

# STRUCTURE PLAN

LOT 19 SIXTY EIGHT ROAD,  
BALDIVIS

PREPARED FOR:  
THE GLOW DEVELOPMENT (WA) PTY LTD

August 2018



# LOT 19 SIXTY EIGHT ROAD, BALDIVIS CITY OF ROCKINGHAM

## STRUCTURE PLAN

**August 2018**

**ISSUE 3D: FOR ENDORSEMENT**

Prepared for: **The Glow Development (WA) Pty Ltd**

Prepared by: SITE planning + design  
 PO Box 663, South Perth WA 6951  
 Email: [hello@sitepd.com.au](mailto:hello@sitepd.com.au)  
 Telephone: KM 0411 103 198 / TC 0403 932 156  
 Website: [www.sitepd.com.au](http://www.sitepd.com.au)

Project Planner: Tom Carroll - Director + Principal Town Planner  
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7 August 2018	3C - for WAPC endorsement	Updates as per WAPC requirements	WAPC	GG	TC
15 August 2018	3D - for WAPC endorsement	Updates as per WAPC requirements	WAPC	GG	TC



## ENDORSEMENT PAGE

This structure plan is prepared under the provisions of the City of Rockingham Local Planning Scheme No. 2.

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON:

..... 21 August 2018 ..... Date

Signed for and on behalf of the Western Australian Planning Commission:

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

..... Witness

..... 21 August 2018 ..... Date

..... 21 August 2028 ..... Date of Expiry



## AMENDMENT PAGE

AMENDMENT NUMBER	SUMMARY OF THE AMENDMENT	AMENDMENT TYPE	DATE APPROVED BY THE WAPC



## EXECUTIVE SUMMARY

This Structure Plan report has been prepared on behalf of the Glow Development (WA) Pty Ltd in support of a Structure Plan as it relates to Lot 19 Sixty Eight Road, Baldivis (the site).

The Structure Plan area is 9.1474ha in size and is currently zoned 'Urban' under the Metropolitan Region Scheme (MRS) and 'Development' under the City of Rockingham Town Planning Scheme No. 2 (TPS2). TPS2 requires the preparation and endorsement of a Structure Plan within the 'Development' zone to guide land use and development, prior to any subdivision of the land.

The site falls within an area covered by the South Baldivis District Structure Plan (SBDSP) which provides a general strategic framework for the preparation of structure plans. The details provided in the Structure Plan satisfy the general requirements set out in the SBDSP and will facilitate the use, subdivision and development of the site for residential, high school and public open space uses.

The Structure Plan provides for the creation of approximately ninety-two (92) residential lots of varied densities, ranging between R25 and R40. The Structure Plan also acknowledges the provision of land for a high school site consistent with the SBDSP and Department of Education requirements, as well as a permeable and robust road layout that connects to adjoining constructed and planned road networks.

The report addresses State and Local strategic planning framework requirements and has been prepared in accordance with the WAPC's Structure Plan Framework document.

The table below provides a summary of the key elements of the Structure Plan and associated report reference.

ITEM	DATA	STRUCTURE PLAN REF (SECTION NO.)
Total area covered by the structure plan	9.1474 hectares	1, 1.2
Area of each land use proposed:		
Zones:		
Residential	3.7849 hectares	3.3, 3.10
Reserves:		
Roads Reserve	2.0705 hectares	3.4
Drainage	0.0195 hectares	3.2, 3.5
Public Open Space	0.6323 hectares	3.2
School Site	2.6402 hectares	3.6
Total estimated lot yield	92 lots	
Estimated number of dwellings	101 d/u	
Estimated residential site density		
Dwellings per gross hectare (as per Directions 2031)	15.47 dwellings per gross hectare	3.3
Dwellings per site hectare (as per Liveable Neighbourhoods)	24 dwellings per site hectare	3.3
Estimated population	282 people @ 2.8 people/household	
Number of high schools	1 (portion)	3.6
Number of primary schools	0	



Estimated commercial floor space	0	3.7
Amount of Public Open Space (Local):		
Unrestricted Public Open Space	0.5898 hectares	3.2
Restricted Public Open Space	0.0425 hectares	3.2
Dedicated Drainage Reserve	0.0115 hectares	3.2



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- Appendix 4: District/Local Water Management Strategy
- Appendix 5: Landscape Concept Plan
- Appendix 6: Traffic Impact Assessment
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## ABBREVIATIONS

Abbreviations used in this report are summarised below for ease of reference.

<b>AHD</b>	Australian Height Datum
<b>ARI</b>	Average Recurrence Interval
<b>ASS</b>	Acid Sulphate Soils
<b>BAL</b>	Bushfire Attack Level
<b>BFHA</b>	Bushfire Hazard Assessment
<b>BMP</b>	Bushfire Management Plan
<b>D/LWMS</b>	District/Local Water Management Strategy
<b>EAR</b>	Environmental Assessment Report
<b>EPA</b>	Environmental Protection Authority
<b>FCT</b>	Floristic Community Type
<b>LDP</b>	Local Development Plan
<b>LN</b>	Liveable Neighbourhoods
<b>MRS</b>	Metropolitan Region Scheme
<b>POS</b>	Public Open Space
<b>SBDSP</b>	South Baldivis District Structure Plan
<b>The site</b>	Lot 19 Sixty Eight Road, Baldivis
<b>TPS2</b>	City of Rockingham Town Planning Scheme No. 2
<b>WAPC</b>	Western Australian Planning Commission



# **PART 1**

# **IMPLEMENTATION**



## 1. STRUCTURE PLAN AREA

This Structure Plan shall apply to Lot 19 Sixty Eight Road, Baldivis and is defined as the area bounded within the line as shown on the Structure Plan Map.

This Structure Plan is identified as the *Lot 19 Sixty Eight Road Baldivis Structure Plan*.

## 2. STRUCTURE PLAN CONTENT

The Structure Plan comprises the following:

- Part One - Implementation Section. This section contains the Structure Plan map and text outlining statutory planning provisions and requirements.
- Part Two - Explanatory Section. This section provides context and planning justification in support of the Structure Plan. It provides for the implementation of the statutory provisions outlined in Part One.
- Appendices - Contains all technical and specialist reports prepared in support of the Structure Plan.

## 3. OPERATION

This Structure Plan commences operation on the date it is endorsed by the WAPC.

## 4. STAGING

Staging of development will be largely contingent on Department of Education timeframes in relation to the school site, which is scheduled to open in 2019. Remaining lot releases and staging will be determined by market conditions and service infrastructure works.

As per the BMP, staging of development along the north-eastern and northern boundaries may be required to satisfy the requirements of the BMP in satisfying minimum BAL rating requirements.

## 5. LAND USE

### 5.1 STRUCTURE PLAN MAP

The subdivision and development of land is to be generally in accordance with the Structure Plan (refer **Figure 1**).

