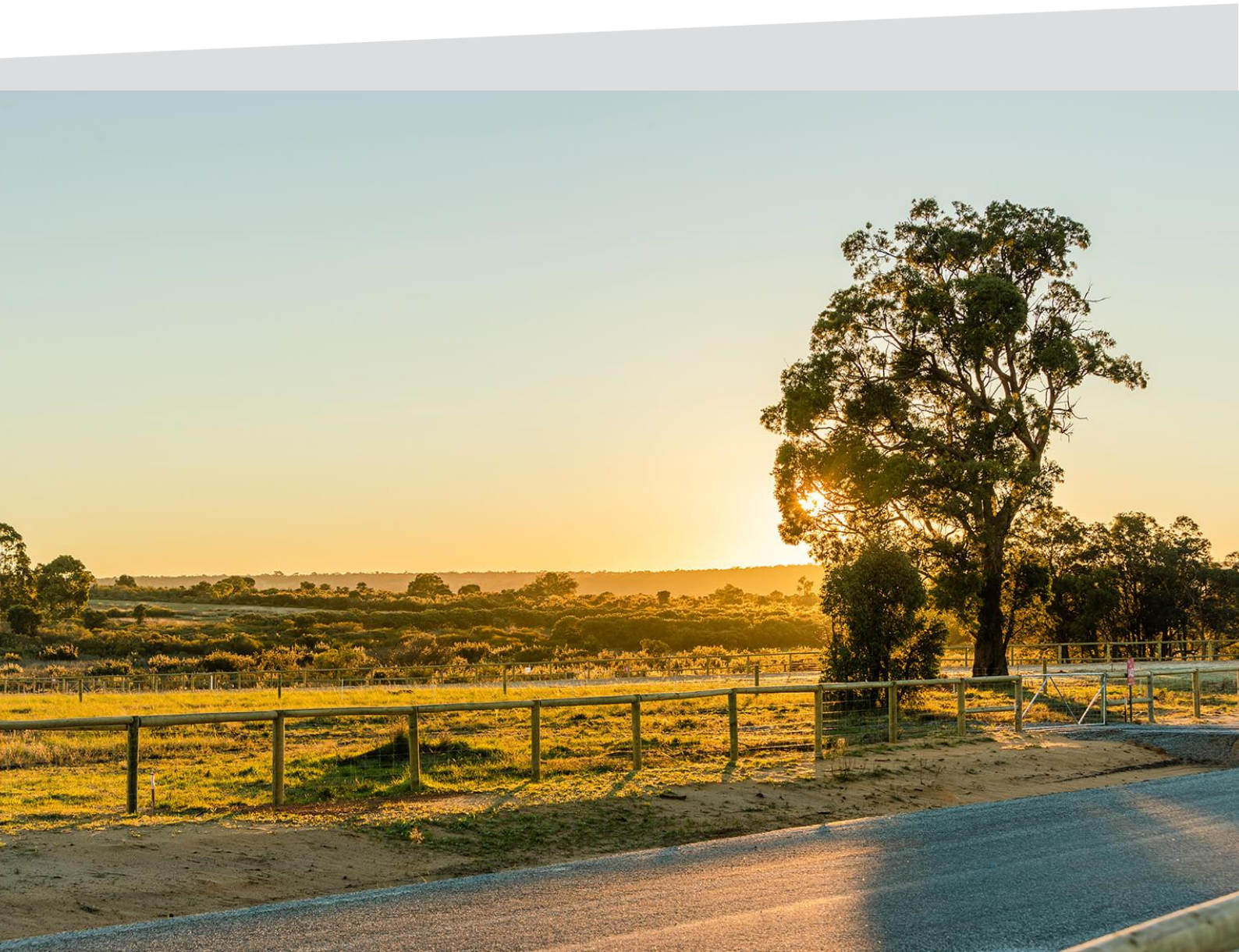


# Lot 2 Reserve Road and Lot 9001 Rosewood Drive

## Structure Plan – Amendment No. 1



Prepared for Riverside Investments (WA) No 2 Pty Ltd  
Prepared by Taylor Burrell Barnett  
November 2020



# Document History & Status

**Lot 2 Reserve Road and Lot 9001  
Rosewood Drive Structure Plan**

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Revision	Reviewer	Date Issued
05/096-01	MW	November 2020

This Structure Plan is prepared under the provisions of the Shire of Chittering Local Planning Scheme No. 6.

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

3 May 2016

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In accordance with Schedule 2, Part 4, Clause 28(2) and refer to Part 1, 2 (b) of the *Planning and Development (Local Planning Schemes) Regulations 2015*

Date of Expiry: 3 May 2026

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# Table of Amendments

Amendment No.	Summary of the Amendment	Amendment Type	Date Approved by WAPC
1	<p>Structure Plan modifications including:</p> <ul style="list-style-type: none"> <li>- Reducing the extent of the 'R2' density coded area;</li> <li>- Introducing an 'R5' density code for balance of Lot 2 Reserve Road;</li> <li>- Update of indicative road and street block layout in Lot 2 Reserve Road;</li> <li>- Replacing minimum setbacks with the requirements of the R-Codes in Lot 2 Reserve Road;</li> <li>- Text updates as required; and</li> <li>- Technical Report updates as required.</li> </ul>	Minor	

# Table of Density Plans

Density Plan No.	Area of Density Plan Application	Date Endorsed by WAPC

# Executive Summary

This Structure Plan has been prepared as an amendment to the Western Australian Planning Commission (WAPC) approved Lot 2 Reserve Road and Lot 9001 Rosewood Drive Structure Plan. The Lot 2 Reserve Road and Lot 9001 Rosewood Drive Structure Plan is located at a bend in Reserve Drive, and westwards of existing rural residential development on Rosewood Drive. It is located on the northern side of Great Northern Highway between Chittering and Muchea and approximately 20km north of Bullsbrook. The Structure Plan contemplates development in a manner consistent with the objectives of the 'Rural Conservation' and 'Residential' zones pursuant to the Shire of Chittering Local Planning Scheme No. 6 (LPS 6).

Development will predominately be for residential purposes with the provision of one area of Public Open Space, a potable water supply, and a Conservation Lot of approximately 20.22 hectares in size.

The modifications to the approved Lot 2 Reserve Road and Lot 9001 Rosewood Drive Structure Plan are summarised as follows:

- 1 Consistent with a Scheme Amendment request for Lot 2 Reserve Road, the Structure Plan refers to the 'Residential' zone;
- 2 Reconfiguration of the residential density codes, retaining the 'R2' density code for created lots and lots under construction, and applying an 'R5' density code for the balance of Lot 2; and
- 3 Updates to the Structure Plan report, figures and plans to the extent needed to undertake the proposed amendment in accordance with Clause 16(1) of the *Planning and Development (Local Planning Schemes) Regulations 2015* and the *Structure Plan Framework* August 2015.

The approved Reserve Road and Rosewood Drive Structure Plan was prepared in the current format approved by the WAPC comprising of a Part One – Implementation and a Part Two – Explanatory Report.

Part One is modified to reflect the above-mentioned changes to the Structure Plan.

Part Two is updated where relevant to outline the justification and rationale for the amendments.

Technical reports are provided as appendices, which should be read with the overall Structure Plan document:

- Appendix A Site and Soil Evaluation
- Appendix B Local Water Management Strategy
- Appendix C Bushfire Management Plan
- Appendix D Landscape Masterplan
- Appendix E Traffic Report
- Appendix F Environmental Assessment

The following is a summary of the key statistics of the Reserve Road and Rosewood Drive Structure Plan, updated to reflect the modifications made by this amendment.

