirling and Logue Brook Dams.

Floristic Community Types

Floristic Community Types (FCT) are based on a survey of vegetation of the Swan Coastal Plain from Seabird to Dunsborough by Gibson *et al* (1994). The purpose of the survey was to determine the number and type of vegetation communities present across the southern Swan Coastal Plain, and then to assess how much remained and whether it was protected in Reserves. FCT often show relatedness of vegetation types at the regional level with a key strength of the surveys being that sites are revisited on two or more occasions during a year. The Gibson *et al* (1994) study included the western portion of the Shire and identified a number of FCTs as listed in Table 7.

Table 7: Floristic Community Types Recorded on the Swan Coastal Plain Region

Floristic Community Type	Generalised Description	Predominant Landform
3b	<i>Corymbia calyophylla</i> - <i>Eucalyptus marginata</i> Woodland on sandy clay soils	Pinjarra Plain
3c	<i>C. calyophylla</i> - <i>Xanthorrhoea preissii</i> Woodland and Shrubland	Pinjarra Plain
4	<i>Melaleuca preissiana</i> Dampland	Bassendean
5	Mixed Shrub Dampland	Bassendean / Pinjarra
9	Dense Shrubland on clay flats	Pinjarra Plain
12	<i>M. teretifolia</i> and/or <i>Astartea Fasicularis</i> Shrubland	Bassendean
17	<i>M. raphiophylla</i> – <i>Gahnia trifida</i> seasonal wetlands	Pinjarra Plain
18	Shrubland on calcareous silts	Lake Deposits
20b	Eastern <i>Banksia attenuata</i> and/or <i>E. marginata</i> Woodland	Ridge Hill/ Pinjarra
21a	Central <i>B. attenuata</i> and/or <i>E. marginata</i> Woodland	Bassendean / Spearwood
21c	Low lying <i>B. attenuata</i> Woodland or Shrubland	Bassendean
25	Southern <i>E. gomphocephala</i> – <i>Agonis flexuosa</i> Woodland	Spearwood
26b	Woodland and mallee on limestone	Spearwood
27	Species poor mallee and shrubland on limestone	Spearwood
30b	Quindalup <i>E. gomphocephala</i> and/or <i>A. flexuosa</i> Woodlands	Quindalup

Source: Gibson et al., 1994

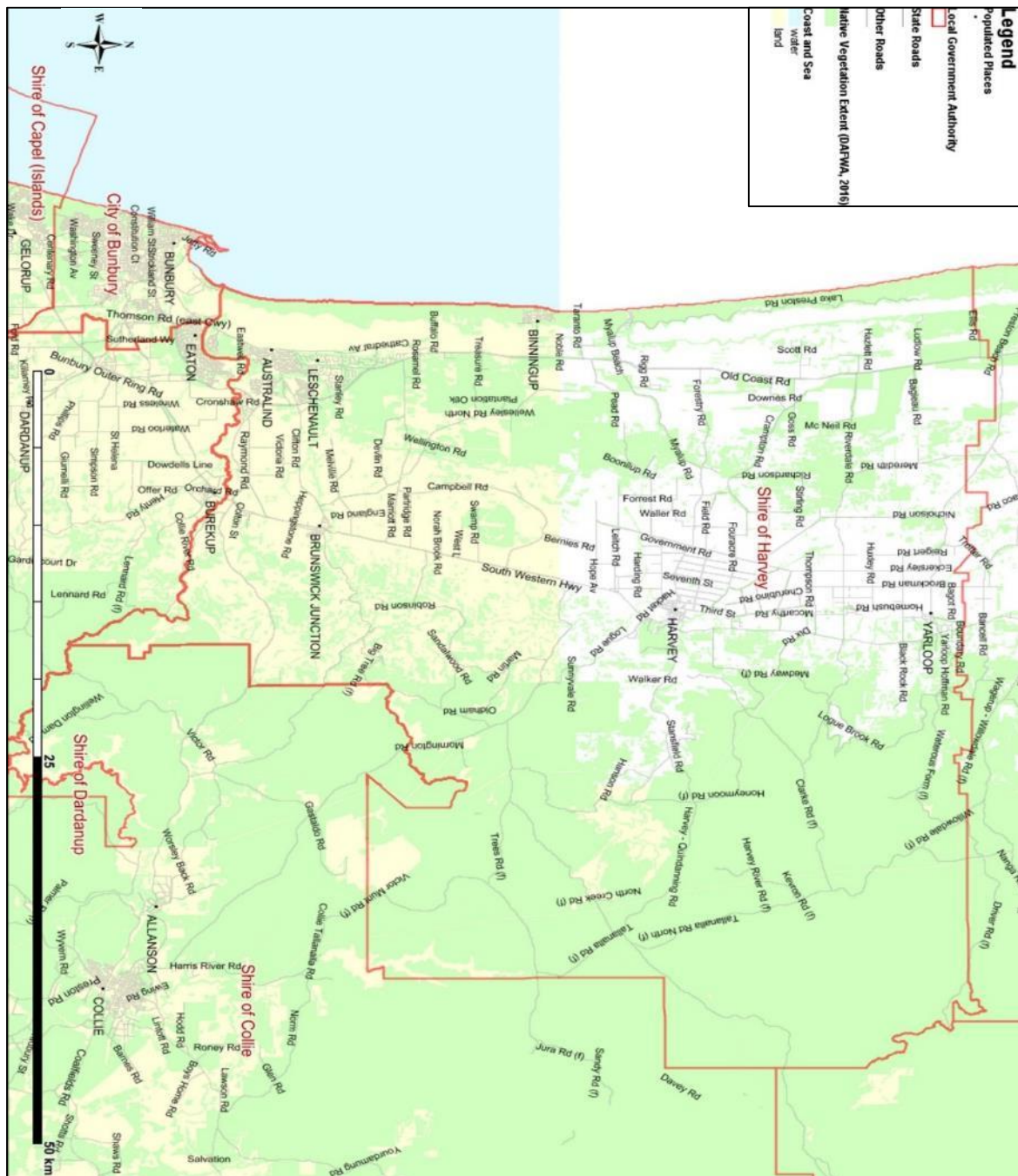
A number of FCTs have been identified as significant at the State and Commonwealth level due to poor representation and protection in the conservation estate. Table 8 lists the FCTs recorded in the Shire, which are currently considered to be Threatened Ecological Communities in the south-west botanical province according to State and Commonwealth criteria (*Environment Protection and Biodiversity Conservation Act 1999*) (EPBC Act).

Table 8: Significant Floristic Community Types (State and Commonwealth Level)

FCT	Category of Threat and Criteria met under WA criteria (DPaW, 2015)	Category under Commonwealth <i>Environment Protection and Biodiversity Conservation Act 1999</i>
3b	VN B)	
3c	CR B) ii)	EN
9	VN B)	CR
18	VN B)	
20b	EN B) i); EN B) ii)	

Note: CR – Critically Endangered, EN – Endangered, VN - Vulnerable

Figure 11: Remnant Vegetation



Source: Environmental Planning Tool 2017 (DAFWA 2016)

Significant Flora

Previous site studies conducted in the Shire by Mattiske Consulting (1996) identified Declared Rare Flora species gazetted under the Wildlife Conservation Act 1950, including four orchids – *Diuris purdiei*, *Diuris micrantha*, *Drakea elastica* and *Drakea micrantha* ms. The distribution and preferred habitat of the Declared Rare Flora identified above has been identified by CALM (1998) and is summarised as follows:

- *Diuris purdiei* Purdie's Donkey Orchid
Known from localities between the southern metropolitan area south to Harvey townsite. There are also unverified reports of this species near Yarloop. It grows in sand to sandy clay soil amongst scattered shrub in areas subject to winter inundation.
- *Diuris micrantha* Dwarf Bee Orchid
Known from scattered populations east of Kwinana, southwards to the Collie area. It is found in small populations in sandy clay soil, in winter-wet swamps amongst dense native sedges and scattered shrubs including *Melaleuca* wetland species.
- *Drakea elastica* Glossy-leaved Hammer Orchid
This species has been recorded from one population near Cataby and many small populations between Perth and Ruabon, south of Capel. Several populations have not been seen for more than ten years and may now be extinct. It has been recorded in deep sandy soil in Banksia Woodland, in low-lying areas alongside winter-wet swamps.
- *Drakea micrantha* Dwarf Hammer Orchid
This species occurs sporadically over a wide range from Perth to Albany. It inhabits infertile grey sands in *A. fraseriana* Sheoak and *E. marginata* (Jarrah) Woodland or Forest. It usually grows on old firebreaks and in disturbed sites where competition from other plants has been removed.

In 2012, the former Department of Environment and Conservation, now Department of Biodiversity, Conservations and Attractions (DBCA), confirmed that there are 77 locations, on private and public lands within the Shire that contain Threatened Flora and/or Threatened Communities. Species known from public lands include:

1. *Caladenia speciosa* (Sandplian White Spider Orchid) - P4
2. *Caladenia uliginosa* subsp. *Patulens* (Frail Spider Orchid) – P1
3. *Diuris drummondii*
4. *Drakea elastica*
5. *Lasiopetalum membranaceum* – P3
6. *Pultenaea skinneri* (Skinner's Pea) – P4
7. *Caladenia swartziorum* (Island Point Spider Orchid) – P1

Conclusion

The protection and assessment of vegetation communities is a primary component of this Strategy on all land tenure. The recognition and protection of remnant vegetation is important for biological diversity and ecosystem function. Biological diversity is a key environmental factor in achieving ecologically sustainable development. The Shire has significant regional vegetation communities that are recognised in this Strategy.

4.1.6 Fauna

Habitat

The GBRS Environmental Review (2000) described Regionally Significant Fauna and Habitats for Waterbirds as environmental factors relevant to the Scheme in regard to environmental impact and management. Such habitats are those listed under international agreements such as Ramsar, JAMBA and CAMBA. Regionally significant habitats within the Shire are identified as:

- Leschenault Estuary
- Yalgorup Lakes (includes Lake Preston)
- Bengier Swamp

Based on analysis of remaining vegetation within the Shire, there is a range of existing fauna habitat within the Shire boundaries. Habitat loss and modification is most substantial on the Swan Coastal Plain where clearing for agricultural based land use and settlements are concentrated. Habitat remaining within the Shire includes eucalypt-dominated forest and woodlands, coastal heath and shrubland communities, *Banksia* woodland, wetlands including watercourses and estuaries, beaches, parkland-cleared woodlands and pasture.

Coastal areas and wetlands could support a range of migratory birds listed under international agreements or species listed as Migratory under provisions of the EPBC Act 1999.

Significant Fauna & Habitat

The southwest is an internationally recognised “biodiversity hotspot”, not only for the biological richness and uniqueness of species identified within the area but also for the level of threat (SWREL 2009). Threatened species, their preferred habitats and threatened species status in Western Australia are classified under the *Wildlife Conservation Act 1950* and the *EPBC Act 1999*. In addition, international migratory species are also protected under a number of International Agreements fulfilled executed under the *EPBC Act 1999* for which Australia is a signatory to. These agreements include the:

- Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals) for which Australia is a Range State under the Convention;
- Agreement between the Governments of Australia and China for the Protection of Migratory Birds and their Environment (CAMBA); and
- Agreement between the Governments of Australia and Japan for the Protection of Migratory Birds and Birds in Danger of Extinction and their Environment (JAMBA).

A variety of waterbirds and terrestrial bird species listed as migratory species are likely to habitat wetlands and dryland habitats in the Shire. Lake Preston, Bengier Swamp and Leschenault Estuary have been identified as supporting listed Migratory species. Lake Preston forms part of the Peel-Yalgorup Wetland system, which is listed as a Ramsar site due to its significant waterbird habitat.

In 2002, there were 24 species listed on the WA Threatened Species list that are located within the Shire or are known to migrate through the area. In November 2015 that number has risen to 64 species, as shown in Table 9. The major factors that have contributed to this increased number of threatened species include:

- habitat loss and landscape fragmentation, and land use change for agriculture and development within and around the Shire;
- climate change; and
- introduced pests and invasive weed species (such as *Gomphocarpus fruticosus* (Narrow leaf cotton bush)).

In order to ensure the survival and repopulation of these threatened species and prevent further elevation of their threatened species status, there needs to be a greater emphasis on the protection of native vegetation and prevention of habitat loss. Local planning mechanisms and policy documents, such as those identified in the State Planning Policy 2.5 and the Shire's Biodiversity Strategy, can be part of this solution. The Shire's response however is only part of a multi-pronged solution and requires the collaborated efforts of Federal, State, Regional and other local government agencies. Proper management of environmental reserves and remnant vegetation is necessary in addition to an appropriate legislative and policy framework.

In Western Australia, the *Biodiversity and Agriculture Management (BAM) Act 2007* came into effect on the 1st May 2013 with the purpose of ensuring the protection of the agriculture and food sector, and the environment. The *BAM Act 2007* identifies invasive pests and weed species, and then further classifies the individual requirement from management to eradication. The *BAM Act 2007* is a significant piece of legislation that not only applies to Local Governments and individual landowners but also to State Government agencies. State Government agencies responsible for managing allocated crown land and reserves must effectively manage invasive pest and weed species identified under the *BAM Act 2007*.

Table 9: Significant Fauna – Threatened Species Listing

Significant Fauna Species	WA (2002)	WA (2014)	Federal (2002)	Federal (2014)	Habitat Type
Mammals					
<i>Dasyurus geoffroii</i> (Chuditch)	S1	VU	V	V	Mostly woodland/forest
<i>Pseudocheirus occidentalis</i> (Western Ringtail Possum)	S1	VU	V	V	Woodland/forest particularly with <i>A. flexuosa</i> in the understorey
<i>Setonix brachyurus</i> (Quokka)	S1	VU	V	V	Wetlands and watercourses in woodland/forest
<i>Phascogale tapoatafa</i> (Brush-tailed phascogale)	P3	VU			Woodland/forest
<i>Isodon obesulus fusciventer</i> (Southern Brown Bandicoot (Quenda))	P4	P5			Woodland/forest, heath & wetlands with dense undergrowth
<i>Betongia penicillata ogyllii</i> (Woylie)	P4	CR		EN	Woodland/forest
<i>Myrmecobius fasciatus</i> (Numbat)		VU		V	
<i>Phascogale tapoatafa</i> ssp. (Brush-tailed Phascogale)		VU			
<i>Macropus 35rma</i> (Western Brush Wallaby)	P4	P4			Woodland/forest with dense shrub layer
<i>Hydromys chrysogaster</i> (Water Rat)	P4	P4			Watercourses
<i>Falsistrellus mackenziei</i> (Western False Pipstrelle)	P4	P4			Woodland/forest

Significant Fauna Species	WA (2002)	WA (2014)	Federal (2002)	Federal (2014)	Habitat Type
<i>Isodon obesulus fusciventer</i> (Quenda)		P5			Scrubby, often swampy, vegetation with dense cover up to 1 m high
<i>Macropus irma</i> (Western Brush Wallaby)		P4			
<i>Macropus eugenii derbianus</i> (Tamar Wallaby)		P5			Dense, low vegetation for daytime shelter and open grassy areas for feeding. This species inhabits coastal scrub, heath, dry sclerophyll forest and thickets in mallee and woodland.
Oceanic Mammal species					
<i>Arctocephalus forsteri</i> (New Zealand Fur-seal)		S4			
<i>Neophoca cinerea</i> (Australian Sea-lion)		S4			Onshore habitats used include exposed islands and reefs, rocky terrain, sandy beaches and vegetated fore dunes and swales. They also use caves and deep cliff overhangs as haul-out sites or breeding habitat
<i>Balaenoptera musculus</i> (Blue Whale)		EN		EN	
<i>Eubalaena australis</i> (Southern Right Whale)		VU		EN	
<i>Megaptera novaeangliae</i> (Hump Back Whale)		VU		V	
Birds					
<i>Calyptorhynchus baudinii</i> (Long-billed (Baudin's) Black-Cockatoo)	S1	EN		V	Woodland/forest (Banksia, eucalypts)
<i>Calyptorhynchus baudinii</i> (Short-billed (Carnaby's) Black-Cockatoo)	S1	EN		EN	Woodland/forest (Banksia, eucalypts); Plantations
<i>Botaurus poiciloptilus</i> (Australasian Bittern)	S1	EN		EN	Wetlands
<i>Falco peregrinus</i> (Peregrine Falcon)	S4	S4			Escarpments, woodland rivers, developed areas
<i>Calidris ferruginea</i> (Curlew sandpiper)		VU		CR	intertidal mudflats in sheltered coastal areas,
<i>Rostratula australis</i> (Australian Painted Snipe)		EN		EN	Shallow terrestrial freshwater (occasionally brackish) wetlands, including temporary and permanent lakes, swamps and claypans
<i>Charadrius leschenaultia</i> (Great Sand Plover)		VU		Migratory species agreements	
<i>Calidris tenuirostris</i> (Great Knot)		VU		Migratory species agreements	Sheltered coastal habitats, with large intertidal mudflats or sandflats.
<i>Tyto novaehollandiae</i> (Masked Owl)	P4	P3		V	Woodland/forest

Significant Fauna Species	WA (2002)	WA (2014)	Federal (2002)	Federal (2014)	Habitat Type
<i>Sternula nereis nereis</i> (Fairy Tern)		VU		V	Sheltered sandy beaches, spits and banks above the high tide line and below vegetation
<i>Calyptrorhynchus banksii naso</i> (Forest Red-tailed Black-Cockatoo)	P3	VU		V	Forest
<i>Ixobrychus minutus</i> (Little Bittern)	P4	P4			Wetlands/watercourses
<i>Thinornis rubricolis rubricolis</i> (Hooded Plover)	P4	P4		V	Coast, coastal wetlands
<i>Numenius madagascariensis</i> (Eastern Curlew)	P4	VU		CR	Coast, coastal wetlands
<i>Ixobrychus flavicollis</i> (Black Bittern)		P1			Prefers densely-vegetated edges of fresh and coastal waterways
<i>Ninox connivens connivens</i> (Barking Owl)		P2			Open woodlands and the edges of forests, particularly <i>C. calophylla</i> . Roost sites are often located near waterways or wetlands.
<i>Oxyura australis</i> (Blue Billed Duck)		P4			Deep, permanent water or open lakes.
<i>Tringa brevipes</i> (Grey-tailed Tattler)		P4		Migratory species agreements	
<i>Ardenna carneipes</i> (Fleshy-footed Shearwater)		P4		Migratory species agreements	Mainly occurs in the subtropics over continental shelves and slopes and occasionally inshore waters
<i>Phaethon rubricauda</i> (Red-tailed Tropicbird)		P4			
<i>Diomedea dabbenena</i> (Southern Royal Albatross)		VU		V	
<i>Diomedea exulans</i> (Wandering Albatross)		VU		V	
<i>Phoebastria fusca</i> (Sooty Albatross)		EN		V	
<i>Thalassarche cauta</i> (Shy Albatross)		VU		V	
<i>Thalassarche cauta cauta</i> (Indian yellow-nosed Albatross)		VU		V	
<i>Thalassarche melanophris</i> (Black browed Albatross)		EN		V	
Reptiles					
<i>Dermochelys coriacea</i> (Leatherback Turtle)	S1	VU	V	EN	Coastal waters
<i>Caretta caretta</i> (Loggerhead Turtle)	S1	EN	EN	EN	Coastal waters
<i>Morelia spilota imbricate</i> (Southern Carpet Python)	S4	S4			Coastal heath, woodland/forest, farmland

Significant Fauna Species	WA (2002)	WA (2014)	Federal (2002)	Federal (2014)	Habitat Type
<i>Ctenotus delli</i> (Dell's Skink)		P4			
<i>Ctenotus ora</i> (Coastal Plains Skink)		P3			
<i>Glaphyromorphus koontoolasi</i> (South-Western Mulch Skink)		P1			
Fish					
<i>Carcharodon carcharias</i> (Great White Shark)	S1	VU	V	V	Close inshore around rocky reefs, surf beaches and shallow coastal bays to outer continental shelf and slope areas
<i>Carcharias Taurus</i> (Grey Nurse Shark)	S1	VU	V	V	In or near deep sandy-bottomed gutters or rocky caves, and in the vicinity of inshore rocky reefs and islands
<i>Galaxiella nigorstriata</i> (Black-stripe Minnow)	P3	P3			Wetlands
<i>Galaxiella munda</i> (Mud Munda)		VU			Wetlands
<i>Geotria australis</i> (Pouch Lamprey)		P1			
<i>Nannatherina balstoni</i> (Balston's Pygmy Perch)		VU		V	Inhabits acidic, tannin-stained freshwater pools, streams and lakes in peat flats within 30 km of the coast of SW of WA, preferring shallow water, and commonly associated with tall sedge thickets and inundated riparian vegetation
<i>Phycodurus eques</i> (Leafy Sea Dragon)		P2			
Molluscs					
<i>Westralunio carteri</i> (Carter's freshwater mussel)		VU			In greatest abundance is slower flowing parts of rivers and streams that have sediments that are soft enough for burrowing and stable enough so that the mussel does not sink. It is typically found among woody debris, leaf litter and exposed tree roots along the banks of rivers
Insects					
<i>Austromerope poultoni</i> (Scorpionfly)		P2			Shows no apparent preference for vegetation association and occurs throughout a wide rainfall range in SW of WA.
<i>Kawaniphila pachomai</i> (Cricket)		P1			

Significant Fauna Species	WA (2002)	WA (2014)	Federal (2002)	Federal (2014)	Habitat Type
<i>Pachysaga munggai</i> (Cricket)		P3			
<i>Synemon gratiosa</i> (Graceful Sunmoth)		P4			
Arachnids					
<i>Arbanitis inornatus</i> (Trapdoor Spider)		P1			

Table 9 Notes

WA - Western Australia

CR (Critically Endangered) – considered to be facing an extremely high risk of extinction in the wild

EN (Endangered) – considered to be facing a very high risk of extinction in the wild

VU (Vulnerable) – considered to be facing a high risk of extinction in the wild

EX (Extinct) – there is no reasonable doubt that the last individual has died (not listed in Table 9)

S1: Wildlife Conservation Act 1950 Schedule 1- Rare and likely to become extinct

S4: Wildlife Conservation Act 1950 Schedule 4- Otherwise in need of Special Protection

P1 (Priority 1) – Poorly-known species (on threatened lands)

P2 (Priority 2) – Poorly-known species (on conservation lands)

P3 (Priority 3) – Poorly known populations (some on conservation lands)

P4 (Priority 4) – Rare, Near Threatened and other species in need of monitoring

P5 (Priority 5) - Conservation Dependent Species

Cth – Commonwealth

C (Critically Endangered)

EN (Endangered)

V (Vulnerable)

CD (Conservation Dependent)

E (Extinct) (not listed in Table 9)

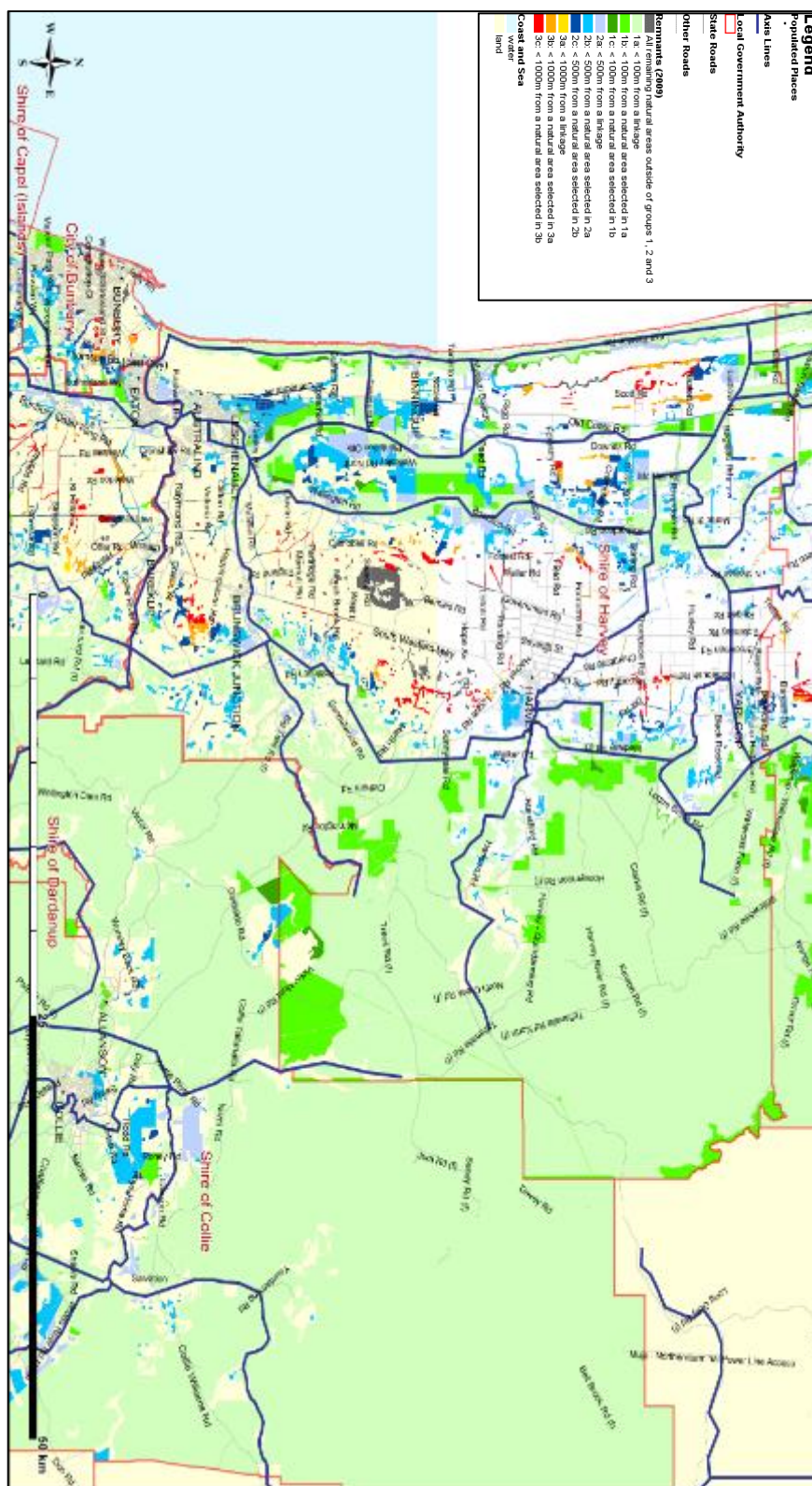
EW (Extinct in the Wild)

South West Regional Ecological Linkages

In 2009, the Western Australian Local Government Association and the Department of Environment and Conservation (now DBCA) commissioned the South West Regional Ecological Linkages Technical Report 2009 (SWREL 2009). The purpose of the study was to identify regional scale ecological linkages in the South West region, and to provide effective recognition of these linkages in land use planning policy. The SWREL 2009 document recognises the importance of ecological linkages as an additional value to biodiversity conservation.