### 5.2 RESIDENTIAL DENSITY

The base residential density for the Structure Plan area is R25. Residential densities of R30 and R40 are supported adjacent to or abutting areas of public open space, or where rear access is available via a laneway.



## **6. SUBDIVISION AND DEVELOPMENT REQUIREMENTS**

### **6.1 INTERFACE WITH ADJOINING PROPERTIES**

Subdivision and development of the land is entirely consistent with the road and lot layout of existing and planned residential estates to the east, north and west. Co-location of Public Open Space and associated drainage has been coordinated with adjoining Lot 20.

### **6.2 TREE RETENTION**

Retention of existing significant trees within POS areas will be explored at the time of subdivision.

### **6.3 NOTIFICATIONS ON TITLE**

With respect to applications for subdivision the City of Rockingham shall recommend to the Western Australian Planning Commission that a condition of subdivision approval require the imposition of a notification to be placed on the Certificate of Title advising of the following:

1. Lots deemed to be affected by a Bush Fire Hazard as identified in the Bushfire Management Plan dated 23 July 2018 at **Appendix 1**.

## **7. LOCAL DEVELOPMENT PLANS**

Local Development Plans (LDP)'s will be prepared to guide development outcomes (as required) for:

- Lots with rear-loaded access; and
- Lots with direct boundary frontage to Public Open Space.



**NOTE:**  
 Local Development Plans (LDP)'s will be prepared to guide development outcomes (as required) for:

- Lots with rear-loaded access; and
- Lots with direct boundary frontage to Public Open Space.

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**LOT 19 SIXTY EIGHT ROAD, BALDIVIS**

<b>CLIENT</b> : The Glow Development	<b>REVISION</b> : A	<b>DRAWN</b> : BDL
<b>PLAN NO.</b> : Baldvis LSP_V1.0_20180702	<b>DATE</b> : 2 July 2018	<b>SCALE</b> : 1:2,000@A3

**NOTE**  
 Base data supplied by MAPS / Landgate. Projection PCG94  
 Aerial photography sourced from Landgate, dated January 2014  
 Areas and dimensions shown are subject to final survey calculations.  
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<b>LEGEND</b>	
	STRUCTURE PLAN BOUNDARY
	MEDIUM DENSITY (R25-R40)
	PUBLIC OPEN SPACE (POS)
	PUBLIC PURPOSE - EDUCATION



**FIGURE 1 - LOCAL STRUCTURE PLAN**



## **PART 2**

# **EXPLANATORY SECTION AND TECHNICAL APPENDICES**



## 1. PLANNING BACKGROUND

### 1.1 INTRODUCTION AND PURPOSE

The purpose of this Structure Plan is to provide the framework for the coordinated future subdivision and development of Lot 19 Sixty Eight Road, Baldivis for predominantly residential purposes. The Structure Plan sets out the general pattern and density of development, including the location of roads, areas of public open space and other reserve requirements.

The Structure Plan responds to general planning principles and urban form set out in State and Local Government policy such as Perth and Peel @ 3.5 Million, Directions 2031, Liveable Neighbourhoods and the South Baldivis District Structure Plan (SBDSP).

### 1.2 LAND DESCRIPTION

#### 1.2.1 LOCATION

The Structure Plan area is located approximately 50 kilometres south of the Perth Central Business District, 15 kilometres east of the Rockingham City Centre and 4 kilometres south of the Baldivis District Centre (refer **Figure 2**).

The Structure Plan area is bound by Sixty Eight Road to the south, with existing residential development to the immediate west. Land to the north and east is vacant and is subject to separate structure planning and subdivision approval applications. Land to the south of Sixty Eight Road is primarily rural residential in nature.

#### 1.2.2 AREA AND LAND USE

The Structure Plan area relates to a single lot, being Lot 19 Sixty Eight Road, Baldivis. The area subject to this Structure Plan is 9.1474ha.

#### 1.2.3 LEGAL DESCRIPTION AND OWNERSHIP

The land is formerly described as:

LOT NUMBER	OWNER	PLAN NO	VOL / FOL	AREA (HA)
Lot 19	The Glow Development (WA) Pty Ltd	P8420	613/69A	9.1474