## Structure Plan Summary

Item	Data	Structure Plan Ref. (Section No.)
Total area covered by the Structure Plan	195.1552 ha	Plan 1 – Structure Plan
Area of each land use proposed:	Hectares      Lot Yield	Plan 1 – Structure Plan
Residential	131.3787 ha      318 lots	
Rural Conservation	58.4687 ha      36 lots	
Drinking Water Source Site	1.4341 ha      1 lot	
Total Estimated Lot Yield	354 lots	Part 1, section 4.1
Estimated No. of Dwellings	354 dwellings	Part 1, section 4.1
Estimated Residential Site Density	1.8 dwellings per site/ha	Part 1, section 4.1.1.2
Estimated Population	956 people	Part 2, section 9.3.4

Item	Data	Structure Plan Ref. (Section No.)
No. of High Schools	0 (Structure Plan area)	Part 2, section 9.6
No. of Primary Schools	0 (Structure Plan area)	Part 2, section 9.6
Estimated Commercial Floor Space	0m <sup>2</sup> nett lettable area	Part 2, section 9.7
Estimated area and percentage of Public Open Space given over to: Local Parks	2.7907 ha      1 park	Plan 1 – Structure Plan Part 1, section 4.1.3
Estimated percentage of natural area	20.22 ha      10.4% of structure plan area	Plan 1 – Structure Plan Part 1, section 4.1.2

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Part 1

# 1.0

## Implementation

# 1.0 Structure Plan Area

This Structure Plan applies to the land contained within the inner edge of the line denoting the Structure Plan boundary on the Structure Plan map.

## 2.0 Operation

This Structure Plan comes into effect on the date that it is approved by the Western Australian Planning Commission (WAPC). The approval date is shown on the Endorsement Page of the Structure Plan.

## 3.0 Staging

The first stage of subdivision and development has created a primary entry road into the development intersecting with Reserve Road, and construction of the Public Drinking Water Source site. Lots have been created in association with the entry road and access roads under construction.

A key of the first stage was the provision of a potable water supply. A reticulated water supply is provided to an appropriate standard by the licensed water provider. The Economic Regulation Authority granted Water Services Licence WL51 under the *Water Services Act 2012* to Aqua Ferre (Muchea) Pty Ltd (trading as Muchea Water) with a commencement date of 25 February 2020 and expiry date 24 February 2045. This met the requirements of the LPS 6.

Future stages will include:

- The development of the Public Open Space in accordance with the landscape masterplan. A legal agreement between the developer and local government provides clarity for the development of additional community infrastructure within the Public Open Space, above the standard development requirements of the *Liveable Neighbourhoods* operational policy;
- Extension of the road network according to subdivision approvals and having regard to the requirements of the Bushfire Management Plan, ensuring two access routes are provided;
- Further staging will be determined by the developer at the appropriate time. As staged development occurs, construction of additional internal roads will be undertaken. As land fronting Reserve Road on the western side is developed, Reserve Road will be widened by 10 metres (total width 30 metres) as shown on the Structure Plan; and
- Ultimate creation of the Conservation Lot. At the time that a stage of subdivision includes the Conservation Lot, an environmental management plan is required to be prepared and implemented in accordance with the LPS 6. Further, a conservation covenant in perpetuity is to be registered on the Certificate of Title of the Conservation Lot as a condition of subdivision approval.

# 4.0 Subdivision and Development Requirements

## 4.1 Land Use

The Structure Plan (Plan 1) outlines the following land use, zones and reserves applicable within the Structure Plan area:

- Residential zone at an 'R2' and 'R5' density code;
- Rural Conservation zone; and
- Public Open Space reserve.

### 4.1.1 Residential zone

#### 4.1.1.1 Dwelling target

Objective: a target of approximately 318 dwellings within the 'Residential' zone, and an overall target of 354 dwellings within the Structure Plan area.

#### 4.1.1.2 Residential density

The 'R2' and 'R5' density codes apply to Lot 2 Reserve Road as shown on Plan 1.

#### 4.1.1.3 Development requirements

- (a) In considering development and subdivision of Lot 2 Reserve Road, the requirements of the LPS 6 for the 'Residential' zone apply, unless otherwise provided for within this Structure Plan.
- (b) Each lot will be connected to a potable water supply (including water for firefighting purposes), which supports the minimum lot sizes at the 'R2' and 'R5' density codes in accordance with the State Planning Policy 7.3: Residential Design Codes - Volume 1 (R-Codes).
- (c) Development is to have regard to the requirements of the Bushfire Management Plan (as approved by the local government).
- (d) For Residential zoned lots along the eastern Structure Plan boundary, habitable buildings are to be located beyond a 27-metre building exclusion area (measured from the rear boundary).
- (e) The keeping of livestock is not permitted.

### 4.1.2 Rural Conservation zone

#### 4.1.2.1 Development requirements

- (a) In considering development and subdivision of the land, the requirements of the LPS 6 for the 'Rural Conservation' zone apply, unless otherwise provided for within the Structure Plan.
- (b) The keeping of livestock is not permitted.

#### 4.1.2.2 Indicative building envelopes

- (a) In accordance with the LPS 6 and the Shire's policy requirements, building envelopes are provided on the Structure Plan for lots within the 'Rural Conservation' zone.
- (b) Building envelopes are indicative on the Structure Plan for the purposes of illustrating the setback principles. The final positioning of building envelopes would need to comply with the provisions of the LPS 6, the requirements of the Structure Plan and the Bushfire Management Plan (as approved by the local government). Building envelopes will be located accurately at the subdivision stage in consultation with local government and a licensed surveyor, such that all parties are satisfied with the location of the building envelopes. The envelopes will be surveyed and pegged at this time. It is expected that an appropriate subdivision condition will be imposed in this regard.

- (c) All structures are required to comply with local government requirements and be contained within building envelopes where identified. Building envelopes are permitted to be a maximum of 2,000m<sup>2</sup>. Buildings, water tanks, etc that are to be located outside of nominated building envelopes will require development approval from the local government and shall be considered on the individual merits of the proposal. It is, however, noted that the placement of built features outside of building envelopes will generally not be supported unless extenuating circumstances exist.
- (d) The building envelope within the Conservation Lot (20.22-hectare lot) is indicated to be setback 20 metres from subdivisional roads, 15 metres from side boundaries and 20 metres from rear boundaries, in accordance with clause 4.8.2 of LPS 6.
- (e) Development is to have regard to the requirements of the Bushfire Management Plan (as approved by the local government).

### 4.1.3 Public Open Space

An area of Public Open Space (POS) is identified on the Structure Plan in a central location within Lot 2 Reserve Road. The POS is proposed with a similar land area as what was previously endorsed (2.7907 hectares, previously was 2.7423 hectares). It is reconfigured in a more linear alignment to integrate with the revised street network that forms part of the Structure Plan amendment. The POS is functional for the use and enjoyment of residents.

Land for the POS shall be ceded free of cost with management vested with the local government as part of the subdivision process and subsequently reserved for 'Parks and Recreation'.

The allocation of POS is in response to the provision of a 20.22-hectare Conservation Lot on 9001 Rosewood Drive, and the local government is noted to not be supportive of maintaining large areas of POS.

POS shall be developed in accordance with the requirements of the WAPC's operational policy *Liveable Neighbourhoods*. A legal agreement between the developer and the local government is prepared in respect of the development of the POS, in addition to the requirements of *Liveable Neighbourhoods*.

### 4.1.4 Roads

The Structure Plan depicts an indicative road network for the suitable distribution of traffic and future connections to Reserve Road and Rosewood Drive. Future subdivision applications shall have regard to this indicative road network.

# 5.0 Other Requirements

## 5.1 Fire Management

A Bushfire Management Plan is to be implemented prior to subdivision. A Bushfire Management Plan has been prepared (refer Appendix C).

Development is to be serviced with reticulated potable water (including water for firefighting purposes) by a licensed water provider.

## 5.2 Local Water Management Strategy

A local water management strategy (LWMS) was approved for the Structure Plan area. An addendum to the approved LWMS has been prepared for the Structure Plan amendment, which mainly addresses the changes to the drainage design and landscaping (refer Appendix B).

## 5.3 Effluent Disposal

Effluent disposal is proposed via an alternative treatment system (ATS) for each lot. The ATS will comply with applicable guidelines. A Department of Health approved ATS will be installed in each lot by landowners. A Site and Soil Evaluation assessment has been prepared for the Structure Plan area which confirms the site is capable for alternative sewage treatment systems and complying with the design requirements included in the *Government Sewerage Policy* (DPLH, 2019). The Site and Soil Evaluation is contained in Appendix A.

## 5.4 Fencing

All lots will be fenced to a suitable standard, to be determined by the developer in accordance with the Local Planning Policy 22 *Fences*.

The Fire Service Access Routes are intended to be in public ownership or have easements in place, as shown on the Structure Plan. The Fire Service Access Routes in freehold land will be protected by way of easement and will be maintained for unimpeded continuous access along the easements.

