CLE Town Planning + Design

Wolfdene

Austin Lakes Local Structure Plan

Part Two- Explanatory Report

JULY 2026

CLE Town Planning + Design

Wolfdene

Title	Austin Lakes Local Structure Plan Part Two - Explanatory Report
Prepared for	Wolfdene
Cover Image	Wolfdene
Date	22 July 2026
Status	Final
Prepared by	CLE Town Planning + Design
CLE reference	2054Rep749

Contents

Figures

Tables

Appendices

Part Two - Explanatory Report

1. Structure Plan Area & Operation

1.1 Introduction & Purpose

The Austin Lakes Local Structure Plan ('the Structure Plan') has been prepared on behalf of BMP Property Investments Pty Ltd, over what is commonly referred to as the Austin Lakes residential estate. This Structure Plan constitutes a local structure plan in the Shire of Murray Local Planning Scheme No. 4 ('LPS4') and has been prepared in accordance with Part 4, Schedule 2 (Deemed Provisions) of the *Planning and Development (Local Planning Schemes) Regulations 2015* ('the Regulations').

The previous Austin Lakes Outline Development Plan ('the ODP'), which was the operative planning framework originally prepared for the Structure Plan area in 2008 and which has coordinated subdivision and development since that time. The developed portions of Austin Lakes have been included within the Structure Plan area to ensure that a consistent planning framework remains in effect for lots created under the previous planning framework. Further discussion of the ODP and the planning objectives realised to date is provided in Section 2.8.8 below.

This Structure Plan seeks to seamlessly integrate with the established parts of Austin Lakes, continuing the development of a residential community accommodating a range of residential dwelling typologies that is integrated with its surrounding environment. Key matters relevant to the balance of Austin Lakes that are addressed within this Structure Plan are:

- An updated drainage strategy that supersedes the original version and aligns with more recent subdivision approvals, as implemented through approved Urban Water Management Plans.
- A primary school to cater for the future growth of Austin Lakes.
- Coordination of active and passive public open space areas, including a 5 hectare district open space co-located with the future primary school.
- An earthworks strategy that seeks to minimise the importation of fill whilst ensuring best practice drainage response.
- Residential density ranges that provide opportunities for housing diversity that reflects the geographic and demographic context of Austin Lakes.
- The establishment of local reserves and buffers that provide for the retention and protection of key environmental features, specifically mapped wetlands within and adjacent to the Structure Plan area.
- A future Neighbourhood Centre to provide for the daily and weekly shopping needs of the community as well as opportunities for recreational activities.
- A logical road hierarchy that integrates seamlessly with the established road network and is capable of accommodating future growth projections.
- External access to and from Austin Lakes via South Yunderup Road to the north, and the soon-to-be upgraded intersection of Brookton Promenade and Forrest Highway.
- Changes to listings for any priority or threatened ecological communities where relevant to the undeveloped balance of the Austin Lakes estate.

The format of the Structure Plan follows that established in the Western Australian planning Commission ('WAPC') *WA Planning Manual Guidance for Structure Plans* (2023), consisting of three parts:

- **Part 1: Implementation Section** contains the Structure Plan Map (**Plan A**) and provides the framework for subsequent planning processes, setting out the requirements to be applied when assessing subdivision and development applications.
- **Part 2: Explanatory Section** provides the rationale for the Structure Plan and its vision, the key outcomes to be achieved and details the findings of technical reports. Part 2 is based on an analysis of the site and the technical reports and strategies.
- **Part 3: Appendices** comprising specialist technical reports on the planning matters relevant to the Structure Plan area, namely;
  - Appendix 1: Lake Management Plan, Bayley Environmental Services July 2008
  - Appendix 2: Wetland Management Plan, RPS July 2008
  - Appendix 3: Conservation Area Management Plan, RPS 2008
  - Appendix 4: Transportation Noise Assessment, Lloyd George Acoustics September 2025
  - Appendix 5: Bushfire Management Plan, JBSG May 2026

- Appendix 6: Mosquito Management Plan, RPS March 2009
- Appendix 7: Transport Impact Assessment, Transcore August 2025
- Appendix 8: Needs Assessment & Net Benefit Test Report, Location iQ May 2026
- Appendix 9: Environmental Advice Report, PGV Environmental February 2026
- Appendix 10: Landscape Masterplan, Emerge May 2025
- Appendix 11: Approved R-Code Plan
- Appendix 12: ODP approved R-Code
- Appendix 13: Draft LPP
- Appendix 14: Urban Water Management Strategy, JDA and Bayley Environmental Services July 2008
- Appendix 15: Technical Memorandum – Water Management Plan, RPS June 2026
- Appendix 16: Engineering Servicing Report, Cossill & Webley January 2026

Image: Austin Lakes

2. Site Context & Analysis

2.1 Location

The Structure Plan area is located in the Shire of Murray, approximately 10km east of Mandurah, 70km south of Perth and 7km north-west of Pinjarra (**Figure 1**: Location Plan).

The Structure Plan area is bound by:

- To the northern and western boundaries by the Peel Regional Park, Peel Harvey Estuary and Austin Bay Nature Reserve.
- Rural zoned land under the Peel Region Scheme to the southern boundary.
- The Forrest Highway road reserve to the east.

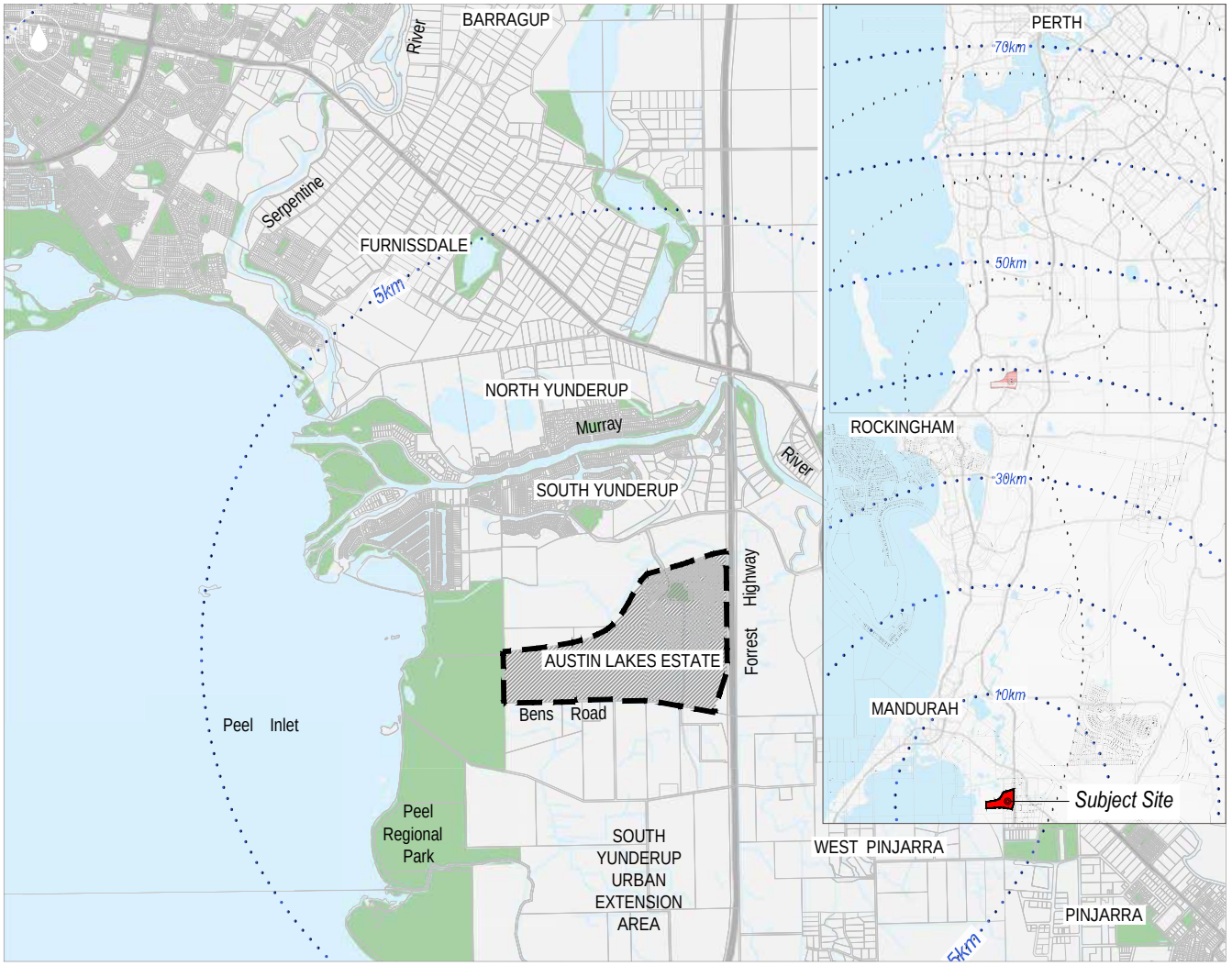

Figure 1: *Location Plan*

2.2 Surrounding Area & Land Use

The Structure Plan is located within the Austin Lakes urban growth area which has been identified for residential and urban development by the Shire of Murray and the WAPC. The Structure Plan area was initially approved for urban development in 1997 with the approval of the 'Murray Lakes Golf Course & Lakes ODP'.

Development of the Structure Plan has progressed sequentially over the last 18 years with the first stages commencing on the northern boundary, with staged development proceeding in a southerly direction. Of the total 254 hectare Structure Plan area, an approximate 140 hectares or 55% of the Structure Plan area has been developed or is covered by subdivision approvals, as shown in **Figures 2** and **3**.

The remaining portion of the Structure Plan area totalling 113 hectares remains undeveloped, with previous agricultural land uses having resulted in clearing of the majority of the broader landholding (refer **Figure 3**).

The land immediately south of the Structure Plan area is identified for future urban purposes by the *South Metropolitan Peel Sub-regional Planning Framework* which is discussed in further detail under section 2.8.1 below.

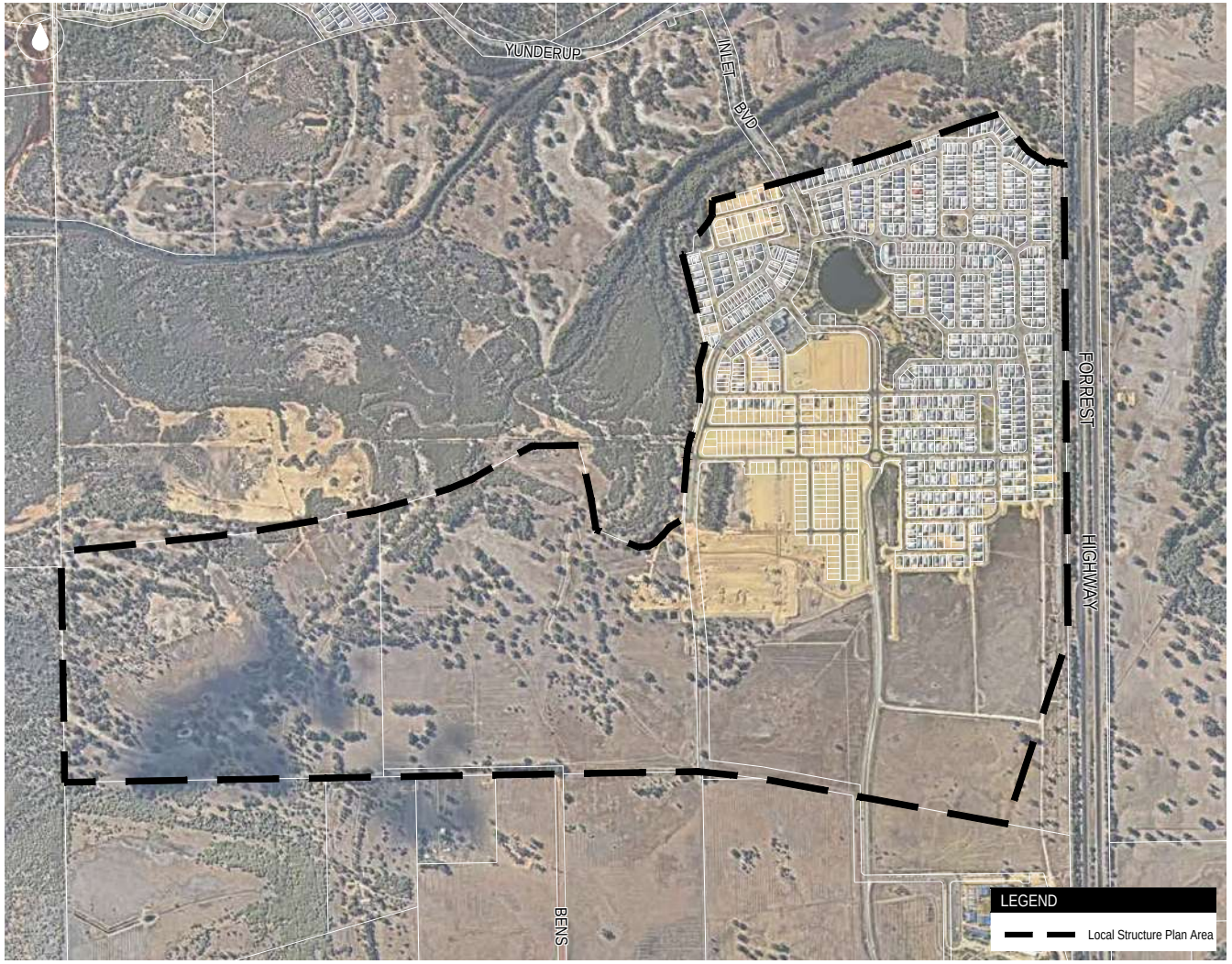

Figure 2: *Site Plan (Aerial source: Nearmap)*

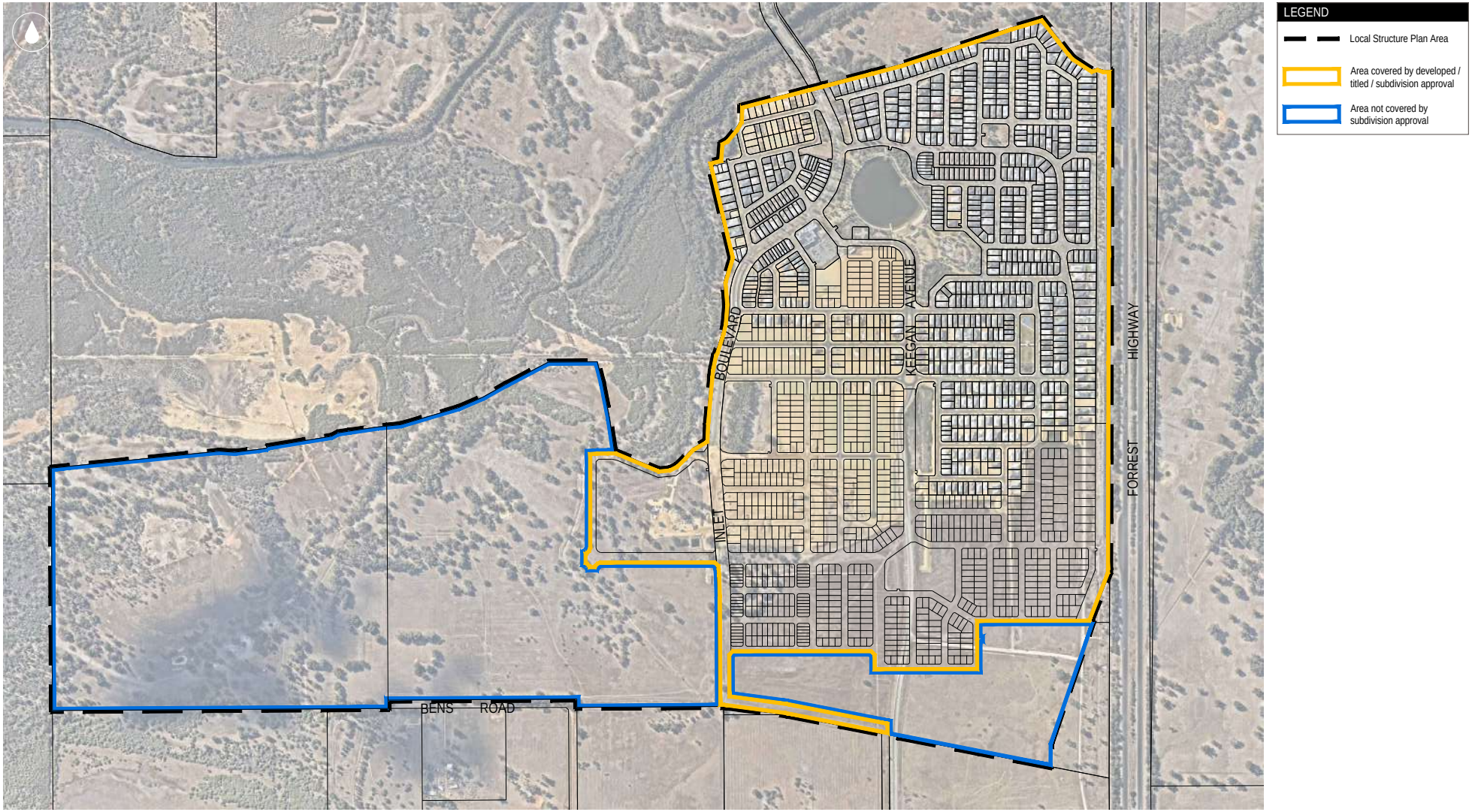

Figure 3: *Site Plan of Titled and Subdivision-approved lots (Aerial source: Nearmap)*

2.3 Tenure, Ownership & Existing Development

The Structure Plan area is comprised of a number of freehold lots developed predominantly for single houses. The undeveloped balance of the Structure Plan area comprises two superlot landholdings that are legally described in **Table 1** below.