The ecological linkages are protected within the GBRS and will need to be incorporated into the new Scheme. Figure 12 shows the location of these ecological linkages within the Shire.

Source: *Environmental Planning Tool*, 2017



4.1.7 The Land

Landform Units and Capability

The Shire has two distinct landform units, the Swan Coastal Plain and the Darling Scarp. The Darling Scarp contains areas capped with laterite with bauxite deposits, whilst the Swan Coastal Plain consists principally of sandy soils. An environmental concern is the eutrophication of catchments and in particular the Peel Harvey Inlets. Land units represent areas of similar soil, slope and drainage and therefore often exhibit similar production potential and degradation risks (Tille 1996).

Land characteristics and qualities are linked to land units. Land characteristics are soil and landform features that can be explicitly observed (qualitative estimate) or measured (quantitative during a land resource survey) (Department of Food and Agriculture, DAFWA 2008). Land qualities are estimated based on the land characteristics. Some are based on a single soil or landform characteristic such as pH. In most cases, however, a particular land quality will be based on a number of soil and landform characteristics. For example, water erosion hazard requires consideration of organic carbon content, soil texture, soil structure, soil permeability, slaking, dispersion and water repellence to estimate the erodibility of the soil; then combined with slope to determine the erodibility rating (DAFWA, 2008). Sixteen land characteristics are described in van Gool *et al.* (2005), and DAFWA has identified 22 land qualities that are broadly applicable to the most commonly encountered land uses. These include phosphorus export hazard, surface soil structure decline and susceptibility waterlogging/inundation risk.

Land quality information is used to calculate land capability classes for selected land uses. DAFWA uses five capability classes to describe the land's ability to sustain a particular use without adverse environmental effects. The calculation of land capability is based on a worst limiting factor approach (DAFWA, 2008). Individual land qualities are assigned to capability classes depending on the degree of influence each land quality has on a particular land use. The overall land capability is determined by the most limiting land quality as described in the Table below:

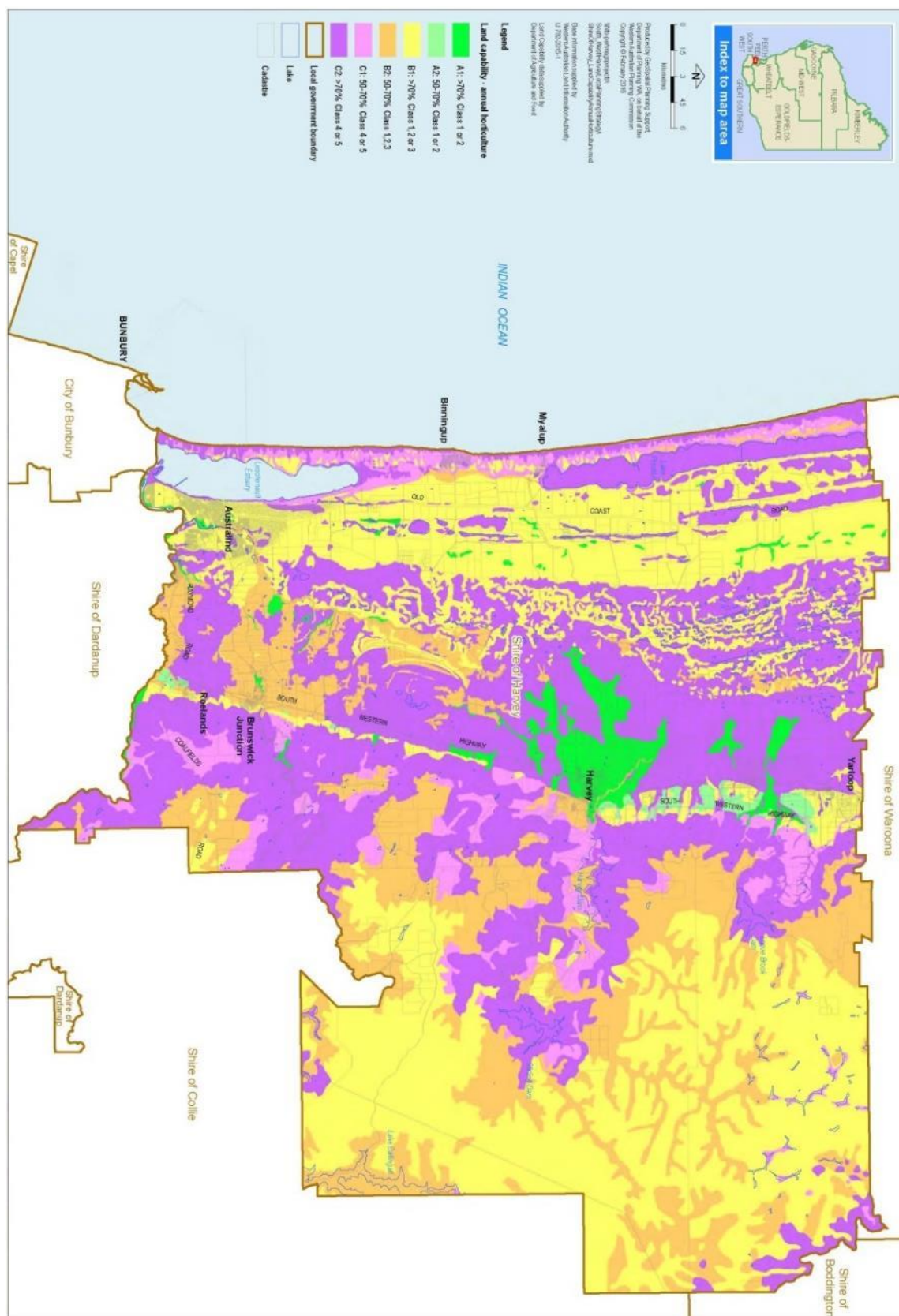
Table 10: Five classes of land capability

Class	Description
1 – Very High	Very few physical limitations present and are easily overcome. Risk of land degradation is negligible.
2 – High	Some physical limitations affecting either productive land use or risk of land degradation. Limitations overcome by careful planning.
3 - Fair	Moderate physical limitations significantly affecting productive land use or risk of land degradation. Careful planning and conservation measures required.
4 - Low	High degree of physical limitations not easily overcome by standard development techniques and/or resulting in a high risk of land degradation. Extensive conservation requirements.
5 – Very Low	Severity of physical limitations is such that its use is usually prohibitive in terms of either development costs or the associated risk of land degradation.

The key element in defining the capability of land units is its ability to sustain various land uses with minimal risk of degradation occurring on a long term basis.

Figure 13 shows the Land Capability for Annual Horticulture as this has the highest capability for most forms of agriculture.

Source: Department of Planning, 2016



Basic Raw Materials

The extraction of mineral resources and basic raw materials (BRM) is an important component of the Shire's economy and necessary to support urban development for the region. In 2012, it was estimated that 90% of all extracted basic raw material was used in residential and commercial development (Department of Planning, 2012). In 2012, it was estimated that there were 25 active extractive industries sites within the Shire. Currently, it is estimated the number of active extractive industry sites has grown to approximately 40. These sites contain a variety of materials including sand, limestone and gravel.

A study conducted by the Department of Planning examined the demand and supply of BRM within the greater Bunbury-Busselton region for 2009 and 2030. These estimates are based on population forecasts and future housing demand are shown in Table 11.

Table 11: Forecast residential construction demand by Local Government (figures shown as '000m³)

Local Government	Limestone			Sand			Clay			Rock		
	2021	2030	Total	2021	2030	Total	2021	2030	Total	2021	2030	Total
Harvey	124			408			163			241		
Dardanup	186			611			244			362		
Collie	2			8			3			5		
Capel	167			550			220			326		
Bunbury	120			394			158			233		
Busselton	310			N/A			409			605		
Total Residential Demand	909			1971			1197			1772		
Total Demand	1410			3330			1197			4491		
+ contingency measure	2115	2813	4928	5100	6783	11883	1796	2388	4184	6767	8960	15697

Source: Department of Planning, 2012, p 16

Note: Measurements shown are '000m³

Current conditions of development applications ensure minimum on/off site environmental impact is occurring. Ongoing compliance by the Shire and other relevant State Government Agencies ensures these conditions are met.

The Shire's "*Extractive Industry Local Law 2017*" contains provisions to manage this land use and it is considered that the current process is operating effectively in terms of management and rehabilitation. As such, there is not a requirement for additional measures to be proposed under this Strategy.

It is noted that the GBRs *Strategic Minerals and Basic Raw Materials Resource Policy 2017* identifies several areas as "Strategic Minerals and Basic Raw Materials Resource Policy Areas". Basic raw materials are being extracted outside of the GBRs Policy Areas but primarily relate to gravel extraction along the Scarp and limestone along the coast. It is a requirement of the Policy that these areas are shown on Local Planning Scheme maps and the provisions of the Policy are applied to protect these areas for future mining. The identification of these areas and appropriate provisions will be included in LPS No. 2.

The Department of Mines and Petroleum has opened the McLarty State forest up for sand and mineral extraction.

Landscape Value

The Shire's District Planning Scheme No. 1 (DPS1) has identified areas within its locality that are considered of important landscape value where their character should be protected in a state acceptable to the Shire. These places are listed under Schedule 1 of DPS1 and include:

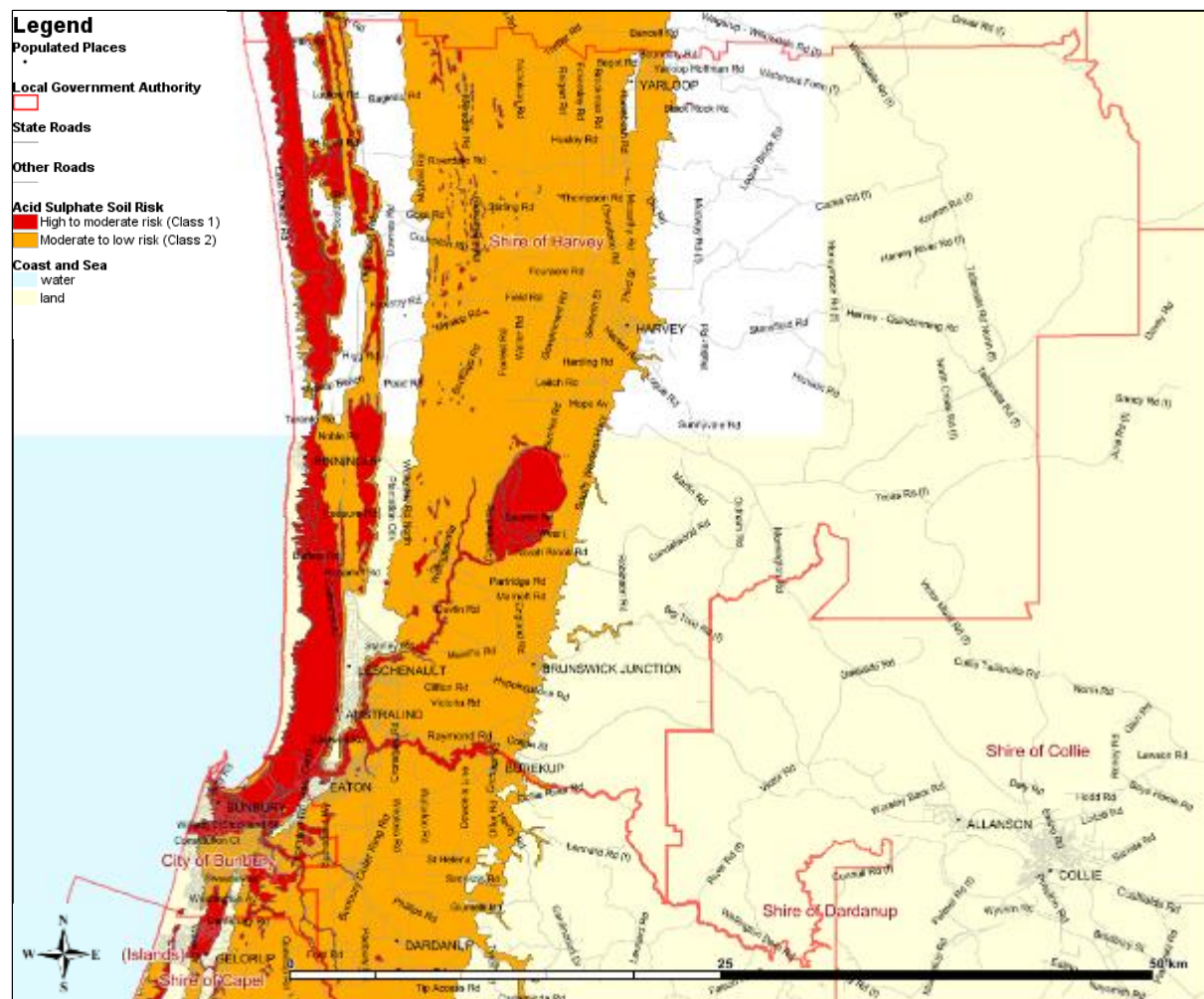
Code No.	Name of Place	Location	Description
L1	Cathedral Avenue	Scenic Drive along the eastern side of the Leschenault Inlet extending north from the Old Coast Road to Buffalo Road.	Avenue of paperbarks and other native trees lining an original section of the Old Coast Road.
L2	Coastal Lakelands	That part of the Scheme Area between the Old Coast Road and the Indian Ocean including the area 200 metres east of Old Coast Road.	An area of significant landscape value including Leschenault Estuary and the Indian Ocean coastline.
L3	Darling Range	That part of the Scheme Area generally between South Western Highway and the eastern boundary of the Shire.	An area of significant landscape value including the Darling Scarp and the Range plateau and valleys.
L4	Benger Swamp	West of the township of Benger and generally south of Mitchell Road.	A wetland of significant ecological value.
L5	La Porte Bird Rookery	South West corner of Leschenault Loc. 4 (Old Coast Road), Australind.	A natural swamp which is a breeding ground for White Egrets.

The Strategy has not proposed a review of these areas, but will examine the development controls to ensure the visual amenity of these areas is protected. In addition, it may be necessary to define amenity in context of these areas, given the introduction of the term in the *Planning and Development (Local Planning Schemes) Regulations 2015*.

Acid Sulfate Soils

Land within the Shire, particularly wetland areas near the coast, are known to contain acid sulphate soils (ASS). ASS occur naturally in WA and are harmless when left in a waterlogged, undisturbed environment. However, when exposed to air, through drainage or excavation, the iron sulfides in the soils react with oxygen and water to produce iron compounds and sulfuric acid. This acid can release other substances, including heavy metals, from the soil and into the surrounding environment and waterways (Department of Environmental Regulation 2015). Activities with the potential to disturb ASS must be managed carefully to avoid serious environmental harm. Western Australian Planning Commission Planning Bulletin No. 64 describes land that is of low, moderate and high risk of encountering acid sulphate soils and sets out the planning guidelines for dealing with these soils. The location and classification risk for these soils are shown in Figure 14.

Figure 14: Acid Sulphate Soils



Source: Environmental Planning Tool 2017

4.2 Water Management

4.2.1 Public Drinking Water Source Areas (PDWSAs)

Public Drinking Water Source Areas (PDWSAs) are surface water catchments and groundwater areas that provide drinking water to cities, towns and communities. These areas are proclaimed under the *Metropolitan Water Supply, Sewerage and Drainage Act 1909* or the *Country Areas Water Supply Act 1947* as water reserves, catchment areas or underground water pollution control areas. These Acts provide the powers necessary to legally define the boundary of public drinking water source areas and also provide by-laws which are used to help protect water quality of these sources and public health.

The Department of Water and Environmental Regulation (DWER) is responsible for managing and protecting the State's water resources. DWER prepares Drinking Water Source Protection Plans for each drinking water catchment, and determines priority areas, protection zones and the catchment boundary. The priority areas determine the suitability of land uses, whilst protection zones around reservoirs and bores act to further control land or water based activities to protect water quality.

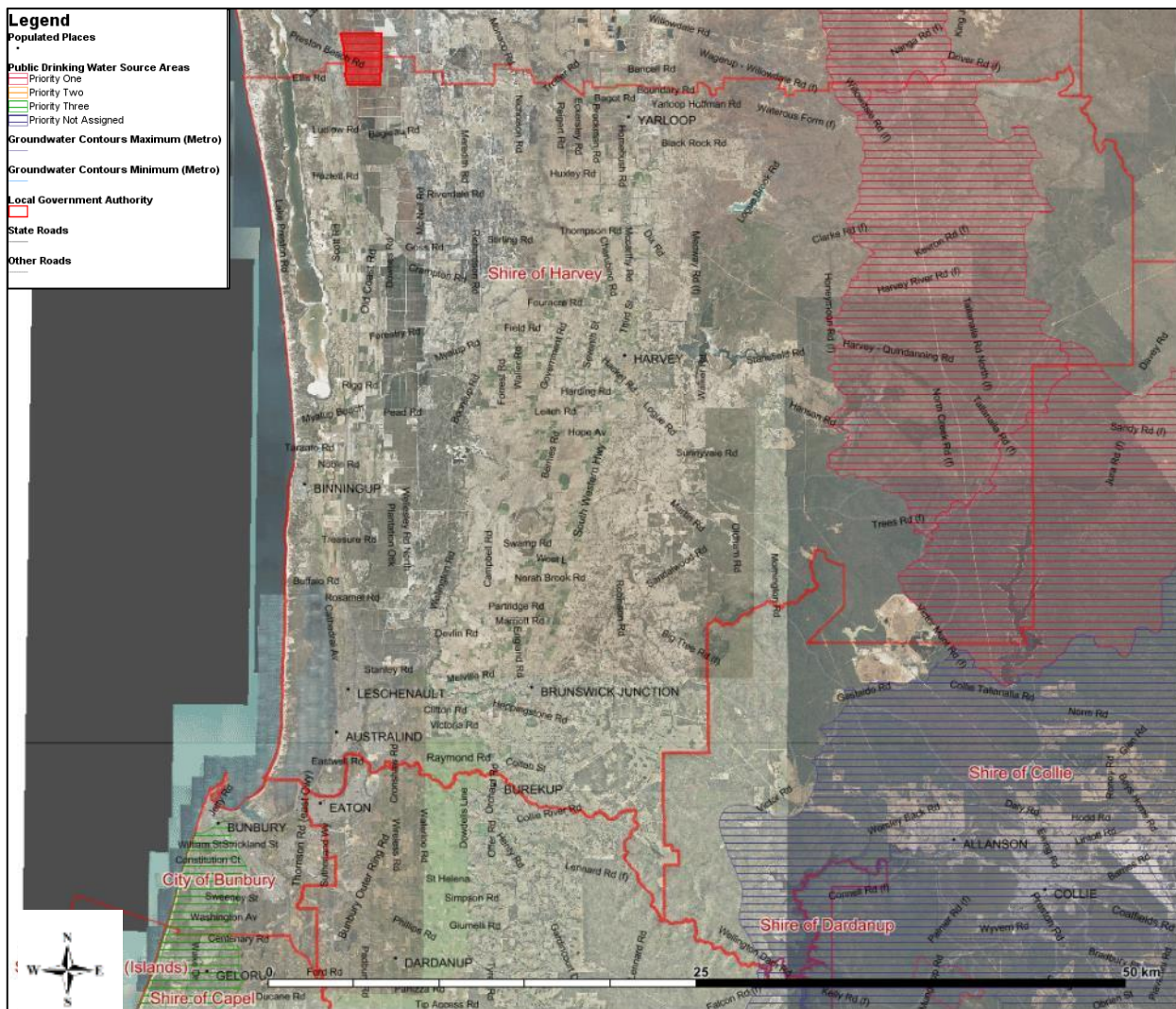
State Planning Policy 2.7 'Public drinking water source' and State Planning Policy 2.9: 'Water resources', guide land use planning in PDWSAs. SPP2.7 is supported by DWER's Water Quality Protection Note (WQPN) No. 25 'Land use compatibility tables for public drinking water source areas, 2016', which helps local government protect PDWSAs, by preventing, minimising or managing development in these areas.

The following proclaimed public drinking water source areas are located within the Shire:

- Harris River Dam Catchment Area (including a reservoir protection zone);
- Stirling Dam Catchment Area (including a reservoir protection zone);
- Preston Beach Water Reserve (southern half); and
- Samson Brook Catchment Area (small portion).

These areas are generally noted as 'Special Control Areas' in the Shire's DPS No. 1, and will be carried on into the new Scheme. Any strategic or development proposal within these catchment areas will be referred to the DWER. These areas are shown in Figure 15.

Figure 15: Public Drinking Water Sources



Source: Environmental Planning Tool 2017

4.2.2 Rivers and Waterways

The rivers and their catchment areas cover about 27% of the total Shire area of 1,766 km². The main river systems in the Shire include.

- *Harvey River* (408 km²): flows north-easterly from the Harvey Reservoir to its discharge point at the southern end of the Harvey Estuary. Many of the waterways within the catchment have been modified and these portions of the rivers and brooks have been re-named as drains. Just downstream of the Harvey Reservoir the Harvey Diversion Drain carries water directly to the ocean.

The headwaters of Logue Brook are located on the Darling Plateau in the Dwellingup State Forest. The Brook flows into Lake Brockman, the reservoir formed by Logue Brook Dam, before continuing through the coastal Plain to its confluence with Harvey Main Drain. Bancell Brook flows into Logue Brook while both Clarke Brook and Weeks Brook discharge into Harvey Main Drain, upstream of Logue Brook (Peel Harvey Catchment Council, 2014).

- *Brunswick River* (228 km²): The headwaters of the Brunswick River are located approximately 55 km inland from the coast on the Darling Scarp north west of Collie. From there the river flows westward passing through Brunswick Junction before moving southward as it nears Australind before discharging into the Collie River at Point Latour, approximately 10 km from the Leschenault Estuary (McLaughlin and Jeevaraj 1994). The Brunswick River is the only fresh tributary to the salinity affected Collie River. The main tributary of the Brunswick River is the Wellesley River. Other tributaries are the Ernest, Augustus, Frederic and Lunenburg Rivers and Elvira Gully.

The dominant land uses in the upper part of the Brunswick River catchment are State forest and the Worsley Alumina Refinery. The lower part of the catchment is situated on the Swan Coastal Plain and supports agriculture, including horticulture and dairy farming, and an increasing number of lifestyle and residential properties closer to Australind. The lower section of the catchment encompasses approximately one third of its total area. The elevation of the catchment ranges from around 5 m AHD on the coastal plain in the west of the catchment, to 300 m AHD in the east along the Darling Scarp (Beckwith Environmental Planning Pty Ltd, 2010).

- *Wellesley River*: flows into the Brunswick River 10 km downstream of Brunswick Junction. The catchment forms part of the Harvey Irrigation District and as such is very flat and highly modified. The Wellesley's source is below Kemerton Substation at an elevation of 22.5m and ends at an elevation of 6.84m, where it merges with the Brunswick River. The Harvey River Diversion Drain provides an east west link from the Harvey River to the coast at Myalup and forms a central channel for the drainage and irrigation network of the Harvey hinterland.