# 6.0 Additional Information

Prior to any subdivision of development of the land being supported the following management plans, reports and strategy area to be prepared (as applicable) to the satisfaction of the relevant authority and provided at the relevant subdivision stage nominated in Table 1.

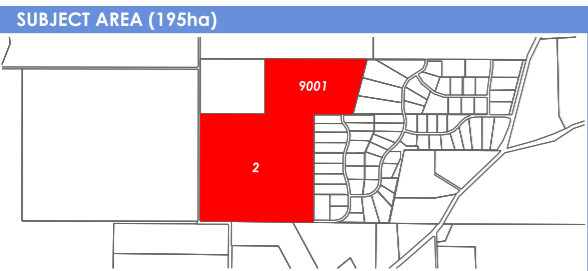
**Table 1 Management Plans, Reports and Strategies**

Additional Information	Approval Stage	Consultation Required
(a) Urban water management plan, in consultation with the Department of Water and Environmental Regulation.	Condition of subdivision approval.	Shire of Chittering Department of Water and Environmental Regulation
(b) Bushfire Attack Level contour map.	Prior to lodgement of subdivision application having regard to the Bushfire Management Plan.	Shire of Chittering
(c) Identification of a building envelope for the identified conservation lot. Approval from the Department of Biodiversity, Conservation and Attractions required.	Prior to lodgement of subdivision application that identified the conservation lot.	Department of Biodiversity, Conservation and Attractions Shire of Chittering
(d) Environmental management plan for the identified Conservation Lot.	As a condition of subdivision approval for the identified Conservation Lot.	Shire of Chittering Department of Biodiversity, Conservation and Attractions
(e) A conservation covenant, under the Department of Biodiversity, Conservation and Attractions' Nature Conservation Covenant Program, for the identified Conservation Lot.	As a condition of subdivision approval for the identified Conservation Lot.	Shire of Chittering Department of Biodiversity, Conservation and Attractions

# Plan 1 – Structure Plan





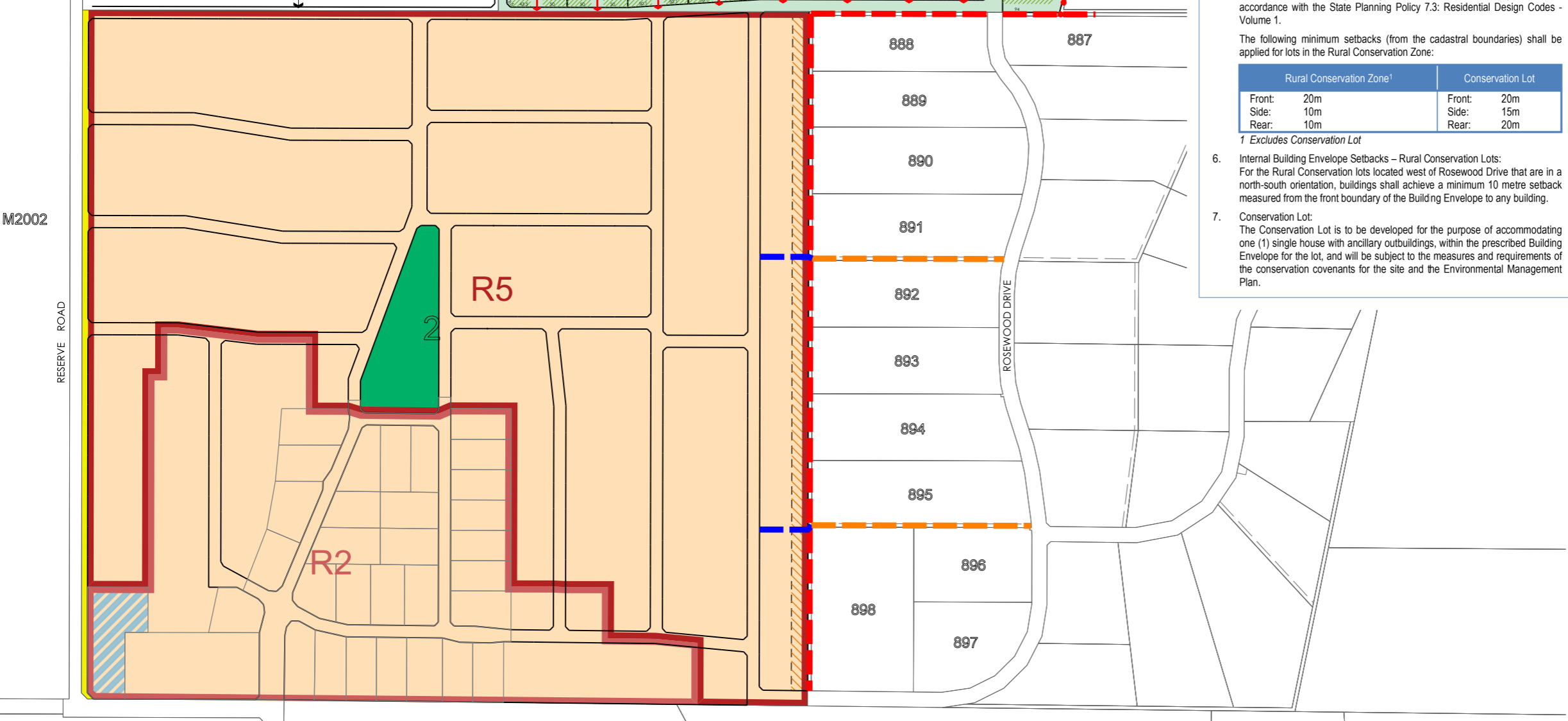


LOT SUMMARY TABLE				
LOT YIELD		LOT AREA		
Size	No. Lots	% Total Lots	Average Size	% of Total Area
1500m <sup>2</sup> - 5000m <sup>2</sup>	278	78.75%	3142m <sup>2</sup>	59.94%
5001m <sup>2</sup> - 10000m <sup>2</sup>	67	18.98%	7189m <sup>2</sup>	33.05%
10001m <sup>2</sup> +	8	2.27%	12778m <sup>2</sup>	7.01%
Sub Total	353		Minimum Lot Size 2100m <sup>2</sup>	
Conservation Lot	1		Maximum Lot Size 11952m <sup>2</sup>	
<b>Total Number of Lots</b>	<b>354</b>		Average Lot Size 4129m <sup>2</sup>	
			Total Lot Area 1457624m <sup>2</sup>	

TOTAL LOTS - EXCLUDES DRINKING WATER PROTECTION SITE

FUTURE SUBDIVISION BY OTHERS  
9000

SHARED ROAD - PORTION OF ROAD RESERVE LOCATED WITHIN LOT 9000. BALANCE TO BE CEDED ON DEVELOPMENT OF LOT 9000.



**NOTES**

- STRUCTURE PLAN REQUIREMENTS**
- Development Requirements and Lot Sizes:**  
In considering development and subdivision of the land, the requirements of the Shire of Chittering Local Planning Scheme No. 6 for the 'Rural Conservation' and 'Residential' zones apply, unless otherwise provided for within this Structure Plan.
  - Vegetation Retention:**  
Areas indicated on the Structure Plan for Vegetation Retention shall be limited to a maximum 2,500m<sup>2</sup> area, and shall achieve minimum 20m separation to other areas for Vegetation Retention and/or buildings. Separation areas are to be maintained in accordance with the Bushfire Management Plan (as approved by the local government) (refer Note 12).
  - Vegetation Management:**  
Vegetation Management is permitted outside of the designated Building Envelope specified for each lot on the Structure Plan, where those trees are diseased, present danger to life or property, or require removal / maintenance as specified within the Bushfire Management Plan (as approved by the local government).
  - Indicative Building Envelopes**  
All development on Rural Conservation lots including buildings, water tanks and waste disposal systems, are to be contained within a cleared Building Envelope, which shall not exceed 2,000m<sup>2</sup>. The position of the Building Envelopes are indicative as shown, and a final Building Envelope plan will need to be approved by the Shire prior to subdivision clearance and comply with the provisions of the Scheme, the requirements of the Structure Plan and the Bushfire Management Plan (as approved by the local government).  
Buildings, water tanks etc, that are to be located outside the nominated Building Envelope shall require development approval from the local government and shall be considered on the individual merits of the proposal. It is however noted that the placement of built features outside the Building Envelope will generally not be supported unless extenuating circumstances exist.
  - Minimum Setbacks**  
The street and boundary setbacks of lots in the Residential zone will be in accordance with density coding shown on the structure plan and in accordance with the State Planning Policy 7.3: Residential Design Codes - Volume 1.  
The following minimum setbacks (from the cadastral boundaries) shall be applied for lots in the Rural Conservation Zone:

	Rural Conservation Zone <sup>1</sup>	Conservation Lot
Front:	20m	20m
Side:	10m	15m
Rear:	10m	20m

<sup>1</sup> Excludes Conservation Lot
  - Internal Building Envelope Setbacks – Rural Conservation Lots:**  
For the Rural Conservation lots located west of Rosewood Drive that are in a north-south orientation, buildings shall achieve a minimum 10 metre setback measured from the front boundary of the Building Envelope to any building.
  - Conservation Lot:**  
The Conservation Lot is to be developed for the purpose of accommodating one (1) single house with ancillary outbuildings, within the prescribed Building Envelope for the lot, and will be subject to the measures and requirements of the conservation covenants for the site and the Environmental Management Plan.
  - Crossovers:**  
The construction of a crossover to the Residential lots and the Conservation Lot is to be in accordance with the specifications of the local government.  
The construction of shared crossovers for the Rural Conservation lots are to be in accordance with the indicative shared crossover locations as shown on the face of the Structure Plan, and construction of crossovers are to be in accordance with the specifications of the local government.
  - Potable Water:**  
A reticulated potable water supply will be provided to each lot, including for firefighting purposes.
  - Land Management:**  
The maintenance of any drainage swales, easements, fire breaks/Fire Service Access Routes and vegetation /re-vegetation areas on private property is the responsibility of the owner/occupier of the respective lot.
  - Bores, Dams and Water Courses:**  
The sinking of bores, construction of dams and extraction of surface water is not permitted without prior approval from the local government and/or any relevant government agency / service provider.
  - Fire Control:**  
A Bushfire Management Plan has been prepared and shall apply to the development and ongoing use of the land. Fire Service Access Routes shall be provided in accordance with the Structure Plan and the Bushfire Management Plan (as approved by the local government).
  - Public Open Space**  
Land identified as Public Open Space on the Structure Plan shall be ceded free of cost to the local government at the subdivision stage.
  - Public Drinking Water Source Site**  
Land is identified to contain the potable water supply infrastructure.
  - Keeping of Livestock**  
The keeping of livestock is not permitted.
  - Non-reflective Materials:**  
All buildings shall be constructed of non-reflective materials.
  - Effluent Disposal:**  
All lots shall be provided with alternative sewage disposal and treatment with nutrient retention capability for the disposal of waste.
  - Vendor Responsibility:**  
The developer/vendor shall inform prospective purchasers of the lots, in writing, of the provisions of the Shire of Chittering Local Planning Scheme No. 6 in relation to the management of the land, as specified in the Structure Plan, Bushfire Management Plan (as approved by the local government) and covenants (as applicable).

**LEGEND**

- LAND USE**
- RESIDENTIAL
  - RURAL CONSERVATION
  - PUBLIC OPEN SPACE
- OTHER**
- INDICATIVE BUILDING ENVELOPE
  - PUBLIC DRINKING WATER SOURCE SITE
  - VEGETATION RETENTION
  - BUILDING EXCLUSION AREA (27m FROM REAR LOT BOUNDARY)
  - INDICATIVE SHARED CROSSOVER
  - FIRE SERVICE ACCESS ROUTE
    - EXISTING 5.0m RESERVE (widening to 6.0m)
    - EXISTING 6.0m RESERVE
    - EXISTING 6.0m EASEMENT
    - PROPOSED 6.0m EASEMENT
  - FIREBREAK
    - PROPOSED 3.0m FIREBREAK (IN ACCORDANCE WITH SHIRE OF CHITTERING FIREBREAK NOTICE)
  - RESERVE ROAD - ROAD WIDENING (10m)

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Part 2

# 2.0

## Explanatory Report

# 7.0 Planning Background

## 7.1 Introduction and Purpose

This report is prepared on behalf of Riverside Investments (WA) No 2 Pty Ltd. Riverside Investments (WA) No 2 Pty Ltd purchased Lot 2 Reserve Road in 2006 and Lot 9001 Rosewood Drive in 2007. As the original landowner, they were the proponents for the Lot 2 Reserve Road and Lot 9001 Rosewood Drive Structure Plan. The Structure Plan has an area of 195.1552 hectares and proposes the creation of 354 lots ranging in size from 2,100m<sup>2</sup> to 20.22-hectares. The Structure Plan proposes one area of Public Open Space and a public drinking water site for a reticulated potable water supply.

This report has been prepared in accordance with clause 4.8.1 of the LPS 6 requiring preparation of a Structure Plan for land in the 'Rural Conservation' zone.

## 7.2 Background

### 7.2.1 Previous approvals

Proposals for development of the Structure Plan area were progressed between 2007 and 2016 to facilitate use and development, as outlined below:

- The Shire of Chittering endorsed a development plan and fire management plan for Lot 2 Reserve Road on 17 December 2007.
- A subdivision application for Lot 2 Reserve Road was granted conditional approval by the WAPC on 20 December 2011 (WAPC ref: 145031) to facilitate the creation of 110 single residential lots and Public Open Space. Lot sizes ranged from 7,503m<sup>2</sup> to 4 hectares, with an average lot size of 1.0417 hectares. The subdivision approval lapsed on 20 December 2015.
- The WAPC granted approval to a development plan for Lot 7 (now Lot 9001) Rosewood Drive in June 2009.
- A subdivision application for Lot 9001 Rosewood Drive was granted conditional approval by the WAPC on 8 July 2013 (WAPC ref: 147754) to facilitate the creation of 45 single residential lots and Public Open Space. Lot sizes ranged from 1-1.25 hectares, with an average lot size of 1.04 hectares. This subdivision approval lapsed on 8 July 2017.
- Scheme Amendment 55 to the LPS 6 was gazetted on 18 March 2016. The Scheme Amendment rezoned Lot 2 Reserve Road to 'Residential R2' and Lot 9001 Rosewood Drive to 'Rural Conservation'.
- The WAPC granted approval to the Lot 2 Reserve Road and Lot 9001 Rosewood Drive Structure Plan on 3 May 2016. This determination was made by the WAPC pursuant to Part 4, clause 22(1)(a) of the Deemed Provisions.
- A subdivision application for Lot 2 Reserve Road was granted conditional approval by the WAPC on 23 November 2016 (WAPC ref: 153430). The subdivision proposed to create 105 residential lots, the public drinking water source site and the Public Open Space area. The developer has acted on the subdivision approval and some lots have been created.

### 7.2.2 Potable water supply service

A potable water supply service is provided to the Structure Plan area by Aqua Ferre (Mucnea) Pty Ltd (trading as Mucnea Water), Water Services Licence WL51. The Water Services Licence WL51 was granted by the Economic Regulation Authority with a commencement date 25 February 2020 and an expiry date 24 February 2045. The water supply is provided from the public drinking water source site that is shown on the Structure Plan and is a created freehold lot (Lot 102, No. 240 Reserve Road, C/T 2983/950 on Deposited Plan 415968).

The Water Services Licence WL51 also provides a potable water service to the Mucnea Industrial Park, therefore the scale of the water supply infrastructure was taken into account during the preparation of the Structure Plan.

### 7.2.3 Subdivision

Subdivision works have commenced in accordance with the current subdivision approval. Recent discussions with the Shire of Chittering and officers of the Department of Planning, Lands and Heritage indicated an opportunity to propose an 'R5'

density code over the balance of Lot 2 Reserve Road. It was noted at the time that servicing and infrastructure was to demonstrate the subdivision and development was capable of being connected to reticulated services.

A recent amendment to the *Planning and Development Act 2005* came into effect on 8 July 2020 and some of the changes related to automatic extensions to subdivision approvals. These changes include an automatic two-year extension for subdivisions (not yet expired) that were approved by the WAPC prior to 16 March 2020 (the COVID-19 state of emergency commencement date), and which have not yet been endorsed on a diagram or plan of survey. Applications such as WAPC 153430 were automatically extended to have a 6-year approval period instead of the standard 4-year approval period. The updated expiry date for WAPC 153430 is 23 November 2022.