The two super lots (Lots 9041 and 9029) are in single, consolidated ownership by BMP Property Investments Pty who is the proponent for the Austin Lakes Structure Plan.

Table 1: *Landownership*

Lot No	Volume	Folio	Proprietor	Area
Lot 9041	4064	880	BMP Property Investments Pty Ltd	723,083m²
Lot 9029	4002	340	BMP Property Investments Pty Ltd	550,163m²

2.4 Environment

The following sections outline the existing site conditions relevant to development of the Structure Plan area. This summary is informed by previous planning undertaken as part of the existing ODP and the technical reports prepared in support of this Structure Plan.

2.4.1 Flora & Fauna

Flora / Vegetation

The Structure Plan area is characterised by residential development and public open space across the north-eastern portion, with the balance being undeveloped with some remnant vegetation.

The previous ODP which facilitated development to date was subject to a Conservation Management Plan ('CAMP') prepared by RPS and approved in 2008. This included the Austin Cove Assessment of Fauna and Fauna Habitats ('Fauna Assessment') prepared by Bamford Consulting Ecologists in 2008. A copy of the CAMP and Fauna Assessments are available in full at **Appendix 3.**

An Environmental Advice Report prepared by PGV Environmental ('the Environmental Advice', refer **Appendix 9**) provides an assessment of the proposed Structure Plan against the previous ODP's CAMP and it's supporting Flora and Fauna Assessments. The Environmental Advice confirms that the Structure Plan is consistent with the previous ODP and does not require any additional environmental studies or assessment to be undertaken.

Further, the Environmental Advice confirms that the changes in the listings of Threatened Ecological Communities and Threatened Plant Species between the previous ODP being approved in 2008 and the preparation of the Advice in February 2026 do not impact the Structure Plan.

Collectively, these reports conclude that:

- The Structure Plan area has been historically cleared of most native vegetation and used for grazing.
- Vegetation surveys identified that remaining vegetation varies from scattered mature trees in cleared paddocks to dense shrublands of wetland vegetation, which was generally found to be in Good condition.
- The vegetation has been mapped as Pasture (Parkland Cleared) with scattered to Open Woodland of predominantly E*ucalyptus rudis subsp. Rudis* (Flooded Gum) over pasture weeds. The northern boundary contains some Dampland and Wetland Mosaic on Claypans.
- No Threatened Ecological Communities were found within the Structure Plan area.
- The CAMP identified a number of Priority flora species across the Structure Plan area. These Priority Flora species are well recorded in the WA Herbarium collections. The locations of the identified flora species was not identified in the CAMP.

Generally, the Structure Plan will retain trees within public open space and road reserves, where possible.

Fauna

A Fauna Habitat assessment was undertaken in 2008 and is included in the CAMP, available in full at **Appendix 3**. The Fauna Habitat assessment identified that fauna habitats within the Structure Plan area comprise:

- The main area of shrubland within the floodway;
- Tree-lined watercourses;
- Conservation category wetland (outside of the current Structure Plan area); and
- Farmland with scattered trees.

The Structure Plan area does not cover a number of the identified fauna habitats discussed in the Fauna Habitat assessment, as they have been previously ceded into public ownership and are now included as part of the adjacent Parks and Recreation Regional Reserve. The Fauna Habitat assessment notes that the survey identified the following:

- 25 likely present reptile species;
- 7 species of frogs identified across the Structure Plan area, assumed to be located within the adjacent CCW wetland areas and in locations where winter flooding is present.
- 116 species of birds sighted in the local area, a number of which are waterbirds and would be present in the adjacent wetland areas.

Conservation Significant Fauna

A number of conservation significant fauna were expected or identified as present in the Structure Plan area. The South-West Carpet Python was identified and is of high significance but is likely to be located only in the adjacent regional open space reserve and other large areas of natural vegetation. Other fauna identified by RPS in the CAMP included a total of 64 birds of varying conservation significance, many of the which are migratory waterbirds likely to continue to use the wetlands retained in the abutting Regional Open Space. Land birds are not anticipated to be impacted where existing trees are retained. No trees identified were large enough to contain hollows suitable for use by black-cockatoos or the Conservation Significance 3 Masked or Barking Owls.

The Chuditch is the only mammal species of high conservation significance identified, noted to be an infrequent visitor. Other mammals were noted to be located in the floodway areas and around wetlands, to be retained and therefore unlikely to be impacted.

The assessment identified a number of fauna habitat values and present species, most of which relate to the previous ODP's broader application area, which has been ceded into public ownership. The Structure Plan area includes some of these fauna habitats in the portions of wetlands and wetland buffers located in the Structure Plan area. The retention of the vegetation within these spaces and across the Public Open Space reserves ensures that development of the area will not have a significant impact on any fauna species of conservation significance.

In addition, the Structure Plan layout seeks to locate areas of public open space to retain native vegetation of terrestrial value where possible.

2.4.2 Contamination

A desktop review of the Department of Water and Environmental Regulation Contaminated Sites mapping confirms that there are no registered contaminated sites within the Structure Plan area or the vicinity.

2.4.3 Wetlands

Most of the Structure Plan area is mapped as Multiple Use Palusplain, with a small area mapped as Conservation Category Wetland (UFI 15715) ('CCW') by the Department of Biodiversity, Conservation and Attractions ('DBCA'). The CCW encroaches marginally within the northern boundary and is part of a larger floodplain north of the Structure Plan area. The wetland mapping boundaries and wetland management categories have not changed since the original ODP was approved.

The ODP previously provided for the retention of the CCW wetland within a future local reserve. This Structure Plan proposes the same spatial response, with the small portion of CCW proposed to be retained within Public Open Space No. 14. A buffer to this wetland has also been provided.

A CCW abuts the western structure plan boundary and whilst outside the Structure Plan area, the buffer extends within the site. This CCW buffer is accommodated within Public Open Space area No. 18.

A Resource Enhancement Wetland ('REW') abuts the central-northern boundary of the Structure Plan. This wetland has previously been ceded into public ownership, facilitated by the previous ODP and the subdivision process for the adjoining land.

Wetland Buffer Management

In accordance with Schedule 7, Cl 2.4 of LPS 4, a Wetland Management Plan and Conservation Area Management Plan were prepared in 2008 in support of the previous ODP and applied to the ODP area (refer **Appendix 2** and **3**). The approved Wetland Management Plan and Conservation Area Management Plans remain operative and will continue to apply to future stages of development, suitably addressing the requirements of Cl 2.4 of Schedule 7.

2.4.4 Lake Management

In accordance with Schedule 7, Cl 2.3 of LPS 4, A Lake Management Plan was prepared in 2008 in support of the previous ODP (refer **Appendix 1**). The approved Lake Management Plan has been successfully implemented in full, with the lake identified for management having been developed in accordance with the approved Lake Management Plan. Given the progression of development across the Structure Plan area, no further Lake Management Plans are required to enable to the development of the Structure Plan area.

2.4.5 Topography, Soils & Groundwater

The Structure Plan is subject to the following topographical and soil characteristics:

- The topography across the Structure Plan area is generally flat, and low-lying with a natural surface elevation ranging between 0.5m AHD in the south-western corner of the site to 2.5m AHD in the east.
- The majority of the Structure Plan area (being the southern and eastern sections) forms part of the Bassendean Dunes and Pinjarra Plain systems.
- Soil profiles encountered are generally sandy clay, clayey sand and sand.

The above characteristics are considered and addressed in the proposed earthworks strategy for the site, which will involve the importation of clean fill as discussed in further detail at section 4.7 of this report.

2.4.6 Groundwater & Surface Water

The Structure Plan is subject to the following pre-development groundwater and surface water characteristics:

- Some risk of Acid Sulphate Soils ('ASS') is present within the northwestern part of the Structure Plan area, having a 'high to moderate' risk of ASS within 3m of the natural soil surface, with the balance having a 'moderate to low' risk. Where ASS or ASS-impacted groundwater may be disturbed, an ASS Management Plan is required and is a routine aspect of urban development within the region.
- The Annual Average Maximum Groundwater Levels range from 1.6m AHD at the northwestern boundary to 2.0m AHD at the southern and southeastern boundary.
- The Structure Plan area is located within the catchment of the Murray River with all drainage from the site discharging to the Peel inlet via overflow channels and floodway's of the Murray River.
- The Structure Plan area is located within the 1% AEP floodplain of the Murray River, with the South Yunderup floodway forming the northern boundary of the area.
- The balance of the Structure Plan area is mapped as flood fringe, with existing mapping based on a 1% AEP flood level of 3.20 mAHD on the eastern border and 2.02 mAHD on the western border. This means that approximately 1m to 3m of clean fill is required to achieve the necessary freeboard above the flood levels, which will also provide the necessary clearance to groundwater.
- The Structure Plan area is underlain by the Perth – Superficial Swan, Perth – Upper Leederville, Perth – Lower Leederville and Perth – Cattamarra Coal Measures aquifers.

2.5 Physical Infrastructure & Services

Essential utility services are available to the Structure Plan as evidenced by the continued, sequential subdivision and development of the Austin Lakes estate. An Engineering Servicing Report has been prepared by Cossill & Webley to demonstrate that the Structure Plan can be serviced via a logical extension of existing infrastructure. A copy of the Engineering Servicing Report is available at **Appendix 16**, with further discussion provided at section 4.10 of this report.

2.6 People & Movement

2.6.1 Existing Road Access

The Structure Plan is supported by an existing regional road network that provides convenient access to local, district and regional destinations, primarily via South Yunderup Road and Beacham Road, connecting to the Forrest Highway.

The key characteristics of the roads within and adjoining the Structure Plan area are as follows:

- **Forrest Highway** abuts the eastern edge and is a dual carriageway Primary Distributor, with a posted speed limit of 110km/hr. There is no direct access from the Structure Plan area to Forrest Highway, with access provided via the grade-separated interchange with Pinjarra Road to the north, and an at-grade intersection with Beacham Road to the south.
- **Pinjarra Road** is a Primary Distributor dual carriageway rural road. The intersection of Pinjarra Road and South Yunderup Road is a signalised intersection. Bus routes 600, 604 and 605 operate on this road.
- **South Yunderup Road** is single carriageway Regional Distributor road that provides access to the Structure Plan via a single-lane roundabout with Inlet Boulevard. South Yunderup Road has a posted speed limit of 80km/hr. It is currently constructed as a single carriageway road but is being upgraded between Murray River Drive and Leander Way to allow passing of vehicles waiting to turn right.
- **The Temporary Access Road** is a temporary rural road that runs south from the Structure Plan area and connects to Forrest Highway via Beacham Road. The temporary access road currently provides vehicle access to the Austin Cove Baptist College, which is located approximately 350m south of the Structure Plan area.
- **Beacham Road** is located 1.15km from the Structure Plan area and is constructed as rural road. It connects to Forrest Highway via a full movement T-intersection.

2.6.2 Pedestrian & Cyclist Connectivity

Inlet Boulevard functions as the key movement spine for the Structure Plan and accommodates a shared path and cycle lanes in both directions. Keegan Corner is a key connector road that has also been developed with on street cycle lanes. Existing local roads within the Structure Plan are provided with pedestrian footpaths on one side of the road.

2.6.3 Public Transport

There are no existing bus routes within the Structure Plan area, with the closest being bus routes 600, 604 and 605 which operate along Pinjarra Road, connecting Mandurah Station to the Pinjarra town site.

2.7 Community Context

The Structure Plan applies to both the undeveloped and developed land within Austin Lakes and seeks to provide a continuation in the high standard of housing, streets and public open space that has been delivered to date.

2.7.1 Population

Table 2 provides a snapshot of the current demographic profile of South Yunderup as of 2021 in comparison to the Perth metropolitan area. As at the 2021 census, South Yunderup had a total population of 3,860 people.

There are no outlying statistical anomalies that warrant a specific response as part of the Structure Plan, with the demographic profile generally consistent with greater Perth.

Table 2: *Population Snapshot (Source: ABS 2021)*

	South Yunderup	Greater Perth
Male	49.9%	49%
Female	50.1%	50.6%
Median Age	47	37
Family Composition	1,119 families Average of 1.8 children per family	Average 1.7 children per family
Average number of people per household	2.4 people	2.7 people

2.7.2 Housing Context

The previous ODP facilitated the creation of approximately 1,614 residential lots. These existing lots with an approved density code are shown on **Plan A** of this Structure Plan as 'Residential (existing)'. The corresponding approved R-Code Plan for these lots is attached in full, refer **Appendix 11**. The future delivery of housing will be an extension of the existing Austin Lakes' pattern of development, with higher densities provided in accordance with the locational criteria. Overall density targets are mandated under LPS 4 and incorporated into this Structure Plan.

The predominant housing typology that has been delivered to date and will continue to be delivered matches the regional demand underpinned by the broader demographic profile. There were approximately 1,933 dwellings in South Yunderup in 2021, with 91.7% having three or more bedrooms and 57% having 4 or more bedrooms. 95.5% of dwellings were single detached houses. 75.7% of dwellings were owner-occupied with 21.9% rented.

The predominant housing typology (single detached house) reflects the low-density, outer suburban / regional character of South Yunderup. The lower-than-average number of people per dwelling and higher median age indicate that South Yunderup is home to more middle-aged couples with less dependants or children living at home.

2.7.3 Economy

The Structure Plan contains the existing Austin Lakes Central shopping centre which opened in 2017. Since then, Austin Lakes Central has served as a retail and commercial hub for the local community. The Centre currently has a combined GLA of 1,800sqm, comprising an IGA supermarket, medical centre, pharmacy, liquor store and food catering tenants.

The previous ODP and proposed Structure Plan identify a higher order centre at the southern extent of the Structure Plan. This neighbourhood centre will provide an additional level of services and amenities as well as employment opportunity for the local community, as discussed in further detail as section 4.3 of this report.

Further afield, residents have access to the following employment centres in relative proximity of the Structure Plan area:

- Mandurah Strategic Metropolitan Centre (approximately 11km from the site)
- Peel Food / Business Zone (approximately 12km from the site)
- Pinjarra Activity Centre (approximately 6km from the site)
- The future Karnup DSP Specialised Node (approximately 23km from the site)

2.7.4 Culture, Values & Identify

Indigenous Heritage

In accordance with Schedule 7, Cl 2.13 of the LPS 4, Yates Heritage Consultants surveyed the Structure Plan area and prepared an Aboriginal Site Survey report in support of the previous ODP (report dated April 2006). The Aboriginal Site Survey was considered together with the application under Section 18 of the *Aboriginal Heritage Act 1972* that was lodged for consideration in October 2006. A conditional consent under Section 18 (3) of the *Aboriginal Heritage Act 1972* was issued by the Department of Indigenous Affairs in February 2007, allowing for subdivisional works to be undertaken.

In the preparation of this Structure Plan, a review of the Aboriginal Cultural Heritage Inquiry System ('ACHIS'), maintained by the Department of Planning, Lands and Heritage ('DPLH') was undertaken and did not identify any Registered Sites or other protected areas within the Structure Plan.

European Heritage

A desktop assessment did not identify any European cultural heritage places within or adjacent the Structure Plan area.

2.7.5 Social Infrastructure & Services

Social infrastructure and services have been coordinated by the previous ODP and include the following key items:

- A future public primary school site;
- A central lake with supporting 'Adventurescape' park;
- A private High School, which has since relocated outside the Structure Plan boundary to the south (Austin Cove Baptist College);
- A local centre (Austin Lakes Central) supplemented by a future, larger activity centre at the southern Structure Plan boundary.
- A childcare centre located opposite the central lakes' eastern boundary.

In addition to the community infrastructure coordinated by the previous ODP, subsequent discussions with the Shire of Murray identified the need for a larger contiguous area of open space to provide opportunities for formalised sporting activities. In response, the Structure Plan proposes a 5 hectare district open space collocated with the primary school, as discussed in further detail as section 4.3 and 4.4 of this report.

Image: Austin Lakes

2.8 Governance (Legislative and Policy) Context

2.8.1 Strategic Planning Framework

Perth and Peel @ 3.5 million

The *Perth and Peel @ 3.5 million* (March 2018) suite of policies forms the spatial framework and strategic plan for Perth and Peel. Its purpose is to establish a blueprint for supporting a population of 3.5 million by 2050 through the finalisation of four sub-regional planning frameworks. The structure plan area is within the South Metropolitan-Peel area as discussed below.