**FIGURE 2 LOCATION PLAN**





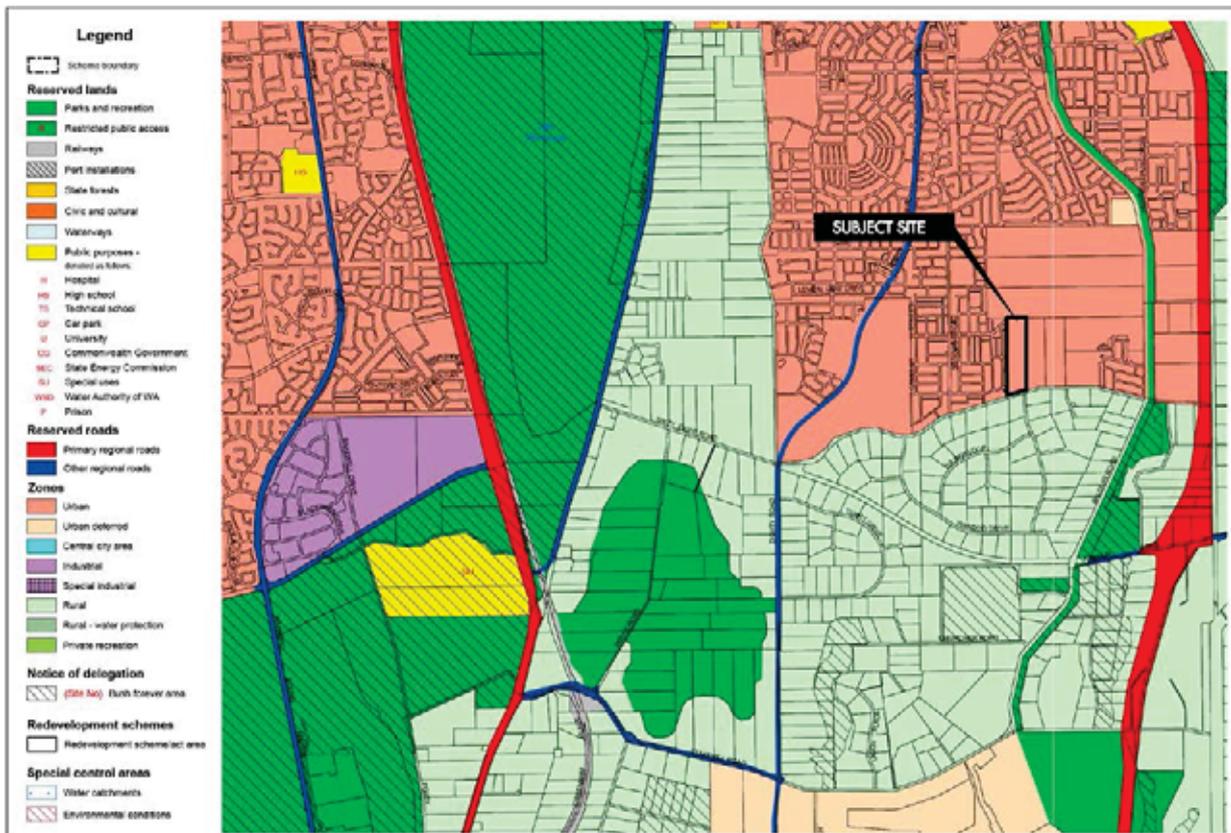
### 1.3 PLANNING FRAMEWORK

#### 1.3.1 ZONING AND RESERVATIONS

##### 1.3.1.1 Metropolitan Region Scheme

The Structure Plan area was recently zoned 'Urban' under the Metropolitan Region Scheme (MRS) following the lifting of urban deferment as per Amendment No. 1319/27 (gazettal date 8 November 2016). Lot 20 to the immediate east is similarly zoned 'Urban'. Land to the north and west is zoned 'Urban' and land on the southern side of Sixty Eight Road is zoned 'Rural'. Refer **Figure 3**.

**FIGURE 3 METROPOLITAN REGION SCHEME**



##### 1.3.1.2 City of Rockingham Town Planning Scheme No. 2

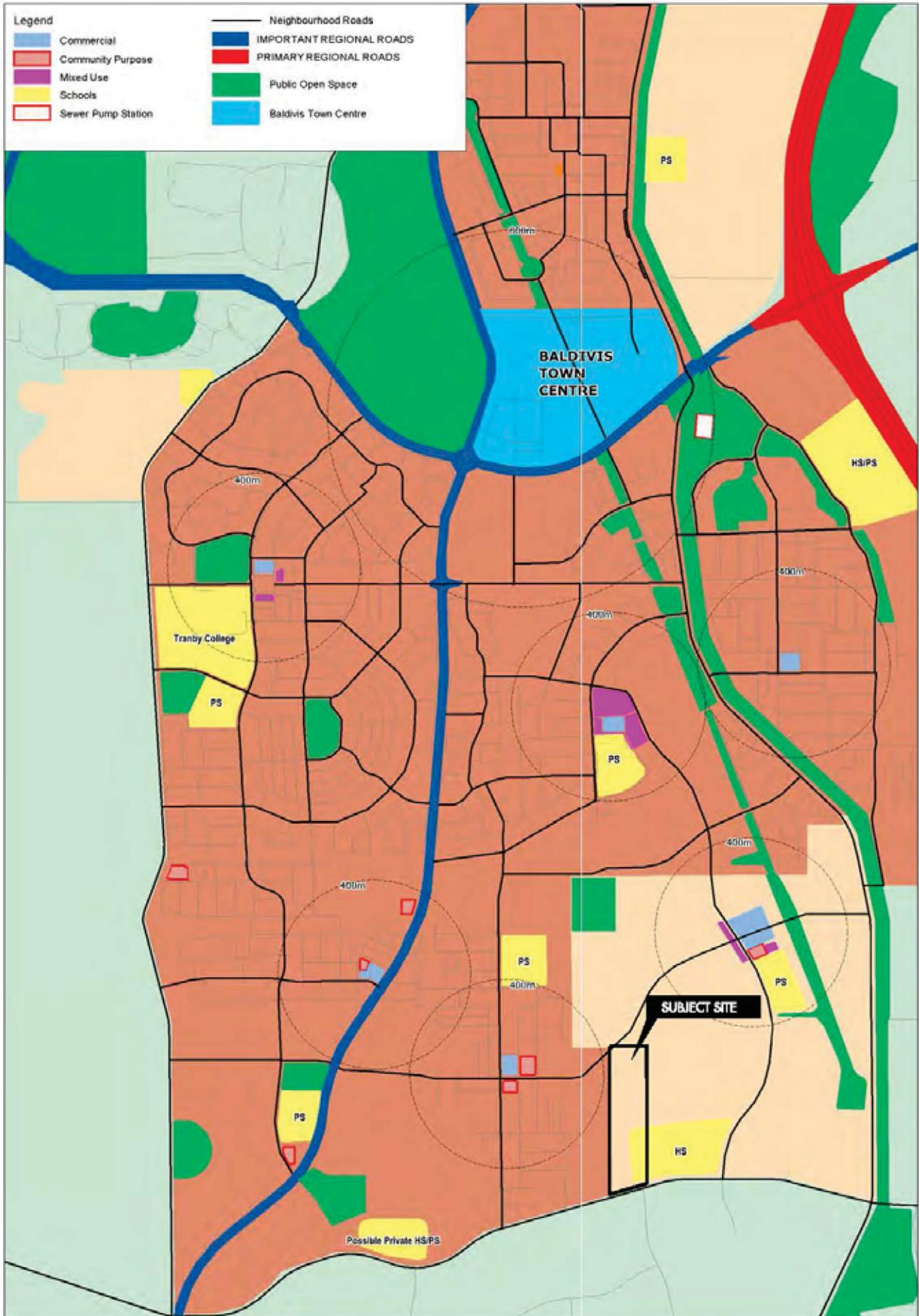
Lot 19 Sixty Eight Road is zoned 'Development' under the provisions of the City of Rockingham Town Planning Scheme No. 2 (TPS2). Refer **Figure 4**. The Structure Plan area falls within 'Development Area 35' as shown on the Scheme Map and detailed in Schedule No. 9 of TPS2.

Land zoned 'Development' under TPS2 requires the preparation and adoption of a Structure Plan to guide land use, subdivision and/or development.





**FIGURE 5 SOUTH BALDIVIS DISTRICT STRUCTURE PLAN**





## 1.3.2 PERTH AND PEEL @3.5MILLION LAND USE PLANNING AND INFRASTRUCTURE FRAMEWORKS

### 1.3.2.1 Perth and Peel @3.5 Million, March 2018

*Perth and Peel @ 3.5 Million* functions as the WAPC's strategic framework for the Metropolitan and Peel region and builds upon the vision outlined in *Directions 2031 and Beyond* document. The spatial plan associated with *Perth and Peel @ 3.5 Million* generally identifies the Structure Plan area as 'Urban Zoned - Undeveloped'.

### 1.3.2.2 South Metropolitan Peel Sub-regional Planning Framework, March 2018

The *South Metropolitan Peel Sub-regional Planning Framework* accompanies *Perth and Peel @ 3.5 Million* and provides a spatial framework for the location of future housing and employment areas, social infrastructure, infrastructure provision, the protection of environmental areas and the staging of future development.

The *South Metropolitan Peel Sub-regional Planning Framework* identifies the site for 'Urban' and 'Public purposes'.

## 1.3.3 PLANNING STRATEGIES AND POLICIES

### 1.3.3.1 State Planning Policy 3.7 – Planning in Bushfire Prone Areas

Given the extent of vegetation over the Structure Plan area and its proximity to areas of existing vegetation, consideration must be given to planning for bushfire protection as part of the Structure Plan and subdivision process.