Minor watercourses include Bancell Brook, Logue Brook, Clark Brook, Chalk Brook, Wellesley Creek and parts of the Harris River.

4.2.3 Groundwater

The Shire is located within two designated groundwater areas being the Bunbury Groundwater Area and the South West Coastal Groundwater Area. The Australind Sub Area draws on three aquifers, these being:

- The Superficial Aquifer (depth 0 - 50 metres) which is at 94% of its allocation limit of 900 megalitres.
- The Leederville Aquifer (depth 100 - 200 metres) which is at 100% of its allocation limit of 4,000 megalitres.
- The Yarragadee South Aquifer (300 – 1,700 metres) which is at 100% of its allocation limit of 4,000 megalitres.

Generally, the water quality of the Superficial and Yarragadee Aquifers is marginal and the Leederville Aquifer is fresh.

Myalup and Binningup are both located in the Myalup Sub Area where it is known that a saline plume from the Superficial formation extends into the upper Leederville formation increasing salinity of the more commonly fresh Leederville Aquifer. In addition, areas adjacent to the coast have saline water within the Lower Superficial and upper Leederville formations. High abstraction rates were considered to be increasing the recycling of salts in the area and therefore it has been recommended by the Water and Rivers Commission that local abstraction should not exceed 4000m³/ha in the superficial aquifer. It is also recommended that Special Rural Lots be allocated a maximum of 1,500m³ per annum.

Myalup and Binningup Town water supplies are obtained from the Leederville Aquifer. Due to increasing salinity and the aquifer nearing its allocation limit, no further licenses are being issued in the Leederville Aquifer for the Myalup Sub Area. There is water available for use in the Superficial Aquifer.

4.2.4 Irrigation

4.2.4.1 Harvey Water

The first irrigation scheme in the South West of Western Australia was constructed in 1915 – 1916 to service the Harvey region. The scheme was supplied from a small weir on the Harvey River initially to provide water for citrus orchards. The citrus industry was eventually to be supplemented by dairy farming. The system was expanded after World War 1 and again in the 1930s as a strategy to stimulate the growing dairy industry. Expansion continued through the 1940s and 1950s with further dam and channel construction.

This irrigation scheme is now known as the Harvey Water Irrigation Area and covers approximately 112,000 hectares (approx. 75 x 15km) over three irrigation zones: Waroona, Harvey and Collie (refer to Figure 16). Water has historically been supplied by gravity flow from dam to farm along a network of open concrete lined and earthen channels. These channels are being replaced as part of a major capital works program by Harvey Water with more efficient pipe distribution, still utilising energy-conserving gravity flow techniques. There is currently around 10,000 ha of land under permanent irrigation for dairy farming, beef grazing and horticulture, with a total irrigable area of approximately 34,369 ha (Harvey Water 2017).

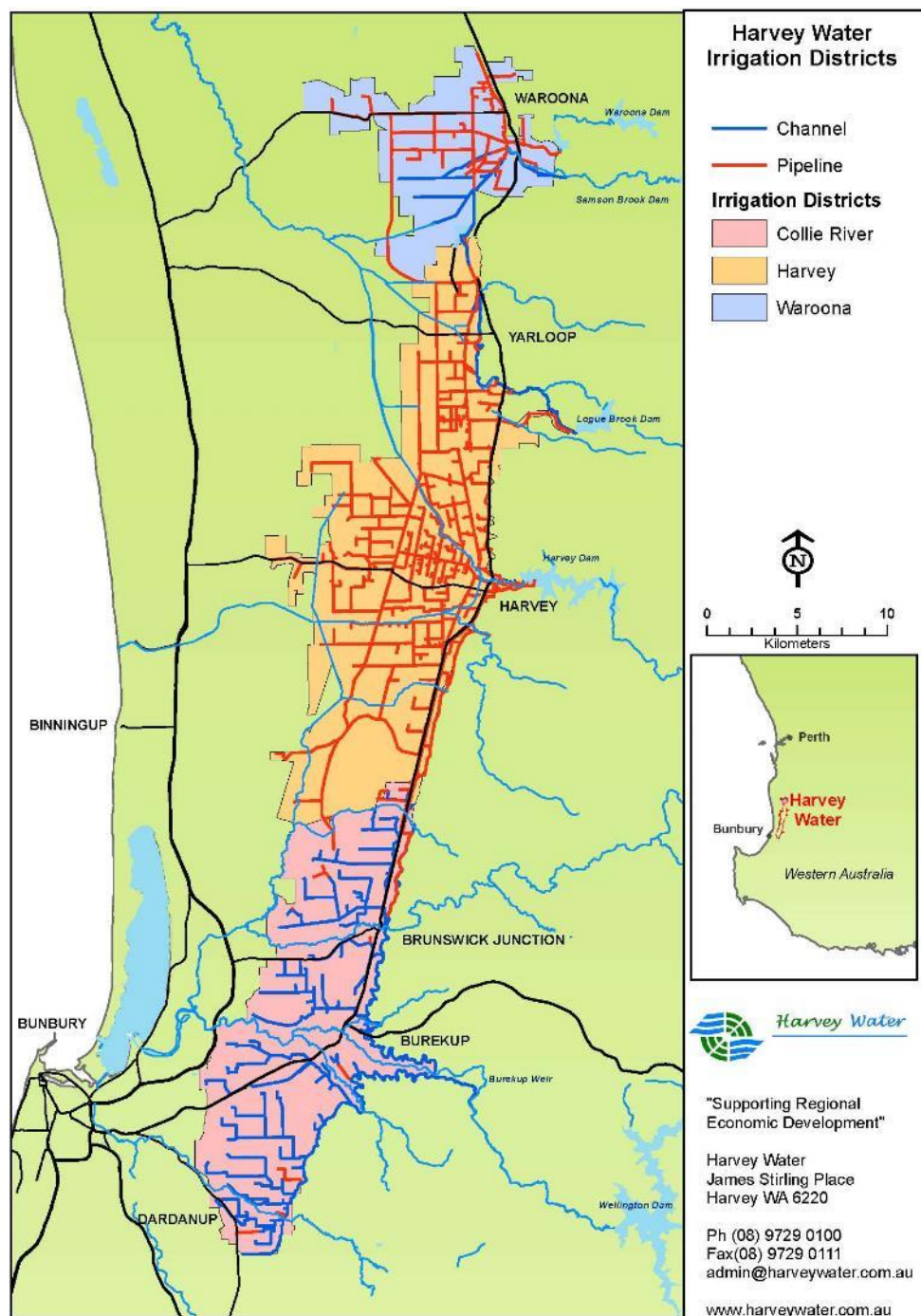
The majority of water is used for dairy and beef pasture with the balance used for fodder production (maize and millet), horticulture, fruit and vegetables. Harvey Water's water licence for 2016/17 is 136,360 megalitres per season from the five dams below that serve the irrigation area:

- approximately 64 giga litres from Harvey, Logue Brook, Drakesbrook, Waroona and Wokalup
- approximately 68 giga litres from Wellington Dam which flows to Burekup Weir.

The quality of the water is good, generally having less than 200mg/litre of Total Dissolved Salts. The water from Wellington Dam however has been of poor quality being generally over 1,000mg/litre of Total Dissolved Salts.

Harvey Water estimates that the annual production from the irrigation district is valued at \$100m with a significant multiplier effect in the local communities.

Figure 16: Harvey Water Districts



Source: Harvey Water 2017

4.2.4.2 Water for Food initiative

The Water for Food program is a State Government initiative that is looking at increasing irrigated agriculture across Western Australia. One of the proposals identified is the Myalup-Wellington: Water for Growth. The purpose of the project is to provide water to the Myalup Irrigated Agricultural Precinct from Wellington Dam. This will be achieved by:

- replacing existing open irrigation channels with a close piped network;
- installation of additional pump stations; and
- the construction of a closed pipeline system from the Collie River Irrigation District to Myalup Irrigated Agricultural Precinct that will reinject water from Wellington Dam into aquifers in the Myalup area to address salinity issues.

DWER has advised that there are sensitive areas within or in the vicinity of this area that may be highly incompatible with rezoning to intensive agricultural use:

- The Priority 1 Preston Beach Water Reserve
- Environmentally Sensitive Areas (e.g. Banksia Woodland)
- Conservation Category Wetlands
- McLarty Explosives Facility.

A proposed Amendment to the GBRS is currently being investigated to change the purpose of the State Forest Reserve to a reserve purpose that reflects the intended development of the area for a variety of land uses primarily based around the development of this locality for horticultural land use.

4.2.7 Flood Management

DWER is responsible for the management of the nominated watercourses within the Shire. DWER also provides advice to the Shire on flood levels and developments within flood prone land. Generally, the Shire will unlikely support subdivision and development on land which is below the defined 1:100 year flood level. In some instances, development may occur, based upon favourable advice from DWER and where appropriate risk mitigation design factors have been incorporated (such as raising minimum floor and ground levels) where appropriate.

Within the Shire, the GBRS Policy: Floodplain Management Policy (2017) has defined areas around the Leschenault Estuary and parts of the lower Collie River.

4.2.8 Climate Change and Adaption

Climate change is a significant global issue that can have severe ramifications on the environment. In addition, climate change can have serious economic and social impacts as a result of increased intensity and number of extreme weather events, sea level rises affecting coastal and low lying areas. From a local perspective, Local Governments can help address this issue through the design of urban and regional centres, as well as mitigation plans for at risk areas.

4.2.8.1 Harvey Coastal Hazard Risk Management and Adaption Plan November 2016

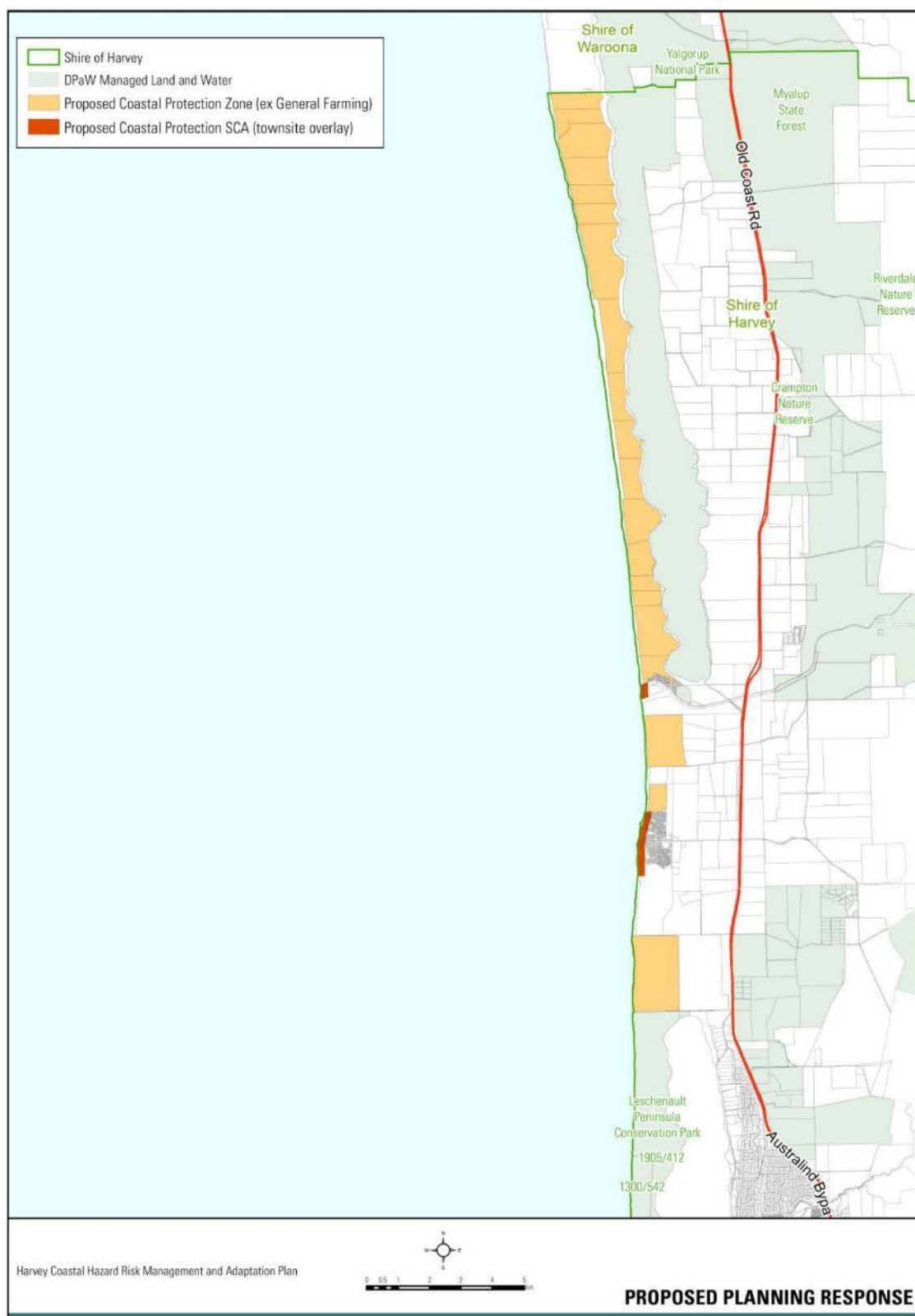
The Peron Naturaliste Partnership (PNP) and the Shire have been involved in the preparation of the Harvey Coastal Hazard Risk Management and Adaption Plan (CHRMAP) for the Myalup and Binningup beach areas. The purpose of the project was to greatly increase the knowledge and understanding of coastal risks and potential adaptation measures. In particular, the outcomes will directly inform the development and implementation of the Myalup and Binningup Foreshore Management Plans. It will also assist in the implementation and review of the Harvey Coastal Management Plan 2006.

The document outlines a number of approaches in coastal and dune care options, however in terms of land use planning policy, it is recommended that a two-level approach to planning, policy and tenure be adopted. These provisions will complement the existing Precinct Policy Area Statements (1, 7 and 10) as outlined in DPS No. 1.

1. **Regional Planning: Regional Open Space**
The Regional Open Space Reservation of the Greater Bunbury Region Scheme needs to be more extensive along the Harvey coast, recognising its regional significance and the implications that actions outside the Shire can have on this section of coast. The actual extent of reservation needs to be agreed between the Shire, affected landowners and the Western Australian Planning Commission; however it is recommended that as a minimum the mobile dune is reserved.
2. **Local Planning: Local Planning Scheme**
The Shire has significant ability to influence land use planning at a local level. The Shire's Local Planning Scheme may consider the following mechanisms to provide the appropriate planning response:
 - Coastal Protection zone to cover all lots with frontage to the coast;
 - Coastal Processes Special Control Area within Binningup and Myalup to a line 150m landward of the existing coast; and
 - Specific requirement for Structure Plans prepared in accordance with Scheme Provisions to consider coastal processes.

In February 2017, Council adopted the CHRMAP 2016. The land use planning recommendations outlined will be considered in the drafting of the new Scheme.

Figure 17: Extract of proposed planning response from CHAMP 2016



Source: CHAMP 2016

4.3 Population and Housing

The population characteristics of the Shire are important in providing the statistical basis to assist in the long term planning and development of the Shire. An analysis of population characteristics informs the current demographic situation and can assist in determining the nature of the housing market and the services that will be required to support this. The purpose of assessing and describing the population structure or demographic characteristics is to provide an understanding of population needs and to be able to create appropriate policy measures for the provision of housing types and densities, employment and open space requirements to meet the populations' needs.

This section will look mostly at Harvey as a Shire; however, will also highlight the demographic profiles of the major population centres within the Shire. Statistics have been based on the 2016 and 2011 Australian Bureau of Statistics (ABS) Census results and the Basic Community Profile compiled by the ABS. Population projections have been sourced (where possible) from the Western Australian Planning Commission's *Western Australia Tomorrow Population Report No. 10 (WA Tomorrow)* and the Shire's Population and Household Forecasts 2017 population reports produced by forecast.id (latest review and update made in February 2017).

4.3.1 Population

The Shire's population was recorded as 27,029 persons in the 2016 census (WA Tomorrow). This represents an increase in the population by approximately 13% from 2011 when the population of the Harvey Shire was 23,880 persons.

Table 12: Population Change from 1991 to 2016

Population Figures 1991 to 2016	
1991	13,097
1996	15,556
2001	17,287
2006	20,620
2011	23,880
2016	27,029

Source: WA Tomorrow 2015 and forecast.id 2017

Population projections

The Western Australian Planning Commission has produced a series of population projections for statistical divisions and local government areas in Western Australia. The WA Tomorrow report has prepared five different forecasts (Bands) to outline a range of population change results and recommends users utilise a particular band depending on their purpose, risks and understanding of the area. These forecasts have been made on a single set of assumptions as opposed to a set of different scenarios and based on population trends and patterns (such as birth and death rates). Each of these Bands represents the following:

- Bands A and B contain the lower forecasts;
- Band C is the median forecast; and
- Bands D and E represent the higher forecasts.

In addition, the Shire has previously commissioned population reports prepared by forecast.id. The WA Tomorrow projections have been compared with the Forecast.id data from 2017 as shown in Tables 13 and 14, and Figure 18 below.

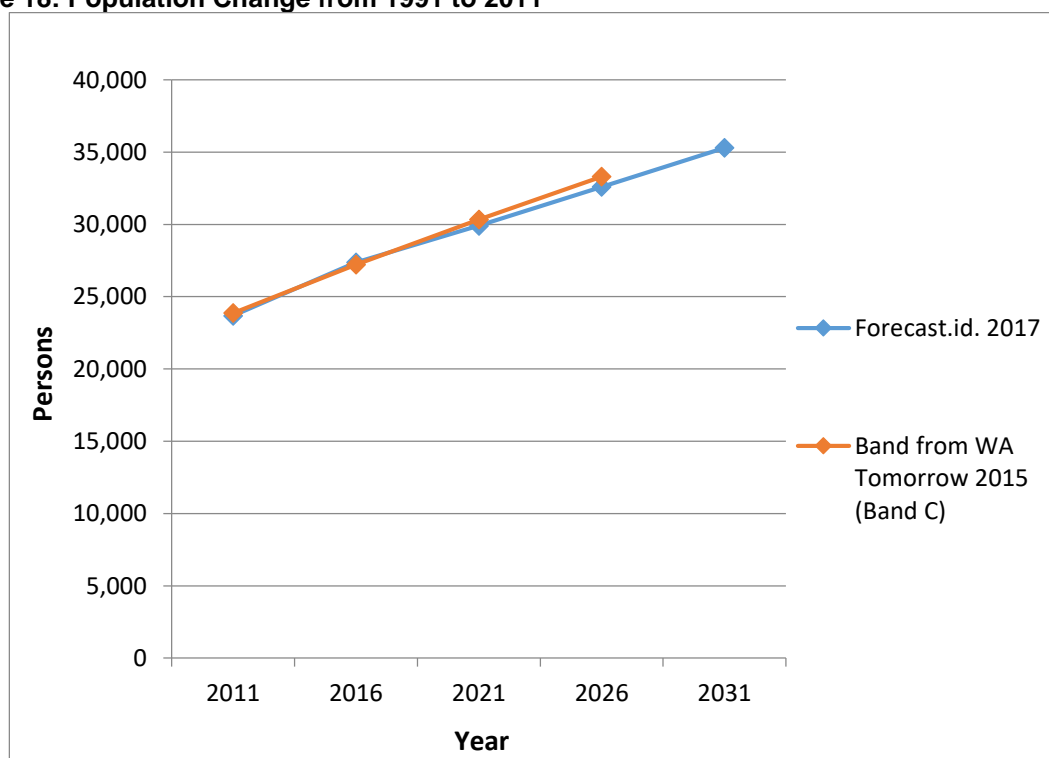
Table 13: Population Projections

Persons	Band from WA Tomorrow 2015					Forecast.id
	A	B	C	D	E	(2017)
2011	23 880	23 880	23 880	23 880	23 880	23,685
2016	26 570	26 920	27 220	27 470	27 920	27,380
2021	29 450	29 940	30 340	30 680	31 250	29,907
2026	32 130	32 800	33 310	33 780	34 520	32,606
2031						35,306

Table 14: Average Annual Growth Rate from 2011 onwards

Percentage	Band from WA Tomorrow 2015					Forecast.id
	A	B	C	D	E	(2013)
2016	2.16%	2.43%	2.65%	2.84%	3.18%	2.77%
2021	2.12%	2.29%	2.42%	2.54%	2.73%	1.78%
2026	2.00%	2.14%	2.24%	2.34%	2.49%	1.74%
2031						1.60%

Source: WA Tomorrow 2015 and forecast.id 2017.

Figure 18: Population Change from 1991 to 2011

Source: WA Tomorrow 2015 and forecast.id 2017.

Based on the analysis, both reports have predicted positive population growth in the Shire over the next 15 years. Forecast.id projects a growth rate similar to the WAPC's Band B between 2011 and 2016. The projected annual growth rate between 2016 and 2026 is predicted to reduce to 1.72%, which is lower than Band A's prediction. Forecast.id (with the lowest population growth forecast) has projected Harvey will grow an additional 8,412 persons in comparison to WAPC (Band E being the highest population growth forecast) who has predicted the total population to grow an additional 10,640.

Although the WAPC and Forecast.id have used similar assumptions, trends and patterns in their analysis, the differences between the results can be attributed to the different combination of methodologies adopted. By average the projected population results between the WAPC's Band E and the population projections made by Forecast.id, the average population growth is expected to be around 9,430, which is the same as Band C. Given this, it is recommended the future planning should be based on the population figures projected for Band C of the WAPC WA Tomorrow 2015 up to the year 2026, and Forecast.id (2017) figures for 2031.

4.3.2 Age/sex Structure

The 2016 Census identifies that the largest age groups in the Shire as being:-

- the 5 – 9 years age group with 1,745 persons or 7.5%;
- the 10 – 14 years age group with 1,904 persons or 8.2 %;
- the 40 – 44 years age group with 1,800 persons or 7.7 %; and
- the 45 – 49 years age group with 1,733 persons or 7.5%.

This compares to the 2011 Census when the largest age groups were:-

- the 5 – 9 years age group with 2,048 persons or 7.7%;
- the 10 – 14 years age group with 2,032 persons or 7.7 %;
- the 15 – 19 years age group with 1,867 persons or 7.0 %;
- the 45 – 49 years age group with 1,913 persons or 7.2 %.

The census data indicates that there is a strong presence of the typical family with children, preteen and teenage children (aged 0 to 19) accounting for 29.2 % of the population and adults (aged 30 to 54) account for 33.9 % population. It is noted that the over 55 year old sectors accounts for 27.1 % of the total population whilst the young adult aged group (aged 20 to 29) account for 9.8 % of the total population.

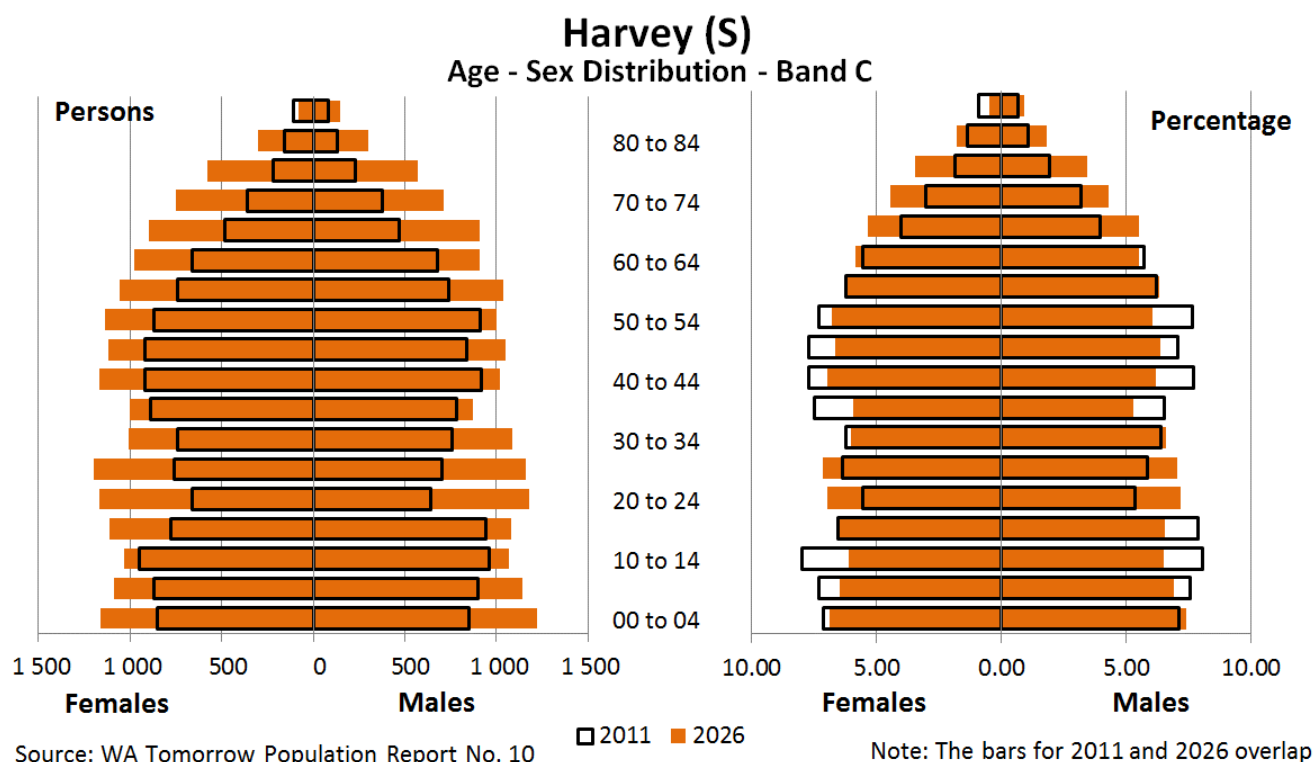
Based on these trends and current population literature, it is expected that established couples with young children are more likely to migrate to suburban or regional areas, whilst the young adult aged group seek further education and employment opportunities offered by larger cities. This trend has been typical with previous census data (2011).