South Metropolitan-Peel Sub-regional Planning Framework

The South Metropolitan-Peel Sub-regional Planning Framework ('the Framework') is part of the *Perth and Peel @ 3.5 million* suite of documents and provides guidance at a sub-regional level for land use and infrastructure. The Structure Plan is within an urban area and is abutted to the immediate south by an area identified as 'Urban Investigation' with land to the north and east as open space and state forest.

The classification of the structure plan area as urban recognises the long-established planning for the use of the site for urban purposes.

Shire of Murray draft Local Planning Strategy

In August 2025, the Shire of Murray initiated its draft Local Planning Strategy which at time of drafting, is yet to undergo formal public consultation. The draft Local Planning Strategy presented to Council in August 2025 identifies the Structure Plan area as 'Future Urban', consistent with it's 'Urban' zoning under the Peel Region Scheme.

2.8.2 Statutory Planning Framework

Peel Region Scheme

The Structure Plan area is zoned 'Urban' under the Peel Region Scheme, as shown in **Figure 4**.

The site is bound by:

- The Primary Regional Road reserve of Forrest Highway to the east;
- Land reserved for Regional Open Space to the northwest and west;
- Land zoned 'Private Recreation' to the north; and
- Land zoned 'Rural' to the south.

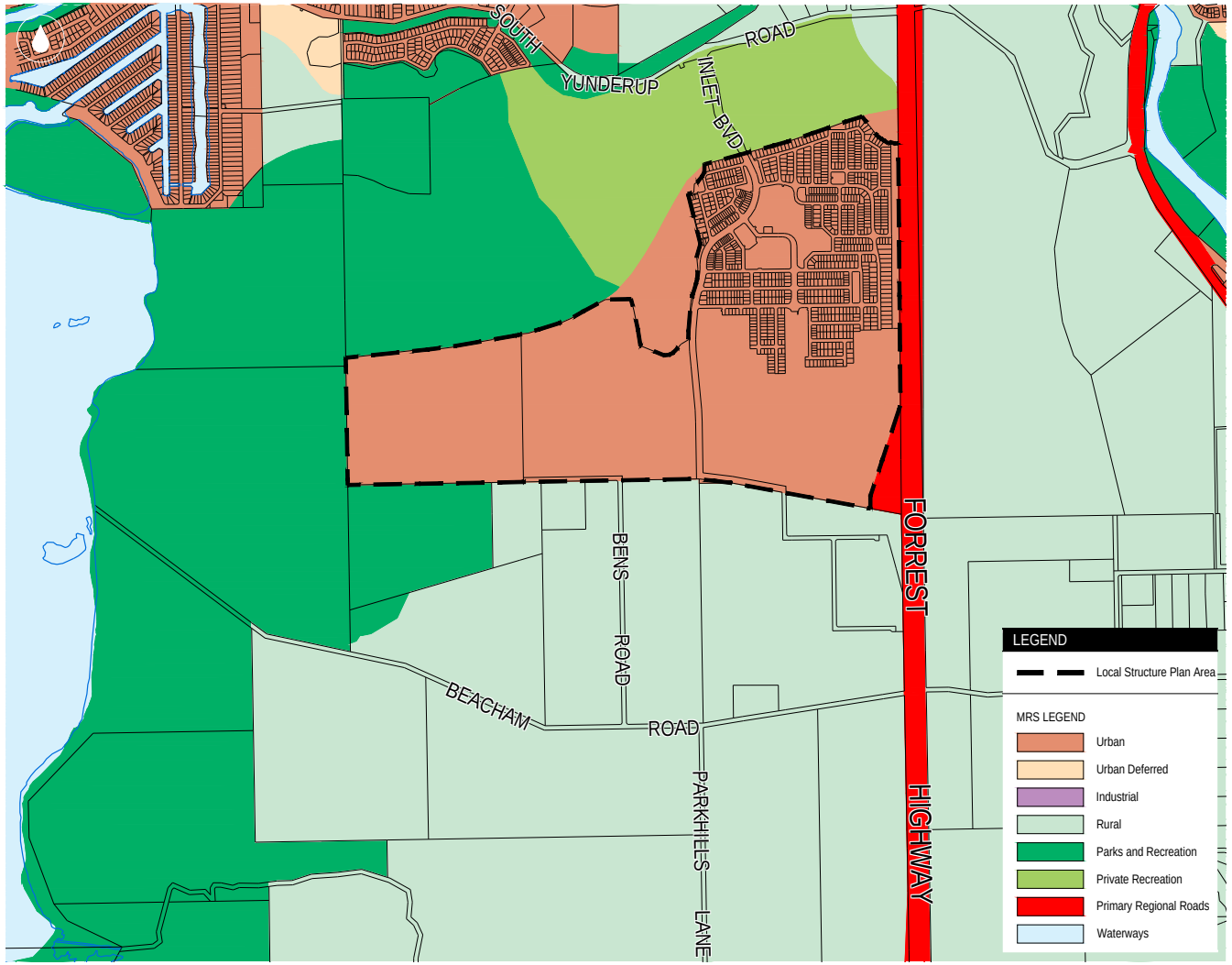

Figure 4: *Peel Region Scheme Zoning (Source: DPLH)*

Shire of Murray Local Planning Scheme No. 4

The Structure Plan is zoned 'Special Development' in the Shire of Murray Local Planning Scheme No. 4 ('LPS 4') (refer **Figure 5**). This Structure Plan has been prepared in accordance with the LPS4 provisions requiring land zoned 'Special Development' to be subject to an Outline Development Plan, now referred to as Local Structure Plan(s). The intent and objective of a structure plan pursuant to LPS 4 is to facilitate the comprehensive development of an area to deliver an efficient local road network, adequate servicing, diversity of residential lots and distribution of public open space and vegetation.

This Structure Plan has been prepared to address the requirements of Cl 6.8 of the LPS 4, but within the assessment and approval process of the WAPC's *Planning and Development (Local Planning Schemes) Regulations 2015*. Schedule 7 of LPS 4 sets out the requirements and special conditions for each of the 'Special Development' zones, which is summarised in **Table 2** below.

Portions of the Structure Plan area are included within the Floodprone Area (100yr flood) and within the Harvey Coastal Plain Catchment Are No. 1, as designated by LPS 4.

The Peel Harvey Coastal Plain Catchment Area provisions of LPS 4 are contained within Part IX, requiring that future planning adequately considers the SPP 2.9 – Planning for Water, discussed in further detail in section 4.7 of this report.

The River Flood Plain provisions that apply to land identified as within the Floodprone Area (100yr flood) on the LPS 4 are subject to the provisions of Part XII of the LPS 4.

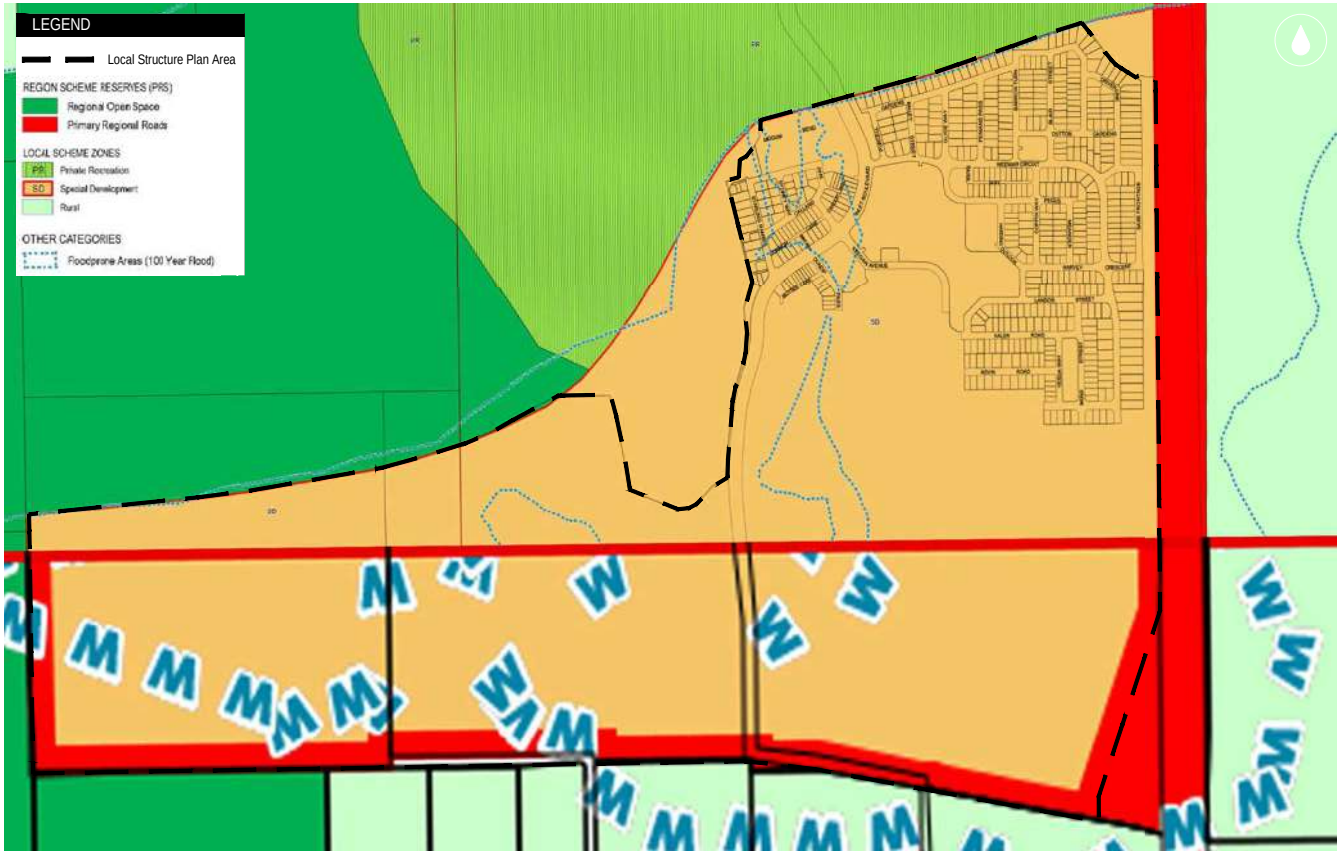

Figure 5: *Local Planning Scheme Zoning (Source: DPLH)*

This Structure Plan has been prepared consistent with the applicable LPS 4 provisions, ensuring that subdivision does not occur within a flood fringe area or where the finished level would be less than 300m above the flood level.

The LPS 4 sets out a number of requirements for the future LSP to address, set out in **Table 3** below.

***Table 3**: Local Planning Scheme 4 - Schedule 7*

LPS 4 – Schedule 7 Special Development Zone – 'Lots 1, 2, 3 of Location 17 Yunderup Road South, South Yunderup, Lot 9500 and 548 South Yunderup Road and Lots 2 and 3 Bens Road, South Yunderup'		
Clause	**Provisions - Required Reporting**	**Incorporation within the Structure Plan**
1.0	**Outline Development Plan** Development of the subject land shall generally be in accordance with an approved Outline Development Plan, or any variations to that plan as approved by Shire of Murray and the Western Australian Planning Commission.	This Structure Plan has been prepared in accordance with Cl 1, of Schedule 7 of the LPS 4.
2.0	**Environmental Management Plans**	
2.1	**General** The developer shall prepare Environmental Management Plans detailed in this Section to meet the following objectives: a. To maintain and enhance the integrity, functions and values of the environment and water dependent ecosystems; b. Maintain and enhance the quality of surface water and groundwater so that existing and potential uses, including ecosystem maintenance, are protected; and c. To ensure environmental values of the Peel-Harvey Estuary are not adversely impacted by development and that development is consistent with the provisions of the Statement of Planning Policy No 2.1: The Peel-Harvey Coastal Plain Catchment and the Environmental Protection (Peel Inlet-Harvey Estuary) Policy 1992. The Environmental Management Plans shall be prepared to the satisfaction of the Shire of Murray on advice from other regulatory authorities as described below. Satisfactory implementation of the management plans by the proponent shall be administered through the subdivision approval process.	
2.2	**Urban Water Management Strategy** Prior to adoption of the Outline Development Plan, an Urban Water Management Strategy (UWMS) shall be prepared to the satisfaction of the Shire of Murray, on advice from the Environmental Protection Authority and Department of Water to adequately demonstrate protection of water resources, provide street drainage and ensure that the rate, quantity and quality of water leaving the site will not adversely impact on the Peel Inlet— Harvey Estuary, wetlands in the vicinity of the subject land, or adversely affect groundwater quality, and that the hydrological balance and ecological flows are demonstrated.	Refer **Section 4.7** of this Report and **Appendices 14 and 15**.
2.3	**Lake Management Plan** Prior to adoption of the Outline Development Plan, a Lake Management Plan for the feature lake (central open space) shall be prepared to the satisfaction of the Shire of Murray, on advice from the Department of Water, to adequately demonstrate that water quantity and quality and the management and maintenance of the water body, is at sustainable and appropriate levels.	This Structure Plan does not propose any new lakes, with the lake identified for management under the previous ODP having been developed subject to an approved Lake Management Plan (refer **Appendix 1**). No further requirements remain to address this provision of the LPS 4.

Clause	Provisions - Required Reporting	Incorporation within the Structure Plan
2.4	**Wetland Management Plan** Prior to adoption of the Outline Development Plan, a Wetland Management Plan over the wetland areas and buffers shall be prepared to the satisfaction of the Shire of Murray, on advice from the Department of Environment and Conservation (DEC), to adequately demonstrate protection of the wetland area and buffer in an appropriate and sustainable manner.	A Wetland Management Plan was prepared by RPS in support of the previous ODP, suitably addressing this requirement. Refer **Appendix 2**. A Buffer Management Plan is required to be prepared at subdivision stage to adequately address the requirements of Cl 2.4 of Schedule 7.
2.5	**Conservation Area Management Plan** Prior to adoption of the Outline Development Plan, a Conservation Area Management Plan over the estuary foreshore reserve adjoining the subject Lots and interface to the Peel Region Park shall be prepared to the satisfaction of the Shire of Murray, on advice from the DEC to adequately demonstrate protection of the estuary foreshore reserve and Peel Regional Park in an appropriate and sustainable manner.	A Conservation Area Management Plan has been prepared previously and suitably addressed this requirement. Refer **Appendix 3**.
2.6	**Noise Management Plan** Prior to adoption of the Outline Development Plan, a Noise Management Plan shall be prepared and implemented to the satisfaction of the WAPC, on advice from the Shire of Murray and DEC to adequately demonstrate protection of the residences from potential noise impacts from traffic on the Perth Bunbury Highway.	To be addressed as a condition of subdivision approval where more detailed assessments are required in areas of the Structure Plan identified as impacted by transport noise. Refer Section 4.9 of this report and Transportation Noise Assessment Report included in full at **Appendix 4**.
2.7	**Fire Management Plan** Prior to adoption of the Outline Development Plan, a Fire Management Plan shall be prepared for the subject land to the satisfaction of the Shire of Murray, on advice from the Fire and Emergency Services Authority and DEC to adequately demonstrate reduction of the threat to residents and fire fighters in the event of bush fire within or near the site.	A Bushfire Management Plan (BMP) has been prepared in support of this Structure Plan, refer Section 4.8 of this report and **Appendix 5**.
2.8	**Urban Water Management Plan** Prior to final subdivision approval (issue of clearances), an Urban Water Management Plan for the subject stage of subdivision shall be prepared and implemented to the satisfaction of the Shire of Murray, on advice from the Department of Water, to adequately demonstrate protection of water resources, enhance the living environment for the community, provide street drainage and ensure that the rate, quantity and quality of water leaving the site will not adversely impact on the Peel Inlet—Harvey Estuary, wetlands in the vicinity of the subject land, groundwater quality or the New Perth Bunbury Highway.	To be applied as a condition of subdivision approval.
2.9	**Mosquito Management Plan** Prior to final subdivision approval (issue of clearances), a Mosquito Management Plan shall be prepared and implemented to the satisfaction of the Shire of Murray, on advice from the DEC to adequately identify mosquito nuisance, public health risks and management strategies.	This requirement has been addressed in previous stages of planning, with a Mosquito Management Plan prepared by RPS dated 2009, refer **Appendix 6**.
2.10	**Acid Sulphate Soils and Dewatering Management Plan** Prior to commencement of subdivision works, an Acid Sulphate Soils and Dewatering Management Plan shall be prepared to the satisfaction of the Shire of Murray, on advice from the DEC for the subject land, to adequately identify 'actual' and 'potential' Acid Sulphate Soils and to determine appropriate management strategies for these.	This requirement has been addressed in previous stages of planning with an Acid Sulphate Soils and Dewatering Management Plan prepared by RPS, dated 2009.
2.11	**Construction Management Plan** Prior to commencement of subdivision works, a Construction Management Plan shall be prepared for the subject land to the satisfaction of the Shire of Murray, on advice from the DEC to adequately demonstrate protection of remnant vegetation, fauna and their associated habitat during construction.	To be applied as a condition of subdivision approval where required.
2.12	**Flora and Fauna Management Plan** Prior to adoption of the Outline Development Plan a Flora and Fauna Survey shall be undertaken to the satisfaction of the Shire of Murray on the advice from the DEC. If any protected and/or threatened fauna or declared rare flora are identified through these surveys, a Flora and Fauna Management Plan shall be prepared to the satisfaction of the Shire of Murray on advice from the DEC to adequately demonstrate management protection or relocation of specially protected and/or threatened fauna or declared rare flora within the development area.	This requirement has been addressed in previous stages of planning, with a Fauna Management Plan prepared by RPS dated 2009. This report is included within the Conservation Area Management Plan available at **Appendix 3**.