The Structure Plan has been informed by and addresses the recommendations of a Bushfire Hazard Level Assessment (BFHA) and Bushfire Management Plan (BMP) provided at **Appendix 1**. The BMP provides guidance with respect to building setbacks, interface treatments and vegetation management over the site and adjoining properties.

Further detail in relation to the implementation of the BMP recommendations is provided in **Section 2.4**.

### 1.3.3.2 Liveable Neighbourhoods

The WAPC's Liveable Neighbourhoods (LN) is a state wide operational policy that guides the preparation and approval of structure plans in residential areas.

The Structure Plan satisfies the objectives and requirements of LN in relation to the following areas:

- Interconnected streets that facilitate safe, efficient and pleasant walking, cycling and driving;
- Active street-land use interfaces, with building frontages to streets to provide increased surveillance and security;
- Provision of a range of lot sizes and housing types that cater for the diverse housing needs of the community;
- An integrated approach to the design of open space and water management; and



- Achieves an overall residential density of 24 du/ha, satisfying the LN requirement for greater than 20 du/ha.

### 1.3.3.3 Planning Policy 3.4.1 – Public Open Space (City of Rockingham, 2009)

The City of Rockingham's Public Open Space (POS) Policy provides guidance for the provision, location, design and development of POS in the City of Rockingham and builds upon POS requirements outlined in LN.

The Policy reiterates the requirement for a minimum 10% of the gross subdivisible area to be given up free of cost by the subdivider for POS purposes. This must include a minimum 8% for active and passive recreational purposes, with a maximum of 2% comprising 'restricted use' POS.

Key policy requirements relevant to the Structure Plan include:

- POS areas to be in excess of 2,000m<sup>2</sup>.
- Location, layout and design of POS areas to be generally bounded by streets to provide visual surveillance. Exceptions to this through use of direct frontage lots is supported where visual surveillance can be provided from adjoining development and visitor parking requirements are satisfied.
- Development of POS is to be in accordance with an approved Landscape Concept Plan.
- POS to incorporate drainage, wherever possible, using contemporary urban water management measures as per LN.

The Structure Plan satisfies the requirements of the Policy as further detailed in **Section 3.2**.

### 1.3.4 OTHER APPROVALS AND DECISIONS

An *Environment Protection and Biodiversity Conservation Act 1999* (EPBC) referral submission was submitted with the Department of the Environment and Energy for the Structure Plan area EPBC Act referral 2016/7661). The submission related to proposed vegetation clearing and documented any perceived impact on federally protected flora and fauna. Approval from the Department of the Environment and Energy was issued on 1 February 2017.

### 1.3.5 PRE LODGEMENT CONSULTATION

Early concept plans were prepared and submitted with City of Rockingham town planning staff prior to progression of Structure Plan design. Subsequent discussions with City of Rockingham planning, engineering and environmental staff have resulted in an updated layout to coordinate with adjoining Structure Plans and have guided road reserve widths and POS and drainage design.

Meetings have also been held with the Department of Education in relation to final school site requirements, including road reserve widths and design. Consultation was also undertaken with the adjoining landowners and pre-submission advice was sought from the WAPC and the City of Rockingham.



## 2. SITE CONDITIONS AND CONSTRAINTS

### 2.1 BIODIVERSITY AND NATURAL AREA ASSETS

An Environment Assessment Report (EAR) has been prepared by PGV Environmental for the Structure Plan (refer **Appendix 2**). Comprehensive environmental investigation and advice is further detailed in the EAR report. The below summarises the main environmental considerations as they relate to the site.

#### 2.1.1 FLORA AND VEGETATION ASSESSMENTS

The majority of the southern portion of the Structure Plan area had been used predominantly for rural pursuits and is therefore heavily degraded with no remaining original vegetation. The balance of the Structure Plan area has areas of varying vegetation, including areas of Tuart and Banksia woodland. The vegetation is heavily degraded but is generally described as part of the Karrakatta - Central and South Complex. The below table outlines the extent of this vegetation complex in a regional context.

VEGETATION COMPLEX	PRE-EUROPEAN EXTENT	REMAINING ON SOUTHERN SWAN COASTAL PLAIN		REMAINING IN SECURE TENURE	
	AREA (HA)	AREA (HA)	% ORIGINAL AREA	AREA (HA)	% ORIGINAL AREA
Karrakatta - Central and South	49,912	14,729	29.5	1,254	2.5

Within the Perth Metropolitan Region, the threshold for identifying vegetation complexes at risk is 10%, as the Metropolitan Region is considered a 'constrained area'. The Karrakatta - Central and South complex is below the 10% criterion for protection. However, the vegetation onsite is considered too degraded to be a good representative example of the Karrakatta - Central and South vegetation complex and retention of the vegetation is not recommended.

A flora survey was undertaken consistent with the EPA's Guidance Statement No. 56 - Terrestrial Fauna Surveys for Environmental Impact Assessment in Western Australia (EPA, 2000). The survey identified a total of 73 plant species, with 44 being native species and 29 being introduced species.

No Threatened (Declared Rare) or Priority listed flora species were recorded on the site and the vegetation on the site is considered too disturbed to assign a Floristic Community Type (FCT). The retention of any vegetation onsite as an example of a particular FCT is therefore not required.

An EPBC Act referral was submitted to the Department of the Environment (DotE) in January 2016 on the basis of the accumulative impact of clearing approximately 10.1ha of native vegetation on Lots 19 and 20 Sixty Eight Road, Baldivis. DotE approved the proposed action subject to several conditions relating to clearing procedures, reporting and a financial contribution to an offset property. A financial contribution has since been made in agreement with DotE and the Department of Parks and Wildlife (DPaW). The approval remains in effect until 31 December 2021.



## 2.1.2 FAUNA ASSESSMENTS

The site contains 'Disturbed' fauna habitat in the northern part of the site due to the vegetation condition and limited connectivity and 'Highly degraded' fauna habitat in the southern part due to extensive clearing.

The biodiversity value of the site is considered low, with feral species such as cats, foxes and rabbits likely present due to the surrounding residential development.

The site contains approximately 5.4ha of Poor Quality Foraging Habitat for Carnaby's Black Cockatoo and Forrest Red-tailed Black Cockatoos. No roosting sites or evidence of foraging was noted onsite.

## 2.2 LANDFORM AND SOILS

The site is undulating, with the land at Sixty Eight Road sitting at approximately RL 20m AHD and dropping to a minimum of RL 14m AHD before rising to RL 26m AHD in the north-west and RL 34m AHD in the north-east of the site.

Geotechnical investigations confirm that the Structure Plan area contains a consistent soil type, generally described as:

- SAND (SP), fine to coarse grained, sub-angular to sub-rounded, grey becoming orange-brown at depth, trace rootlets in top 0.15m, dry becoming moist at depth, typically loose to medium dense, present from surface extending to maximum depth of investigation (5.0m).