Projections

The table and figures outlined in the WA Tomorrow Populations Report No. 10 (2014) has projected that the Shire is expected to have an overall increase in its population. The aged/sex structure of the population in 2026 is expected to change over the course of the next 10 years forecasts as shown in Figure 19. Forecast.id figures project up to 2031 and have been included in Table 15. The figures and data in the Table show:

- There is expected modest growth in the preteen and teenage (10 to 19) aged bracket;
- The number of people in the 65 to 79 age bracket is expected to have the largest percentage increase. The number of aged people 85 and over in 2031 is expected to increase 155% when compared with the number of people in that age bracket in 2016;
- The age/sex structure of 2016 indicates the traditional family unit will not have the same level of presence as the older aged group; and
- There is a higher percentage of young adults aged 20 to 29 in 2026 (15.3% of the population) in comparison with 2016 (11.6 % of the population).

Figure 19: Age - Sex Distribution



These population trends highlight the Shire will experience an ageing population. It is expected people from the 50 to 64 age bracket in 2011 will live longer, however migration would explain the population growth of this age bracket. The Shire therefore will need to promote the development of aged care housing and facilities to meet future demand.

Another interesting trend however is the higher percentage of young adults aged 20 to 29 in 2031 in comparison with 2016. It is likely that this trend could be attributed to attraction factors in the South West, improved internet and technology services removing limitation or improving economic opportunities.

Table 15: Age/Sex Profile for 2016 and Forecast Age/Sex Profile for 2021, 2026 and 2031

Persons	2016				2021				2026				2031				Forecast Change 2016 - 2031			
	Female	Male	Total	%	Female	Male	Total	%	Female	Male	Total	%	Female	Male	Total	%	Female	Male	Total	Overall (%)
Age Range 0 to 4	1,047	1,053	2,100	7.67	1,050	1,100	2,150	7.08	1,160	1,220	2,380	7.14	1,236	1,290	2,526	7.15	189	1,290	426	20.29
5 to 14	1,054	1,035	2,089	7.63	920	960	1,880	6.19	1,090	1,140	2,230	6.69	1,330	1,333	2,663	7.54	276	1,333	574	27.48
10 to 14	1,014	1,001	2,015	7.36	1,020	1,010	2,030	6.69	1,030	1,070	2,100	6.30	1,327	1,296	2,623	7.43	313	1,296	608	30.17
15 to 19	905	932	1,837	6.71	1,110	1,110	2,220	7.31	1,110	1,080	2,190	6.57	1,120	1,112	2,232	6.32	215	1,112	395	21.50
20 to 24	697	742	1,440	5.26	1,150	1,140	2,290	7.54	1,170	1,180	2,350	7.05	855	787	1,641	4.65	158	787	201	13.96
25 to 29	842	792	1,634	5.97	920	1,040	1,960	6.46	1,200	1,160	2,360	7.08	939	877	1,816	5.14	97	877	182	11.14
30 to 34	970	927	1,896	6.93	880	780	1,640	5.40	1,010	1,090	2,100	6.30	1,129	1,064	2,193	6.21	159	1,064	297	15.66
35 to 39	976	927	1,903	6.95	1,050	920	1,970	6.49	1,000	870	1,870	5.61	1,274	1,169	2,443	6.92	298	1,169	540	28.38
40 to 44	1,000	877	1,877	6.86	1,050	1,000	2,050	6.75	1,170	1,020	2,190	6.57	1,283	1,164	2,446	6.93	283	1,164	569	30.31
45 to 49	992	938	1,931	7.05	1,120	980	2,100	6.92	1,120	1,050	2,170	6.51	1,263	1,133	2,396	6.79	271	1,133	465	24.08
50 to 54	945	895	1,840	6.72	1,050	1,030	2,080	6.85	1,140	1,000	2,140	6.42	1,138	1,045	2,183	6.18	193	1,045	343	18.64
55 to 59	897	887	1,785	6.52	980	900	1,880	6.19	1,060	1,040	2,100	6.30	1,080	947	2,028	5.74	183	947	243	13.61
60 to 64	769	740	1,509	5.51	900	930	1,830	6.03	980	910	1,890	5.67	1,014	915	1,929	5.46	245	915	420	27.83
65 to 69	651	648	1,298	4.74	780	750	1,530	5.04	900	910	1,810	5.43	926	835	1,761	4.99	275	835	463	35.67
70 to 74	468	439	907	3.31	670	650	1,320	4.35	750	710	1,460	4.38	835	766	1,601	4.54	367	766	694	76.52
75 to 79	340	336	676	2.47	410	400	810	2.67	580	570	1,150	3.45	662	588	1,251	3.54	322	588	575	85.06
80 to 84	192	170	361	1.32	220	250	470	1.55	300	300	600	1.8	477	383	860	2.43	285	383	499	138.23
85 and over	165	115	280	1.02	60	90	150	0.49	80	150	230	0.69	390	324	714	2.02	225	324	434	155.00
Total	13,925	13,455	27,380	100.0	15,320	15,040	30,360	100.0	16,850	16,470	33,320	100.0	18,276	17,030	35,306	100.0	4,351	3,575	7,926	28.9

Source: WA Tomorrow Population Report No. 10 (2014) for 2021 and 2026, and Forecast.id for 2031

4.3.3 Migration

Migration is a significant component of population change. The movement of people influences the characteristics of the population and the demand for services and facilities. Migration is the most volatile component of population change and can be affected by changing housing and economic opportunities such as housing affordability issues or the mining boom.

There are three main types of migration in Australia, overseas migration, between-state migration, and within-state migration. Looking at the level and type of migration in the Shire can indicate whether the population is sedentary and likely to be in the area for a long time (and perhaps have significant ties to the community), or transient, and likely to move on. Tables 16 and 17 from Profile.id have provided a summary of the migration patterns of the Shire in relation to location.

Table 16: Previous residential location of current residents in 2011

Migration summary	Number	Percentage
Residents who did NOT move between 2006 and 2011	10,918	47.0
Total residents who moved between 2006 and 2011	9,247	39.8
- Residents who had moved within the Shire of Harvey between 2006 and 2011	2,722	11.7
Residents who moved from another part of Western Australia	4,720	20.3
- Residents who moved from another part of Australia	684	2.9
- Residents who moved from another country	1,026	4.4
- Residents who moved from an unknown area	110	0.5
Not stated - Didn't state whether or not moved	1,375	5.9
Not applicable - Births between 2006 and 2011	1,695	7.3
Total 2011 usual resident population	23,235	100.0

Table 17: Previous residential location of current residents in 2011

<i>Migration between the area and other States/Territories in the Shire of Harvey</i>			
State / Territory	In migration	Out migration	Net migration
New South Wales	128	70	58
Victoria	126	107	19
Queensland	256	140	116
South Australia	76	49	27
Western Australia	4,720	3,890	830
Tasmania	29	47	-18
Northern Territory	65	26	39
Australian Capital Territory	4	9	-5

Source: Australian Bureau of Statistics, *Census of Population and Housing, 2011 (Usual Residence Data)*. Compiled and presented by profile .id.

Migration by age group

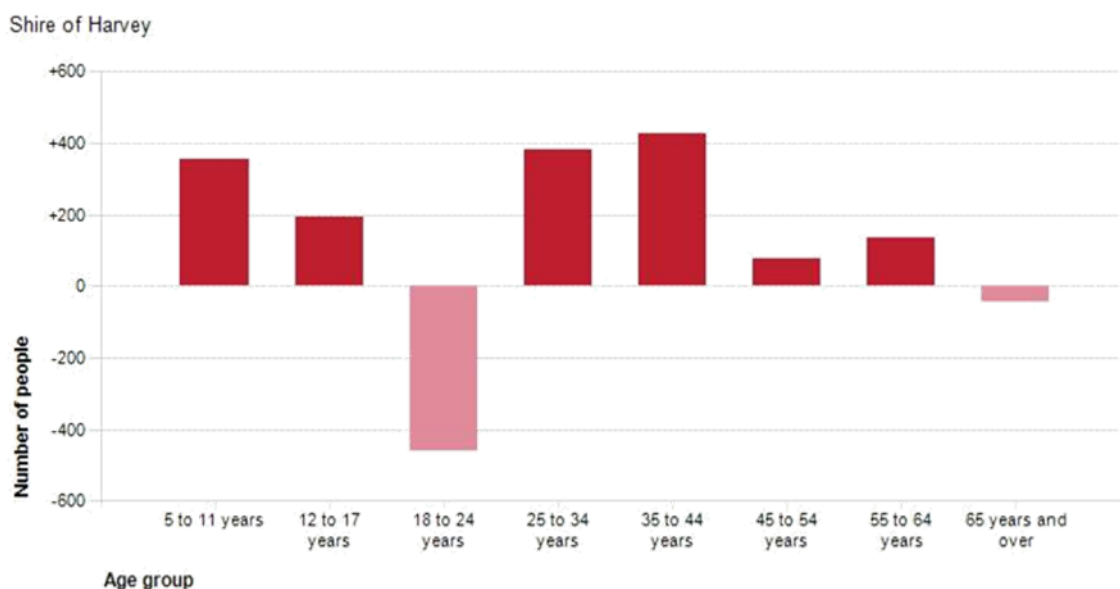
Further analysis of this migration data in relation to the age structure of people who move into and out can influence demand for particular services and identify the character of an area. Understanding the Shire's attraction to different age groups helps to plan services for the community as well as advocating with other levels of government and private enterprise to provide infrastructure, employment opportunities and facilities which may help to retain age groups which are otherwise leaving the area. These trends have been examined in the Table and Figure below.

Table 18: Migration by age group 2011

Age group	In migration	Out migration	Net migration
5 to 11 years	+764	-411	+353
12 to 17 years	+533	-339	+194
18 to 24 years	+504	-963	-459
25 to 34 years	+1,113	-729	+384
35 to 44 years	+1,015	-588	+427
45 to 54 years	+651	-574	+77
55 to 64 years	+509	-374	+135
65 years and over	+315	-360	-45
Total	+5,404	-4,338	+1,066

Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual Residence Data). Compiled and presented by profile.id.

Figure 20: Migration by age group 2011



Source: Australian Bureau of Statistics, Census of Population and Housing, 2011 (Usual Residence Data). Compiled and presented in by profile.id.

The age/sex structure in the previous section 4.3.2 highlighted a lower young adult (20 to 29) age bracket for the area. This is likely because inner city areas offer more employment, education and entertainment options that attract many young people in their late teens and early twenties. Rural areas tend to lose young people and gain older families and retirees.

4.3.4 Culture, Language and Ethnic diversity

Ancestry

Ancestry defines the cultural association and ethnic background of an individual going back three generations (Profile.id 2017). Ancestry is a good measure of the total size of cultural groups in the Shire regardless of where they were born or what language they speak (Profile.id 2015). The Census data and Table 19 produced by Profile.id identifies the ancestry of the population and compares the percentage with the rest of the State.

Table 19: Ancestry of the Shire of Harvey between 2011 and 2016

Ancestry	2011		WA	2016		WA	Change
	Number	%	%	Number	%	%	2006 to 2011
English	10,134	43.6	37.9	11,654	43.9	37.6	+1,520
Australian	9,331	40.2	32.3	10,514	39.6	30.7	+1,183
Irish	1,978	8.5	8.4	2,516	9.5	9.1	+538
Scottish	1,978	8.5	8.3	2,378	9.0	8.7	+400
Italian	1,900	8.2	5.0	2,075	7.8	5.0	+175
German	693	3.0	2.8	796	3.0	3.0	+100
Dutch	485	2.1	2.0	591	2.2	1.9	+106
Maori	443	1.9	1.0	482	1.8	1.1	+39
New Zealander	303	1.3	1.2	388	1.5	1.3	+85
Filipino	202	0.9	0.9	422	1.6	1.4	+220

Source: Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011. Compiled and presented in profile.id

Note: Excludes ancestries with fewer than 20 responses, or less than 0.1% of the total population.

Birthplace

Country of Birth data identifies where people were born and is indicative of the level of cultural diversity in the Shire. The mix of Country of Birth groups is also indicative of historical settlement patterns, as source countries for Australia's immigration program have varied significantly over time (Profile.id 2017).

Analysis of the country of birth of the population in the Shire in 2016 compared to WA shows that there was a smaller proportion of people born overseas, and a smaller proportion of people from a non-English speaking background. Overall, 19% of the population was born overseas, and 6.1% were from a non-English speaking background, compared with 32.2% and 16.6% respectively for WA.

Table 20: Birthplace of the Shire of Harvey between 2011 and 2016

Birthplace	2011		WA	2016		WA	Change 2011 to 2016
	Number	%	%	Number	%	%	
United Kingdom	1,768	7.6	10.3	1,851	7.0	9.4	+83
New Zealand	912	3.9	3.2	1,017	3.8	3.2	+103
South Africa	299	1.3	1.6	396	1.5	1.7	+173
Italy	201	0.9	0.9	176	0.7	0.8	-25
Philippines	184	0.8	0.8	389	1.5	1.2	+205
Zimbabwe	123	0.5	0.4	136	0.5	0.5	+67
Ireland	81	0.3	0.6	96	0.4	0.7	+15
Netherlands	81	0.3	0.4	103	0.4	0.4	+22
Germany	80	0.3	0.5	90	0.3	0.4	+10
Taiwan	35	0.2	0.1	85	0.3	0.2	+50

Source: Australian Bureau of Statistics, *Census of Population and Housing 2006 and 2011*. Compiled and presented in profile.id

Note: Excludes countries with fewer than 20 people, or less than 0.1% of the total population.

Table 21: Birthplace of the Shire of Harvey between 2011 and 2016

Birthplace	2011		WA	2016		WA	Change 2011 to 2016
	Number	%	%	Number	%	%	
Total Overseas born	4,324	18.6	30.5	5,047	19	32.2	+723
Non-English speaking backgrounds	1,191	5.1	14.2	1,616	6.1	16.6	+425
Main English speaking countries	3,133	13.5	16.3	3,431	12.9	15.6	+298
Australia	17,509	75.4	63.0	19,334	72.9	60.3	+1,825
Not Stated	1,401	6.0	6.4	2,143	8.1	7.5	+742
Total Population	23,234	100.0	100.0	26,524	100	100	+3,290

Source: Australian Bureau of Statistics, *Census of Population and Housing 2006 and 2011*. Compiled and presented in profile.id

The largest changes in birthplace countries of the population in this area between 2016 and 2011 were for those born in:

- Philippines (+205 persons)
- New Zealand (+103 persons)
- United Kingdom (+83 persons)
- South Africa (+173 persons)

Language and Citizenship

An assessment of the ABS 2011 and 2016 Census data provides an overview of the ethnic backgrounds of the population of the Shire. Some key points to note from the statistics (2006 and 2011) include:

- The Shire has a high number of Australian citizens however there has been an increase in overseas migration. In 2011, 85% (19,788) of the Shire's population were Australian citizens in comparison to 2006, where 88% (17,211) of the Shire's population were Australian citizens.
- Between 2011 and 2015, there have been 479 migrants whom have become Australian Citizens of which 130 were from the United Kingdom, 109 were from South Africa and 108 were from the Philippines.
- The high proficiency in the English language (89% only speak English at home).
- In 2011, the five most commonly spoken languages other than English are Italian (1.9%), Afrikaans (0.5%), Tagalog (0.4%), Filipino (0.3%), and Maori (0.2).

4.3.5 Family and Non-family Household Composition

An assessment of the ABS 2011 and 2016 Census data provides an overview of the family and non-family household composition of the population of the Shire. This data has been prepared in Table 22 and household projections shown in Table 23.

Table 22: Family and non-family household composition

Family type and Composition	2011	%	Comparison with the rest of the State (2011)	2016	%	Comparison with the rest of the State (2016)
Couple family without children	2,988	29.5	25.9	2,778	28.8	25.6
Couple family with children	2,484	35.5	30.7	3,325	34.4	30.9
One parent family	802	9.6	14.5	880	9.1	9.6
Other Families	59	0.6	1.2	40	0.5	1.2
Total	6,333			7,023		
Family Households*	6,333	75.2	72.3	7,023	72.8	67.3
Single or lone person households	1,442	17.1	23.7	1,761	18.2	21.8
Group Households	178	2.1	4.0	170	1.8	3.5
Total	8,428			8,954		

*Excludes visitor only and other not classifiable households

Source: ABS 2011, Forecast.id 2017 and WA Tomorrow Population Report No. 8 2006 to 2026

Table 22 shows that there will be an overall increase in the number of households over a 15 year period. The information from the Forecast.id (2017) highlights a downward trend in the average and family household size. This data shows a greater percentage increase in the number of single or lone person households in comparison to family households. In 2016, family households made up 72.8% of the total number of household while 18.2% comprised of single or lone persons. In comparison to this it is expected the family household will make up 80.1% of total households and 18% will comprise of single or lone persons in 2031. According to Forecast.id reports (2017) this trend is likely due to a few key factors such as an ageing population and families have fewer children.

Table 23: Projections of household size from 2011 to 2031

Household	2011	2016	2021	2026	2031
Family households	6,308	7,023	9,049	9,898	10,724
Group households	178	170	212	226	241
Singles or lone person households	1,442	1,761	1,896	2,145	2,416
Total Households	8,428	8,954	11,157	12,269	13,381
Average Household Size	2.69	2.69	2.66	2.64	2.62

Source: ABS 2011, Forecast.id 2017 and WA Tomorrow Population Report No. 8 2006 to 2026

Note: The household size projections data sourced from the WA Tomorrow Report No. 8 (2006) as this information was not projected in the latest WA Tomorrow Report No. 10 (2012).

4.3.6 Number and Type of Dwellings

The total number of dwellings in the Shire in 2011 was 9,678. Of this 93.8% comprised of detached dwellings. The comparison between the Shire and the rest of the State is shown in Table 17.

Table 24: Dwelling Types

Housing Type	2016	%*	Comparison with the rest of the State (2016)	2011	%*	Comparison with the rest of the State (2011)
Occupied private Dwellings						
- <i>Separate house</i>	8,417	93.8	79.1	7,435	93.8	80.4
- <i>Semi detached</i>	356	4.0	14.1	181	2.3	10.6
- <i>Units / flats</i>	52	3.0	5.6	167	2.1	7.9
- <i>Other</i>	91	0.7	0.7	136	1.7	0.9
- <i>Not Stated</i>	49	0.5	0.3	6	0.1	0.2
Unoccupied private Dwellings	1,303	-	-	1,250	-	-
Total	10,282			9,175		

* Percentages did not include unoccupied private dwellings in the total

Source: Census data 2016 & 2011

The figures show an increased number of separate houses and semi-detached dwellings in the Shire between 2016 and 2011. Within that same time period, it is also noted that the Shire has a consistent higher percentage of separate houses in comparison to the rest of the State; a difference of approximately 14.7 percent in 2016. This is highly likely due to the difference in the type of lifestyle and development preferred in regional areas in comparison to Perth, where there is a greater choice in housing type.

The apparent high number of unoccupied private dwellings is noted. These are defined by the ABS as structures built specifically for living purposes which are habitable, but unoccupied on Census night. Vacant houses, holiday homes, huts and cabins are counted as unoccupied private dwellings.

Number of Building permits issued

Building approvals are used as a leading indicator of the general level of residential development, economic activity, employment and investment (profile.id 2017). Residential building activity depends on many factors that vary with the state of the economy including interest rates, availability of mortgage funds, government spending, and business investment. Large financial changes or shocks, such as the Global Financial Crisis of 2008/09 can be observed in the data (profile.id). However, the number of building approvals can fluctuate substantially from year to year simply as a result of the short-term nature of many construction projects, the release of land and the cyclical nature of the industry.

Table 25: Residential building approvals every financial year from 2001/02 to 2014/15

Year (ending June 30)	Number			Annual change		
	Houses	Other	Total	Houses	Other	Total
2016-17 (FYTD)	121	4	125	--	--	--
2015-16	185	21	206	-86	+11	-75
2014-15	271	10	281	-86	-6	-92
2013-14	357	16	373	+110	-12	+98
2012-13	247	28	275	+6	+26	+32
2011-12	241	2	243	-65	-25	-90
2010-11	306	27	333	-22	-32	-54
2009-10	328	59	387	+76	+34	+110
2008-09	252	25	277	+5	+18	+23
2007-08	247	7	254	-114	-3	-117
2006-07	361	10	371	-225	+4	-221
2005-06	586	6	592	+128	-6	+122
2004-05	458	12	470	+199	-17	+182
2003-04	259	29	288	--	--	--

Source: Australian Bureau of Statistics, *Building Approvals, Australia* (8731.0). Compiled and presented in profile.id by .id

4.3.7 Housing

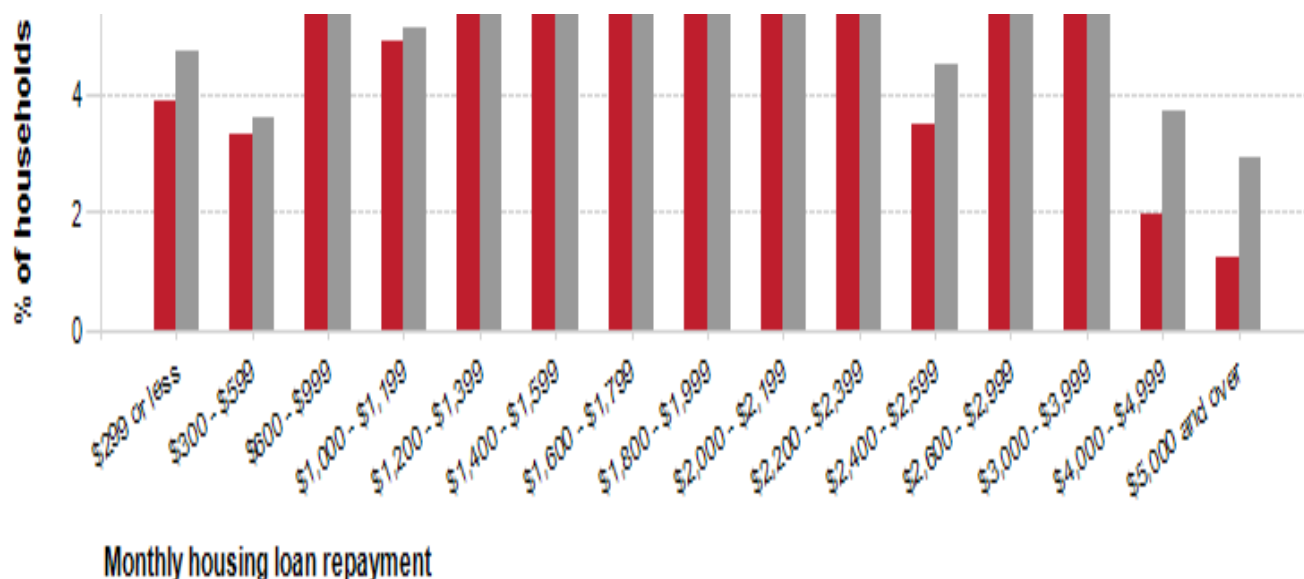
A snapshot examination of the 2016 Census data has revealed the following housing trends:

- there is a high level of home ownership within the Shire, with 69.9% of households purchasing or fully owned their own home;
- there has been a general increase in the overall housing stock, however proportionately there is a greater number of people whom have a mortgage in 2016 (40.8%) than in 2011 (39.8%);
- the rate of home ownership within the Shire is comparable to the rest of the State (64.2%);
- the median rent was \$260 per week whereas in 2011 the median rent was \$160 per week;
- overall, 5.1% of households were paying high rental payments, and 27.4% were paying low payments, compared with 20.0% and 26.5% respectively in Western Australia; and
- the monthly housing loan repayments of households in the Shire compared to Western Australia shows that there was a smaller proportion of households paying high mortgage repayments (\$2,600 per month or more), as well as a smaller proportion of households with low mortgage repayments (less than \$1,200 per month). Overall, 18.3% of households were paying high mortgage repayments, and 19.8% were paying low repayments, compared with 25.9% and 20.4% respectively in Western Australia.