Clause	Provisions - Required Reporting	Incorporation within the Structure Plan
2.13	**Ethnographic and Archaeological Survey** Prior to commencement of subdivision works, an ethnographic and archaeological survey will be undertaken, and the findings reported to the Shire of Murray and the Department of Indigenous Affairs.	This requirement has been suitably addressed, with the previous Outline Development Plan approved with the support of a Conditional Section 18 Approval.
3.0	**Requirements**	
3.1	Notwithstanding the provisions of Clause 6.8 of the Scheme, the Outline Development Plan shall include the following details: a. The area to which the Outline Development Plan applies; b. Key opportunities and constraints of the Outline Development Plan Area, including landform, topography, hydrology, landscape, vegetation, soils, conservation and heritage values, ownership, land use, roads and public transport and services; c. The planning context for the Outline Development Plan Area, including the regional and neighbourhood structure, relevant strategies, Scheme provisions and policies and where appropriate, indicating how the proposed Outline Development Plan is to be integrated into the surrounding area; d. Proposed major land uses, in particular residential areas, public open space, school sites, civic and community uses, commercial uses (including the location and hierarchy of commercial centres), mixed use, and mixed business uses; e. Estimates of future lots, dwellings, population and commercial floor space; f. Provision for major infrastructure, eg. Main drainage, sewerage, water supply and other key infrastructure services; g. The proposed road network and hierarchy, and bicycle and pedestrian networks; h. Buffers or other similar treatment at the interface between development cells and main/arterials or adjoining land including the Perth-Bunbury Highway; and i. Such other information as may be required by Shire of Murray.	This Structure Plan has been prepared in accordance with Cl 3.1 of Schedule 7 of the LPS 4.
3.2	The proponent shall prepare a Detailed Area Plan ('DAP') for any Village Centre Precinct or Mixed Business area identified on the required Outline Development Plan and for lots with an area less than 350 square metres. The DAPs shall be generally processed in accordance with the procedures outlined in Clause 6.14.2.15 of the Scheme.	To be applied as a condition of subdivision approval.
3.3	Council may waive the requirement to advertise a Detailed Area Plan pursuant to Clause 6.14.2.15.3 where the land subject of the Detailed Area Plan is in single ownership and the adjoining land is in the same ownership.	To be applied as a condition of subdivision approval.
3.4	Subdivision plans approved by the Commission which identify residential codings consistent with the principles outlined on the Outline Development Plan shall be deemed to be a modification to the Outline Development Plan.	To be applied as a condition of subdivision approval.
3.5	The Shire of Murray shall maintain an up to date plan identifying R-codings within the Outline Development Plan area.	To be applied as a condition of subdivision approval.
3.6	An Outline Development Plan may to the extent that it does not conflict with a Scheme, impose a classification on the land included in it by reference to reserves, zones or the Residential Design Codes, and the local government is to have due regard to such reserves, zones or Residential Design Codes when recommending subdivision or approving development of land within the Outline Development Plan area.	To be applied as a condition of subdivision approval.
3.7	Notification of prospective purchasers by way of memorial on the title of proposed lots is to be undertaken to advise that the predominant mosquito species is known to carry Ross River virus and other diseases.	To be applied as a condition of subdivision approval.
3.8	The Outline Development Plan shall incorporate the density targets of: a. 20 dwelling units per site hectare; and b. 25 to 30 dwelling units per site hectare within 400 metres of the village centre. Relevant information is to be provided with subdivision applications to demonstrate that the density targets have been addressed.	Refer **Plan A**. Refer section 4.2.1 of this report for discussion on achieved and forecast dwelling yields and overall density targets.
3.9	The street system depicted on the Outline Development Plan and in any subdivision, applications shall be designed to maximise: a. Ground legibility and permeability; and b. The provision of streets with a north-south and east-west orientation.	Refer section 4.6 and **Appendix 7** – the Transport Impact Assessment details the road hierarchy and design of the movement network.

Former Austin Lakes Local Structure Plan (Outline Development Plan)

This Structure Plan has been prepared over an area previously covered by the 'Austin Cove Outline Development Plan', approved by the Shire of Murray and WAPC in 2008. The Outline Development Plan ('ODP') has guided subdivision and development in accordance with the structure plan map (refer **Figure 6**).

The ODP was approved prior to the gazettal of the *Planning and Development (Local Planning Scheme) Regulations 2015* and as such, was due to expire in October 2015. A two-year extension to the approval timeframe was supported by the Shire of Murray and granted by the WAPC which extended the ODP's expiry date to October 2027. In pre-lodgement meetings with the Shire of Murray and DPLH, the preparation of this Structure Plan was agreed as the most suitable mechanism to ensure there is an ongoing planning framework in place across the Structure Plan area.

A number of technical reports and investigations accompany this Structure Plan. Other studies and reports required by the Shire of Murray Local Planning Scheme No. 4 were prepared previously in support of the original ODP. As these matters have been resolved and are no longer a consideration for the future development of the Structure Plan area, these reports and their findings are included in the Structure Plan without revision or amendment. The discussion of these key findings within the Part 2 report demonstrates that these considerations have been addressed.

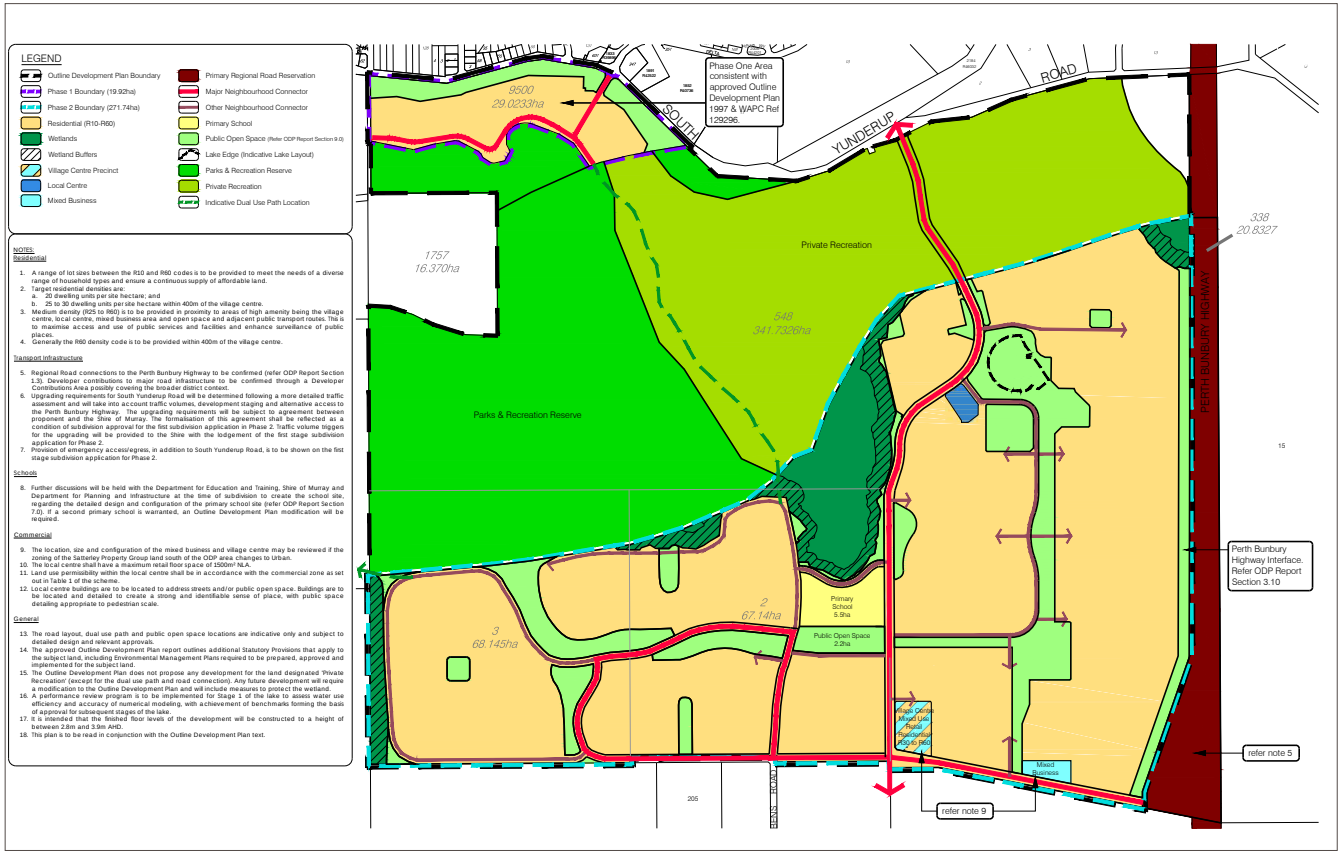

Figure 6: *Austin Lakes Outline Development Plan Map*

2.8.3 State Planning Policies

Liveable Neighbourhoods Operational Policy

Liveable Neighbourhoods is the WAPC's operational policy guiding urban design for greenfield development. *Liveable Neighbourhoods* sets out the key considerations for master planning new communities including subdivision layout and movement networks, as well as the location of open space, community facilities, schools and activity centres.

This Structure Plan has been prepared in accordance with the principles and objectives of *Liveable Neighbourhoods*. Discussion about this Structure Plan in the context of the relevant Elements in *Liveable Neighbourhoods* is provided at sections 2 and 4 of this report.

State Planning Policy 2.9 Water Resources

This State Planning Policy provides high-level strategic guidance for policy-making and decision-making where water resources are a relevant consideration. The policy measures seek to manage outcomes for water resources of all types and outline the WAPC's expectations for the protection of drinking water sources.

The water resources relevant to this structure plan are:

- Peel-Harvey Drinking Water Source Areas; and
- Sensitive Water Resource Areas
  - (f) Within 1km of significant wetlands
  - (i) Land that drains to and is within 1 km of other estuarine areas.

The Structure Plan area is partly located within a Sensitive Water Resource Area, with a portion of the site included within the 1km buffer area and is also located within the Peel – Harvey Drinking Water Source area. The Structure Plan has been prepared in accordance with the SPP 2.9 guidelines and anticipates management of the transition between proposed development and adjacent areas of environmental importance. The Structure Plan has been designed to accommodate this requirement, discussed further in section 4.7 below.

The Structure Plan is located within one of the specific areas identified by SPP 2.9, specifically the 'Peel-Harvey coastal plain catchment'. In addition to the standard provisions of SPP 2.9, the specific area measures seek to minimise and manage nutrient export by making provision for a drainage system which maximises the consumption and retention of drainage on site, with the target to improve local water quality. Proposals to develop land for residential uses must include provision for connection to a reticulated sewerage system or an alternative satisfactory system to be installed.

The Structure plan is supported by a comprehensive servicing strategy which includes provision for earthworks, drainage and management of groundwater, discussed further in section 4.10 of this report.

State Planning Policy 3.7 Bushfire

The Structure Plan area is identified in the mapping maintained by the Department of Fire and Emergency Services as being bushfire-prone. As such, SPP 3.7 is applicable. The purpose of this policy is to:

- Avoid any increase in the threat of bushfire to people, property and infrastructure;
- Reduce vulnerability to bushfire through the identification and consideration of bushfire risks in decision-making at all stages of the planning and development process;
- Ensure that strategic planning documents (which include structure plans) include specified bushfire protection measures; and
- Achieve an appropriate balance between bushfire risk management measures and biodiversity conservation values, environmental protection and biodiversity management, and landscape amenity, with consideration of the potential impacts of climate change.

To ensure that residential development in the Structure Plan area achieves the objectives of SPP 3.7, a Bushfire Management Plan (JBS&G, May 2026) has been prepared in accordance with the SPP 3.7 Guidelines. The recommendations of the Bushfire Management Plan are summarised in section 4.8, and the report itself is attached in full at **Appendix 5**.

State Planning Policy 4.2 Activity Centres for Perth & Peel

The purpose of SPP 4.2 is to guide the development of new and renewal of existing activity centres across the Perth and Peel Regions. SPP 4.2 aims to ensure that planning for activity centres considers the distribution, function, broad land use, access and urban form considerations.

A key consideration of SPP 4.2 is the performance of activity centres in relation to each other and ensure that they are provided in a sustainable manner that equitably benefits the community through access to goods, services and employment.

The Structure Plan area has two activity centres, broadly consistent with the previously approved ODP. For this Structure Plan, the centres are not provided for within the activity centre hierarchy. As the Structure Plan proposes floorspace above 5,000m² a Needs Assessment and Net Benefit Test has been prepared by Location iQ to detail that the proposal is justified and achieves a net community benefit without undermining the activity centre hierarchy. The outcomes of the Needs Assessment and Net Benefit Test of the proposed activity centre are summarised in section 4.3, with the report itself available at **Appendix 8**.

State Planning Policy 5.4 Road and Transport Noise

The purpose of SPP 5.4 is to *"minimise the adverse impact of transport noise, without placing unreasonable restrictions on noise-sensitive residential development, or adding unduly to the cost of transport infrastructure."*

SPP 5.4 is applicable to this Structure Plan by virtue of its location abutting Forrest Highway, which is an existing Strategic freight or major traffic route as defined under SPP 5.4. Forrest Highway is reserved as a 'Primary Regional Road' under the PRS and identified as a Primary freight route in the Perth and *Peel @ 3.5 million Transport Network* report.

To investigate traffic noise from Forrest Highway, a Transportation Noise Assessment ('TNA') (Lloyd George Acoustics, August 2025) has been prepared. The TNA confirms that although parts of the Structure Plan area are affected by transport noise, appropriate mitigation measures are available and that transport noise is not a constraint to the development of the structure plan area for residential purposes. It should be noted that the majority of the Structure Plan that abuts Forrest Highway has already been developed, demonstrating that potential noise impacts can be suitably managed.

The outcomes of this report are discussed in further detail in section 4.9 of this report and in **Appendix 4**.

Planning Code – Residential Design Codes – R-Codes Volume 1

The Residential Design Codes – Volume 1 (herein referred to as the 'R-Codes') form the basis for assessment of all single, grouped and some multiple-dwelling developments in Western Australia. They are applicable to the Structure Plan area by virtue of the proposed Residential zoning which permits development of residential dwellings.

The deemed-to-comply and acceptable outcomes of the R-Codes can be varied through Local Planning Policies and Local Development Plans, where required. The previous ODP included a series of R-Code variations which amended or varied the deemed-to-comply requirements of the R-Codes for a number of housing typologies and lot products across the Structure Plan area. These variations and complementary additional design requirements are continued under this Structure Plan, set out in the draft Shire of Murray Local Planning Policy 'Austin Lakes Estate – Residential Design Codes (R-Codes) Variations' and Part 1 of the structure plan (see also Section 4.2.2 of this report). Other variations may become active in future through Local Development Plans.

2.9 Shire of Murray Local Planning Policies

The following sections summarise the Shire of Murray policies relevant to the structure plan area.

Local Planning Policy – Biodiversity Protection

The Shire of Murray's Local Planning Policy: Biodiversity Protection was prepared to support the Shire's relating Local Biodiversity Strategy, which collectively sets out to:

- Protect, maintain and enhance the viability of habitats, ecological communities, flora and fauna, and biodiversity within the Shire of Murray.
- Ensure that any land use or development in close proximity to or containing a natural area is compatible with the long-term maintenance and conservation of that natural area and will not have detrimental impacts on biodiversity.
- Assist in achieving the Specific Biodiversity Feature Targets and Precinct Protection Targets established in the Shire of Murray Local Biodiversity Strategy 2013.

As outlined above, the Structure Plan retains and protects a significant level of high-quality vegetation by careful management and design of interfaces with adjacent areas of ecological value, buffers and retention of vegetation within the public open space proposed across the Structure Plan area.

This work is discussed in further detailed within section 2.4 of this report and the Environmental Advice provided by PGV Environmental, provided in its entirety as **Appendix 9.**

Local Planning Policy – Natural Landscape in Urban Areas

The Shire's Local Planning Policy: Natural Landscape in Urban Areas sets out to protect the natural landscape within urban areas by avoiding the unconsidered clearing of native vegetation. The Structure Plan carefully considers the retention of existing vegetation within areas of public open space and manages the interface with adjoining regional reserves.

This environmental assessment work is discussed in further detailed within section 2.4 of this report and the Environmental Advice, provided in its entirety as **Appendix 9.**

Local Planning Policy – Water Sensitive Urban Design

The Shire of Murray's Local Planning Policy: Water Sensitive Urban Design seeks to integrate a holistic approach to water management and stormwater drainage, focusing on total water cycle management. The policy seeks to achieve better integration of land and water planning which results in improved water management outcomes for the Peel-Harvey catchment.

The Structure Plan's management of the water management proposed is set out in section 4.7 of this report.