This soil type is identified as suitable for urban development purposes (refer **Appendix 3**).

## 2.3 GROUNDWATER AND SURFACE WATER

Regional groundwater mapping provided by the Department of Water's *Perth Groundwater Atlas* indicates that groundwater occurs at approximately 2m AHD across the area. The clearance to groundwater from the natural surface level across the Structure Plan area is therefore in excess of 10m below ground level across the site. This is further outlined in the District and Local Water Management Strategy provided as **Appendix 4**.

Given the sandy soil conditions and significant depth to groundwater, as well as available Acid Sulfate Soils (ASS) risk mapping which shows the site as being Low risk (<3m from the surface), it is unlikely that ASS will be present onsite.

## 2.4 BUSHFIRE HAZARD

A Bushfire Management Plan (BMP) has been prepared by RUIIC in support of the Structure Plan (refer **Appendix 1**).

The BMP provides guidance in relation to the planning and management of bushfire risk in accordance with the requirements of *State Planning Policy 3.7 - Planning in Bushfire Prone Areas* and the accompanying guidelines. The BMP has been prepared and amended following feedback from



the City of Rockingham during the pre-lodgement consultation process, and has been approved by the Department of Fire and Emergency Services.

The site is currently partially vegetated, however the BMP has been prepared on the assumption that all vegetation will be removed in advance of subdivision works and the bushfire hazard will be reduced.

The Bushfire Attack Level (BAL) calculations identify five differing BAL ratings over the site. A BAL rating of BAL FZ through to BAL 19 currently applies to lots along the northern and eastern boundary of Lot 19 on the basis that adjoining land contains areas of grassland and vegetation which result in the maximum radiant heat impact exceeding allowances for development. No subdivision and development of land within areas identified as BAL-29 or higher will be considered until clearance of the hazards has been completed and a BAL rating of less than BAL-29 is achieved (refer **Figure 6**).

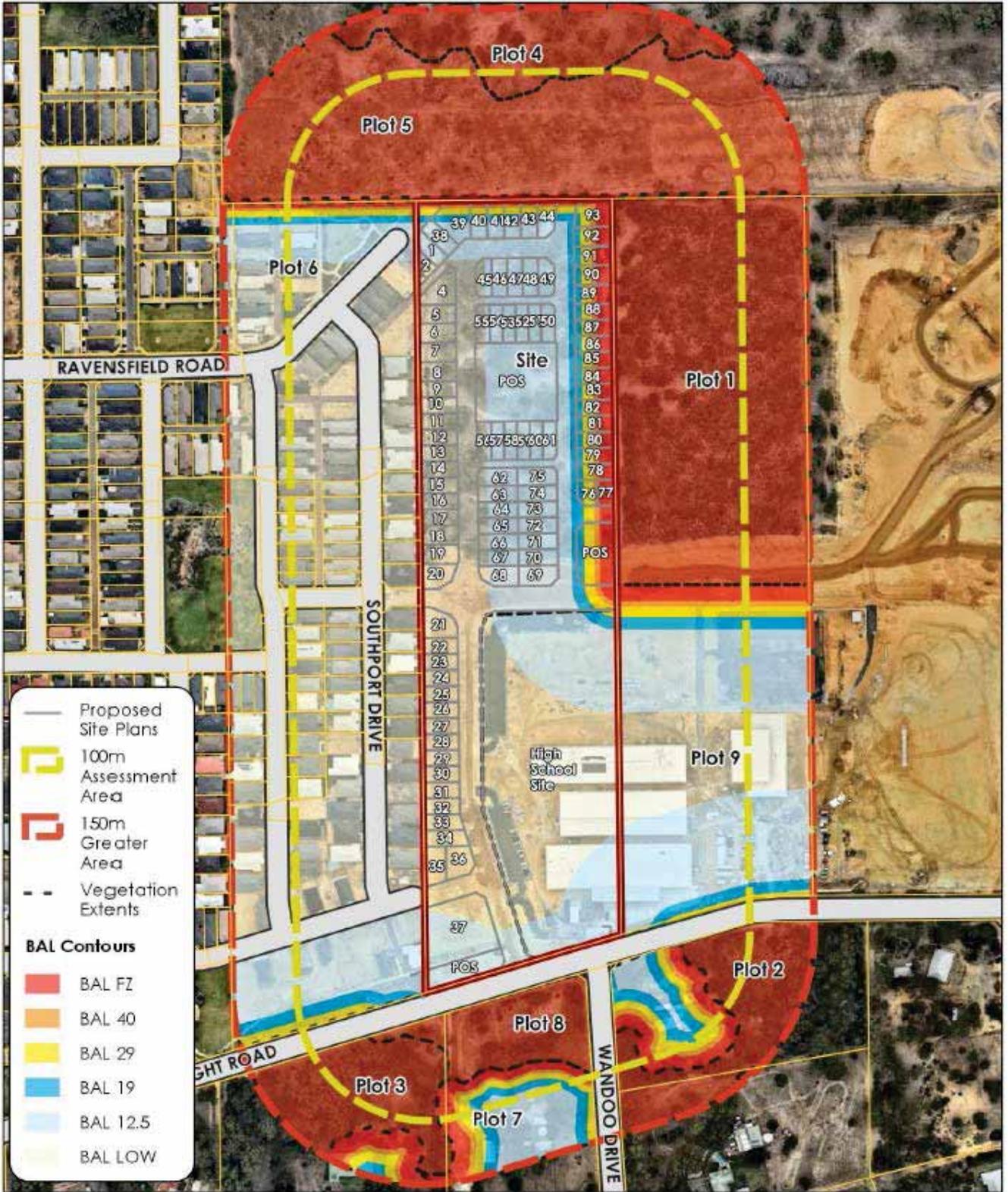
With the exclusion of the lots along the northern and eastern boundaries, the BAL contour map illustrates that the potential radiant heat impact for the remainder of the Structure Plan area is BAL 12.5 or less. This satisfies requirements as per *Guidelines for Planning in Bushfire Prone Areas*.

The BMP outlines the approach to bushfire management for the proposed development, and details the following specific bushfire planning requirements:

- Future dwellings to be constructed in accordance with AS3959;
- Lots 38-43, 72-92 and the POS area are to be maintained in a low threat state in accordance with AS3959:2009 s2.2.3.2(f). Lots 38-43 and 72-92 are not to be sold or developed with a residential dwelling until adequate clearing has occurred on adjoining land to reduce the maximum radiant heat impact equivalent to BAL-29; and
- The site is to be serviced by reticulated scheme water and fire hydrants.