Table 26: Home Ownership types

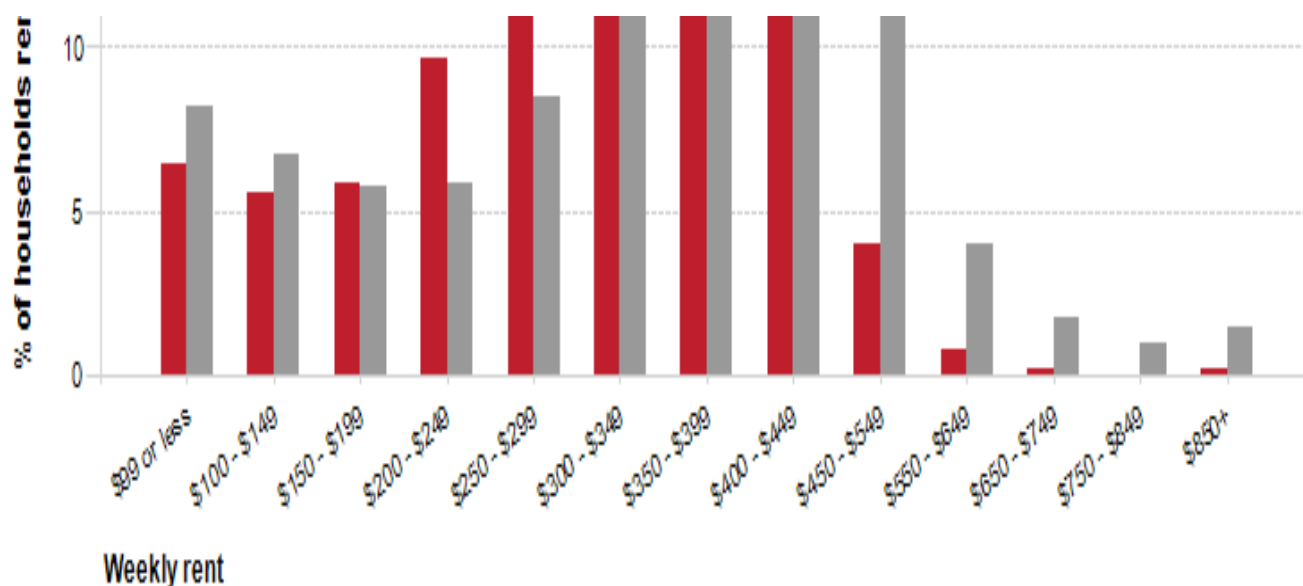
Tenure type	2011			2016			Change
	Number	%	WA %	Number	%	WA %	2016 to 2011
Fully owned	2,450	29.1	28.7	2,808	29.1	27.3	+358
Mortgage	3,353	39.8	35.5	3,940	40.8	36.9	+587
Renting	1,981	23.5	28.1	2,013	20.8	26.8	+32
<i>Renting - Social housing</i>	223	2.6	4.4	211	2.2	3.8	-12
<i>Renting - Private</i>	1,698	20.2	23.0	1,751	18.1	22.4	+53
<i>Renting - Not stated</i>	60	0.7	0.7	51	0.5	0.6	-9
Other tenure type	49	0.6	1.1	80	0.8	1.1	+31
Not stated	592	7.0	6.6	818	8.5	7.9	+226
Total households	8,425	100.0	100.0	9,659	100.0	100.0	+1,234

Source: Australian Bureau of Statistics, [Census of Population and Housing \(opens a new window\)](#) 2006 and 2011. Compiled and presented by id.

Figure 21: Monthly housing loan repayments 2011

Source: Australian Bureau of Statistics, Census of Population and Housing, 2016 (Enumerated data)
 Compiled and presented in profile.id by .id, the population experts.

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experts

Figure 22: Weekly housing rental payments, 2011

Source: Australian Bureau of Statistics, Census of Population and Housing, 2016 (Enumerated data)
 Compiled and presented in profile.id by .id, the population experts.

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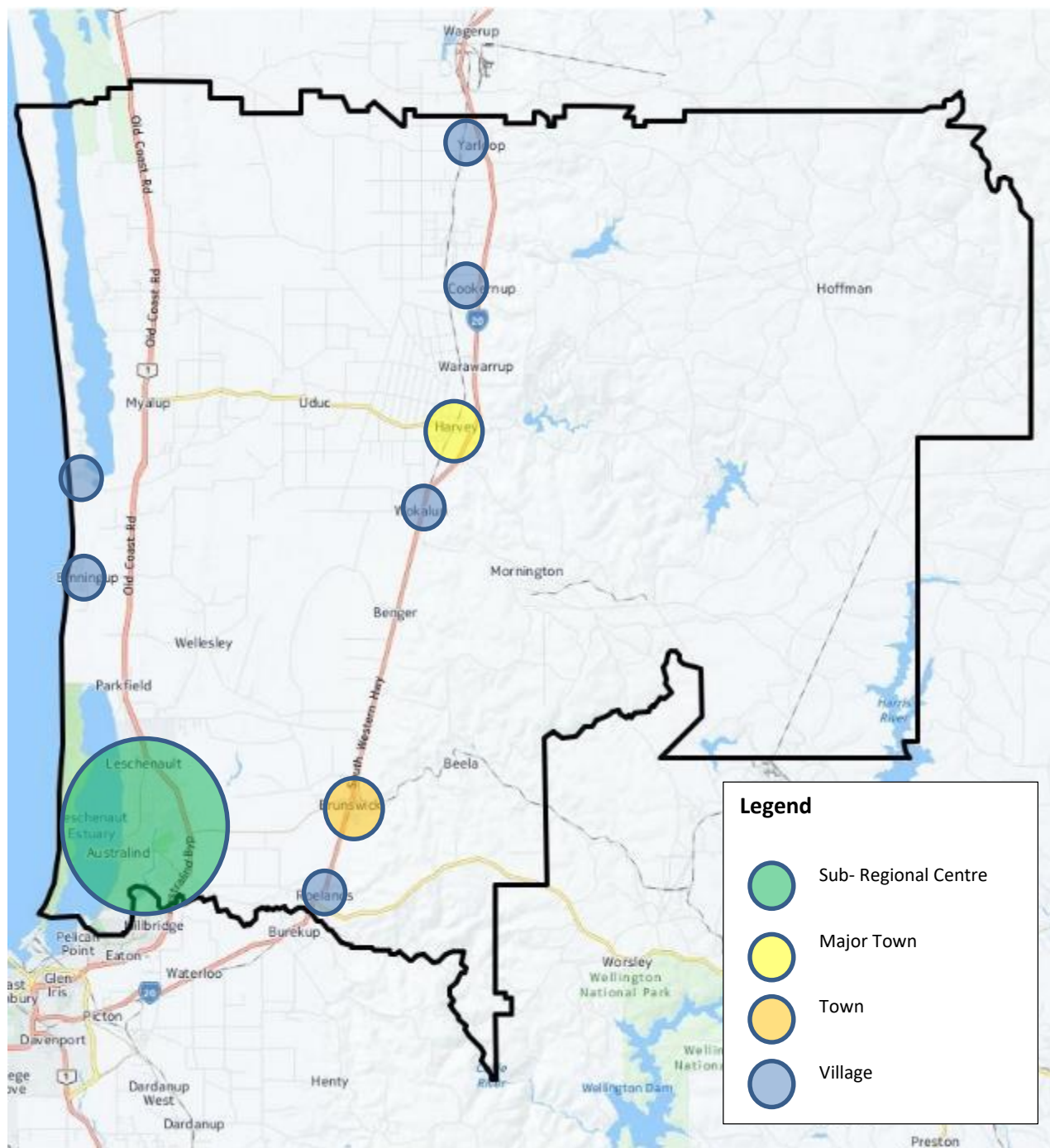
4.3.8 Settlement Profile

The Shire comprises eight rural town sites of which Harvey serves as the Shire's main administration centre. Australind has been classified as being a sub-regional centre that is considered to be part of the Greater Bunbury region. A brief description of these town sites has been listed below:

- **Harvey:** - A major Town Centre and (in context of the Shire) is centrally located. The Shire's main Administration Centre and was previously the Shire's main activity centre before the urban development and expansion of Australind. Harvey is surrounded primarily by rural activities, which include dairy, beef and citrus.
- **Australind:** - The Shire's main urban centre (which includes Kingston, Treendale and Clifton Park Estates) where the majority of the population reside. The population growth of the greater Australind area is heavily influenced by the expansion of the Greater Bunbury region. For the purposes of this Strategy, Leschenault will be considered part of the Australind centre because it is a rural residential area with no commercial facilities and adjacent to Australind.
- **Brunswick Junction:** - In addition to being a local rural centre, Brunswick Junction is an important rail and freight link due to its strategic location at the meeting of the railway lines from Collie, Bunbury and Perth. Brunswick is a primary dairy cultivation and distribution centre.
- **Binningup:** - Binningup is a small coastal residential area which began as a low key holiday settlement however has expanded to become a coastal suburban centre.
- **Myalup:** - Myalup is a small coastal residential area which also began as a low key holiday settlement. Due to the topography of the area, retention of native vegetation and bushfire risks, this area has not been expanded.
- **Cookernup:** - A small village settlement that has a general store and hall services.
- **Wokalup:** - A small village settlement which is focused on the service station/roadhouse and tavern which serves the travelling public and the local community.
- **Roelands:** - Traditionally this community has been the centre for the irrigation maintenance workforce, however it is now a residential precinct. There is a catholic private primary school located within the area.
- **Yarloop:** - Yarloop was once a renowned timber town since the late 1800's however the timber and forestry industry has since closed down. In 2016, a number of residential and historical buildings (including the Yarloop Timber Workshops) were destroyed as a result of the Yarloop/Harvey/Waroona January 2016 Fire. Redevelopment of the town is subject to the Yarloop Town Development Plan.

In addition to these areas, the Shire also has a number of small settlements with populations less than 300 persons and no local shopping facilities. These areas include Uduc, Warawarrup, Benger, Wellesley, Hoffman, Mornington and Beela. Further examination of the definition of these centres in context of the Greater Bunbury Region Strategy has been explored in Table 27.

Figure 23: Map of the Shire of Harvey showing location of settlements



Source: Map sourced from [.id](#), 2015

Table 27: Settlement Hierarchy and population distribution

Settlement Type	Settlement	Current Population*	Current Growth rate	Estimated growth potential	Infrastructure and services	Commercial and Community	Key social, economic and environmental drivers
Part Regional**	Australind (including Leschenault)	14,843	High	High	Private and public primary and secondary schools, aged care facilities, bus connection to Perth, regional sporting facilities and local and district shopping facilities.	Regional, district and local	<p>The greater Australind area is the main urban growth centre of the Shire being part of the greater Bunbury regional centre. It's located within close proximity to a wide employment sectors drawing primarily on commerce and industry in Bunbury, Kemerton Industrial Area, the Cristal Pigment Plant in Australind, Worsley Alumina refinery in the Shire of Collie and numerous rural industries throughout the Shire.</p> <p>There is also a growing service sector that are employed in surrounding local government areas but choose to live in Australind for its pleasant and convenient location adjacent to the Leschenault Estuary, Collie and Brunswick Rivers. It is also well serviced with schools and shopping and lies only 15-20 minutes away by car from the Bunbury Regional Centre.</p>
Major Town	Harvey (including Mornington & Warawarrup)	3,268	Low	Medium	High school (including agriculture colleges), tertiary institution, local hospitals, aged care facilities and local administrative centres.	District and local	<p>Services and administrative centres for their surrounding districts. The centres have potential for growth in value added, specialised and creative/innovative industries.</p> <p>Centres of agriculture, excellence in food, wine, sustainable industries to emerge. Their role as tourist and cultural centres, hosting a number of festivals and cultural events, will increase in importance.</p>
Town	Brunswick Junction	1,218	Low	High	Local medical services, aged care facilities, primary school and local shopping facilities.	Local.	Service and/or administrative centres for rural areas only. These centres will develop their role as cultural centres of

Settlement Type	Settlement	Current Population*	Current Growth rate	Estimated growth potential	Infrastructure and services	Commercial and Community	Key social, economic and environmental drivers
							<p>the region and will increase in importance for tourism based on their local and cultural identities.</p> <p>Brunswick Junction will provide an opportunity to accommodate residents employed in Bunbury. Diversification of industry to promote some value-adding and tourism.</p> <p>It has the capacity to accommodate increase in population, and support industries related to tourism and renewable energy.</p>
Village	Cookernup	772	Low	Low	Primary schools in Roelands and Yarloop	Convenience services and community focus.	<p>Small self-sustaining communities that rely on nearby towns for high order goods and services.</p> <p>The coastal settlements of Myalup and Binningup have a low-key residential and holiday role. These coastal towns, together with the Yarloop, have a distinct identity, character and role.</p> <p>These villages are known for their collaborative festivals, local culture and industries.</p>
	Binningup	1,010	Medium	Medium	Local shopping facilities and aged care facilities. May have a local shop only.		
	Myalup	399	Low	Low			
	Roelands	620	Low	Medium	Some locations have limited tourism facilities.		
	Wokalup (including Benger)	438	Low	Low			
	Yarloop	482	Low	Low			

Source: South West Regional Planning and Infrastructure Framework (2014)

* Population data from ABS Statistics from basic community profile (state suburb), except for Australind (which the data collected was from "Australind – Leschenault – Statistical Area Level 2 (SA2))

** Australind is identified as being part of the broader Bunbury Regional settlement type, in accordance with the SWIRPF

Land Demand and Supply Analysis: Residential

The population forecast analysis identifies that the population of the Shire will have a total population of 35,306 by 2031 (Forecast.id 2017). This population growth between 2016 and 2031 will result in an additional 6,672 households to be provided.

Table 28: Land Demand and Supply Analysis (Residential)

Planning Precinct	Precinct Area (ha)	Developable Area (ha)	Density (R-Code)	Lot Size (Min Avg)	Estimated Dwelling/ Lot Yield
Australind					
Residential 1 (RD1)	1.61ha	1.29ha	R20-R40	450m ² -220m ²	36
Residential 19 (RD19)	14.19ha	9.5ha	R20	475m ² -527m ²	180-200
Kingston					
Residential 2 (RD2)	9.0ha	N/A	R20	670m ²	158
Residential 3 (RD3)	18.43ha	N/A	R20	508m ² – 950m ²	99
Residential 4 (RD4)	8.13ha	6.13ha	R20	500m ²	91
Residential 5 (RD5)	8.97ha	N/A	R20	733m ²	74
Residential 6 (RD6)	5.76ha	N/A	R12.5, R30 & R40	733m ²	63
South Treendale					
Residential 7 (RD7)	79.3ha	50.97ha	R30	330m ²	904
Subtotal					1,605-1,725
Binningup					
Residential 8 (RD8)	200ha	200ha	R30	330m ²	3,387
Residential 9 (RD9)	19ha	9.44ha	R15	666m ²	114
Subtotal					3,501
Brunswick Junction					
Residential 10 (RD10)	4.8ha	3.6ha	R15	666m ²	54
Residential 11 (RD11)	37.5ha	18.13ha	R15	666m ²	343
Low Density Residential 1 (LD-RD1)	7ha	5.25ha	R5	2,000m ²	15
Subtotal	132.49ha	86.36ha			412
Harvey					
Residential 12 (RD12)	14.77ha	11.08ha	R15	666m ²	102
Residential 13 (RD13)	9.22ha	7.38ha	R15	666m ²	82
Residential 14 (RD14)	33.92ha	25.44ha	R15	666m ²	239
Residential 15 (RD15)	22.15ha	16.61ha	R15	666m ²	165

Planning Precinct	Precinct Area (ha)	Developable Area (ha)	Density (R-Code)	Lot Size (Min Avg)	Estimated Dwelling/ Lot Yield
Residential 16 (RD16)	50ha	33.94ha	R15	666m ²	310
Residential 17 (RD17)	39.49ha	29.62ha	R12.5	800m ²	226
Low Density Residential 2 (LD-RD2)	7.98ha	N/A	R5 – R10	1,500m ²	31
Low Density Residential 3 (LD-RD3)	7.75ha	5.81ha	R5 – R10	1,500m ²	40
Low Density Residential 4 (LD-RD4)	2.13ha	1.70ha	R5	3,000m ²	6
Subtotal					1,201
Myalup					
Subtotal					N/A
Roelands					
Residential 18 (RD18)	18.84ha	14.13ha	R15	666m ²	145
Low Density Residential 5 (LD-RD5)	52.77ha	34.30ha	R2	5,000m ²	41
Subtotal					259
Yarloop					
Subtotal					N/A
Residential Total					6,978-7,098

Notes:

- The above lot/dwelling yield figures are indicative estimates only that seek to identify the subdivision potential only of those precincts. Further studies and analysis will still need to be undertaken to determine an appropriate lot yield based on site and policy constraints. The lot/dwelling yield figures as indicated in this table were based on figures provided by the Department of Planning, Lands and Heritage.
- Based on the above 6,833 * 2.62 (number of people per household predicted for 2,031) = 17,902 additional people.

4.4 Economy Profile

4.4.1 Education and Qualifications

The education and qualifications of the population in the Shire has been shown in Table 28.

Table 28: Highest qualification achieved

Qualification level	2011			2006			Change
	Number	%	WA %	Number	%	WA %	2006 to 2011
Bachelor or Higher degree	1,663	9.3	17.5	1,262	8.4	14.4	+401
Advanced Diploma or Diploma	1,236	6.9	8.1	898	6.0	7.4	+338
Vocational	4,520	25.3	19.5	3,255	21.7	17.6	+1,265
No qualification	8,678	48.5	43.3	7,780	51.9	46.8	+898
Not stated	1,797	10.0	11.6	1,792	12.0	13.8	+5
Total persons aged 15+	17,894	100.0	100.0	14,987	100.0	100.0	+2,907

Source: Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011. Compiled and presented by .id (2015)

Based on the data above, the following trends and patterns have been identified:

- there is a lower proportion of people that have Bachelor or Higher degrees (9.3% compared to 17.5%) and Advanced Diplomas or Diplomas (6.9% compared to 8.1%);
- there is a larger proportion of people that have vocational qualifications (25.3% compared to 19.5%) and no qualifications (48.5% compared to 43.3%); and
- between 2006 and 2011, there is a growing proportion of people with Bachelor or Higher degrees and Advanced Diplomas or Diplomas vocational qualifications and a reduced proportion in the number of people with no qualification.

4.4.2 Industry sector of Employment

According to Table 29 (2011 Census data), the three main industry sectors of employment in the Shire were manufacturing, construction and retail trade. In comparison to the rest of the State, in 2011 the other main industry sector was health care and social assistance (10.4%). When comparing this data with the 2006 figures, the following trends and patterns have been identified:

- the percentage of people working in the manufacturing sector dropped from 19.2% (in 2006) to 17.8% (in 2011), despite the increased number of people working in that sector;
- this also relates to retail trade (10.9%), whereby the percentage of the population working in retail trade dropped from 11.1% to 10.9% but the number of people working in that sector increased.
- the number of people and percentage of people working in the construction industry has grown from 11.2% in 2006 to 12.6% in 2011;
- the sectors that had the greatest increase in terms of actual population was construction (350 more people), health care and social assistance (227 more people), and mining (206 more people); and
- the agriculture, forestry and fishing sector dropped from 6.4 percent to 4.8 percent.

Table 29: Industry sector of employment

Industry sector	2011		WA	2006		WA	Change
	Number	%	%	Number	%	%	2006 to 2011
Agriculture, Forestry and Fishing	523	4.8	2.4	589	6.4	3.3	-66
Mining	505	4.6	6.2	299	3.2	4.3	+206
Manufacturing	1,943	17.8	8.2	1,772	19.2	9.4	+171
Electricity, Gas, Water and Waste Services	224	2.0	1.1	154	1.7	1.0	+70
Construction	1,382	12.6	10.2	1,032	11.2	9.1	+350
Wholesale trade	241	2.2	3.6	280	3.0	4.0	-39
Retail Trade	1,193	10.9	10.1	1,044	11.3	11.1	+149
Accommodation and Food Services	478	4.4	5.9	397	4.3	5.8	+81
Transport, Postal and Warehousing	446	4.1	4.5	328	3.6	4.2	+118
Information Media and Telecommunications	60	0.5	1.1	59	0.6	1.3	+1
Financial and Insurance Services	162	1.5	2.5	143	1.5	2.9	+19
Rental, Hiring and Real Estate Services	150	1.4	1.7	163	1.8	2.0	-13
Professional, Scientific and Technical Services	355	3.2	7.2	260	2.8	6.3	+95
Administrative and Support Services	248	2.3	3.1	212	2.3	3.2	+36
Public Administration and Safety	486	4.4	6.2	443	4.8	6.4	+43
Education and Training	860	7.9	8.0	664	7.2	7.7	+196
Health Care and Social Assistance	969	8.9	10.4	742	8.0	10.2	+227
Arts and Recreation Services	103	0.9	1.3	90	1.0	1.2	+13
Other Services	398	3.6	3.9	339	3.7	3.8	+59
Inadequately described or not stated	216	2.0	2.2	225	2.4	2.7	-9
Total employed persons aged 15+	10,942	100.0	100.0	9,235	100.0	100.0	+1,707

Source: Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011. Compiled and presented by .id (2015)

4.4.3 Occupation Type

As shown in Table 30, the residents of the Shire are involved in a number of diverse occupations, and no one occupation field is described as dominant (Profile.id 2015). The following trends have been noted:

- almost 30% of the total workforce was employed as Tradespersons, Labourers and associated workers; and
- there is also a strong contingent in the professional fields associated with Managers and Administration, Professionals and associated professionals (34% of the workforce).

Table 30: Occupation of employment

	2011		WA	2006		WA	Change
Occupation	Number	%	%	Number	%	%	2006 to 2011
Managers	1,286	11.8	12.2	1,170	12.7	12.5	+116
Professionals	1,396	12.8	19.9	1,105	12.0	18.6	+291
Technicians and Trades Workers	2,144	19.6	16.7	1,799	19.5	16.4	+345
Community and Personal Service Workers	890	8.1	9.4	723	7.8	8.9	+167
Clerical and Administrative Workers	1,353	12.4	14.4	1,100	11.9	14.5	+253
Sales Workers	910	8.3	8.6	871	9.4	9.4	+39
Machinery Operators And Drivers	1,202	11.0	7.6	930	10.1	7.3	+272
Labourers	1,608	14.7	9.7	1,387	15.0	10.9	+221
Inadequately described	154	1.4	1.5	149	1.6	1.6	+5
Total employed persons aged 15+	10,943	100.0	100.0	9,234	100.0	100.0	+1,709

Source: Australian Bureau of Statistics, Census of Population and Housing 2006 and 2011. Compiled and presented by .id (2015)

4.4.4 Labour force / employment

The Shire has a diverse and wide economic base. A snapshot of other key statistics has been highlighted below:

- the Shire's Gross Regional Product is estimated at \$1.03 billion, representing 0.4% of the State's Gross State Product;
- there were 1,614 local business registered in 2014;
- in 2014 there were 7, 248 local jobs within the Shire and 13,036 employed residents;
- in June 2015, the unemployment rate for the Shire was 3.58%; and
- of the 5,177 people who worked in the Shire, 3,559 (68.7%) also live in the area. (id 2015).

4.4.5 Weekly Income by Individual, Family and Household

The population of the Shire has experienced a steady increase in actual weekly incomes between 2006 and 2011. In 2011 the median family income was \$1,683 per week (compared to \$1,259 per week in 2006), the median total household income was \$1,464 per week (compared to \$1,147 per week in 2006), and median personal income was \$598 per week (compared to \$473 per week in 2006).

4.5 Industry

The Shire contains major industrial activities, which are characterised as processing centres for materials that are obtained from outside of the district. The major industrial site is the Kemerton Strategic Industrial Area which is located 19 km south west of Harvey and contains the Tronox (formerly Cristal) Titanium Dioxide Pigment Plant, Simcoa Silicon Plant and Albemarle's Lithium Plant which is still under construction. It is the principal regional industrial site and is expected to attract further development.

There are major refineries located immediately adjacent to the Shire's Municipal boundaries at Wagerup (Alcoa) and Worsley. Sand mining is occurring along the South Western Highway corridor from Bengier to Yarloop.

These industries, in conjunction with existing local industries such as the Tronox Titanium Dioxide Pigment Plant, Harvey Beef Abattoir, Peters Dairy and Harvey Fresh provide a large part of the economic wellbeing and employment within the Shire. Light industrial areas are located both at Harvey and Australind with a further zoned and partially developed area at Brunswick Junction.

Whilst the mining leases for Alcoa's Pinjarra and Wagerup refineries fall within the Shire's eastern boundary, the Strategy will not impact on these.