Shire of Murray Public Open Space Strategy

The Public Open Space Strategy establishes the importance of public open space ('POS') to the community, in its provision of opportunities for active and passive recreation, and the environmental benefits of landscapes in performing ecological functions. The POS Strategy identifies that there are three functions of POS, which should be distributed across the Shire's area in a coordinated manner.

The POS Strategy guides the delivery and required functions of recreation spaces, sport spaces and nature spaces. A Landscape Masterplan has been prepared by Emerge Associates (available at **Appendix 10**) in consideration of the POS Strategy, identifying a suitable distribution of POS across the Structure Plan area, with recreational and ecological functions distributed across the LSP area. This is discussed further in section 4.5 below and in **Appendix 10**.

3. Stakeholder & Community Engagement

The WAPC's Structure Plan Guidance promotes a participatory approach to structure planning and recommends stakeholder engagement prior to and in addition to formal consultation requirements. **Table 4** sets out a summary of key stakeholder engagement.

Engagement will continue with the community through the post-lodgement consultation phase as required by the *Planning and Development (Local Planning Scheme) Regulations 2015*. Given the purpose of this structure plan being to continue the operative planning framework, consultation during the implementation stage is not expected to raise any additional matters.

Table 4: *Stakeholder Consultation Summary*

Agency	Summary of Consultation
Shire of Murray	There has been ongoing engagement with the Shire officers as part of the pre-lodgement process to discuss this structure plan purpose and the related expiry of the ODP. Shire officers provided support for the preparation of the LSP and the limitation on preparation of updated or new technical reports to only those matters that are still applicable to the undeveloped portions of the LSP.
Department of Planning, Lands and Heritage	DPLH officers were consulted on the preparation of this LSP re replace the previous ODP. DPLH officers provided support for the preparation of the LSP and the limitation on preparation of updated or new technical reports to only those matters that are still applicable to the undeveloped portions of the LSP.
Service Authorities (Water Corporation, Western Power, ATCO Gas, Main Roads WA)	Key servicing agencies were consulted as part of the preparation of the engineering and services response to ensure the site could be connected to all necessary infrastructure and utilities.

4. Design & Servicing Response

The design response has been developed through a comprehensive masterplanning process and is underpinned by the established vision that has informed the subdivision and development of Austin Lakes area to date.

4.1 Objectives & Vision

The Structure Plan proposes the continuation of the established Austin Lakes objectives which are outlined as follows:

- **Provide a clear and responsive planning framework to coordinate subdivision and development.**
- **Provide for a variety of housing choice through a range of densities, predominantly at an R25 density with higher coding (up to R60) within and around activity centres.**
- **Define a neighbourhood connector network of roads to accommodate efficient vehicle movements and encourage alternative methods of transport.**
- **Provide for a higher order neighbourhood activity centre that expands upon the service offerings and amenities available to the local community.**
- **Coordinate the location and integration of a public primary school with the surrounding road network and open space network to accommodate opportunities for formalised sports.**
- **Create an integrated open space, conservation and drainage network, balancing environmental, recreational and engineering objectives.**
- **Provide for sustainable land use and lot design.**
- **Encourage local employment within areas activity centres as well as through home based business.**
- **Seamlessly integrate future subdivision and development with the established Austin Lakes community whilst continuing to expand on the level of community infrastructure, amenities and services for Austin Lakes.**

4.2 Land Use

A development concept plan has been prepared to provide an indicative future development layout that implements the objectives, vision and development requirements of the Structure Plan whilst seamlessly integrating with the established pattern of development. The development concept plan has informed the Structure Plan map which will guide development of the balance (**Figure 7**: Development Concept Plan).

The Development Concept Plan represents one potential, likely, scenario over the undeveloped area and is subject to refinement at the time of subdivision.

Table 5: *Land Use Summary*

Item	Data	Section Number
Total area covered by the structure plan	254 ha	Plan A
Area of each land use proposed:		
Residential	202.97ha	Part 1 - Section 4.1
Centre	4.35ha	Part 1 - Section 4.1
Public Open Space	42.06ha	Part 1 - Section 4.3
Public Purposes – Drainage	0.49ha	Part 1 - Section 4.1
Public Purposes – Education	5ha	Part 1 - Section 4.4
Estimated number of dwellings	3,260	Part 2 - Section 4.2.1
Estimated residential site density	25 dwellings per site hectare	Part 1 - Section 4.5.1 Part 2 - Section 4.2.1
Estimated population	9,128	
Number of high schools	0	Part 1 - Section 4.4
Number of primary schools	1	Part 1 - Section 4.4 Part 2 - Section 4.4
Amount of Public Open Space	42.06 ha 30.46 ha (total creditable POS) - 13.2% 25.84 ha (unrestricted POS) - 11.2% 4.62 ha (restricted POS) - 2%	Part 1 - Section 4.3 Part 2 - Section 4.5

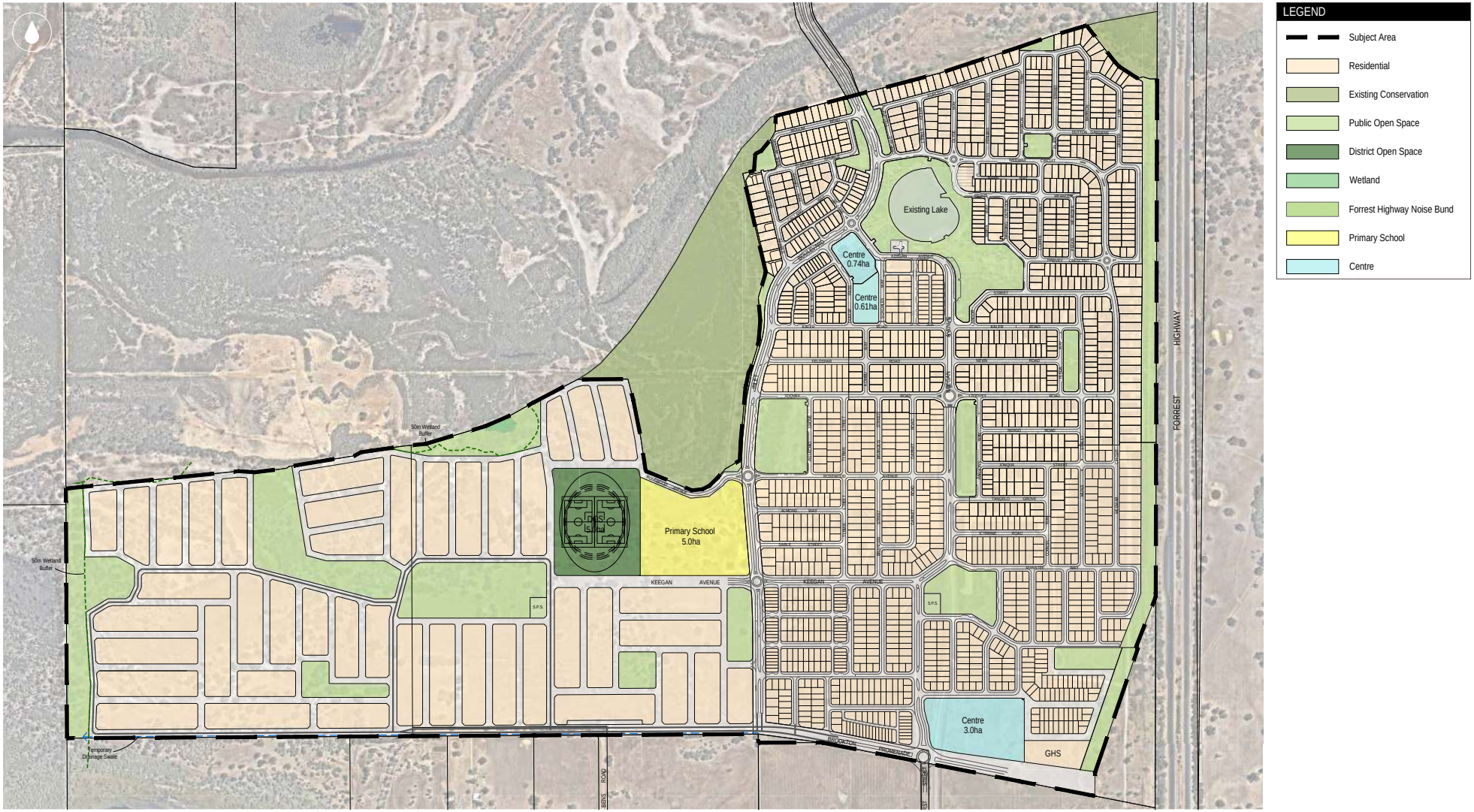

Figure 7: *Development Concept Plan (Aerial source: Nearmap)*

4.2.1 Residential

The Structure Plan facilitates the delivery of a residential community comprised of a range of lot sizes, housing products and lifestyle options, consistent with the established character and streetscape.

The delivery of quality housing and streetscapes remains a primary objective of the Structure Plan, as established in the original ODP.

4.2.1.1 Residential Yields & Density Targets

The Structure Plan has the potential to yield approximately 3,230 residential lots, 3,260 dwellings and a population of approximately 9,130 people (at 2.8 per household). The Structure Plan proposes densities ranging from R25 to R60 over the undeveloped balance, with densities allocated based on the following principles:

- A base density code of R25 applies across the Structure Plan to provide opportunities for traditional lot typologies to satisfy the prevailing market demand for lots with sizes typically ranging between 450m² to 500m².
- Medium density codes ranging between R30 – R60 located in high amenity areas, including:
  - Overlooking open space and natural areas;
  - Within 400m of activity centres ;
  - Adjacent to key transport connections.

These densities facilitate development of contemporary 'compact' dwelling typologies of both single and grouped dwellings. This will ensure the provision of affordable lot choices and cater to those that prefer a smaller lot size and facilitate housing diversity across the Structure Plan area. The R60 code is only proposed within the Centre zone and its immediate surrounds to encourage development at a higher density, consistent with the Shire of Murray's LPS 4 density target of 25 to 30 dwellings per site hectare within 400m of the centre zones

The Shire of Murray's LPS 4, Clause 3.8 of Schedule 7 sets a housing density target of 20 dwellings per site hectare for the pure residential area (excluding open space, roads and other non-residential uses). Development of the Structure Plan to date has achieved this with a density of 20 dwellings per site hectare across the 1,767 lots developed or approved to date, as shown on **Plan A** as 'Residential (Existing)'. The balance of the Structure Plan area zoned as Residential on **Plan A** has the potential to achieve a target of 25 – 30 dwellings per site hectare, exceeding the density target of LPS 4 and the 22 dwellings per site hectare dwelling target recommended by *Liveable Neighbourhoods*.

The proposed density codes are consistent with the previous ODP and the established suburb of Austin Lakes and provide flexibility for density allocation to be refined at subdivision stage, whilst maintaining the established streetscape and quality housing outcomes that are integral to the established character.

4.2.2 R-Code Variations

The Austin Lakes estate has an established streetscape and residential character, comprised of a number of unique lot typologies, each delivering different built form outcomes. These built form outcomes have been facilitated under the previous ODP via the 'R-Code Variations and Built Form Requirements' Amendment Report (refer **Appendix 12**) which proposed a series of variations to the Deemed-to-Comply provisions of the R-Codes.

To carry over these built form controls, the Structure Plan is be read in conjunction with a draft Local Planning Policy 'Austin Lakes Estate – Residential Design Codes (R-Codes) Variations', which applies to residential development within the Structure Plan and sets out the applicable Deemed-to-Comply requirements and variations to the acceptable outcomes of the R-Codes. A copy of the draft Local Planning Policy ('the LPP') is attached, refer **Appendix 13**.

Included within the LPP are augmented or replaced Deemed-to-Comply requirements, which broadly apply to three lot products and housing typologies, refined in response to the anticipated built form outcomes to be delivered.

The LPP includes provisions related to:

- Built form interface with adjoining Public Open Space or primary street frontages, where a lot is rear loaded or accessed via a laneway or right of way.
- Provisions for boundary walls to facilitate the development of terrace style housing, with some restrictions on the provision of boundary walls on specific lot boundaries to maintain solar access for adjoining lots.

- Location of outdoor living areas / primary garden areas to maximise solar access and ensure usability with the internal primary living spaces.
- Specific development requirements for the primary street elevation and primary dwelling façade design where the garages are proposed to the primary street to ensure the primary dwelling façade is high-quality and contributes positively to the desired streetscape outcomes, refined according to the lot width.

4.3 Centre Sites

Consistent with SPP 4.2, a Retail Needs Assessment and Net Benefit Test ('RNA') has been prepared by Location iQ to support this Structure Plan, available in full at **Appendix 8**. The RNA demonstrates that there is strong retail demand now and into the future and that local shopping needs within Austin Lakes will continue to grow. The retail modelling undertaken as part of the RNA confirms that the proposed amount of retail floorspace combined with the estimated timing for it to establish, will not threaten the viability or continued operation of other activity centres.

The Structure Plan area follows the previous approved ODP, which planned for the creation of a village centre / mixed use site and a separate Mixed Business site. The Structure Plan map (**Plan A**) seeks to consolidate the Village Centre and Mixed Business Area into a single 'Centre' zoned area, located generally in accordance with the Mixed Business Area shown on the ODP map. This is referred to as a 'Neighbourhood Centre' and is in addition to the existing local centre further to north, referred to as Austin Lakes Central.

The Structure Plan proposes an approximate total of 4.5ha of 'Centre' designated land which comprises both the local and neighbourhood centres. These areas are estimated to accommodate a total Gross Lettable Area ('GLA') of 11,000m² which is discussed under the following sections

Local Centre (Austin Lakes Central)

The Structure Plan identifies an expansion to the existing local centre site (Austin Lakes Central) from 0.75 hectares to a total area of 1.35ha. This involves expanding the local centre designation over the adjoining Lot 500, No. 159 Inlet Boulevard which has an approximate area of 0.6 hectares. The expanded 1.35 hectare local centre has the potential to accommodate an additional 1,000 – 2,000sqm of floorspace, bringing the total GLA of the centre to 4,000sqm. The proposed increase in the permissible GLA would support primarily non-retail or community-facing uses, consistent with its established role in the activity centre hierarchy as a Local Centre. Potential land uses that will likely be investigated over the expanded site include a Tavern to further expand the services and amenities available to the local community. Any future proposal for a Tavern use would be subject to a separate development application process and any associated liquor licensing requirements. Notwithstanding the intended use of for expanded local centre site as demonstrated by the RNA (refer **Appendix 8**), the increased site does not have the potential to unduly impact existing or planned activity centres and will assist enhance the range of services available to community in the short term and prior to development of the future neighbourhood centre.

Austin Lakes Neighbourhood Centre

The Austin Lakes Neighbourhood Centre is planned as a higher-order activity centre for the Structure Plan, with **Plan A** depicting an approximate 2.5 – 3ha of land on the southern boundary of the Structure Plan.

The Austin Lakes Neighbourhood Centre will accommodate up to 7,000sqm of GLA in the medium-long term and is anticipated to include a full-line supermarket, retail speciality and complementary non-retail / commercial land uses.

The anticipated timeframe for the Neighbourhood Centre will be driven by demand and future population growth, both within the Structure Plan area and the wider locality. The RNA anticipates that the Neighbourhood centre may become viable around the years 2035/36.

The Neighbourhood Centre is located adjacent to Brookton Promenade and at full development, anticipates an interchange at Brookton Promenade and Forrest Highway, providing a direct connection between the Centre and broader locality. The Neighbourhood Centre is located ideally to optimise exposure and accessibility for passing trade and local residents alike as the Structure Plan area is developed in a sequential manner.

Further, the location aligns with the land zoned for mixed use and non-residential land uses as approved in the previous ODP provides an opportunity to service the land to the south which is currently identified as 'Urban Investigation' in the Frameworks.

The potential design and layout of the Austin Lakes Neighbourhood Centre will be coordinated via the specific LDP provisions as set out in Part 1 of this LSP.

Namely, future LDPs will be required to address the following:

- The location of vehicle access points and indicative intersection treatments.
- Building orientation, setback and interface with the adjoining roads and residential land.
- Designate general car park locations.
- Designate the general location of service areas, loading docks and proposed mitigation measures to alleviate the visual impact of these areas.
- Outline minimum landscaping requirements to be demonstrated at the development application stage.

The design considerations noted above will ensure that development of the Neighbourhood Centre is site responsive and provides a high quality interface.

Net Benefit Test

Consistent with SPP 4.2, the RNA includes a Net Benefit Test ('NBT') to determine the impact of the 'out-of-centre development' proposal. The NBT details the key considerations for new activity centres, specifically:

- They should not have an unreasonable and detrimental impact on the activity centre hierarchy or the existing or planned functions of activity centres.
- They should not have an unreasonable and detrimental impact upon existing, committed and planned public and private investment in activity centres.
- They should deliver net benefit to the community and not reduce the level of access to services by the community.