**FIGURE 6 BUSHFIRE MANAGEMENT PLAN (BAL MAP)**



**2.5 HERITAGE**

A desktop survey undertaken as part of the EAR indicates that there are no known sites of indigenous importance. If any Aboriginal sites or artefacts are discovered as part of development works, activity will cease and a suitably qualified expert will attend the site to determine what, if any, approvals are required under the *Aboriginal Heritage Act 1972*.



## **2.6 PAST LAND USES**

The previous use of the southern portion of land for market garden purposes results in a negligible possibility for soil contamination as noted in the EAR prepared in support of the Structure Plan. Significant import of clean fill is proposed and soil testing is proposed to be undertaken by the Department of Education as part of subdivision works.



### 3. LAND USE AND SUBDIVISION REQUIREMENTS

#### 3.1 LAND USE

Proposed land use within the Structure Plan area is primarily residential in nature, with accompanying areas of public open space and public road reserves. A portion of a future high school is located in the south-eastern corner consistent with the SBDSP and Department of Education requirements.

As per *Liveable Neighbourhoods*, the principle objectives of the Structure Plan are to:

- Provide an interconnected network of streets which provide safe, efficient and pleasant walking, cycling and driving;
- Provide a variety of lot sizes and housing types;
- To integrate urban water management practices with public open space; and
- To maximise solar orientation of lots.

The Structure Plan proposes a layout that ties into the existing constructed and planned surrounding lots and street networks. The design provides for a range of lot sizes consistent with medium density residential subdivision, with a base density of **R25**. Areas of **R30** to **R40** will be allocated for lots within proximity to areas of higher amenity and access, such as areas adjoining areas of public open space and adjacent to the high school site. This will provide a diversity in lot product and dwelling type across the site, as well as ensuring density targets are achieved.

A high school site is partially located within the Structure Plan area and has been identified on the Structure Plan accordingly.

#### 3.2 PUBLIC OPEN SPACE

There is no regional open space requirement identified on the SBDSP. Local open space requirements have been addressed through the provision of parks consistent with *Liveable Neighbourhoods* requirements. POS is generally provided consistent with the Public Open Space Plan (refer **Figure 7**) and Landscape Concept Plan provided as **Appendix 5**.

The location of POS areas has largely been pre-determined by a number of factors, including continuity with the existing POS area to the immediate west along Sixty Eight Road, coordination with POS and Drainage on adjoining Lot 20, site level requirements to ensure POS areas can function as rainfall storm event overflow drainage areas, and the provision of a central and high quality local amenity and recreation space that benefits the greatest number of future lots/dwellings. Opportunities for retention of existing trees within POS areas will be explored during preparation of subdivision applications for the northern portion of the site, notwithstanding preliminary engineering advice suggests that site levels are unlikely to support retention of existing vegetation.

Open space areas generally meet location requirements as per *Liveable Neighbourhoods* and the *City of Rockingham POS Planning Policy 3.4.1*. POS minimum size requirements are not achieved for POS Area 1 when viewed in isolation given the size of the Structure Plan area and onsite constraints,



however POS Area 1 is contiguous with an existing POS area to the west, completes a key pedestrian connection to the future high school and satisfies minimum area requirements when viewed in its entirety. POS Area 2 is regular shaped and functions as a Local Park notwithstanding its larger size. POS Area 3 has been designed following initial feedback from the City to coordinate with adjoining Lot 20. Detailed design consideration will be undertaken as subsequent planning stages.

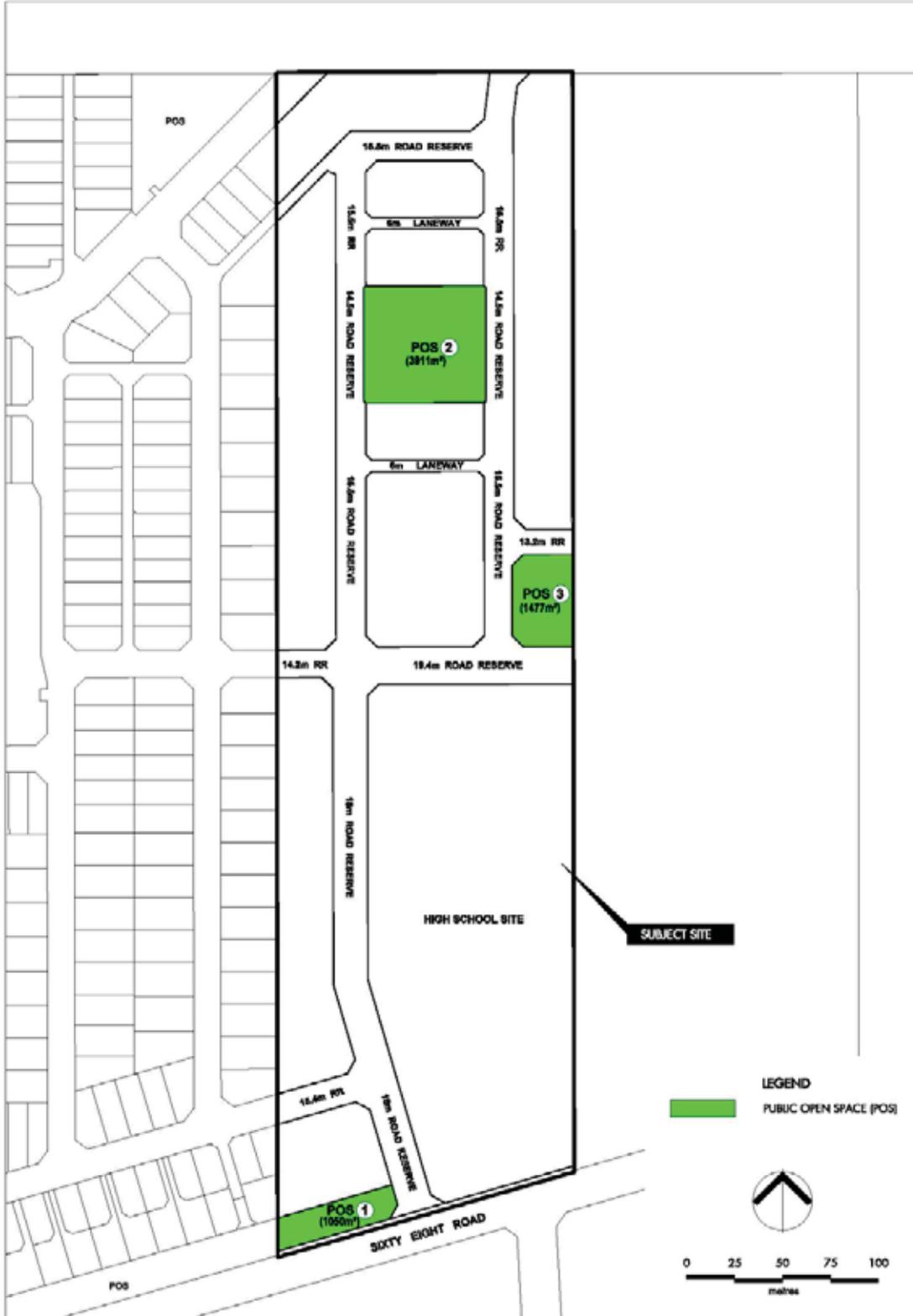
The Public Open Space Plan includes site specific drainage and open space credit calculations consistent with *Liveable Neighbourhoods* and Council Policy requirements. Further detail in relation to satisfaction of the minimum 10% POS requirement is outlined in the following POS Schedule provided as **Table 1**. Final POS areas will be refined at the time of subdivision, given the proposed provision of a consolidated drainage basin for POS Area 3 in collaboration with adjoining Lot 20.