4.5.1 Key Localities

4.5.4.1 Australind

The Australind Light Industrial Area (LIA) adjacent to Forrest Highway is mostly undeveloped and will provide adequate "Light Industry" zoned land in the short – medium term. As such, no additional land is proposed for industrial uses within the Australind locality.

With respect to Lot 561 Paris Road, Australind, consideration may be given to a proposal for land use change within a component of this site to residential use (with limited commercial) if it can be demonstrated that the current zoned industrial land to be supplied at Australind LIA would represent a surplus of industrial zoned land for the medium to longer term land needs within the locality.

Any proposal for a change in land use through an amendment to the Strategy will only be considered following consideration of a properly prepared and researched industrial lands assessment to address the demand for light industrial uses within the locality. Such assessment must take into account the following:

- urban growth and population trajectory and planning timeframe for the East of Treendale land holdings as a consideration of further demand for LIA land in this locality;
- the need to provide appropriate ratios of employment to population land to ensure a sustainable long-term framework for settlement growth;
- need to maintain appropriate levels of service to the local population through the supply of industrial zoned land uses to match population growth in the area;
- the suitability of the site for light industrial land use as opposed to residential land use given its location, context and excellent transport connections; and
- any relevant WAPC policies regarding activity centres and/or commercial development.

If supported, any change of land use to residential will require a zoning amendment and structure planning proposal.

While expansion of retail uses at the site would not generally be supported, any limited commercial or limited retail proposed for the site, if supported, should be limited in scale and be incidental to the existing Rural Produce Distribution Centre use so as not to impact on the existing recognised centres of Eaton, Treendale, Ditchingham Place Service Commercial and Australind centre.

Lots 350 and 355 Old Coast Road are by the Titanium Oxide Plant operated by Tronox (formerly Cristal). Development of these sites is largely controlled by State Government however, relocation of the facilities to Kemerton is considered more appropriate by the Shire and consistent with community and the Shire's expectations.

4.5.4.2 Brunswick

Brunswick has an established industrial area which consists of both "General Industry" and "Light Industry" zoned properties. These are generally clustered in a corridor running along the South Western Highway south of the George Avenue intersection. There is approximately 27ha of available industrial zoned land on Lot 200 which is largely undeveloped. It is considered that the available land for industrial purposes in Brunswick is sufficient for future needs within the existing zoned properties.

Lot 300 George Avenue is zoned "Residential", however contains an area of approximately 6ha which is used for settling ponds associated with the milk processing plant on Lot 2 South Western Highway (corner George Avenue). Consideration will need to be given to the long-term use of the site for residential, industrial or mixed use at the Scheme review stage. The settling ponds are in proximity to nearby residences, the closest of which is approximately 280m away. Under the EPA Guidelines, the recommended separation distance between milk processing and the nearest sensitive land uses is 200-500m.

4.5.4.3 Harvey

Industrial land in Harvey is located within the Harvey Light Industrial Area (LIA) which contains properties which are zoned both "General Industry" and "Light Industry". The locality is mostly developed with only two "General Industry" lots remaining undeveloped. The "Light Industrial" lots have not been developed at this stage. Additional industrial land should be made available in the Harvey to Wokalup vicinity to provide for economic growth, however the expansion of the current LIA is not considered appropriate due to the existence of residential properties to the south-east, bushfire hazards and surrounding areas of native vegetation. Furthermore, the existence of cap-rock in the LIA makes earthworks and drainage challenging.

There is the need for flat accessible industrial land within the vicinity of the Harvey or Wokalup townsites to cater for local demand for rural industry uses such as heavy haulage transport depots and farm machinery related businesses. Further investigation should seek to identify appropriately located land for this purpose. This potential industrial area would need access to existing haulage routes such as Uduc, Forestry and Hocart Roads and be a suitable distance from the Harvey townsites.

4.5.4.4 Kemerton Strategic Industrial Area

The Kemerton Strategic Industrial Area (KSIA) is located 19 km southwest of Harvey and contains heavy industrial developments including the Cristal Titanium Dioxide Pigment Plant, Simcoa Silicon Smelter, Coogee Chemical chlorine gas and sodium hydroxide plant, Boc Gases, Cockburn Cement's lime hydration plant, Water Corporation Kemerton Wastewater Treatment Plant, Albemarle's Lithium Plant currently under construction and multiple power generation facilities. Kemerton is the primary strategic industrial area for the region and is expected to attract further downstream processing development opportunities.

The KSIA Structure Plan provides a planning framework and the implementation requirements to guide future development within the Strategic Industrial Area. The overall objective of the Structure Plan is to enable the establishment of resource processing industries and associated supporting activity in order to fulfil Kemerton's designated role as the primary strategic industrial area for the South-West region.

The KSIA also includes the Kemerton Industry Buffer zone, within which incompatible land uses should not be permitted. A former piggery and an abattoir use, which formerly operated within the buffer zone, have now ceased. Land uses with the potential to negatively impact upon the core industrial uses at Kemerton should be located to more suitable zones where off site impacts can be managed and compatibility with surrounding land uses can be maintained.

4.5.4.5 Yarloop

Yarloop contains a significant "General Industry" zoned property on the northern side of Johnston Road which was the site of the former timber mill. The site is currently being used for machinery storage and processing of vegetables and will continue to be used as an industrial site into the longer term. On the southern side of Johnston Road, are 10 lots zoned as "Light Industry", which contain a mixture of light industry businesses, residential dwellings and several vacant lots.

Land Supply Analysis: Industrial

Table 29: Land Supply Analysis Industrial

Planning Precinct	Precinct Area (ha)	Developable Area (ha)	Lot Size (Min Avg)	Estimated Lot Yield	Notes
General and Light Industry					
Australind Light Industrial Area (LIA1)	18.43ha	N/A	1500m ² – 4600m ²	137	The estimated lot yield was based on an approved subdivision plan.
Brunswick Industrial Area (ID1)	72.94ha	27 ha (Lot 200 only)	3,000m ² to 10,000m ²	26 – 65	
Yarloop existing Industrial Area (ID3)	23.3ha	23.3ha	3,000m ² to 10,000m ²	23 – 77	There is no proposed expansion of the existing Yarloop Industrial area. The figures provided indicate the potential subdivision potential only.
Subtotal	164.77ha			186 - 279	
Heavy Industry					
Kemerton Strategic Industry Park (KSIP)	7,508ha	N/A	4,000m ² to 71ha	157	The estimated lot yield was based on a subdivision concept (figure 20) of the Kemerton Strategic Industry Area Structure Plan.
Total	7,672.77ha			343 - 436	

4.6 Retail and Commerce

The Strategy Maps identify proposed locations for expansion of commercial activities and identifies three key Activity Centres - the Harvey Town Centre, Australind Village Centre (Neighbourhood Centre) and the Treendale District Centre. Currently in DPS No. 1, there are several zonings related to commercial activities including “Shop”, “Office” and “Other Commercial – Showroom”. Given the current similarity of uses permitted within each zone, it is considered appropriate that the “Shop” and “Office” zones be combined to a single “Commercial” zoning under LPS No. 2. “Other Commercial – Showroom” will be retained and will relate specifically to the retailing and wholesaling of larger goods (e.g. white goods, car sales etc.). In addition, it would be appropriate to consider mixed use residential and commercial developments within the Town Centre locations.

4.6.1 Main Town Centres

4.6.1.1 Australind Town Centre (Neighbourhood Centre)

The Australind Town Centre consists of a number of individual lots which are owned both privately and by the Shire. The Australind Village Centre on Lot 225 is zoned “Shop” with additional use rights listed in Schedule 7 of DPS No. 1. The other privately owned lots in the precinct are zoned “Shop” or “Office” and Lot 208, which is owned freehold by the Shire is zoned “Special Use – Other Community”.

The lots comprising the Australind Village Centre are fully developed, consisting of built form and car parking. Any expansion would need to be vertical and would require the provision of additional parking which is currently at capacity. Vertical expansion may be unviable at present however an increase in the permissible uses can be achieved by rezoning all lots within the centre to “Commercial”. This is consistent with the recommendations of the WAPC’s Activity Centre Policy and the objective of creating a diverse built environment through mixed-use planning.

In the longer term, the retail capacity of the Town Centre may be able to increase through appropriate mixed-use development of Lot 210 Mulgara Street, (owned by the Shire) which is immediately east of the existing shopping centre.

4.6.1.2 Binningup

There are currently three lots in Binningup which are zoned as “Shop” located in a cluster along Ilyarrie Street. The Binningup General Store occupies one of the lots with the other two remaining vacant. The current zoning of “Shop” will be amended to “Commercial” under LPS No. 2.

The Binningup Beach Local Structure Plan includes the provision of a “Village Centre” which may provide up to 900m² of retail floor space. It is considered that this Centre will cater for the additional population created by the new development, whilst the existing town centre will service the population to the north. Both commercial centres should be well connected, catering for all modes of transport, whilst establishing their own individual but complementary sense of place.

4.6.1.3 Brunswick

The majority of properties located in the Brunswick main street are zoned “Shop”, however there are a number which are not currently occupied. As such, it is recommended that no additional properties be identified for commercial purposes in order that existing properties are fully utilised. Whilst additional commercial properties are not required in the short – medium term, rezoning existing properties from “Shop” to “Commercial” will provide a greater mix of available uses and may be a sufficient catalyst to reduce current vacancies.

4.6.1.4 Cookernup

Currently there is one property in Cookernup zoned “Shop”. Due to the low residential density in Cookernup, it is considered that this is sufficient to service the community for the short – medium term and therefore no further expansion is proposed. Notwithstanding, the existing property is to be rezoned to “Commercial” in LPS No. 2.

4.6.1.5 Harvey

The Harvey townsite contains a vibrant commercial centre with “Shop” zoned properties generally located along Uduc Road, Hayward Street and Harper Street and “Office” zoned properties along Becher and Gibbs Streets. Consistent with recommendations contained in the previous sections of this Strategy, it is considered that these two zonings be combined to create a single “Commercial” zoning. This has the potential to result in additional shops being located on the side streets of Becher and Gibbs Streets, however, it is considered that both uses are compatible.

To ensure the continuing dominance of Uduc Road as the main commercial street within Harvey, Lots 12 – 14 and 34 currently zoned “Residential” between Harper Street and Sutton Street on the northern side of Uduc Road should be rezoned to “Commercial” in LPS No. 2. Although currently used as residences, non-conforming use rights would apply which would enable their ongoing use for residential purposes, until such time as demand dictates a change in use.

The area bound by Newell Street, Herbert Road, Buckby Road and Young Street is predominantly zoned “Other Commercial – Showroom” with one property zoned “Special Use” (church) and six “Residential” zoned properties. The six residential properties are to be rezoned to “Other Commercial – Showroom” to provide for additional growth. Although currently used as residences, non-conforming use rights would apply which would enable their ongoing use for residential purposes until such time as demand dictates a change in use.

A portion of Lot 500 (No. 107) Uduc Road (Harvey Police Station) is zoned “Residential” with the remaining section being zoned “Special Use - Other Community”. It is recommended that this be amended in LPS No. 2 to make the entire lot “Special Use - Other Community”. The remaining residential lot on the corner of Young and Newell Streets will be rezoned to “Commercial” to match adjoining properties.

4.6.1.6 Roelands

Lots 12 and 13 Government Road, Roelands are both partially zoned “Shop”. In the short - medium term, this amount of commercial zoned land may be sufficient, however, it is considered appropriate to rationalise the zonings so that all of Lot 12 is zoned “Commercial”, and the entirety of Lot 13 is zoned “Residential”.

4.6.1.7 South Treendale

The South Treendale Structure Plan depicts a commercial site on the south-western boundary abutting The Boulevard. The Treendale District Centre is required to retain its commercial dominance within this locality, however, there is an opportunity to provide for additional commercial land within the vicinity of the Brunswick River, particularly for uses such as restaurants, cafés, higher density residential and recreation. This could be achieved as part of “mixed-use” development with a vertical separation of commercial and residential uses. This outcome would further promote a healthy built environment within the Greater Australind locality.

4.6.1.8 Treendale District Centre (District Centre)

The Treendale District Centre Structure Plan outlines the future growth of the commercial precinct and includes, but is not limited to, the provision of a mix of residential, retail, office, mixed-use, food and entertainment and community uses, amongst others. The first stage has been constructed and it is anticipated that the Structure Plan will provide suitable guidance for the ongoing development of this precinct. It is considered important to retain or increase building bulk and residential densities around the District Centre which will ensure the ongoing viability of the commercial precinct which may be achieved through the introduction of an “Activity Centre” zone. Further research regarding the most appropriate means of implementing this zoning will be required during the preparation of LPS No. 2.

4.6.1.9 Kingston (Neighbourhood Centre)

Lot 9020 Leisure Drive, within the Kingston Estate, is dedicated for a local shopping centre under the Kingston Structure Plan and identified as a Neighbourhood Centre within the WAPC’s Activity Centre Policy. The site is yet to be developed.

4.6.1.10 Wokalup

There are currently no commercial zoned properties in Wokalup, however there are four sites on South Western Highway with commercial uses being permitted:

- Lot 36 – portion zoned “Special Use – Service Station”;
- Lot 13 – portion zoned “Special Use – Additional Use No. 1” (allowing for an “Eating House”, “Craft Studio” and “Shop”;
- Lot 56 – portion zoned “Tourist”; and
- Lot 100 – zoned “Special Use – Hotel”.

It is recommended that the eastern portion of Lots 13 and Lot 56 be rezoned to “Residential” in LPS No. 2.

4.6.1.11 Yarloop

The Yarloop townsite currently contains seven lots zoned “Shop” which are located along Station Street. Some premises survived the Yarloop/Harvey/Waroona January 2016 Bushfire, while most of the lots are now vacant. Redevelopment of the commercial premises is to be guided by the Yarloop Town Development Plan.

There is one single property zoned “Special Use - Other Community” on the corner of Station Street and Kendall Street, which has been developed as a shop, that should be rezoned

“Commercial” or “Public Purpose” under LPS No. 2. Consideration is to be given to allowing for residential development on commercially zoned lots.

Land Demand and Supply Analysis: Retail and Commercial

Table 30: Land Demand and Supply Analysis: Retail and Commercial

Planning Precinct	Hierarchy of Centre	Precinct Area (ha)	Current Floor Space	Estimate Floor space (Net Lettable Area – NLA)	Anticipated Release	Notes
Australind Village Centre (AC1)	Neighbourhood	8.3ha	~9,370m ²	15,000m ²	Medium term	
Harvey Town Centre (AC2)	Town (Major)	4.8ha	~2,500m ²	5,000m ²	Medium term	
Subtotal		13.1ha		20,000m²		
Addition Areas – Not identified as precincts						
Treendale District Centre	District	12.1ha	10,107.3m ²	20,000m ²	Short term	Development shall be as per the approved Treendale District Structure Plan
Kingston Neighbourhood Centre	Neighbourhood	3.03ha	N/A	4,500m ²	Medium to long term	The current Kingston Structure Plan allocates 4,500m ² NLA. A new structure plan may be required prior to development.
South Treendale	Local	1.82ha	N/A	5,000m ²	Short to Medium term	Development shall be as per the approved Treendale Structure Plan and South Treendale Structure Plan
Subtotal		16.95ha		29,500m²		
Commercial Total		43.15ha		49,500m²		

4.6 Tourism and visitors

Tourism is an important industry in the South West region. According to Tourism WA (2014), tourism contributed \$1.587 billion to the region economy. The summary of key trends is shown in Table 31.

Table 31: Australia's South West Visitor Summary Year ending December 2014

	Spend \$ million	Visitors '000	Nights '000	Avg Stay Nights	Avg Trip Spend \$	Avg Nightly Spend \$
Intrastate Overnight	1,008	2,105	6,680	3.2	479	151
Interstate Overnight	97	124	620	5.0	782	156
International Overnight	138	128	2,043	16.0	1,080	67
Intrastate Daytrips	345	2,996	n/a	n/a	115	n/a
TOTAL	1,587					

Source: Tourism Research Australia – National Visitor Survey (Visitors aged 15+ years); International Visitor Survey (Visitors aged 15+ years). Note that visitor numbers, nights and spend are estimates based on the results of the surveys.

The *Planning Tourism Guidelines 2014* and Planning Bulletins 83, 99 and 49 outlines the State's planning policy position for tourism in Western Australia. These documents also provide guidance to strategic planning and statutory decision making. Some of the key aspects of these documents that relate to the Shire include:

- the need to protect and promote caravan and camping sites,
- ensure consistent approach to the development of tourism sites and facilities, and
- provide for flexibility in the design and assessment of tourism and mixed use development.

In order to encourage the growth of tourism in the Shire, it is considered a broad and flexible approach should be adopted which recognises the various forms that tourism development may take. This Strategy recommends the adoption of a broad approach to tourism that:

- Provides considerable flexibility in relation to the uses that can be carried out in appropriate zonings;
- Inherently provides for the delivery and physical dispersal of tourism related activities;
- Promotes tourism in competition with other land use activities;
- Protect existing caravan and camping parks;
- Recognises tourism as an activity that can be provided as part of a mixed-use offering;
- Introduces levels of assessment that support the delivery of tourism related outcomes where appropriate.

DPS No. 1 contains a "Tourist" zone as well as tourism type uses within other zonings such as "Bed & Breakfast" or "Short-Stay Accommodation". In developing a broad approach to tourism, it is considered that more flexibility is required to encourage a mixed-use approach, for example a rural property may also be developed with accommodation and/or recreational activities, whilst retaining use for its predominance as a rural lot.

It is recommended that the existing "Tourist" zoning contained within DPS No. 1 be redefined as "Tourism" (in accordance with the Planning and Development (Local Planning Regulations) 2015) for those properties which are specific to this purpose (e.g. caravan parks), whilst expanding the permissibility of tourist type uses across the Shire. All uses will be need to be considered on merit and Scheme provisions developed to address issues of servicing, visual

amenity, retention of predominant land use and the mitigation of land use conflict within and external to the development.

The development of passive and active recreation which caters for all user groups should not be the sole responsibility of private industry. The Shire has many natural and built assets both on freehold land and on land Reserved for Recreation. Their ongoing development will encourage a healthy balance between the built and natural environments. In addition, creating a variety of destinations and activities will facilitate a sense of community wellbeing and improved interaction between residents and tourists. An example of where a dedicated tourism precinct may be established is within the vicinity of the Harvey Dam.

4.6.1 Point Douro – Lots 50 and 51 Old Coast Road, Australind

Lots 50 and 51 (previously Lot 30) Old Coast Road are located on the Leschenault Estuary, with frontage to the Old Coast Road on its eastern boundary.

In 1997, the Shire initiated Scheme Amendment No. 13 to District Planning Scheme No. 1 to rezone the site to facilitate a canal based residential and tourist development, including a conservation area and commercial node. Following initiation of this amendment, the proposal was referred to the EPA for assessment. The EPA determined that an Environmental Review was required, which was subsequently undertaken and endorsed by the EPA for advertising in 2000.

The amendment was advertised in conjunction with the Environmental Review in late 2001 for a period of 60 days, during which a large number of submissions were received. In 2004, Council advised the WAPC that due to the complexity of the submissions received no formal consideration of them had been made and that it was awaiting further advice from the Department of Environment.

In response to the public submissions, in December 2007, the EPA released Bulletin 1275, which outlined its report and recommendations on the proposed canal development on the site. The EPA determined that the development could be implemented, subject to a number of detailed plans being prepared for approval by relevant State agencies and the Shire, including;

- Environmental Management Plan (addressing the management of the foreshore and conservation reserves, terrestrial fauna and waterbird protection, and control of mosquito nuisance);
- Sea level rises and Climate Change
- Acid Sulphate Soils Management Plan;
- Water Management Plan (including surface and ground water quantity and quality); and
- Construction Management Plan.

In late 2009, the applicant proposed to remove the canal component of the Scheme Amendment, which would have required readvertising or a new amendment. The Amendment has since been withdrawn.

Recently, Lot 51 was purchased by the Western Australian Planning Commission, with the intent to reserve the land for “Regional Open Space” and “Waterways” and include it within the Leschenault Regional Park.

4.7 Recreation and open space

4.7.1 Public Open Space

In addition to dedicated sporting grounds, the Shire is also responsible for a range of other areas of public open space which includes both passive and active areas for recreation. The Shire has recently completed project works for the boat ramp at Ridley Place, Australind.

As part of the subdivision process, developers are required to provide 10% of the developable area for Public Open Space (POS) free of charge. Where a development is of a scale or is in a location where the provision of POS is not appropriate, the landowner may be required to make payment to the Shire of an amount equivalent to the value of 10% of the developable land which is then contributed to POS provisions within the local area.

The facilities available and size of the public open spaces across the Shire have been designed in accordance with the requirements of Liveable Neighbourhoods.

4.7.2 Regional Open Space

The Greater Bunbury Region Scheme reserves a number of areas throughout the Shire as Regional Open Space (ROS). These areas have been identified as having regional significance and often are located in areas where environmental protection is warranted such as along foreshore reserves and river corridors.

4.7.2.1 Leschenault Regional Park

In 2015, the Western Australian Planning Commission released the Leschenault Regional Park Draft Establishment Plan for public comment. The plan had proposed to establish a second regional park for the Greater Bunbury Region, which would comprise of the Leschenault Estuary, Leschenault Inlet and the riparian zones of the Collie, Brunswick and Preston Rivers.

The Leschenault Regional Park Establishment Plan was adopted in July 2017 for an area of 2,278ha.

The area is considered regional significant because of its high conservation and recreation values and its proximity to the Perth and Bunbury regions and neighbouring rural districts. The Establishment Plan proposes that the area is defined into three broad management zones:

- **Conservation and protection** - represents the remnant vegetated areas of high conservation and landscape value. These areas have been subject to minimal intrusion, are in a relatively natural state and will be managed to prevent disturbance to the bushland environment by restricting public access through the area
- **Natural environment uses** - refers to areas that have some level of developed amenity, are subject to significant visitor numbers and are used as access for low impact recreation purposes that do not significantly adversely affect the natural environment.
- **Recreation** - refers to areas set aside for passive and active recreation and may include built facilities such as public toilets, irrigated grassed playing fields, barbeque sites, boat ramps and playgrounds.

The type and scale of any facilities provided will depend on the conservation values of the surrounding area, community demand and appropriate management of the park.

The Management Plan for the Park is currently being prepared.

Figure 24: Leschenault Regional Park Area



Source: Leschenault Regional Park Draft Establishment Plan 2016

4.8 Community facilities

4.8.1 Sporting facilities

4.8.1.1 Leschenault Leisure Centre & Recreation Reserve

The Leschenault Leisure Centre (LCC) and Recreation Reserve is a regional sporting facility in Australind. The LLC is an indoor facility which contains swimming pools, indoor courts (squash, netball, basketball, and indoor soccer), a gymnasium, and function rooms. The centre is also used for a number of sporting activities such as gymnastics and Tae Kwan Do.



Source: Taekwondo Central 2015 (left)



The Recreation Reserve consists of 19ha of open playing fields which are utilised for a wide variety of sporting and recreational activities, including soccer, Australian rules football, cricket and rugby. The Leschenault Recreation Park Pavilion was completed in 2015 and is managed by the Leschenault Sporting Association.



Source: ABC 2016 (left)

In cases of emergency, the LLC has also been used as an evacuation centre.

4.8.1.2 Harvey Recreation Centre and Recreation Grounds

The Harvey Recreation and Cultural Centre are located on the showgrounds in Harvey and contain indoor courts, a gymnasium and a function room. A range of sports are played on the adjacent ovals including football, hockey and cricket.

4.8.2 Other Community facilities

In addition to the two major regional facilities, there are a number of community facilities within the Shire, including:

- Dr Peter Topham Memorial Swimming Pool
- Libraries at Australind, Binningup, Harvey and Yarloop
- Roelands Hall
- Stanton Park (old Golf Course)
- Stirling Cottage Gardens
- Yarloop Sports Pavilion
- Australind Town Hall
- Binningup Hall
- Brunswick Recreation Centre
- Brunswick Town Hall
- Gibbs Pool Amphitheatre
- Harvey RSL
- Harvey Town Hall
- Myalup Community Centre

4.9 Rural Area

4.9.1 Agriculture activities in the South West

Agriculture has historically been an important industry in the South West region and has a total agricultural production gross value of \$637.5 million in 2012/2013. According to the South West Development Commission (SWDC) and ABS figures, the Shire is one of the largest in the region in terms of overall agricultural production. A summary of the Shire's agricultural sector is noted below:

- the total agricultural land holdings amounts to 61,986 ha;
- there are a total of 335 farms; and
- agricultural production for the Shire region is valued at \$126 million.

Notwithstanding this however, recent ABS data indicates (as per the tables below) that there is a decline in major agriculture activities and the number of agricultural businesses across the South West overall. The exceptions to this trend were:

- All forms of Broadacre Crops, which saw an increase in the number of businesses despite a decrease in the land used for its production;
- Flowers or turf, which saw an increase in both the number of businesses and land used;
- Sheep and lamb, which saw an increase in both the number of businesses and land used; and
- Meat cattle, which saw a decrease in the number of businesses however an increase in the estimate number.