The RNA confirms the proposed activity centres and associated floorspace is consistent within the Impact Test and Net Benefit Test criteria, concluding that:

- The proposed Centres do not impact the viability or continued operation of any existing or proposed centres in the surrounding region, with impacts broadly within competitive ranges.
- Whilst there is an anticipated short-term impact on the centres within the locality, namely; a -15% impact on Austin Lakes Central and a -12.5% impact on the Ravenswood District Activity Centre, these initial impacts will be short term and are anticipated to be ameliorated by the following:
  - Projected population increase in the main trade area of 3.8% per year to 2046.
  - Increased supermarket expenditure to increase by an annual rate of 4.6%.
  - Total retail spending to increase by an annual rate of 4.6%.
- The RNA concludes that the increased population and expenditure would ameliorate impacts up to -15% within four years. The projected short-term impacts on Austin Lakes Central and Ravenswood District Activity Centre are therefore anticipated to be resolved within four years.
- The Structure Plan's proposed activity centres will improve access for Austin Lakes residents, without requiring them to travel externally to access goods and services.
- The Structure Plan directly addresses the existing and prevailing shortfall of neighbourhood centres within the Shire of Murray, retaining retail expenditure within the Shire of Murray where possible.

In summary, the RNA concludes that potential retail impacts of the Structure Plan on other existing and planned centres are within an acceptable range or short-term in nature. When considered in the context of the size, performance, role and function of surrounding centres, it would be highly unlikely to result in a material reduction of retail service provision.

Land Use Permissibility

The land use permissibility for the Centre zones is detailed in the Part 1 report and aims to facilitate the provision of a mix of retail and complementary non-retail commercial uses to service the daily and weekly shopping needs of the community. Further, the land uses will support development of food and beverage establishments, expanding the range of services and amenities available to Austin Lakes residents.

The Part 1 report identifies a number of 'preferred' land uses which accord with the desired land use mix, all of which service the future Austin Lakes community, ensuring that land uses with a broader catchment are discouraged.

4.4 Education

To support the emerging Austin Lakes community and in accordance with the original ODP, a primary school is proposed to be located centrally within the Structure Plan area.

The Structure Plan map (**Plan A**) identifies a primary school site, co-located with a district open space. The location of the primary school site identified on **Plan A** is consistent with the original ODP and the September 2021 subdivision approval which facilitated the creation of a 5.7ha primary school site in this location.

The Structure Plan proposes a 5ha primary school site, co-located with a district open space accessed by an appropriate hierarchy of higher and lower order roads and consistent with the WAPC's *Operational Policy 2.4 - Planning for school sites*.

The co-location of the primary school site with the district open space provides spatial efficiencies and allows for the full-size of the playing fields to be provided on the district open space reserve, reducing the primary school site to 5ha.

The co-located district open space with the school has been determined following negotiations with the Shire of Murray, with the Structure Plan layout reflecting their current locational preference and the Shire's Public Open Space Strategy. Ongoing liaison with the Department of Education will continue to determine an appropriate timing for the creation of the school site, which will occur through a future subdivision process.

4.5 Public Open Space Strategy

A Landscape Masterplan (**Figure 8**) has been prepared by landscape architects, Emerge Associates (refer **Appendix 10**) to coordinate the distribution, design and function of the POS network to be created and established under the Structure Plan. The Landscape Masterplan sets out the design principles for POS areas that will inform the detailed design at future subdivision stages.

The Structure Plan establishes the framework for several POS areas that will serve various functions, balancing provision for both active and passive recreational activities whilst managing drainage requirements . The Landscape Masterplan ensures that all residents are within a walkable catchment of POS. The location of POS areas seeks to target the retention of existing trees where possible, guided by a vision of public open space containing mature trees from establishment.

The following is a summary of key aspects of the POS provision based on *Liveable Neighbourhoods* requirements:

- The Structure Plan provides for approximately 29ha of local POS, which equates to approximately 13.2% as shown in **Table 4** (Land Use Schedule), **Table 5** (Public Open Space Schedule), **Figure 8**: Landscape Masterplan and **Figure 9:** Public Open Space Plan. 42.06ha (gross) of POS is distributed throughout the Structure Plan area, accommodating both active and passive uses and performing a drainage function.
- Approximately 2.56ha of the open space will receive drainage from the first 15mm storm events. For calculation purposes, this is treated as the 1-year storm event and taken as a deduction from the Gross Site Area, as set out in *Liveable Neighbourhoods*. This stormwater will be infiltrated within bio-filtration areas.
- The majority of drainage from flows over and above the first 15mm event from the wider Structure Plan area will be directed via a piped drainage system to bio-retention basins and flood storage areas within POS for infiltration.
- Approximately 7.7ha (approx.) of the POS is restricted use open space due to receiving stormwater flows from the 20% Annual Exceedance Probability ('AEP') event, in accordance with *Liveable Neighbourhoods*. For this calculation, the 20% AEP event is treated as a 5-year storm event. A surplus 3.14ha of restricted public open space above the maximum 2% is provided, which has been included in the site area deductions, in accordance with *Liveable Neighbourhoods*.

The Structure Plan provides 13.2% POS provision in accordance with *Liveable Neighbourhoods*, exceeding the minimum requirement of 10%. This area will continue to be refined as part of the future, more detailed subdivision design process.

Figure 8: *Landscape Masterplan (Source: Emerge)*

Table 6: Public Open Space Schedule (all areas in hectares)

LSP Site Area		**253.93**
Existing Deductions		
Centre - North	1.35	
Centre - South	3.00	
Primary School	5.00	
Bens Road Interchange	1.68	
Wetland Core - West	0.06	
Wetland Core - NW	0.17	
Forrest Highway Noise Bund	5.68	
Sewer Pump Station (x3)	0.49	
Surplus 2% Restricted POS	3.14	
Drainage 15mm (Total as per C&W Advice)	2.56	
Total existing deductions	**23.12**	
Gross Subdivisible Area		**230.81**
POS requirement @ 10%		23.08
Public Open Space Requirement		
May Comprise:		
Min 8% Unrestricted POS	18.46	
Max 2% Restricted POS	4.62	
TOTAL POS REQUIRED		**23.08**
Public Open Space Provided	Unrestricted POS Area	Restricted POS Area
For individual POS Land Areas see Table 7		
TOTAL (ha)	**25.84**	**7.76**
Additional Deductions		
Restricted Open Space Surplus		3.14
Revised Public Open Space Contribution		
Unrestricted POS provided	25.84	11.20%
Restricted POS provided	4.62	2.00%
Total Creditable POS Provided	**30.46**	**13.20%**

Table 7: Public Open Space Land Areas (all areas in hectares)

Public Open Space Provided	Unrestricted POS Area	Restricted POS Area
Park 1-5	1.45	0.10
Park 6	0.80	0.04
Park 7	1.71	0.10
Park 8 (JDA)	0.25	0.23
Park 9	1.49	0.10
Park 10 (Central Lake)	2.44	2.04
Park 11	0.36	0.43
Park 12	0.64	0.01
Park 13 - DOS	4.92	0.02
Park 14 (minus wetland core)	0.20	1.46
Park 15 (minus SPS)	3.88	0.02
Park 16	4.02	0.08
Park 17	0.85	0.01
Park 18 (minus wetland core)	0.94	2.74
Park 19	0.18	0.00
Park 20 (minus SPS)	1.11	0.29
Park 21	0.60	0.08
TOTAL (ha)	**25.84**	**7.76**

Notes:

1. *In accordance with Liveable Neighbourhoods: the area subject to inundation more frequently than a one year average recurrance interval rainfall event is not included as restricted or unrestricted open space and is a deduction from the net site area (LN R33); areas for the detention of stormwater for a greater than one year average recurrance interval up to the five year recurrance interval is restricted open space up to 20%, the area greater than 20% is a deduction (LN R26 & Table 11); areas for the dentention of stormwate for a greater than five year average recurrance interval is within unrestricted open space (LN R25).*
2. *This Schedule is for plan CLE Ref. 2054-744D/2054-765 and uses the drainage calculations prepared by RPS, dated 19 June 2026.*

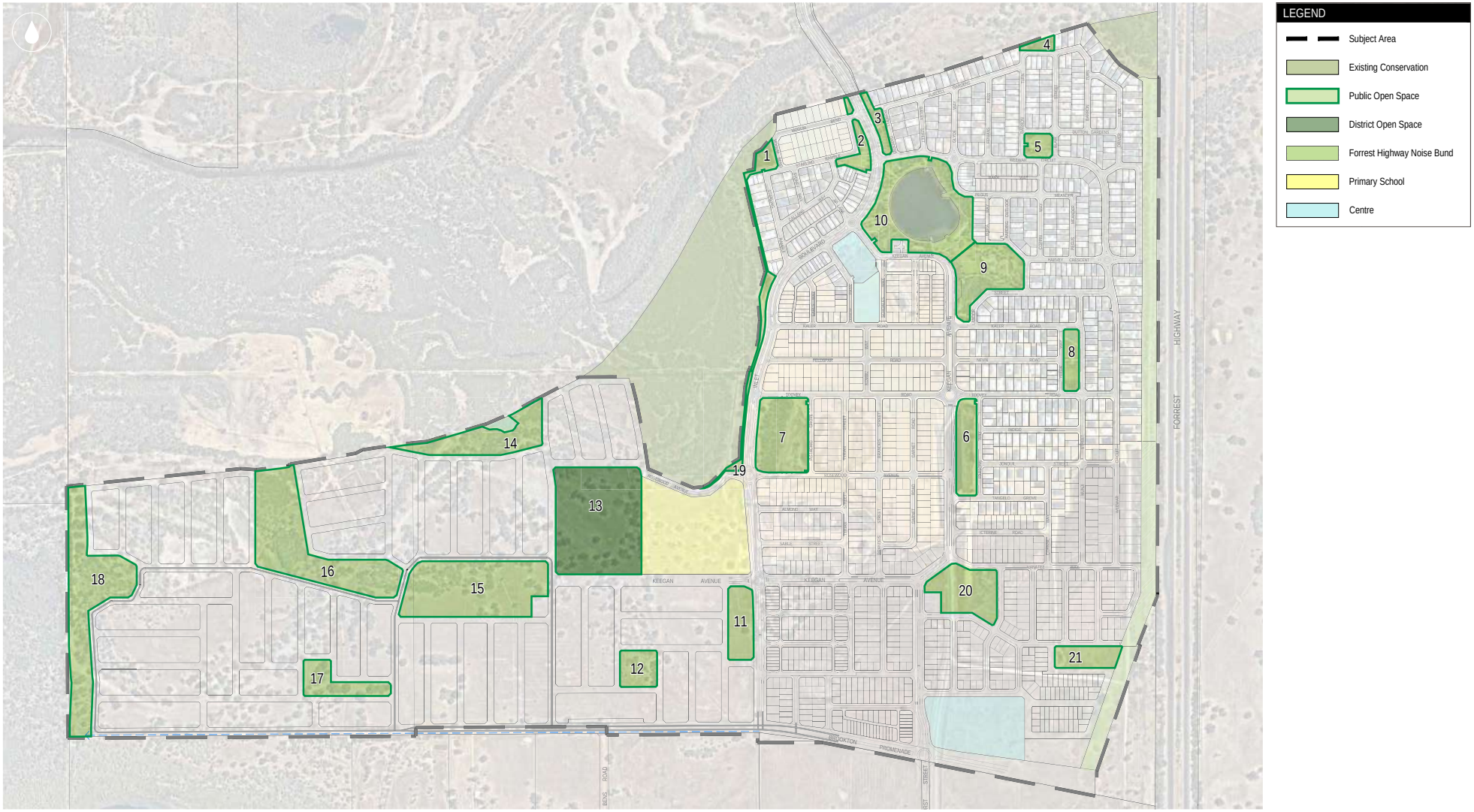

Figure 9: *Public Open Space Plan (Aerial source: Nearmap)*

Streetscape Planting

A Streetscape Planting Strategy has been prepared as part of the Landscape Masterplan to deliver a consistently high standard of landscaping within the public realm, continuing from those delivered to date as part of the established portion of Austin Lakes (**Figure 10**).

Street trees have been carefully selected to deliver quality streetscapes that will provide a sense of place and maintain the distinct themes of the Austin Lakes estate, incorporating a variety of treatments in response to the road hierarchy system. Street trees have been selected regarding the width of reserves and the role particular roads will serve.

Figure 10: *Street Tree Masterplan (Source: Emerge)*

4.6 Movement Network

A Transport Impact Assessment ('TIA') has been prepared by Transcore (refer **Appendix 4**) in support of the Structure Plan to forecast traffic volumes and recommend a road network hierarchy to accommodate the anticipated traffic. The traffic volumes estimated by the TIA are derived from the residential lot yield, the expansion of the Austin Lakes Central shopping centre, inclusion of a new neighbourhood centre site (Austin Lakes Village) and a new primary school. The TIA concludes that forecast vehicle movements are within the capacity of all internal and external intersections and streets, with an estimated residential trip generation of 20,290vpd and a total of 12,690vpd for non-residential land uses.

A summary of the key elements of the TIA is provided below, including the existing and planned movement network, road hierarchy and an overview of the cyclist and pedestrian network, all of which inform the Structure Plan layout.

4.6.1 Proposed Movement Network

The TIA comprehensively addresses traffic movement considerations within the Structure Plan area to seamlessly integrate future roads with the established internal and external road network.

The Road Hierarchy Plan coordinates the higher order roads within the Structure Plan area (**Figure 11**: Road Hierarchy Plan) consistent with *Liveable Neighbourhoods*. The key elements of the proposed road network are as follows:

- **Inlet Boulevard and Brookton Promenade** – are classified as Integrator B roads and are planned with a 30m wide road reserve to accommodate on-road cycle lanes and parking bays where required. Integrator B roads are suitable for traffic movements up to 15,000vpd (and 20,000vpd with suitable intersections).
- **Neighbourhood Connector A** roads feature a 28m road reserve and include two 3.5m traffic lanes and a 2m median, 1.5m on-road cycle lanes in both directions and the capacity for embayed parking where required. Neighbourhood Connector A roads are suitable for traffic movements up to 7,000vpd.
  - The TIA notes the existing Schoales Bend and Keegan Corner road reserves are planned as Neighbourhood Connector A's, requiring an upgrade to accommodate forecast traffic volumes. The details of the required road reserve widths will be confirmed at subdivision stage to determine whether the existing cross sections can accommodate movements generated by future subdivision stages
- **Neighbourhood Connector B** roads are suitable for traffic movements up to 3,000vpd. These roads include two 3.5m traffic lanes and no median, no on-road cycle lanes, with indented parking where required to support adjacent development.
- **Access Street B** roads are proposed along abutting public open space, the centre zone and the primary school and are planned with a typical reserve width of 18m to accommodate embayed parking.
- **Access Streets C and D** have a reserve width of 15m to 16m wide, compliant with *Liveable Neighbourhoods* or the existing road reserves as approved and constructed under the previous ODP.
- **Laneways** – rear laneways to have a width of 6m, compliant with *Liveable Neighbourhoods* and on-street visitor parking required for lots with rear access.

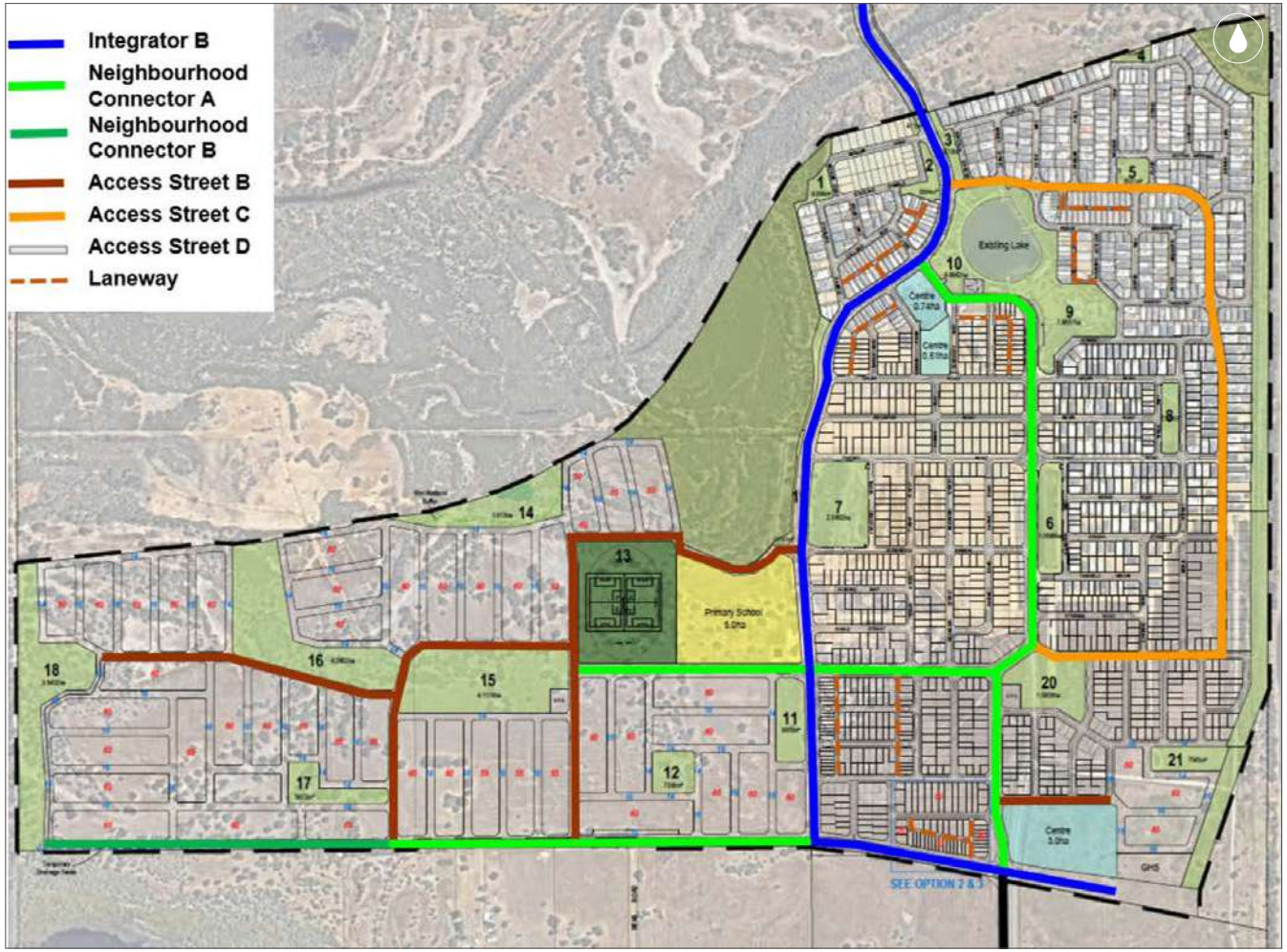

Figure 11: *Road Hierarchy Plan (Source: Transcore)*

Pedestrian & Cyclist Facilities

The Structure Plan will deliver a safe, legible, and interconnected pedestrian and cycle movement network, as shown in **Figure 12**, expanding the existing network and connections to the surrounding area.