In 2020, a revised plan of subdivision for WAPC 153430 was submitted to the Shire of Chittering and thereafter the WAPC, seeking a revised lot layout for some lots to retain the minimum 5,000m<sup>2</sup> lot sizes and the 'R2' density code minimum 50m lot frontages. The revised plan of subdivision was prepared in the knowledge of this Structure Plan amendment and it works to ensure a seamless integration of the subdivisional road network with the indicative road network in the amended Structure Plan. This ensures consistency between the subdivision and the amendment to the Structure Plan and its revisions to the density and road layout for the balance of Lot 2 Reserve Road.

## 7.2.4 Other off-site considerations

The Structure Plan area provides lifestyle opportunities and choice for people to move into the local government area, having regard to the establishment of the Muchea Industrial Park south of the Structure Plan area, and the recent construction of NorthLink WA between 2016-2019 which will cater for the regional traffic volumes associated with a future Perth population of 3.5 million (MRWA, 2020). The grade separated interchanges and flyover bridges result in a non-stop transport route between Morley and Muchea, taking 10 minutes off the trip between Kewdale and Muchea. The route connects the local government area to commercial and industrial areas such as Malaga, Kewdale, Perth Airport and the Perth CBD. NorthLink WA takes pressure off Great Northern Highway with around 80 percent of heavy vehicles shifting over to the new route. As a result, there are amenity benefits for properties that take access from Great Northern Highway and an improved motorist experience using the Highway.

Through this amendment, the Structure Plan will increase the potential residential population in a desirable estate that is in close proximity of the Muchea Industrial Park. The Structure Plan continues to provide the identified Conservation Lot within Lot 9001 Rosewood Drive. The Structure Plan will deliver a viable development outcome within the planning framework.

## 7.3 Land Description

### 7.3.1 Location

#### 7.3.1.1 Regional Context

The Structure Plan area is situated in the rapidly growing north-east region and is approximately 50km north of Perth, 2.5km north of the Great Northern Highway, 22km south of the Bindoon townsite, and 40km south of Gingin as shown in **Figure 1**. The Structure Plan area also benefits from key health facilities located at Joondalup Private Hospital, St John of God Midland public and private hospitals, and the Northam Regional Hospital.

The Structure Plan area is well connected to existing and planned regional movement networks such as Great Northern Highway, Brand Highway and Tonkin Highway.

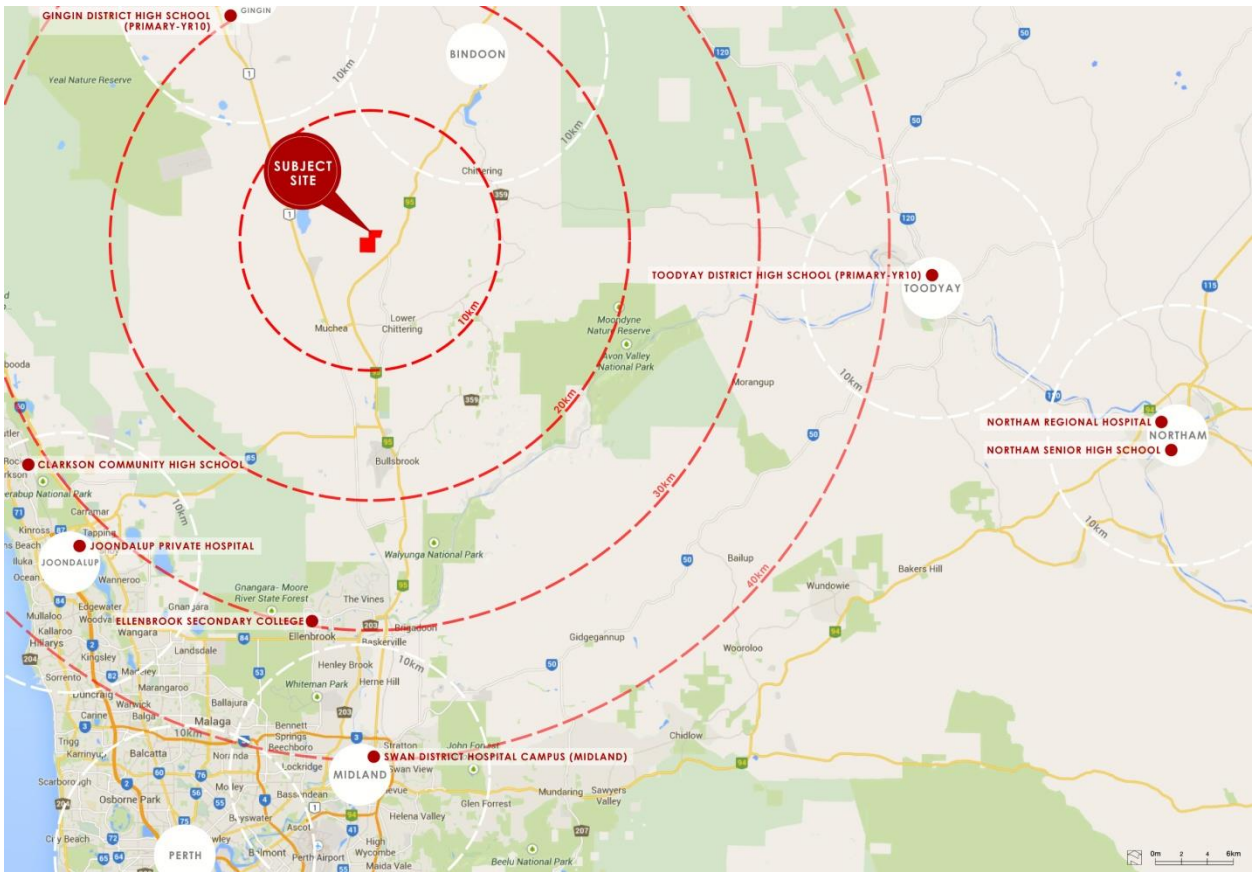


Figure 1 Regional Context Plan

### 7.3.1.2 District Context

The site is serviced by a number of health facilities located within a 20km radius at Gingin Medical Centre, Chittering Health Centre, Bullsbrook Family Medical Centre, and Bullsbrook Medical Centre.

A number of private and public schools operate within the surrounding context. Education facilities within a 20km radius include Gingin District High School (Kindergarten-Yr10), Bindoon Primary School (Kindergarten-Yr6) and Immaculate Heart College (Private, Kindergarten-Yr12). Toodyay District High School (Kindergarten-Yr10) is located 45km east of the subject site.

Local conveniences are provided at the Muchea IGA X-Press (within 10km from the site), Bullsbrook IGA, Bindoon IGA and Gingin IGA X-Press.