Table 32: Agricultural activities by no of businesses and estimated land used (ha) in Bunbury Region

Bunbury region (SA4)	2013-2014		2014-2015	
	Estimate (Ha)	No. of businesses	Estimate (Ha)	No. of businesses
Total Area	573,380	2,433	509,377	2,285
Broadacre Crops (including broadacre, hay, silage and horticulture)	87,507	1,682	81,540	1,411
Broadacre Crops – total area	20,728	105	20,560	120
Flowers or Turf	254	47	319	69
Vegetables for consumption	3,738	161	3,293	162
Grapevines	6,897	315	6,514	271

Source: ABS data 2011

Table 33: Agricultural activities by no of businesses and estimated number in Bunbury Region

Bunbury region (SA4)	2013-2014		2014-2015	
	Estimate (No.)	No. of businesses	Estimate (No.)	No. of businesses
Fruit and Nuts (No. trees)	2,145,450	356	1,972,088	266
Cattle Total	334,508	1,389	334,765	1,358
Dairy Cattle	103,814	256	86,845	155
Meat Cattle	230,693	1,317	247,920	1,287
Sheep and lambs	779,669	525	841,622	527
Pigs	np	66	np	32
Livestock (Other)	11,294	277	6,098	115

Source ABS data 2011

There are a number of reasons that could explain both the decline in major agriculture activities and the number of agricultural businesses, which could include:

- Annual fluctuations in agricultural production as a result of seasonal conditions, and local or overseas demand for certain agricultural productions;
- Younger generations are not wanting to inherit the family farm resulting in the amalgamation of these farms, creating super farms;
- The development and subdivision of rural land, reducing both the amount of land available for agricultural businesses and the number of businesses; and/or
- Change in agricultural land uses, for example from dairy to meat cattle production.

4.10 Urban design, character and heritage

4.10.1 Heritage Protection

Under the guidance of the Heritage Advisory Committee the Shire has reviewed the Shire's Local Municipal Heritage Inventory (MHI), which was adopted by Council at its Ordinary Meeting in October 2015. The Shire's MHI lists approximately 235 places considered to be of heritage significance and identifies a recommended Management Category for each place, thus providing the basis for establishing a revised Heritage List. Currently the Shire's Heritage List of Places is listed under Schedule 1 of the DPS1.

At that Meeting, Council also adopted two supporting heritage local planning policies: Local Planning Policy for Heritage Places and Local Planning Policy for the Yarloop Heritage Area. The Local Planning Policy for Heritage Places provides guidance and support with regards to the assessment of development applications for places to be registered in the Shire's future Heritage List.

The Local Planning Policy for the Yarloop Heritage Area (YHA) is a separate heritage planning policy which established a Heritage Precinct for Yarloop. The policy guided appropriate development in this locality that were not identified in the MHI or future list. Additional design provisions, such as use of colours and materials, window frame, roof pitch and fencing, were listed in the policy with the intent to protect the heritage character of the area.

In January 2016, a severe bushfire destroyed 75% of properties within the Yarloop Heritage Area and seven properties outside the area that were identified within the Shire's MHI. Two State registered heritage sites were also destroyed – the Yarloop Timber Workshops and St Joseph's Catholic Church.

In response to the fires, the YHA Policy was revoked and the Local Heritage Policy was modified removing the requirement for a planning approval for the demolition of any badly damaged structures within the YHA and the properties affected by the fire. In addition, further consultation and discussion will need to be had with the Shire and the residents of Yarloop in order to consider the future housing design and character of the area.

Greater emphasis will now be placed on ensuring proactive measures are undertaken by the Shire to interpret and recognise heritage places and encourage their conservation in the longer term.

4.11 Traffic and Transport

4.11.1 Major Transport Routes

Major roads servicing the Shire include the Forrest Highway, South Western Highway and Coalfields Highway. The Forrest Highway links the South-west region to Perth and whilst it passes through the Shire it bypasses all major towns and settlements. The South Western Highway passes through a number of towns including Harvey, Brunswick, Roelands, Wokalup and Yarloop, however has experienced a significant decrease in traffic since the opening of the Forrest Highway in 2009. Main Roads WA has completed upgrades to the intersection of Raymond Road and South West Highway intersection. The Coalfields Highway is the main road connecting the coastal towns of Bunbury, Australind and Eaton with Collie, a major mining hub which employs many residents from the coastal areas.

It is anticipated that road usage will continue to increase and Main Roads WA being the responsible authority will continue to maintain the primary roads to a suitable standard. Whilst the South Western Highway runs through a number of inland towns, there are no plans to create bypasses at this stage.

There is a need for assessment and consideration of Marriott Road to be reclassified as a Main Roads controlled road in the context of further planned industrial expansion at Kemerton.

The Shire and Main Roads WA hold concerns regarding the increase of horticulture related farm machinery on Forrest Highway and the potential for road safety and as such are currently developing an alternative road network to provide a safer option for farm machinery.

The GBS identifies a further bridge over the Collie River, east of the Forrest Highway, to link future development proposed for each side of the river. The bridge is being planned as part of the Bunbury Outer Ring Road project.

4.11.2 Bunbury Outer Ring Road (BORR)

The Main Roads WA, Bunbury Outer Ring Road (BORR) planning project interfaces with the Shire's future development area between Clifton Road, Raymond Road and Forrest Highway.

A grade separated interchange is planned at the BORR northern tie-in, including an east-west connection from Clifton Road to Paris Road. However, it is noted that in order to limit impacts on land and environmental at this location, only limited traffic movements are being considered (primarily movements to and from the north and cross-connection from Clifton Road to Paris Road).

It is noted that the BORR will also sever Treendale Road. A new intersection is proposed to allow for north-facing ramps thereby avoiding heavy vehicle congestion at the intersection of Forrest Highway and Raymond Road. The existing intersection with Raymond Road west of the BORR will also need to be reconfigured to accommodate the existing lots and secondary access to the Meadow Landing estate.

To ensure all landowners are aware of the likely impacts these intersections may have on affected properties, these intersections should be depicted on the Scheme Maps in LPS No. 2 through appropriate reservations once final designs have been completed.

4.11.3 Rail

Rail services run adjacent to the South Western Highway and are mainly used for freight purposes, however a daily passenger service (The Australind) connects Bunbury and the inland towns with Perth. An east-west spur linking Brunswick to the Worsley Industrial Area near Collie also exists.

The railway infrastructure has in recent years been upgraded and caters for significant movement of freight, most of which is transported to the Bunbury Port. The Kemerton Industrial Park Strategy indicates that an additional spur connecting the Kemerton locality to the port of Bunbury north of Brunswick is necessary to make efficient use of the strategically located industrial area and ensure its ongoing viability.

The GBS indicates a future fast passenger rail service adjacent to the Forrest Highway with a station in the Bunbury CBD and a connecting service to Busselton. In the GBS it is indicated that a regional 'park and ride' be established at Eaton, however it is considered that an additional station should be provided in populated strategic locations in the Greater Australind area such as Treendale, to facilitate a high level of local patronage of the service once established.

4.11.4 Public Transport

The GBS makes reference to the need for high quality public transport hubs, however, the current level of public transport in the Harvey area is of a low standard to encourage regular patronage. Presently there are no options for catching public transport to Bunbury from any of the inland towns along the South Western Highway. Whilst there are some buses that service the Australind area, they are both infrequent and have limited routes which would prevent many residents from using them. Without significant investment from the State government, it is considered that residents of the Shire will continue to be heavily reliant on private motor vehicle use.

4.11.5 Boating Facilities

There are presently several boat launching facilities around the Australind area, with the most significant being the boat ramp located at Ridley Place. The Shire has recently completed an extensive upgrade to the facilities at Ridley Place.

An audit of existing formal and informal boat launching facilities within the Shire is presently being undertaken with a view to rationalisation. This will be achieved by upgrading required boat ramps and closing those which are contributing to unnecessary environmental impacts along the foreshores and banks of the Shire's water ways.

4.11.6 Pedestrian and Cycle Paths

In order to reduce reliance on motor vehicles and to encourage a connected, healthy and active community it is important that the Shire continues to invest in establishing a high quality and safe pedestrian and cycle network in all localities throughout the Shire, but particularly where vehicle traffic congestion is an issue. The network should endeavor to provide safe and efficient connections linking both recreational and commercial nodes.

The Shire also has a variety of destinations including foreshores and naturally vegetated areas adjacent to townsites that would be more widely utilised if the pedestrian and cycle networks were upgraded. The organisation *Healthy Spaces and Places* produces a guide containing

design principles to support communities to be healthy through quality urban design and should be used as a reference by the Shire.

4.12 Infrastructure services

4.12.1 Water

4.12.1.1 Town Water Supplies

Harvey has a reticulated water supply provided by the Water Corporation and drawn from the nearby Harvey Weir and estimated to be at around 679 Megalitres per annum including the supply to nearby Wokalup (Office of Water Regulation, June 2001). Harvey/Wokalup has two service reservoirs and two pump stations.

Australind has a reticulated water supply entirely from groundwater supplies. A total of 6 bores provide around 2,993 Megalitres per annum to the townsite (OWR, June 2001). Australind also has 4 service reservoirs and seven pump stations.

Clifton Park is supplied from the bore sites that service Australind, while the Leschenault area is also supplied from a local bore water scheme operated by the Water Corporation. Brunswick Junction has a reticulated water supply from bore water sites and Yarloop is supplied with reticulated water from Bancell Brook Dam.

4.12.1.2 Southern Seawater Desalination Plant

The Southern Seawater Desalination Project (SSDP), (also referred to as the Binningup Desalination Plant) is a desalination plant located along Taranto Road, Binningup. The plant is capable of producing 100GL of drinking water annually, supplying 20% of Perth's water requirements and to the south west region. The facility consists of offshore marine infrastructure (intake and diffuser systems) and onshore infrastructure (treatment and storage infrastructure) (Water Corporation 2015).

The site is about 1,200 metres from the coast with most of the plant situated in a now disused limestone quarry. The project includes the laying of a 30-kilometre, 1,300-millimetre pipeline to deliver potable water to the South West Integrated System via a storage facility near Harvey (Water Corporation 2015). The Harvey facility has one 32 megalitre storage tank operational with another one under construction. There is allowance at the site for four 32 megalitre storage tanks.

4.12.2 Reticulated Sewerage

Reticulated water and sewerage are available within the urban settlements of the Shire. The rural residential areas and those areas not connected to reticulated sewerage are serviced by private effluent disposal systems. The regulatory enforcement of these systems within the Shire is managed by the Shire's Environmental Health Services department.

The Kemerton Waste Water Treatment Plant (KWWTP) is located at Lot 310 Wellesley Road in Kemerton. The KWWTP is currently processing 3.5 million litres of wastewater from Eaton and Australind for treatment every day. The Water Corporation has completed project works to the KWWTP to support growth forecasts for the Shires of Harvey and Dardanup into 2030, which included:

- Installation of a denitrification filters installed at the plant; and

- construction of a pipeline that will enable Eaton's wastewater flows to be redirected to the Bunbury Wastewater Treatment Plant

4.12.3 Electricity

The Kemerton Gas Power Plant is located on 505 Treasure Road, Wellesley. It operates as a peaking plant and provides input into the South West Interconnected System (SWIS) in Western Australia. The power station comprises of two open cycle gas turbines and commenced operation in November 2005. In June 2008, a 40 MW upgrade to Kemerton Power Station was completed, increasing its capacity to 344 MW. The upgrade has made the power station more efficient and improved its environmental rating by reducing greenhouse gas emissions, while providing power for an additional 10,000 households. It is estimated that power station will have a remaining life of 25yrs, with a 2040 asset end. There is also Western Power's Kemerton Terminal and Substation, and Tesla's Peak Power Station located within the Kemerton Strategic Industrial Area.

4.12.4 Telecommunications

Over the past two years, the National Broadband Network (NBN) has been rolled out over the Shire as part of a Federal Government initiative. In order to provide sufficient coverage over the Shire's rural areas and urban centres, the NBN will consist of a mix of fixed line and fixed wireless technology. Fixed wireless technology is where data travels from a transmission tower using existing mobile phone towers, as opposed to fixed line technology where data travels from cables. Australind, Leschenault, Harvey, Myalup, Binningup and parts of Treendale and Kingston are connected to the fixed NBN network. The NBN for Brunswick is expected to be completed in July – December 2020.

5. Constraints

5.1 Environmental Constraints

5.1.1 Flood Prone Areas

The GBRS *Floodplain Management Policy* contains floodplain mapping relevant to the Australind area, and is generally applicable to land within 200m of other watercourses for which a floodplain has not been defined.

The Strategy Maps illustrate the flooding potential of the Collie, Brunswick and Wellesley Rivers and the Leschenault Estuary, including the Cathedral Avenue locality. This Strategy recommends all affected land be defined in LPS No. 2 as being within a ‘Special Control Area’ with specific provisions controlling development in these areas, which may include but is not limited to setbacks and finished floor levels.

The Shire recognises the issue of climate change and the potential for sea level increases as identified under SPP 2.6 *State Coastal Planning*. In this regard, the Shire is committed to working with the Peron Naturaliste Partnership with a goal of establishing an appropriate planning framework to adequately deal with these matters into the future.

The Shire completed its “Coastal Hazard Risk Mapping and Adaptation Plan” (CHRMAP) for the entire coastline in 2016 and the CHRMAP was adopted in February 2017. Appropriate Scheme provisions will be included within LPS No. 2 to provide guidance on the best way to manage (defend or retreat) coastal infrastructure and areas of future development.

In June 2017, the Shire adopted a Geophysical Assessment associated with the Binningup coastline.

5.1.2 Bush Fire Risk Areas

In accordance with State Planning Policy 3.7 “Planning for Bushfire Protection” a Bushfire Hazard Assessment Report (BHAR 2015) has been prepared for the Shire which focuses on the Precinct Areas identified within this Strategy (excluding Australind, Treendale and Kingston). All future Structure Plans will be required to include fire mitigation measures addressing the known risks identified within the BHAR 2015.

Additionally, Scheme Provisions will need to be included within the new Scheme to make reference to the Planning and Development Regulations in regard to fire risk.

Of note the BHAR 2015 identified that single access into the Myalup townsite via Myalup Beach Road only is a significant bushfire management issue that urgently needs to be addressed. State Planning Policy 3.7 Planning in Bushfire Prone Areas and the associated guidelines recommend a minimum of two vehicle access ways going in different directions are to be constructed in order to ensure alternative evacuation routes are available in the event of a significant bushfire.

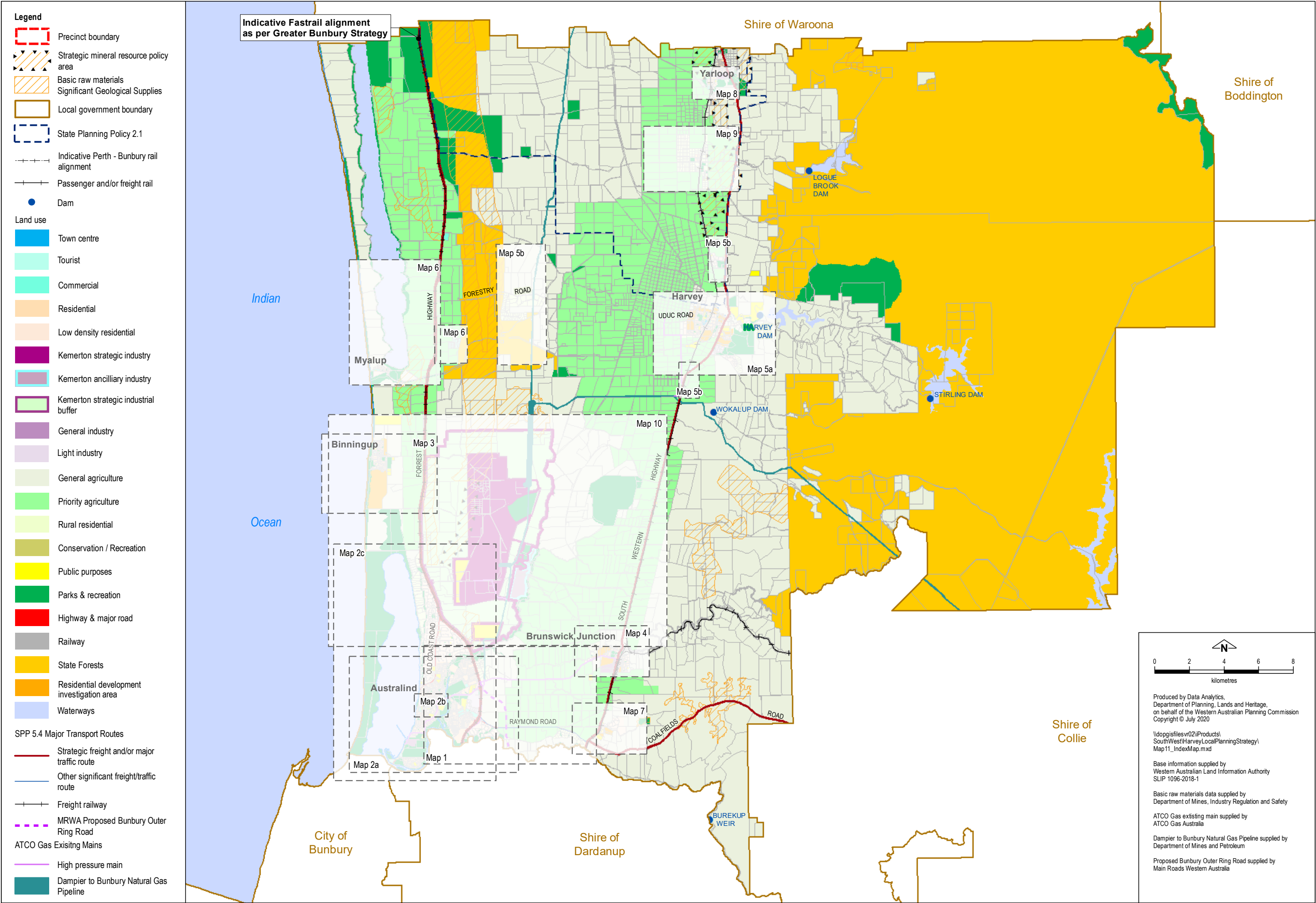
5.2 Other Constraints

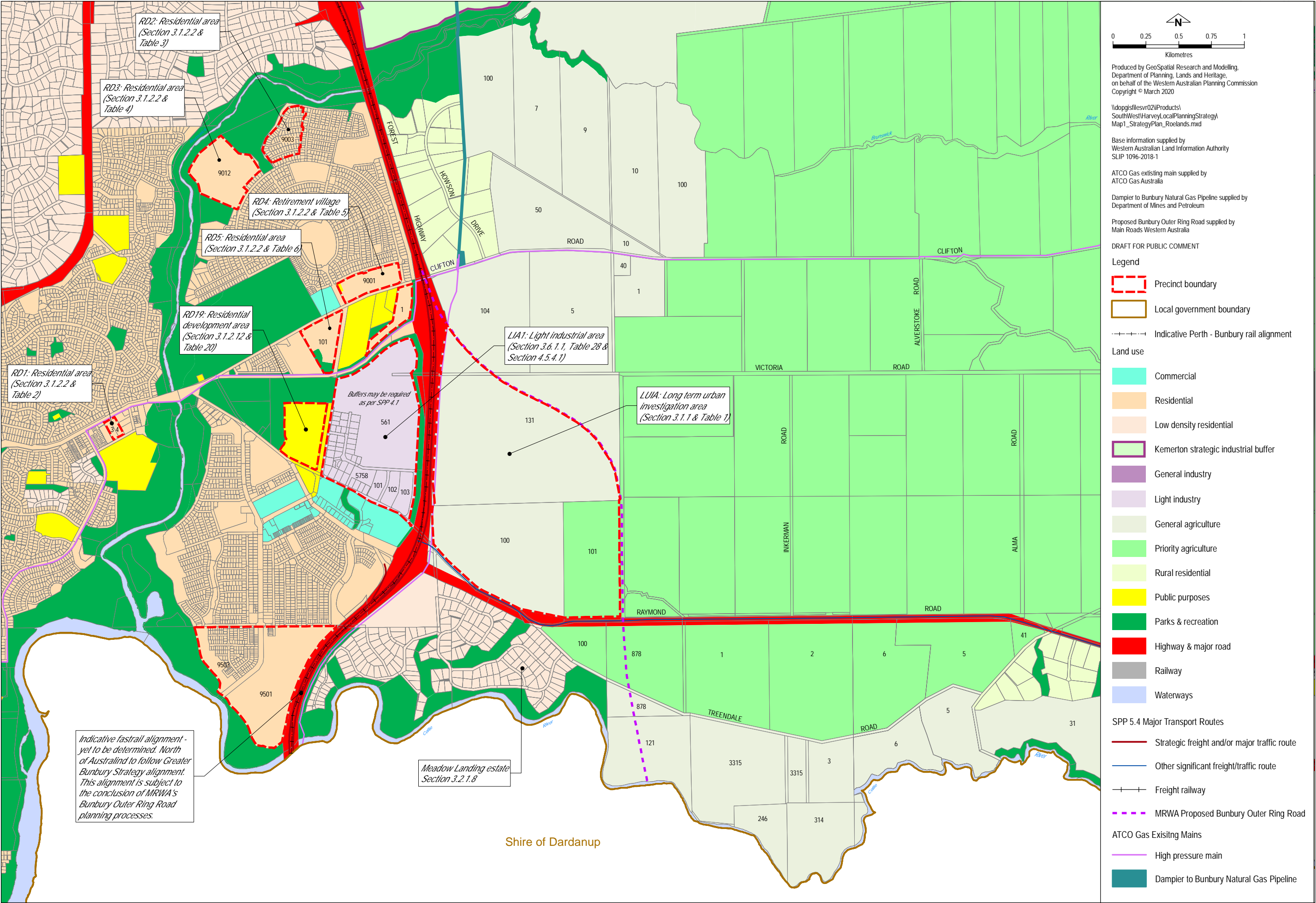
5.2.1 Funding of Public Infrastructure

The population of the Shire is growing at a steady rate. The increase in population places pressure on the Shire to provide additional facilities, services and infrastructure for the community. SPP 3.6 Development Contributions for Infrastructure recognises the challenge that local authorities face and provides mechanisms for local authorities to collect “developer contributions” to assist. SPP 3.6 sets out the principles underlying development contributions for community infrastructure and the form, content and process for the preparation of development contribution plans.

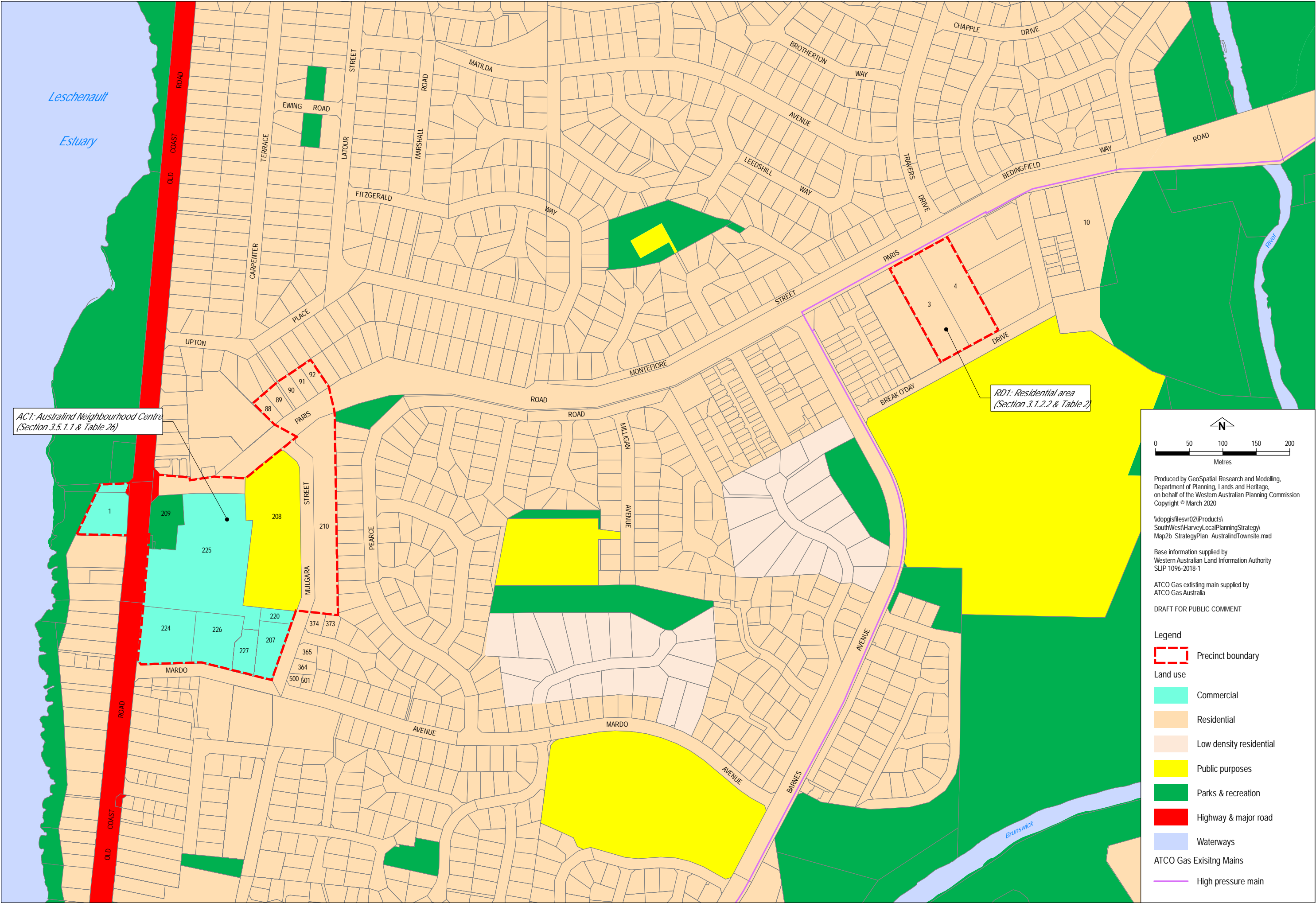
This process involves the identification of required services, facilities and/or infrastructure and the associated costs with their provision, for particular localities and establishing corresponding “developer contribution areas”. New development within the designated area requires the payment by the developer of a contribution per newly created lot which is placed in a trust account for future use to provide the identified service to that locality.