The key principles for the planned pedestrian and cycling facilities within the Structure Plan are:

- The Neighbourhood Connector and Integrator B roads will have paths on both sides and a shared path on one side.
- Footpaths on at least one side of all other access roads within the Structure Plan area.

These key principles and the final location of footpaths and shared paths will be determined in consultation with the WAPC / Shire of Murray as part of the detailed engineering stage following subdivision approval.

Public Transport

Bus routes 600, 604 and 605 currently operate along Pinjarra Road, connecting Mandurah Station to Pinjarra town site. On weekdays, these routes provide 18 services per day in each direction on Pinjarra Road, with 7 services on Saturdays and no service on Sundays and public holidays. It is recommended that Inlet Boulevard and Keegan Avenue be utilised to provide bus services through the area in the future and the road reserves and cross sections should be designed accordingly.

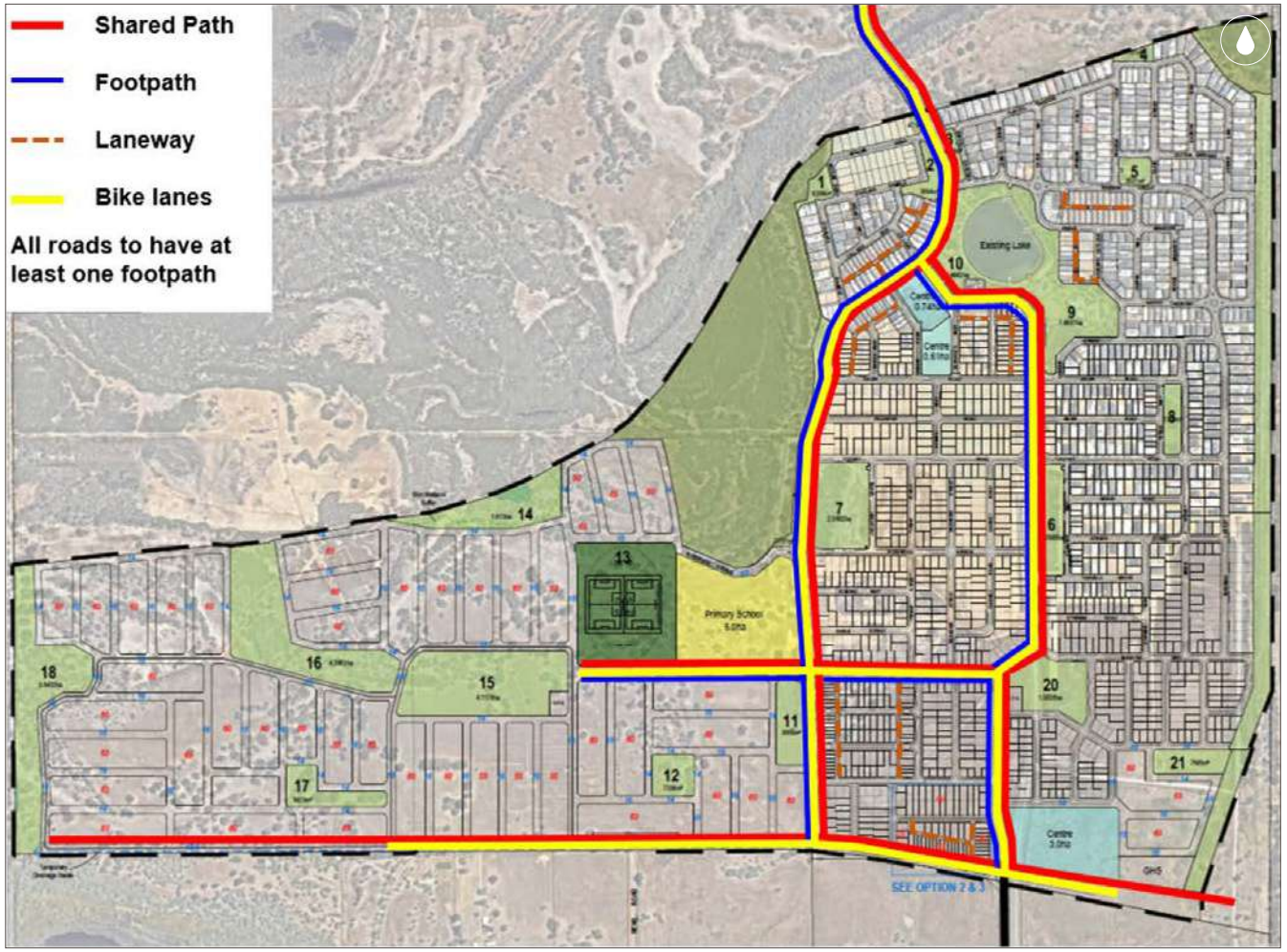

Figure 12: *Pedestrian & Cyclist Network (Source: Transcore)*

4.6.2 Analysis of Transport Network

Analysis of Frontage Properties

The TIA confirms that the majority of streets within the structure plan area will not carry more than 5,000 vehicles per day.

Above this number, *Liveable Neighbourhoods* recommends that egress from properties onto the road should be in forward gear. The north-south neighbourhood connector east of Inlet Boulevard is modelled at 5,250vpd, a minor increase above the 5,000vpd recommended for vehicles reversing onto the road. The TIA concludes that this is a minor variation to the upper threshold and confirms that the access arrangements are suitable.

Modelled Access Scenarios

The TIA modelled two access scenarios, both of which provide access to/ from Forrest Highway to facilitate the full build out of the Structure Plan area. They are:

- Scenario 1: Brookton Promenade / Forrest Highway Interchange
- Scenario 2: South Yunderup Road and Temporary Access Road/ Beacham Road

Scenario 1: Brookton Promenade / Forrest Highway Interchange

The TIA details the long-term planning for the Structure Plan area which anticipated an interchange with Forrest Highway, adjacent to the southeastern corner of the Structure Plan area, referred to as the Brookton Promenade interchange. This interchange is consistent with the *WAPC South Metropolitan Peel Sub-Regional Planning Framework* which includes an interchange located in the general vicinity. The ultimate alignment, location and design of an interchange in this general location is subject to future planning by Main Roads WA.

The TIA modelled that where the interchange is developed, South Yunderup Road would carry 7,920vpd and Brookton Promenade would carry approximately 10,700vpd. This scenario includes traffic attracted to the Austin Lakes Neighbourhood Centre from Forrest Highway.

Scenario 2: South Yunderup Road and Temporary Access Road/ Beacham Road

The TIA details a second access scenario which assumes that the Temporary Access Road remains open, providing vehicle access to Forrest Highway via Beacham Road. The planned use of the temporary access road reflects the planned upgrade to the Beacham Road and Forrest Highway intersection as announced by the State Government in February 2025. The upgrade includes a new acceleration lane along Forrest Highway and upgrades to "Schoales Bend", which is also referred to as the temporary access road. These works were confirmed to provide Austin Lakes residents with a second access point to Forrest Highway, via Beacham Road.

This access scenario forecasts South Yunderup Road to carry 12,700vpd and the Temporary Access Road to carry 2,330vpd.

The TIA models the intersection capacity of the Forrest Highway and Beacham Road T-intersection. Notably, this intersection is forecast to reach a level of service F in the PM peak when the Structure Plan area reaches a yield of approximately 2,380 lots. The TIA confirms that the traffic volumes that contribute to the sub-optimal performance of this intersection can be attributed to traffic growth on Beacham Road, irrespective of the forecast traffic volumes generated by the structure plan area.

South Yunderup Road

The existing South Yunderup Road reserve is physically capable of carrying traffic flows in excess of 20,000 vehicles per day with a practical capacity of approximately 13,000vpd. The Structure Plan area at ultimate will generate a forecast traffic volume of 12,700vpd, which is able to be accommodated by South Yunderup Road under either Scenario 1 or 2.

Under Scenario 2, which maintains the access arrangements of South Yunderup Road and the Temporary Access Road / Beacham Road / Forrest Highway, South Yunderup Road is anticipated to carry 12,700vpd.

4.7 Water Management

In accordance with Schedule 7, Cl 2.2 and 2.8 of LPS 4, an Urban Water Management Strategy ('UWMS') was prepared by Bayley Environmental Services in support of the previous ODP, approved in May 2008. A copy of the approved UWMS is included as **Appendix 14**. The UWMS detailed the principles of water management across the Structure Plan area.

In support of this Structure Plan, a Technical Note has been prepared by RPS to establish a drainage strategy for the balance of Austin Lakes and coordinate future drainage infrastructure with the established network. A copy of the RPS Technical Note is attached at **Appendix 15.**

Stormwater Management

The Technical Note and Engineering Servicing Report, prepared by Cossill & Webley detail the stormwater drainage strategy that has informed the Structure Plan design and public open space areas. The Drainage Strategy Concept manages stormwater runoff from rainfall events up to the 1 in 5-year ARI events, conveyed via an underground pipe network to infiltration basins, located at low-points. Surface water quality will be managed through bioretention basins with nutrient stripping capability prior to discharging into the external district drainage network. Discharge points are located at three points along the northern boundary of the Structure Plan area, as depicted at **Figure 13**.

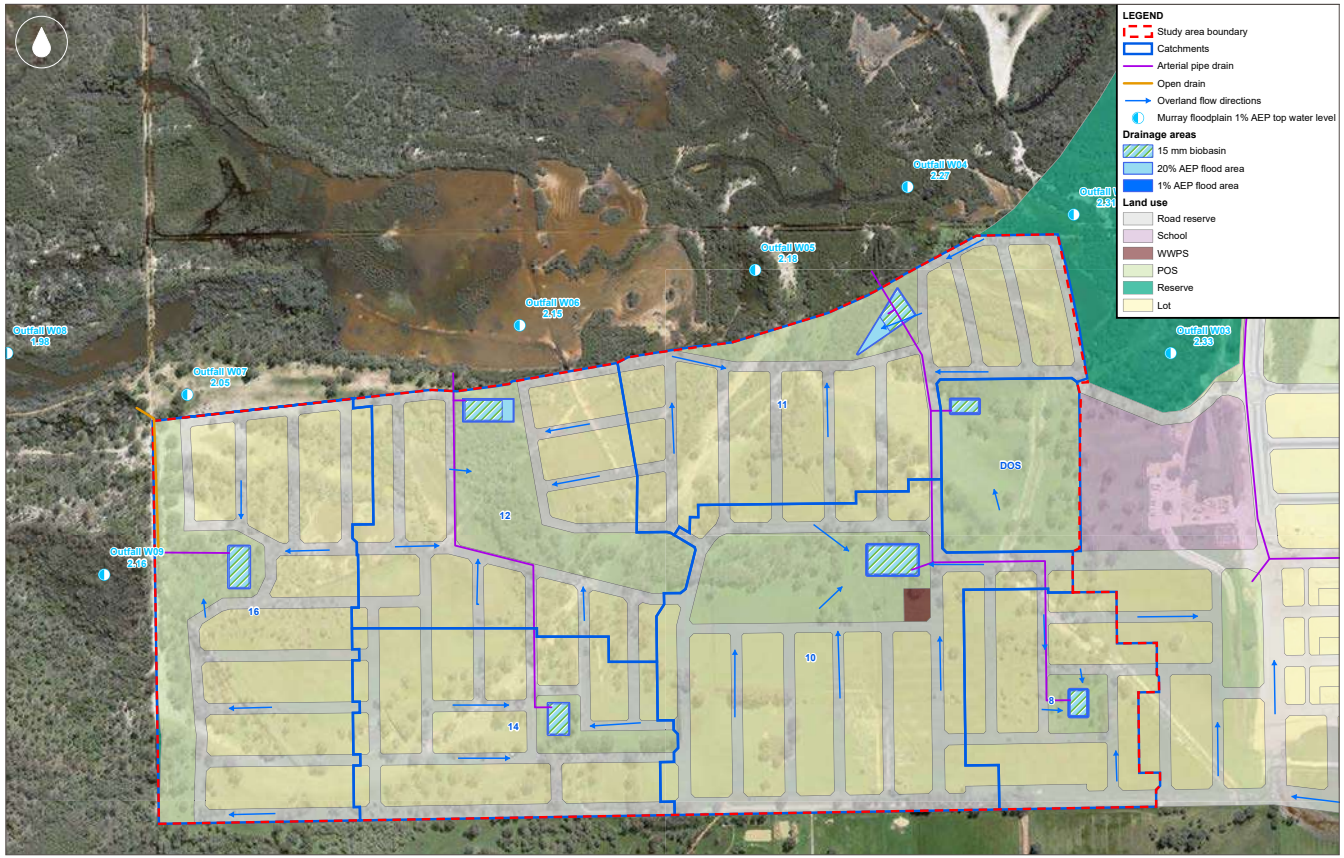

Figure 13: *Stormwater Management Plan (Source: RPS)*

Areas of POS provide overland flow paths to manage surface overflow during more severe storms.

Runoff generated by residential lots is to be managed on-site, with 16 individual catchment areas identified in the concept plan (**Figure 14**). Excess stormwater will be directed into various areas of POS via catchment swales. Drainage from public roads will be managed by underground collection and surface conveyance.

Groundwater Management

The pre-development AAMGL is at surface in some locations, necessitating the importation of clean fill to achieve clearance to groundwater. This is the same groundwater management response that has been effectively implemented for the established parts of Austin Lakes.

The Structure Plan area proposes to manage groundwater levels via subsoil drains located within road reserves, beneath biofiltration basins in the POS areas and median swales in the road reserves.