TABLE 1: PUBLIC OPEN SPACE SCHEDULE	
<b>Total Site Area</b>	<b>9.1474 ha</b>
<b>Deductions</b>	
High School Site	2.6402 ha
Road widening (Sixty Eight Road)	0.035 ha
Road side swales	0.008 ha
POS Area 3 Drainage (<1yr/1hr events)	0.0115 ha
<b>Total</b>	<b>2.6947 ha</b>
<b>Gross Subdivisible Area</b>	<b>6.4527 ha</b>
<b>POS requirement @ 10%</b>	<b>0.6453 ha</b>
Public Open Space Contribution	
Min 80% unrestricted POS allowance	0.5162 ha
Max 20% restricted POS allowance	0.1291 ha
<b>Unrestricted POS</b>	
POS Area 1	0.1050 ha
POS Area 2	0.3911 ha
POS Area 3	0.0937 ha
<b>Total</b>	<b>0.5898 ha</b>
<b>Restricted POS</b>	
POS Area 3	0.0425 ha
<b>Total</b>	<b>0.0425 ha</b>
<b>POS Provision Total</b>	<b>0.6323 ha</b>
<b>Public Open Space %</b>	<b>9.8 %</b>

\* Final POS areas to be refined at subdivision stage to satisfy min. 10% requirement.



**FIGURE 7 PUBLIC OPEN SPACE**



**3.3 RESIDENTIAL**

The Structure Plan proposes approximately ninety two (92) residential lots ranging in density from R25 - R40 and will facilitate the creation of a range of residential housing options. Lot sizes and densities vary depending on proximity to local amenity and relationship to the High School site. A total dwelling yield of approximately 101 dwellings is anticipated.



Overall the Structure Plan area achieves a residential net density of 24 dwellings/ha, which significantly exceeds LN requirements of 12-20 dwellings per site hectare.

The development also satisfies the density target of 15 dwellings per gross urban zoned hectare as per *Directions 2031 and Beyond*. A density of 15.47 dwellings per gross urban zoned hectare is achieved, and this density would increase significantly if the high school site is removed from the gross area. Further density increases are constrained by the limited size of the development area, and constraints to development by way of existing or planned adjoining road and lot networks.

Activation of the street front is achieved via targeted use of rear loaded laneway lots, to avoid visual dominance of garages and to manage road traffic conflicts. Most lots benefit from visual amenity afforded by the two POS areas and the high school site, and also provide comprehensive visual surveillance of these areas.

A high level of passive solar design is achieved via orientation of the majority of lots on a cardinal axis. The only exception being where existing adjoining road networks result in an off-cardinal alignment of lots in the north-west of the Structure Plan area.

A Local Development Plan (LDP) will be prepared for specific lots where required to address specific built form, access and lot orientation requirements. This is noted on the Structure Plan provided as **Figure 1**.

### **3.4 MOVEMENT NETWORK**

#### **3.4.1 ROAD CONFIGURATION AND HIERACHY**

The Structure Plan provides for south-north and east-west road connections, connecting to existing and planned road networks as per **Figure 8**. The alignment of the proposed extension of the east-west Neighbourhood Connector (Solis Boulevard) is consistent with the alignment as per the existing approved Structure Plan to the east (former Lots 31, 569 and 1263 Sixty Eight Road, Baldivis) and the proposed Structure Plan over adjoining Lot 20 to the immediate east. Proposed Access Streets and Laneways also connect into the existing and future adjoining road networks.

The Sixty Eight Road reserve is to be widened by 2.2m where it abuts Lot 19 as per the recommendations of the Transport Assessment.

The proposed road network provides for a legible and connected movement network, allowing for safe and efficient vehicle and pedestrian movement. Road reserve widths are consistent with those in adjoining Structure Plans at the point where they adjoin the property boundary. Internal Access Street C and D reserve widths are to be consistent with Liveable Neighbourhoods requirements and will be determined by traffic volumes at the subdivision stage.

Several laneways are proposed to service rear loaded lots fronting areas of high amenity such as POS areas and the high school site. The use of laneways will help to preserve the attractive nature of