Provisions for developer contributions will be included in LPS No. 2 consistent with the provisions of the Model Scheme Text and SPP 3.6 to enable the Shire to collect funds to provide the services required by the community. However, prior to this occurring the Shire will need to undertake the necessary background work to establish where developer contribution areas will apply and identify the necessary services, facilities and/or infrastructure required to service those communities and associated costs through the development of a Developer Contribution Plan.



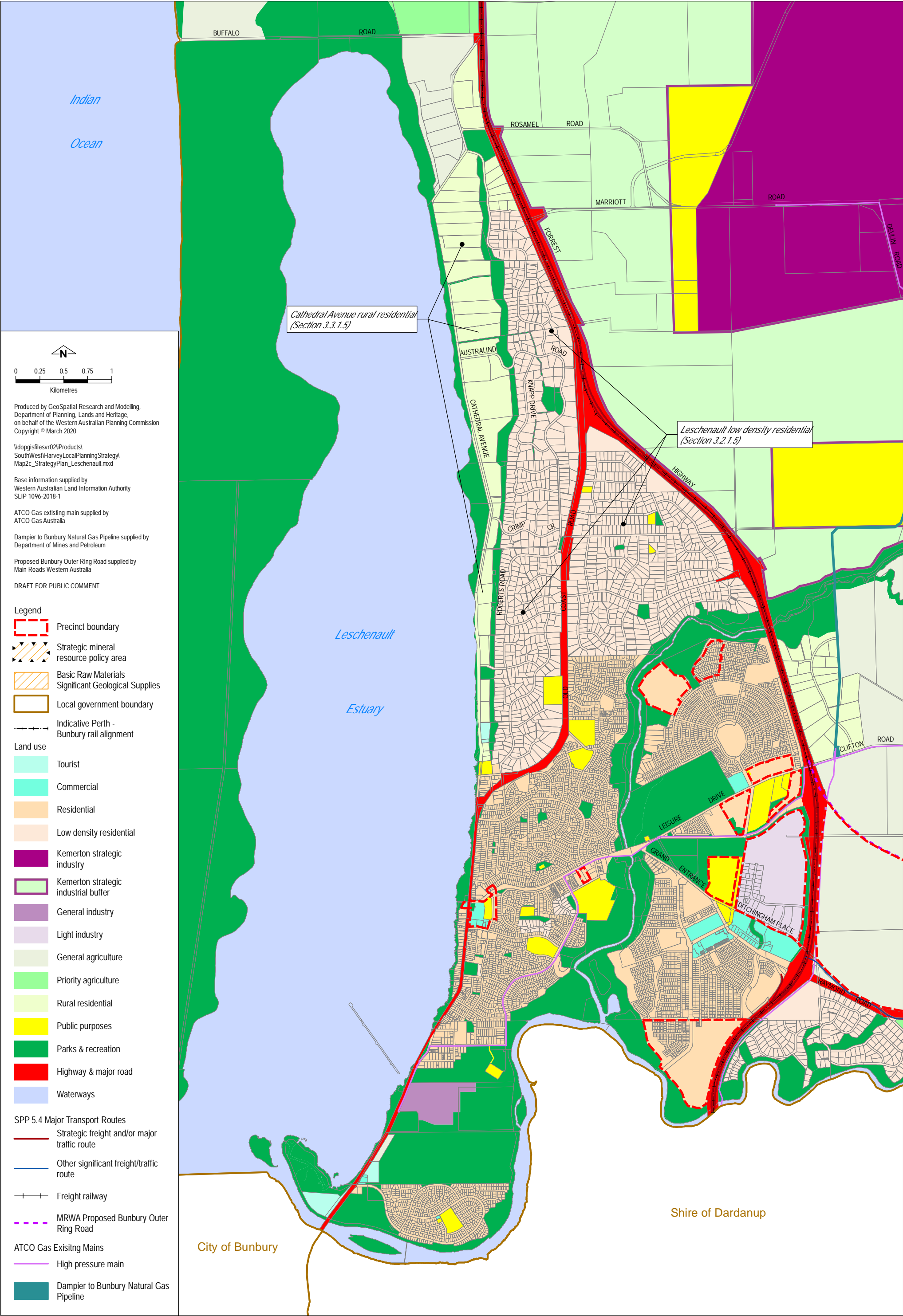






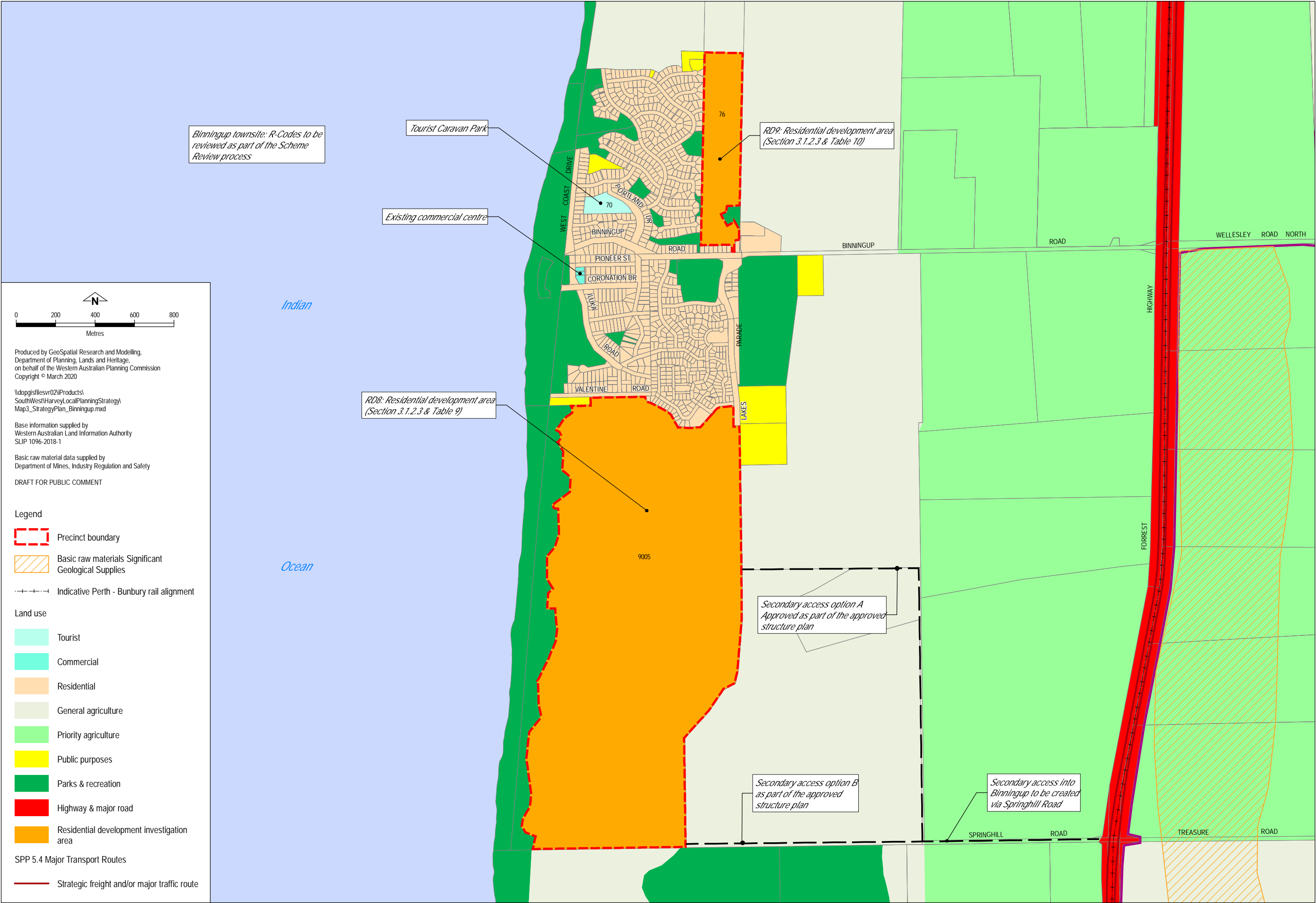
Australind townsite

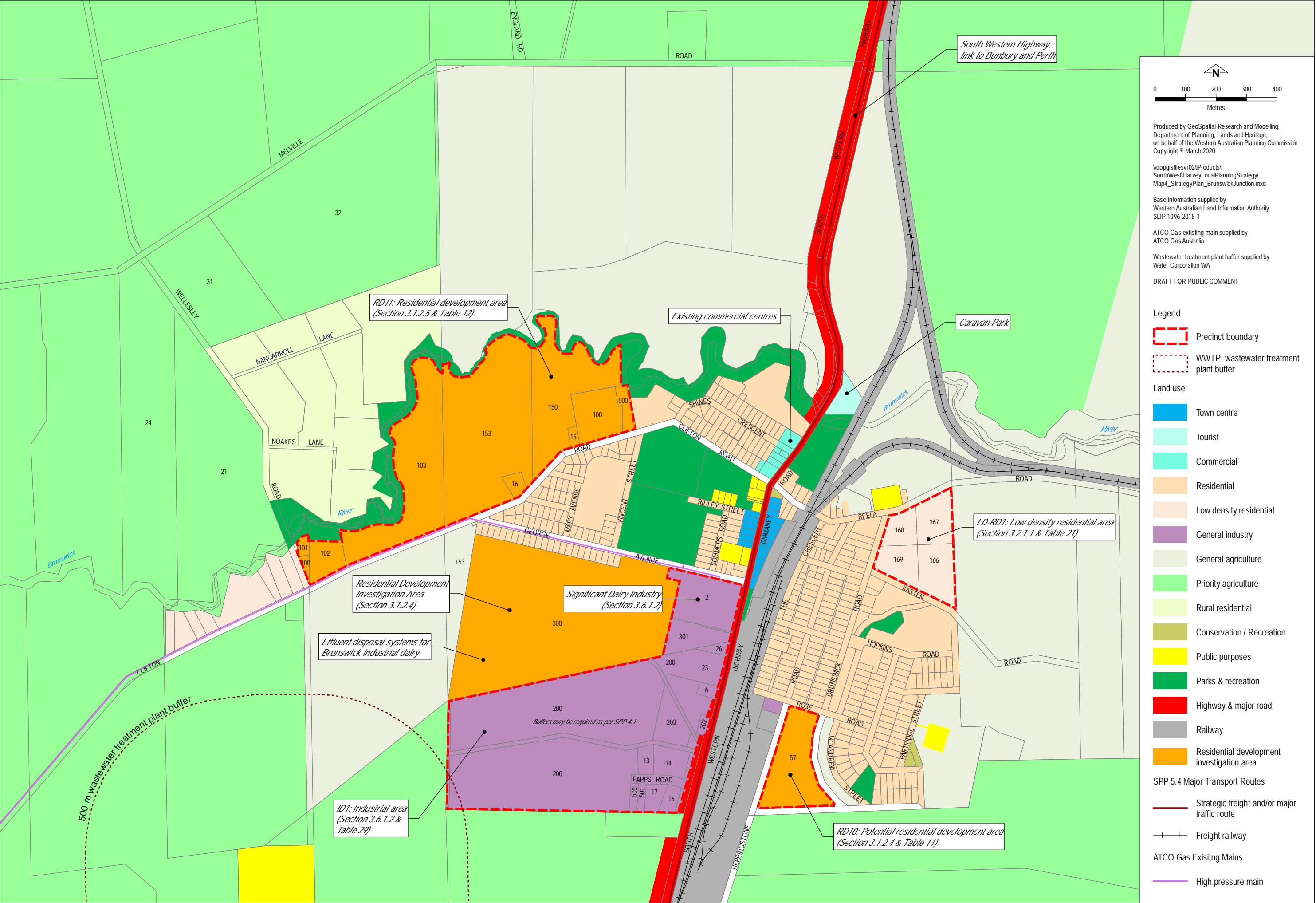
Map 2b

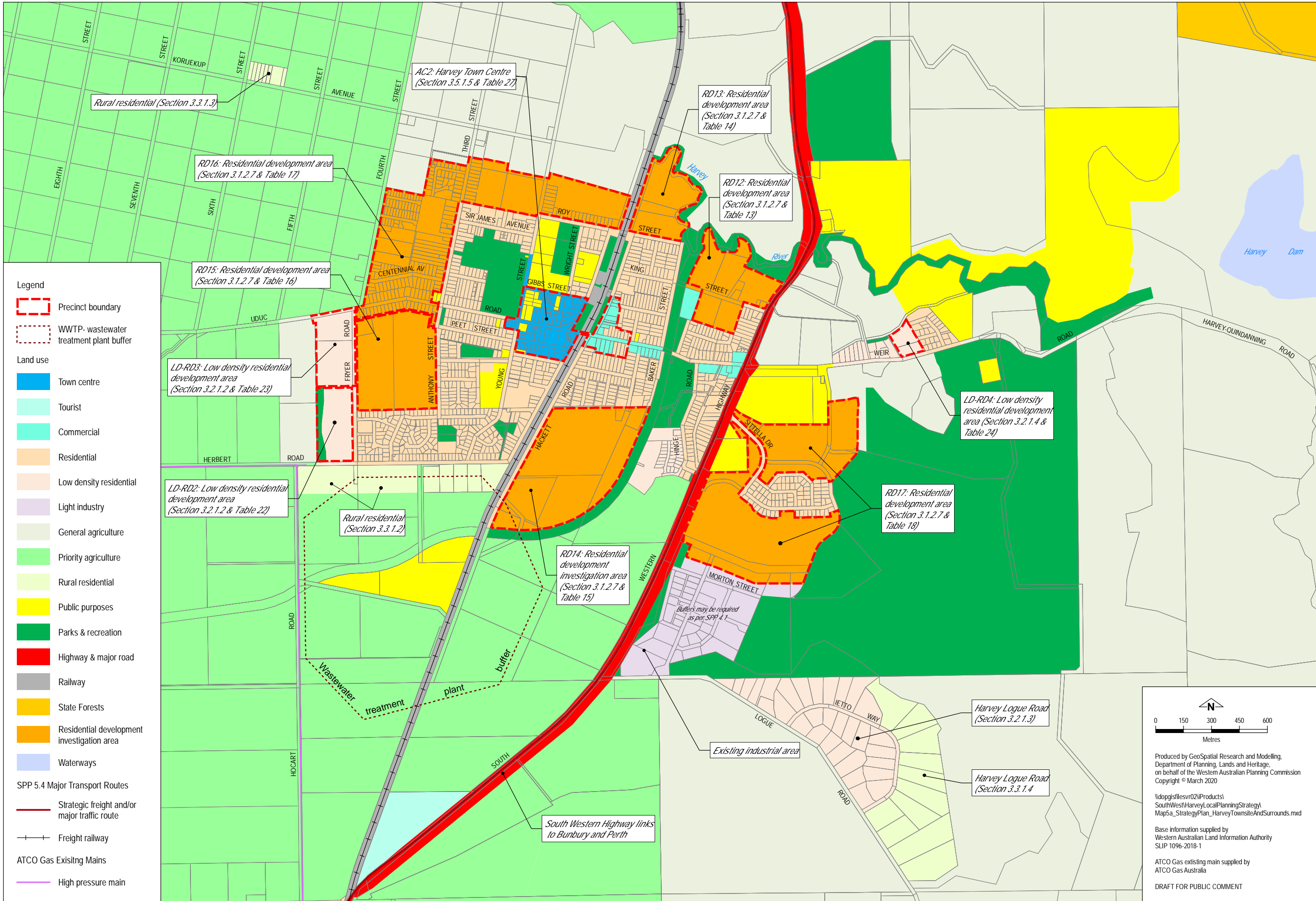


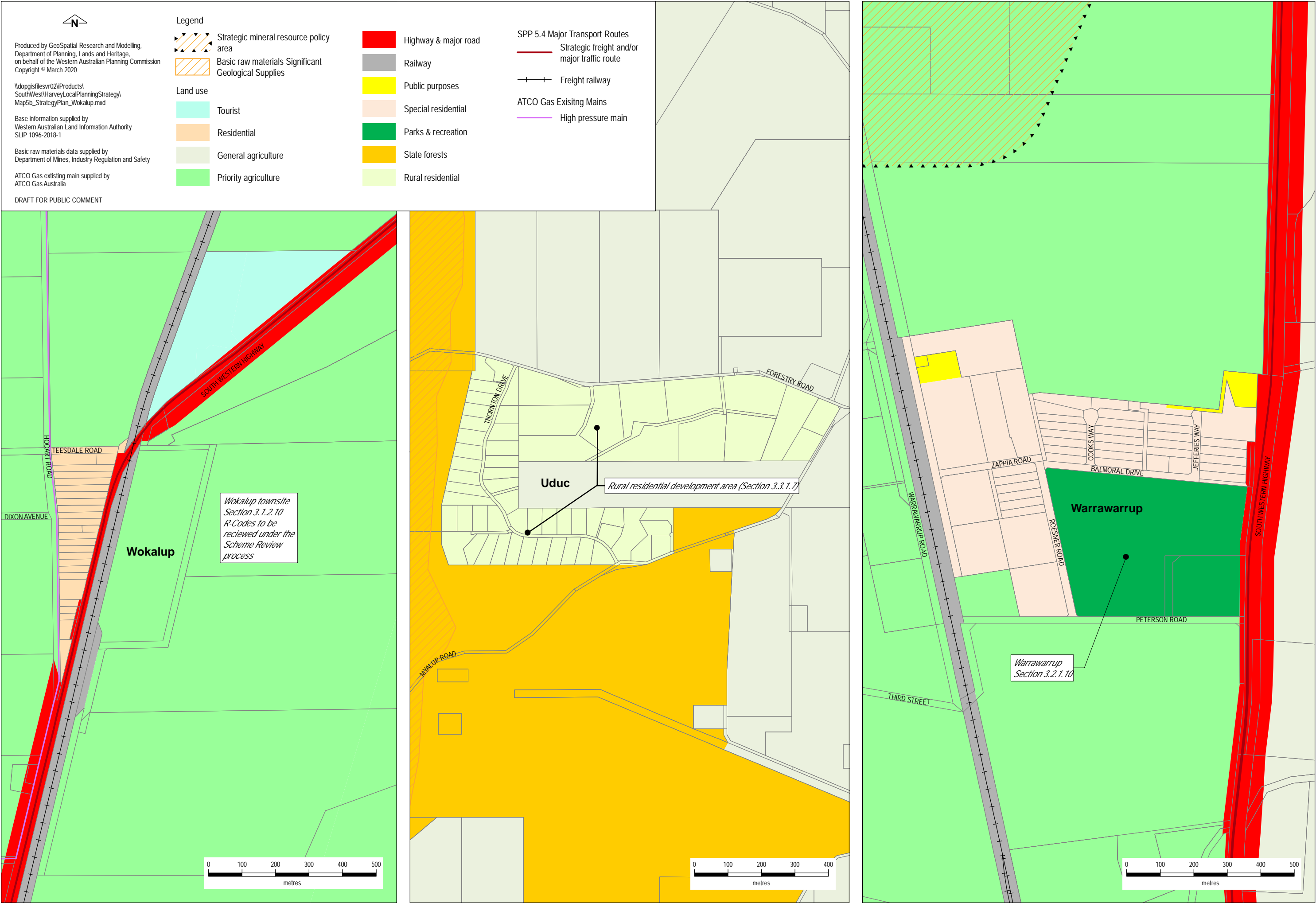
Leschenault and Australind

Map 2c

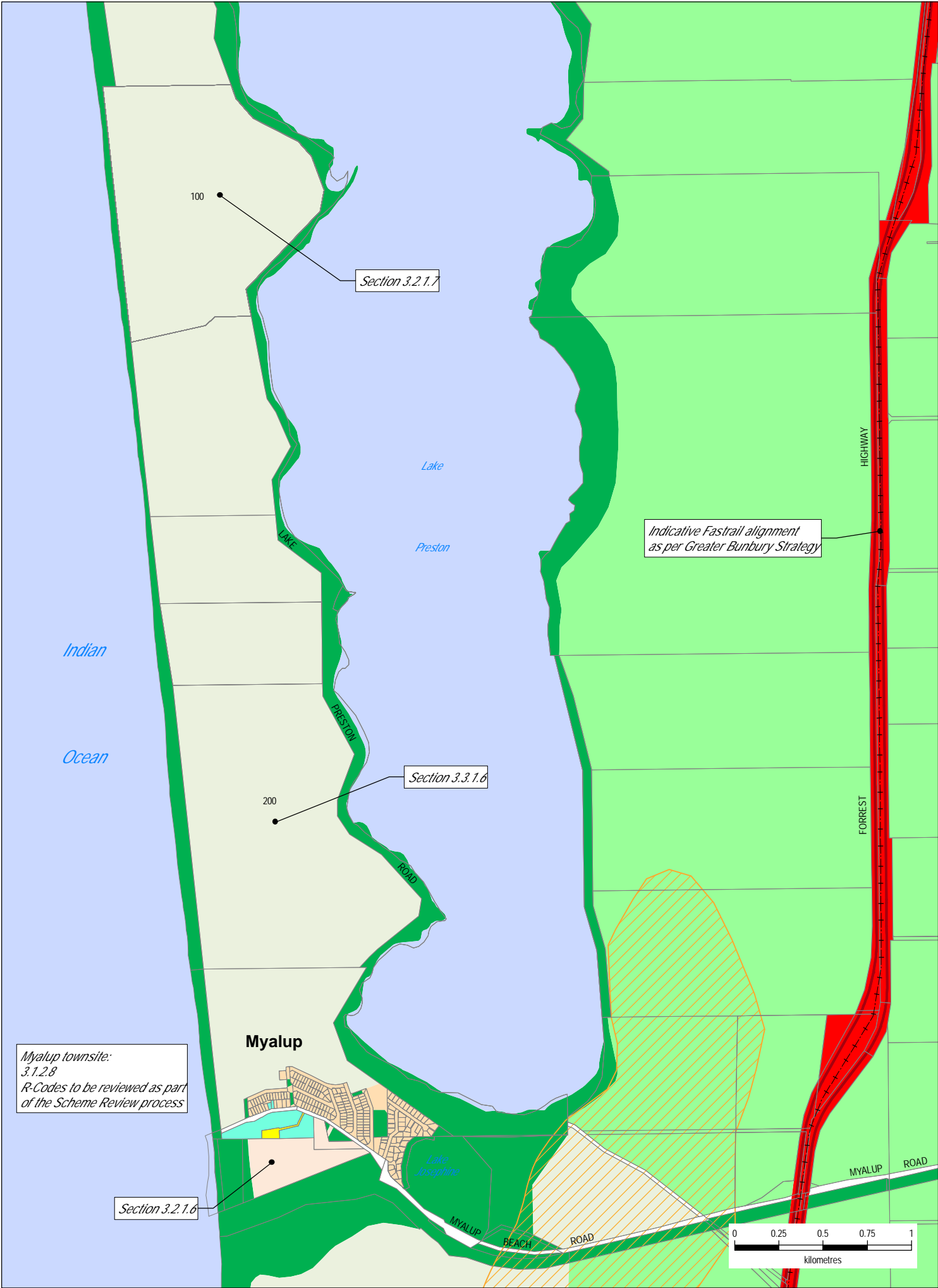








Strategy Plan - Wokalup, Uduc and Warrawarrup



Myalup and Freshwater Lakes