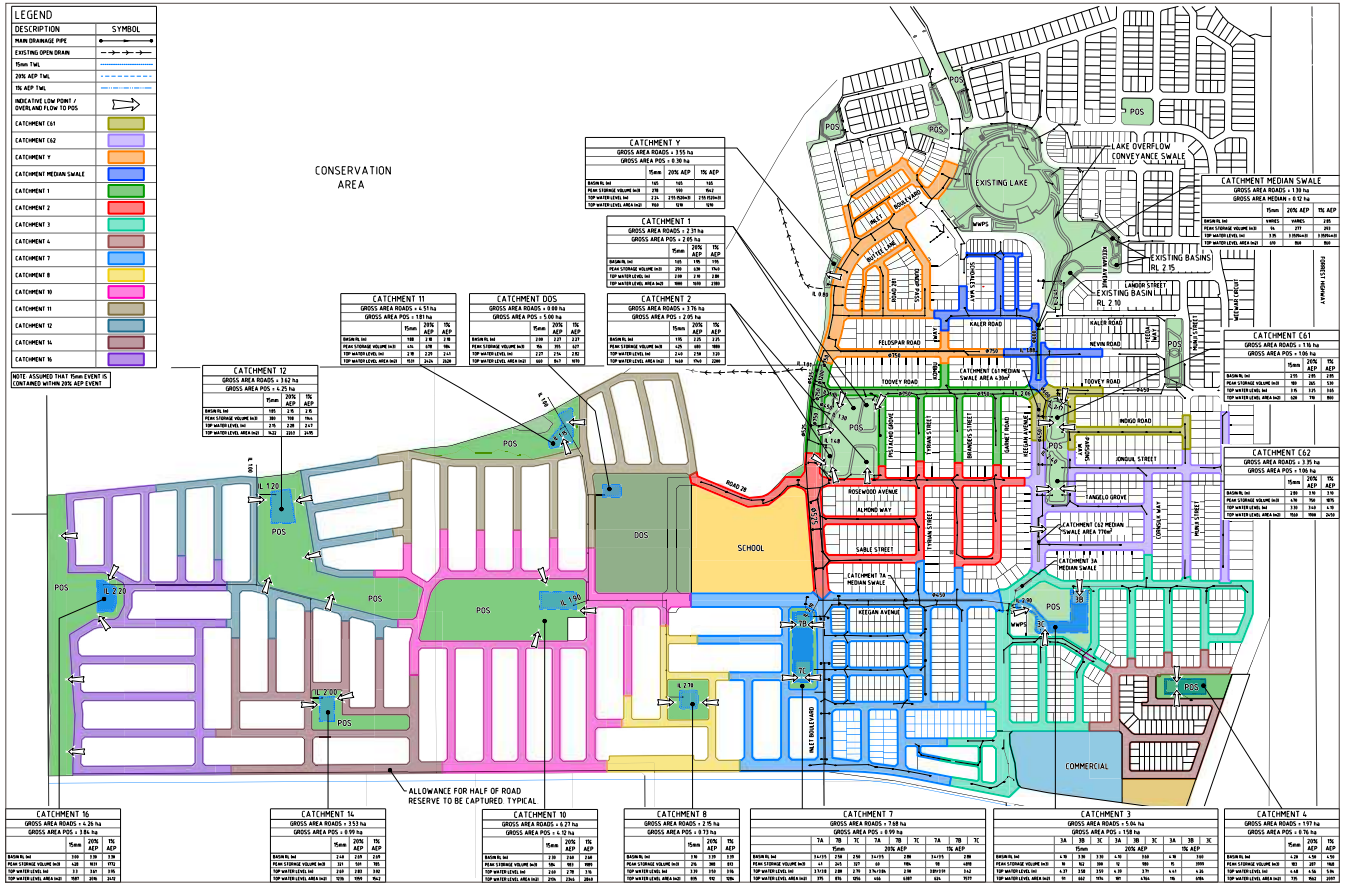

Figure 14: *Drainage Strategy Concept Plan (Source: Cossill & Webley)*

4.8 Bushfire Management

The Structure Plan area is identified as bushfire-prone in the map database administered by the Department of Fire and Emergency Services. In accordance with SPP 3.7 and Cl 2.7 of Schedule 7 of the LPS 4, a Bushfire Management Plan ('BMP') has been prepared by JBS&G, a full copy of which is available at **Appendix 5**. The BMP confirms that bushfire hazards affecting the Structure Plan area can be managed and are not a constraint to subdivision and development. The BMP assigns responsibilities to stakeholders to ensure this remains the case as the development progresses.

The BMP includes a detailed Bushfire Hazard Level Assessment which shows that most of the Structure Plan area will have a Low Bushfire Hazard level or BAL-12.5, with bushfire-prone vegetation (post-development) generally restricted to:

- Remnant pockets of forest classified vegetation located within POS areas 14 – 16 in the west, assumed to be retained within the POS areas.
- Class A forest and the tiered canopy of eucalyptus trees within the adjacent conservation reserves and wetland to the north and west of the Structure Plan area.
- Class B woodland to the south of the Structure Plan area.

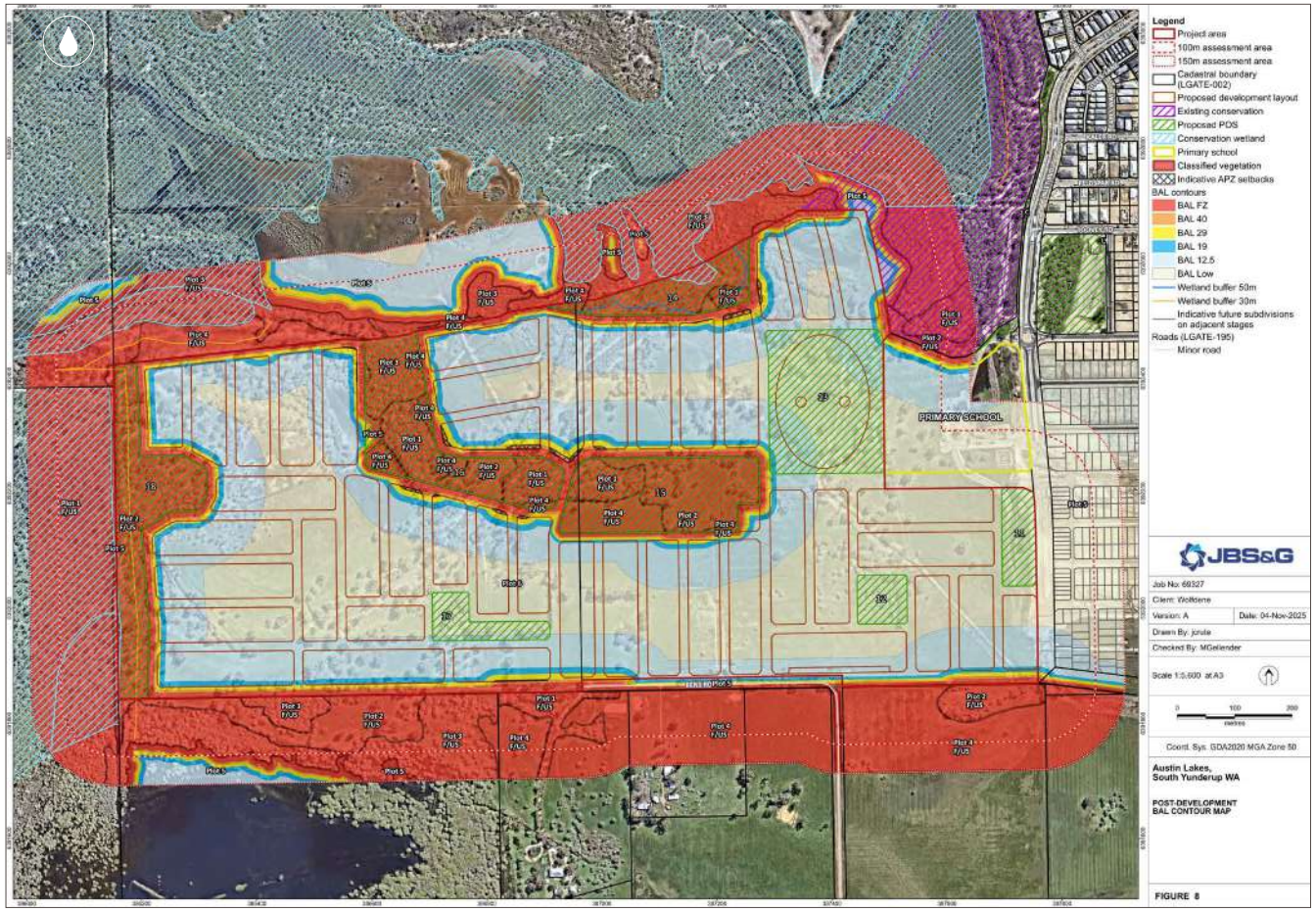

Figure 15: *BAL Contour Map (Source: JBS&G)*

The BMP requires an Asset Protection Zone ('APZ') to be established between the bushfire prone vegetation and dwellings to achieve a BAL of 29 or less, in accordance with AS3959 'Construction of buildings within bushfire-prone areas'. The Structure Plan proposes to implement these APZs by locating roads between future dwellings and in some circumstances, by requiring a building setback (referred to as 'Indicative APZ setbacks') to ensure habitable development is located in areas of BAL-29 or less, refer **Figure 14**. APZs will be confirmed at the time of subdivision informed by more detailed bushfire mapping and reporting.

The Structure Plan proposes to utilise and extend the existing vehicle access network, with a western extension of Rosewood Avenue, Keegan Avenue and Broadwood Promenade all proposed to integrate into the existing developed area of Austin Lakes.

This demonstrates that bushfire risk can be satisfactorily managed and is not a constraint to the development.

4.9 Noise Management

A Transportation Noise Assessment ('TNA') was prepared by Lloyd George Acoustics in support of the Structure Plan in accordance with SPP 5.4.

The TNA modelled potential noise impacts emanating from vehicles travelling on Forrest Highway, which is located immediately east of the Structure Plan boundary.

The TNA determined that a small number of future dwellings along the eastern edge of the Structure Plan area will exceed the acceptable noise limits set out in SPP 5.4. The TNA concluded that road traffic noise impacts can be managed through the following measures:

- Continuation of existing noise bund, constructed along the Forrest Highway interface with a top of bund level of 7.8m RL; and
- Where dwellings are exposed to noise above the outdoor target, 'Quiet House Design' packages are to be incorporated within the construction of the dwellings.

Subdivision will be implemented in accordance with the recommendations of the Acoustic Report, or a further acoustic report provided in support of any future application for subdivision to confirm any noise attenuation measures that may be required.

A copy of the report is available in full at **Appendix 4**.

Image: Austin Lakes

4.10 Utilities & Servicing

An Engineering Servicing Report has been prepared by Cossill & Webley to coordinate the extension of existing service infrastructure in the area. The key aspects of the Engineering Servicing Report are provided below, with a full copy available at **Appendix 16**.

Earthworks

The Structure Plan area is generally flat with a height ranging between 0 to 2m AHD. The earthworks strategy will deliver finished lot levels for residential development through the following:

- Raising the ground surface by 1-3m by using engineered fill to achieve sufficient clearance above post-development groundwater levels. Finished levels will be above 4.4m AHD (or 2m above the pre-development groundwater mound) to maintain separation to groundwater, including any potential post-development rise.
- Subsoil drainage to be designed to accommodate post-development groundwater.
- Fill levels designed to coordinate with stormwater and sewer reticulation infrastructure to ensure adequate clearances to gravity-driven systems.
- All building pads will be constructed to a minimum of 300mm above the 1 in 100-year ARI flood storage level.

The earthworks strategy accommodates the above-mentioned site considerations in addition to the requirements of servicing authorities.

Image: Austin Lakes

Sewer

A Sewer Reticulation Plan has been prepared over the Structure Plan area (refer **Figure 16**) which defines the wastewater network and its integration with existing and future sewer infrastructure within Austin Lakes. Minor adjustments will be made to tie-in with the existing stages under construction should any changes by required.

The Structure Plan area will be serviced primarily by a proposed Wastewater Pump Station ('WWPS') located centrally in the POS 15 portion of the site. A second WWPS is proposed in the south-eastern portion of the Structure Plan area. The reticulation layout includes a future pressure main which will transfer flows from these WWPS to a designated access chamber located at Inlet Boulevard, connecting into the broader estate's network. Wastewater flows across the Structure Plan area are designed to be conveyed via a gravity network towards the pump stations, located at natural low points.

Overall, the proposed sewer reticulation system provides a robust and efficient wastewater servicing framework, ensuring compliance with Water Corporation's servicing standards while integrating seamlessly with the surrounding Austin Lakes wastewater infrastructure.

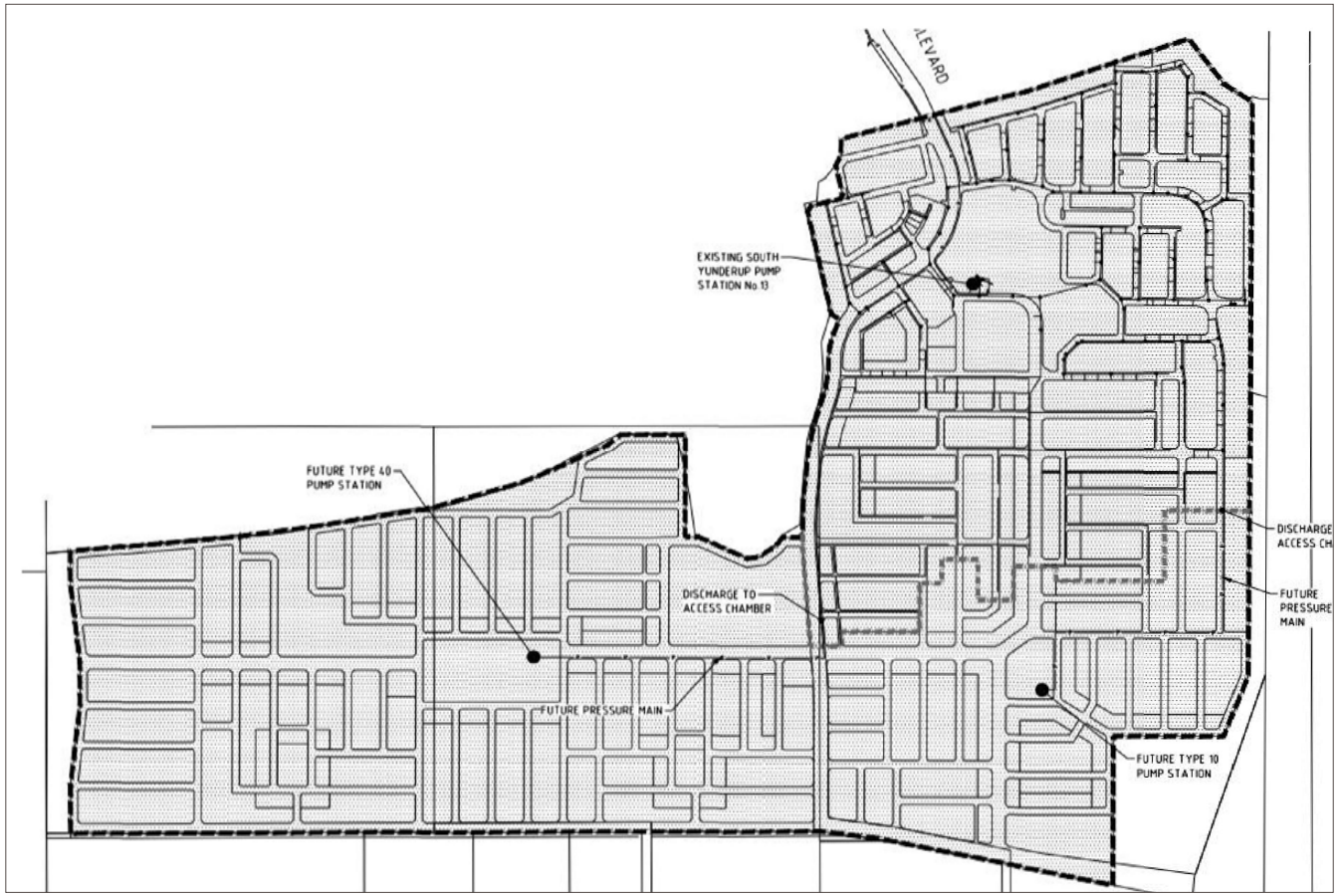

Figure 16: *Sewer Reticulation Plan (Source: Cossill & Webley)*

Water Supply

The Structure Plan area is located within the Water Corporation's Integrated Water Supply Scheme ('IWSS'), which provides potable water to the Peel region. An existing DN250P distribution main is located along Inlet Boulevard, which will function as the primary feeder for the remainder of the Structure Plan area. This existing reticulation main will be extended along Keegan Avenue, delivering adequate pressure and capacity for residential development whilst enabling redundancy within the network. Smaller reticulation mains are expected to be located at Brookton Promenade and Rosewood Avenue to service the internal water reticulation network.

The Water Corporation has advised of a limit supply level of 6.0m AHD, with finished surface levels within the Structure Plan area lower than 6.0m AHD ensuring that the area can be serviced suitably. As the Structure Plan area is subject to localised topographic variations, detailed design phases will confirm where detailed design responses are required to ensure service compliance can be maintained.

Potable water will be provided by the IWSS, as private bores are not permitted due to the presence of acid sulphate soils and elevated groundwater salinity.

Power Supply

A network of high and low-voltage underground infrastructure will provide electrical capacity for all development within the Structure Plan area. The electrical reticulation design will be prepared during detailed future subdivision design phases when the load requirements, feeder configurations, and need for distribution transformers can be confirmed. The electrical servicing strategy will tie into and extend the existing underground network established in the stages of development across Austin Lakes developed to date, ensuring that coordinated feeder routing, redundancy and efficient staging of reticulation works.

Street lighting will be designed to match the style, spacing and performance specifications established in the stages of Austin Lakes developed to date, to maintain visual consistency and seamless infrastructure integration.

There is an existing overhead power line adjacent to the Structure Plan area, with these assets to be safely decommissioned, removed or relocated underground as required.

Telecommunications Services

The Structure Plan area is located within the National Broadband Network's (NBN) "Build Commenced" fixed-line rollout area and will be serviced by high-speed broadband, consistent with the stages of Austin Lakes developed to date. The Structure Plan area will be serviced with fibre-ready pit to pipe infrastructure, installed within common trench alongside other underground services. Road reserves and verge cross-section designs have been designed to accommodate the necessary allowances for this infrastructure and localised equipment sites or connection nodes as required by the NBN.

Gas

There are existing gas mains in the Structure Plan area, servicing existing development within the estate. Future lots will be connected to the ATCO reticulated natural gas infrastructure. Gas mains will be installed within common trenches alongside water reticulation infrastructure to ensure coordinated servicing.

Detailed connection requirements and designs can be proved by ATCO Gas at the time of development.

Image: Austin Lakes

CLE Town Planning + Design