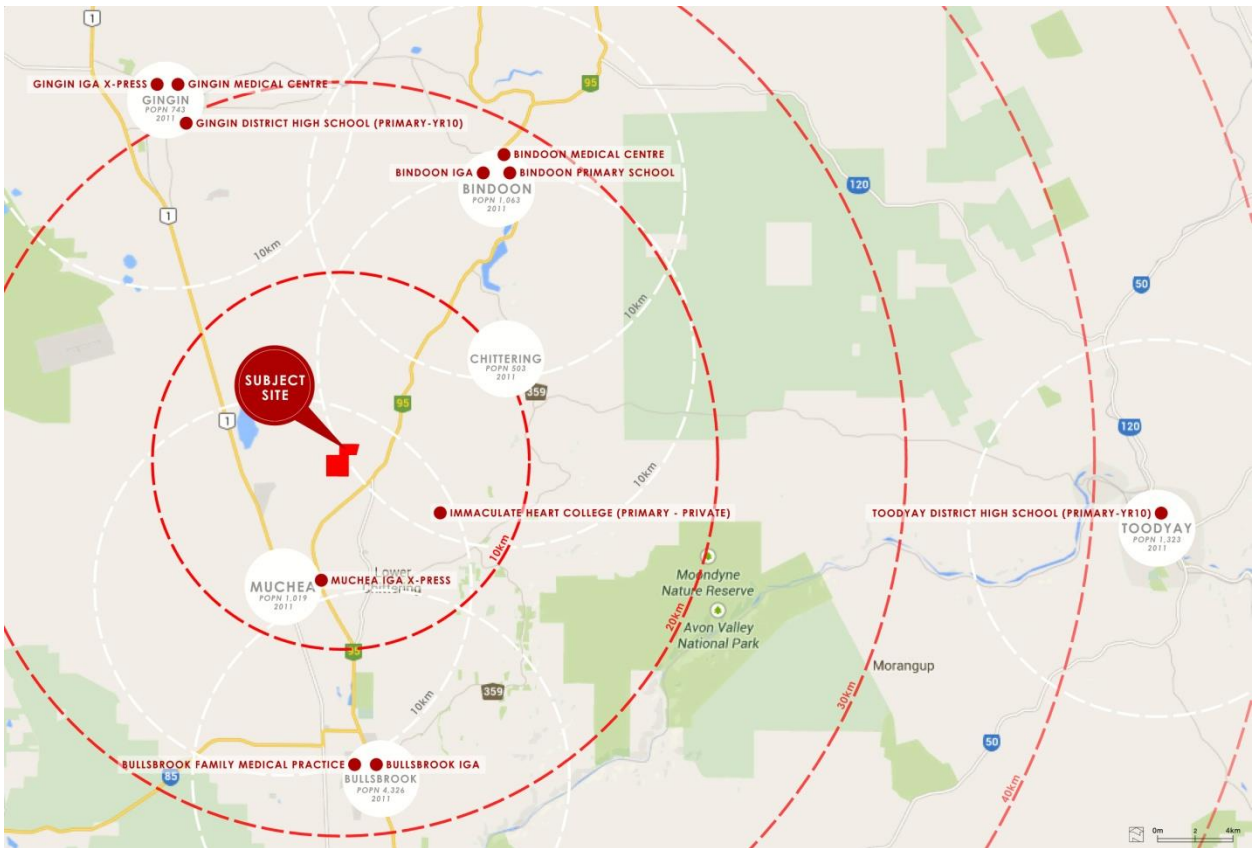


Figure 2 District Context Plan

### 7.3.1.3 Local Context

The Structure Plan area is located on Reserve Road within the Shire of Chittering, approximately 50 km north of Perth, 2.5 km north of the Great Northern Highway and 22 km south of the Bindoon town site, refer **Figure 3**.

Within the immediate context, the Structure Plan is bounded to the north and east by land zoned 'Rural Residential' (refer **Figure 4**). The land to the east is currently being developed in accordance with this zoning, whilst Lot 9000 remains undeveloped. The larger land parcels to the north, west and south of the Structure Plan area are zoned as 'Agricultural Resource' and identified as Rural in the Local Planning Strategy (refer section 7.4.1).

The above reaffirms the strong relationship the site has with the existing regional, district and local context in support of the Structure Plan amendment. Having regard to existing and future strategic infrastructure and activity within the region, **Figure 1** and **Figure 2** demonstrate that the site is part of, and is well connected with, the regional framework. There is an existing dwelling and improvements located on the site, refer **Figure 4**. These were retained as part of the proposal.