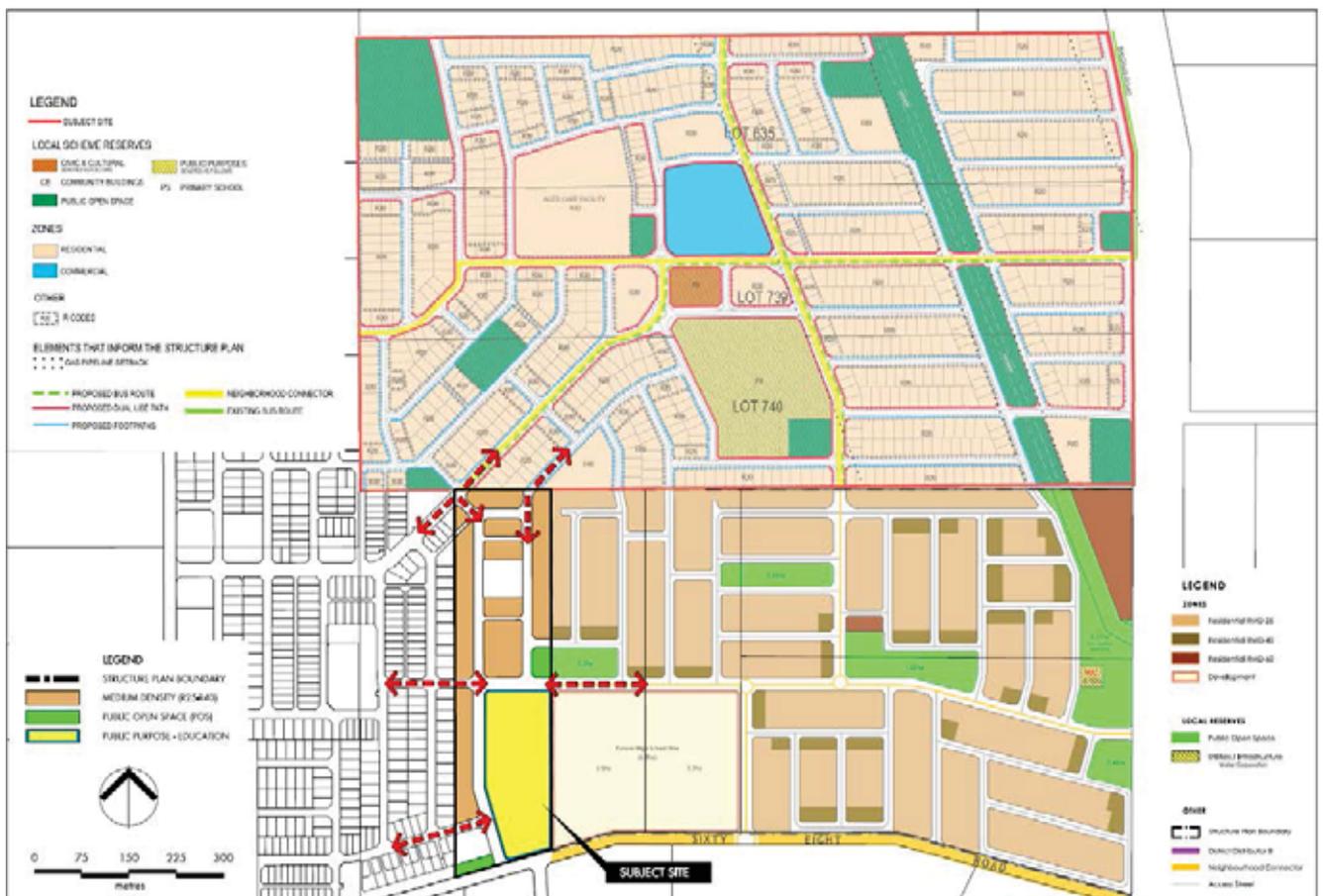


the streetscape, avoid interruption to pedestrian movement and minimise vehicle conflicts with high school traffic.

Road intersection treatments include a proposed roundabout at the intersection of the 19.4m wide Neighbourhood Connector (Solis Boulevard) with the proposed 18m wide road reserve running along the western side of the school site. A full movement intersection is proposed at the intersection with Sixty Eight Road.

All internal roads abutting the high school site will be constructed by the Department of Education to coincide with opening of the school, with the remaining internal roads to be constructed by the developer.

**FIGURE 8 SURROUNDING ESTATES CONTEXT PLAN AND INDICATIVE MOVEMENT NETWORK**



### 3.4.2 PEDESTRIAN NETWORK

The proposed road layout provides ample opportunity for a permeable and connected pedestrian movement throughout the Structure Plan area.

Further detail in relation to proposed vehicle and pedestrian movement networks is provided in the Traffic Impact Statement as prepared by Shawmac in support of the Structure Plan (refer **Appendix 6**).



### 3.5 WATER MANAGEMENT

A combined District and Local Water Management Strategy (DWMS/LWMS) has been prepared by JDA, and an updated version has been submitted with the City of Rockingham and Department of Water for endorsement. The DWMS/LWMS considers existing geotechnical and water conditions onsite and has been prepared consistent with relevant state and City of Rockingham policies, including the WAPC's *Better Urban Water Management Guidelines*.

Key urban water management principles within the Structure Plan area include:

- Use of structural and non-structural measures to reduce applied nutrient loads;
- Retention of stormwater at source and infiltration within POS areas and roadside swales;
- Use of underground storage options where appropriate;
- Use of local plant species and drought tolerant non-local species in planted and landscape areas; and
- Provision of a consolidated drainage basin associated with the POS Area 3 (north of Solis Boulevard) in collaboration with adjoining Lot 20.

The overall objective of the DWMS/LWMS is to ensure water quality and quantity management objectives are achieved within the Structure Plan area.

### 3.6 EDUCATION FACILITIES

The South Baldivis District Structure Plan identifies a High School Site partially located within the Structure Plan area and discussions with the Department of Education have confirmed the high school site area and location requirements. A 2.64ha portion of the high school site is shown on the Structure Plan, consistent with agreements between the Department of Education and The Glow Development (WA) Pty Ltd and the WAPC approved subdivision application (WAPC reference 152961). Preliminary plans provided by the Department of Education indicate that the portion of school site located within Lot 19 will likely be developed for administrative buildings, classrooms and car parking.

The 2.64ha site forms part of a larger high school site which is situated across adjoining Lots 20 and 21 Sixty Eight Road. Allowance for the high school site over these landholdings will be detailed in the relevant Structure Plans as they relate to these sites.

### 3.7 ACTIVITY CENTRES AND EMPLOYMENT

No activity centres are identified within the Structure Plan area. Local convenience retail will be provided by a future retail area to the north, as illustrated in the approved Structure Plan.

The Structure Plan area has immediate access to Mandurah Road and the Kwinana Freeway, which provide access to the Rockingham and Baldivis town centres, as well as wider access to the Perth and Mandurah employment areas.



### 3.8 INFRASTRUCTURE COORDINATION AND SERVICING

An Engineering Servicing Report has been prepared by Pritchard Francis Engineers and forms **Appendix 7**. The report confirms that the land can be connected to all required urban services via extension of services from adjoining developments or via extension of services from Sixty Eight Road.

The primary reason for the site's previous zoning of 'Urban Deferred' under the MRS related to uncertainty with respect to the serviceability of the site with reticulated sewer. With the progression of sewer planning for the area, the Water Corporation have now approved plans for reticulated sewer to connect to planned gravity main infrastructure running along the road to the north of the planned school site. Timing of development will be subject to construction of downstream pump station infrastructure, which is being progressed by the developers (Parcel Property) of land to the east.

All other services can be achieved as per the attached Engineering Servicing Report.

### 3.9 STAGING

Staging of development will be largely contingent on Department of Education timeframes in relation to the school site, which is scheduled to open in 2019. Main water and sewer infrastructure will be constructed as part of the roadworks around the school site, with lots between Sixty Eight Road and the extension of the existing east-west road (Hayling Way) expected to be released as Stage 1 once school site works are progressed. Remaining lot releases and staging will be determined by market conditions and service infrastructure works.

As per the BMP, staging of development along the north-eastern and northern boundaries may be required to satisfy the requirements of the BMP in satisfying minimum BAL rating requirements.

### 3.10 SUMMARY

The Structure Plan proposes the creation of approximately ninety two (92) residential lots, with medium densities proposed, generally ranging between R25 and R40. This includes a small grouped housing site at the corner of Bannerdale Road. The Structure Plan also nominates a 2.64ha high school site, areas of drainage, POS and a road layout that responds to surrounding planned and constructed lot and road networks.

The Structure Plan meets with City of Rockingham and WAPC planning requirements in the following ways:

- The land is zoned 'Urban' under the MRS following Lifting of Urban Deferment given resolution of reticulated sewer planning for the area;
- The land is zoned 'Development' under TPS2;
- The Structure Plan is consistent with the general principles set out in the overarching South Baldivis District Structure Plan; and
- The Structure Plan is consistent with adjoining planned or constructed development and road networks.