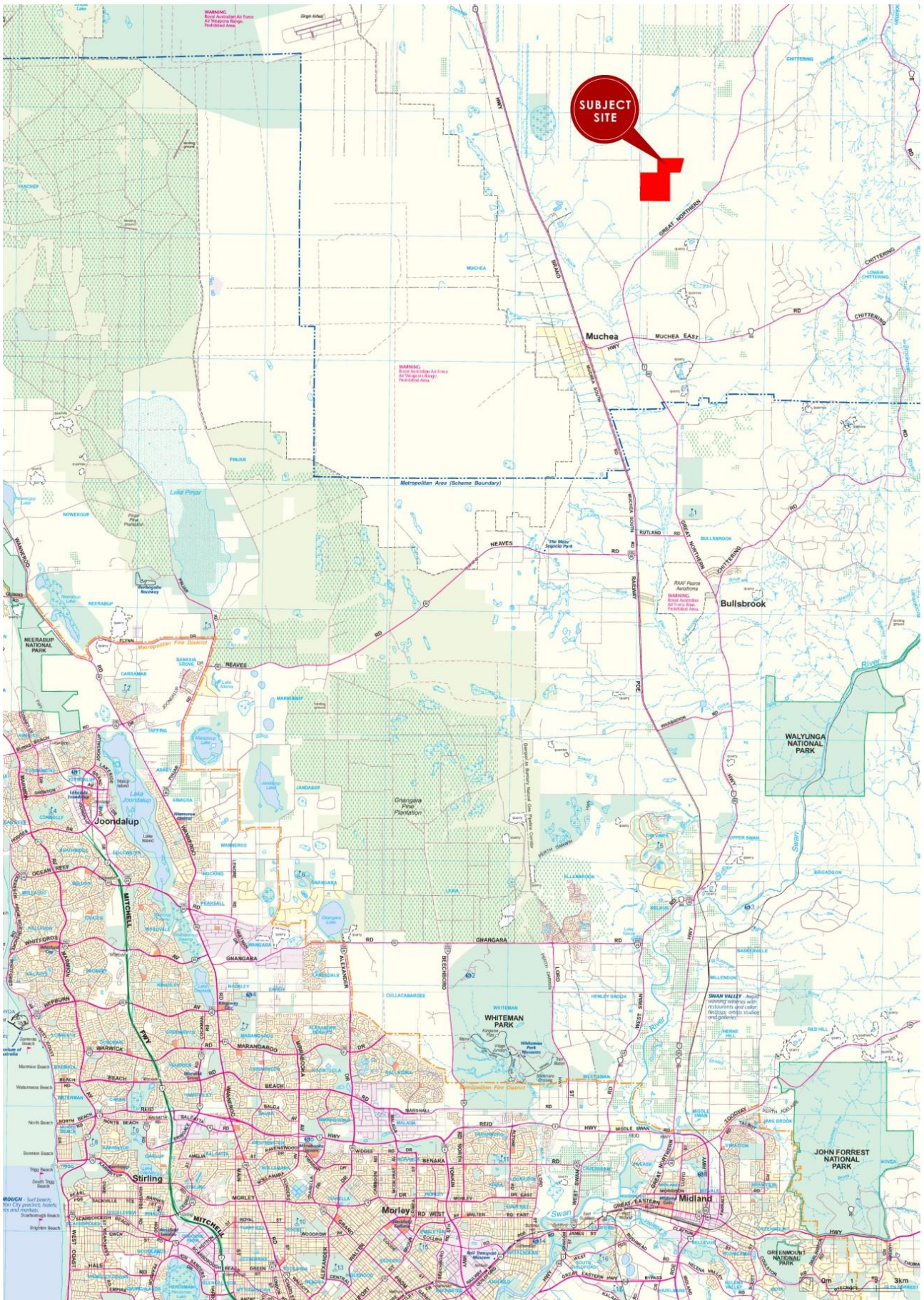


Figure 3 Location Plan

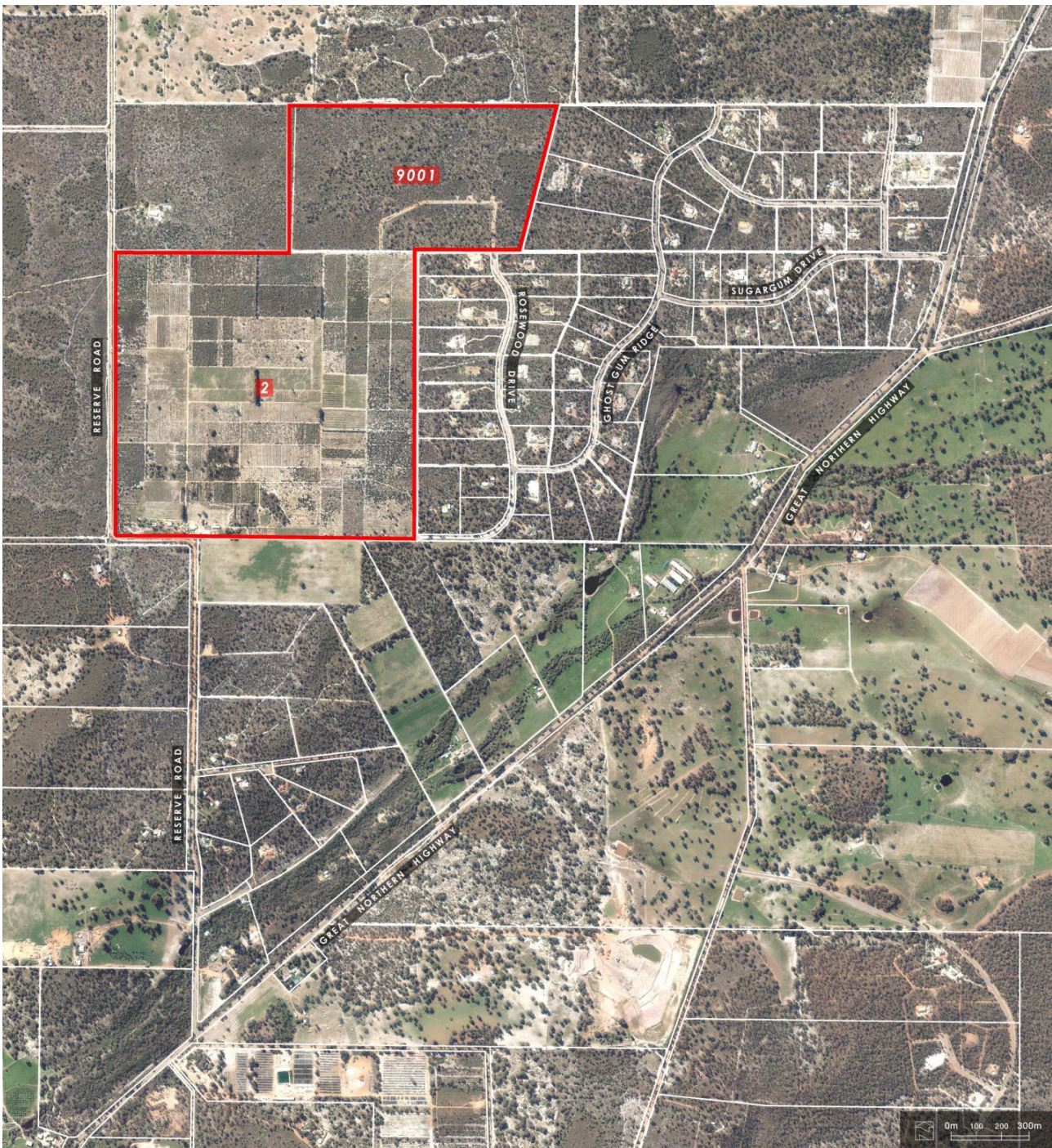


Figure 4 Aerial Photo

### 7.3.2 Area and land use

The original land area of Lot 2 was 136.6865 hectares and the lot had previously been used as a native wildflower nursery. An existing dwelling and outbuildings are located generally within the south-western corner of the lot. The land is subject to subdivision works in accordance with a current subdivision approval.

Lot 9001 has a land area of 58.4687 ha and contains remnant vegetation. The lot is generally undisturbed except for an existing track which links through to Rosewood Drive.

### 7.3.3 Legal description and ownership

The legal description of the original lots included within the Structure Plan area is outlined in Table 2 below.

Table 2 Land ownership details

Lot No.	Volume/Folio	Owner	Area
Lot 2 (No. 200) Reserve Road, Chittering	1481/704 Lot 2 on Diagram 52612	Riverside Investments (WA) No 2 Pty Ltd	136.6865 hectares
Lot 9001 (No. 356) Rosewood Drive, Chittering	2713/537 Lot 9001 on Plan 60794	Riverside Investments (WA) No 2 Pty Ltd	58.4687 hectares
<b>Total</b>			<b>195.1552 hectares</b>

## 7.4 Planning Framework

### 7.4.1 Local Planning Strategy

The *Shire of Chittering Local Planning Strategy* was endorsed by the WAPC on 10 October 2019, and replaces the previous 2004 version. It establishes the direction for future population growth and sets out broad strategies and actions for housing, industrial and business uses. It outlines the settlement pattern, as well as environmental protection and bushfire risk management.

The Local Planning Strategy identifies:

- the Structure Plan area to be within the Reserve Road planning precinct;
- the Lot 2 Reserve Road & Lot 9001 Rosewood Drive Structure Plan is acknowledged by the Strategy;
- Lot 2 Reserve Road is identified for Residential; and
- Lot 9001 Rosewood Drive is identified for rural residential with the identified conservation lot as an indicative high conservation value area and the balance of the lot depicted for environmental conservation.

#### 7.4.1.1 Reserve Road Planning Precinct

The *Local Planning Strategy* considers the Reserve Road planning precinct to support future serviced residential development and associated facilities. The Strategy supports appropriate linkages with existing subdivisions and to plan for provision of additional community facilities and services for the future population. It is considered that the Structure Plan amendment is consistent with the *Local Planning Strategy*.

Table 3 provides an assessment and consideration of how the Structure Plan amendment responds to the *Local Planning Strategy's* Reserve Road planning precinct actions.

Table 3 Structure Plan assessment against Reserve Road planning precinct actions

Reserve Road planning precinct actions	Structure Plan response
<i>i) consider the potential extension of the residential area northward following development of Lot 2 Reserve Road where water provision and protection of native vegetation is achieved.</i>	The 'R5' density code over the balance of Lot 2 Reserve Road would deliver upon this action, by clustering development whilst providing greater housing choice and affordability within a residential-zoned area that is not constrained by remnant vegetation, nor is it identified as an indicative high conservation value area. The 'R5' density code provides greater efficiency and economy for the construction of land for residential development purposes. The development of Lot 2 and Lot 9001 is capable of being connected to a reticulated water supply, and the Structure Plan area is covered by the Water Services Licence WL51.

Reserve Road planning precinct actions	Structure Plan response
	The planning action refers to the potential extension of the residential area northwards, into Lot 9000 (not part of the Structure Plan area). Lot 9000 is zoned rural residential. This would require rezoning if it were to be considered for residential development and as part of that its status as an indicative high conservation value area would also need to be considered. Therefore, by providing greater housing choice and a range of lot sizes within Lot 2, this alleviates pressure on that land to the north being considered for residential development.
ii) <i>Prepare and implement design guidelines for future development of Reserve Road.</i>	The developer provides house and land packages as an option, to ensure that development is consistent with the vision and objectives for the estate.
iii) <i>Ensure all future development takes into account bushfire risk to avoid potential threats to people, property and infrastructure.</i>	The Structure Plan is informed by and supported by a Bushfire Management Plan. There are no identified impediments for future development.
iv) <i>Support the development of community facilities and services.</i>	The developer has been liaising with the local government for the purpose of entering into a deed of agreement to deliver facilities and services within the Public Open Space, which would be in addition to the minimum requirements as per <i>Liveable Neighbourhoods</i> .

## 7.4.2 Local Planning Scheme No. 6 (LPS 6)

### 7.4.2.1 Existing zoning

The Structure Plan area is zoned 'Residential R2' and 'Rural Conservation' as a result of Amendment 55 to LPS 6. Amendment 55 was published in the *Government Gazette* on 18 March 2016.

The 'Rural Conservation' zone provisions continue to apply to Lot 9001. The Structure Plan contemplates a proposed 20.22-hectare Conservation Lot, and lots ranging between 5,250m<sup>2</sup> and 1.0845 hectares. This zoning remains consistent with the strategic aims for retaining vegetation within a corridor in the indicative high conservation value area as depicted in the Local Planning Strategy (refer section 7.4.1). The 'Rural Conservation' zone objectives in LPS 6 are as follows:

- *Maximise the long-term protection and management of significant environment values.*
- *Minimise the fragmentation of, and where deemed relevant, promote ecological linkages between, these values.*
- *Ensure that development is compatible, sympathetic and integrated with these values.*
- *Create lot/s that are of sufficient size to sustain the long-term protection and management of these values.*
- *Encourage innovative subdivision design, such as a consolidated cluster style development, that maximises the long-term protection and management of these values.*

### 7.4.2.2 Proposed Recoding of Lot 2 Reserve Road

The 'Residential R2' zone provisions are subject to a Scheme Amendment, to rename the zone to 'Residential' and to update the zone objectives to be consistent with those contained in the Model Provisions, Schedule 1 of the *Planning and Development (Local Planning Schemes) Regulations 2015*. Further, the 'R2' and 'R5' density codes that would apply to Lot 2 Reserve Road. The R-Codes will control lot sizes, minimum frontages and other relevant site requirements. The amended 'Residential' zone objectives are as follows:

- a) *provide for a range of housing and a choice of residential densities to meet the needs of the community.*
- b) *facilitate and encourage high quality design, built form and streetscapes throughout residential areas.*
- c) *provide for a range of non-residential uses, which are compatible with and complementary to residential development.*

### 7.4.2.3 Land use permissibility

The zoning table specifies the following uses within the 'Rural Conservation' and 'Residential' zones, replicated below in Table 4. All other uses are not permitted and have been excluded from the table. Home Office, Home Store and Holiday Home area proposed to be inserted via Scheme Amendment into the Residential zone, and are included in the Table 4.

Table 4 LPS 6 land use permissibility for the Rural Conservation and Residential zones

Land Use	Rural Conservation zone	Residential zone
Aged Persons Accommodation	X	A
Ancillary Accommodation	X (clause 4.7 of LPS 6 permits ancillary accommodation provided it is located within the building envelope)	P
Bed and Breakfast	D	A
Child Care Premises	X	A
Civic Use	X	D
Commercial Vehicle Parking	A	X
Community Purpose	X	D
Family Daycare	X	A
Holiday House	X	D (via Scheme Amendment)
Home Business	D	A
Home Office	X	P (via Scheme Amendment)
Home Store	X	A (via Scheme Amendment)
Office	X	D
Reception Centre	I	X
Residential Building	X	A
Single House	P	P
Telecommunications Infrastructure	A	X
Wayside Stall	D	X

### 7.4.2.4 Rural Conservation zone provisions

On any 'Rural Conservation' zoned lot:

- Clause 4.7 limits one dwelling within the designated building envelope as shown on an approved Local Development Plan. Ancillary dwellings may be permitted providing it is located within the building envelope; and
- Clause 4.8.1 requires subdivision and development to be generally in accordance with a Structure Plan. Clause 4.8.1 also prevents further subdivision unless provided for in an approved Structure Plan and servicing, bushfire management and vegetation measures are demonstrated to be consistent with current state planning policy (refer section 7.4.3).

Plan 1 - Structure Plan addresses clauses 4.8.2-4.8.15:

- Building envelopes / setbacks;
- Development approval requirements;

- Water supply;
- Land management;
- Dams and water courses;
- Protection of vegetation and tree cover;
- Fire control;
- Effluent disposal;
- Livestock management;
- Environmental management plan (as an appendix to the Structure Plan); and
- Vendor responsibility.

### 7.4.2.5 Military Considerations Special Control Area

It is understood the local government in collaboration with the Department of Defence and the Department of Planning, Lands and Heritage have proposed modifications to clause 5.5 for the Military Considerations Area. These modifications were included in the Scheme Amendment request. The proposal is to modify the scheme provisions so that landowners within the Structure Plan area will no longer need to obtain development approval for residential development, as it will be exempted from this requirement by the *Planning and Development (Local Planning Schemes) Regulations 2015*. This will result in more efficient local government approval processing times (as only building permits will be required), and will provide cost savings to landowners.

## 7.4.3 Planning Policies

### 7.4.3.1 SPP 3.0: Urban Growth and Settlement

SPP 3.0 guides the planning of urban settlements that require additional guidance through growth strategies and subsequently Local Planning Strategies. The Local Planning Strategy implements the overarching principles of SPP 3 and are carried through the Structure Plan.

### 7.4.3.2 SPP 3.7: Planning in Bushfire Prone Areas

The subject land is identified to be 'Bush Fire Prone' on the *Map of Bush Fire Prone Areas* and the provisions of SPP 3.7 apply. SPP3.7 assists in identifying, addressing and reducing the risk of bushfire to people, property and infrastructure by encouraging a conservative approach to strategic planning, subdivision, development and other planning decisions within bushfire prone areas.

The Structure Plan has had regard to the provisions of SPP 3.7 and its *Guidelines* and a Bushfire Management Plan is prepared and contained in Appendix C.

### 7.4.3.3 DC Policy 2.2 – Residential Subdivision

DC Policy 2.2 (WAPC, 2017) addresses requirements for the subdivision of land into residential lots. The policy facilitates the supply of residential lots with a housing diversity and mix of lot sizes which reflect the statutory provisions of local planning schemes, availability of reticulated sewerage, electricity and water and the need for frontage to public streets for access.

Policy measure 4.8 states that the WAPC will apply the *Government Sewerage Policy* (DPLH, 2019) in its consideration of residential lots in unsewered areas. This Structure Plan area is not connected to an available reticulated sewerage system. As such, an alternative treatment system for each lot is proposed. To satisfy land capability requirements under the *Government Sewerage Policy* (DPLH, 2019), a Site and Soil Evaluation is prepared and contained in Appendix A. The Site and Soil Evaluation confirms the site is capable of using alternative sewerage treatment systems and can comply with the design requirements in the *Government Sewerage Policy* (DPLH, 2019).

A licensed water provider provides reticulated water to an appropriate standard for the Structure Plan area (Water Services Licence WL51 details provided in section 7.2.2). The Structure Plan area is capable of connection for electricity.

Consistent with policy measure 4.5, battle-axe lots are not favoured within the Structure Plan area. Existing lots created under the endorsed Structure Plan are proposed to be retained under the 'R2' density coding, to prevent future re-subdivision into a battle-axe configuration. Consistent with policy measures 4.5 and 4.6, the residential 'R5' coded area is guided by the Structure Plan to ensure lots have a direct lot frontage and are regular in shape, avoiding the need for battle-axe configured lots or lots without street frontage.

Residential subdivision will be guided by the Structure Plan. The Scheme Amendment and Structure Plan amendment would deliver residential lots that are:

- constructed in a consistent and coordinated approach throughout the Structure Plan area;
- delivered with a suitable level of amenity, services and access; and
- have regular shapes and lot sizes appropriate for the 'R2' and 'R5' density codings. The Structure Plan will seek to ensure lots are also oriented to maximise opportunities for passive solar design and other considerations.

#### 7.4.3.4 DC Policy 2.3 – Public Open Space in Residential Areas

The basic component of DC Policy 2.3 – Public Open Space in Residential Areas (WAPC, 2002) is that a subdivider should cede 10% of the gross subdivisible area of a conditional subdivision, free of cost, for Public Open Space.

As per the endorsed Structure Plan, the local government did not support the physical provision of 10% Public Open Space and this was considered in accordance with DC Policy 2.5 (refer following section). A deed of agreement to provide additional facilities within the Public Open Space in Lot 2. It is anticipated that the Public Open Space will be developed and will incorporate facilities and other infrastructure subject to the deed of agreement.

The developer proposed a 20.22-hectare Conservation Lot to protect remnant vegetation in Lot 9001. The Conservation Lot that would protect vegetation in perpetuity. It was understood the state and local governments did not wish to manage the Conservation Lot. The 20.22-hectare Conservation Lot is the equivalent of 10% of the Structure Plan area. As such it will be privately owned and managed in accordance with a conservation covenant.

#### 7.4.3.5 DC Policy 2.5 – Special Residential Zones

DC Policy 2.5 – Special Residential Zones (WAPC, 1998) has been subject to a review as a draft (January 2018). The WAPC considers lots of between 2,000 square metres and one hectare can be created in suitable locations, to ensure that the use and development of such lots are subject to appropriate standards and controls, and to protect the character and amenity of adjacent rural areas. The WAPC also considers such residential areas have access to services and facilities. The range of services and facilities is addressed in section 7.3.1.

Section 3.2.3 (b) of the DC Policy 2.5 states that *"Because of their spacious character and large lot sizes, the WAPC does not specify a standard open space contribution for Special Residential zones. Land for public open space will be required, however, when the provision of recreational open space is considered desirable or when it can include an important topographical feature such as a creek, lake or group of trees which is to be retained as a recreational amenity for residents of the subdivision and the district as a whole"*. This principle has been a fundamental consideration in the endorsement of the Structure Plan and this amendment.

The developer and local government considered a deed of agreement as a suitable arrangement to provide additional facilities within the Public Open Space, above the standard level of Public Open Space as per *Liveable Neighbourhoods*.

The amenity and character of adjacent rural areas is protected through the:

- management requirements of the Bushfire Management Plan;
- on-site detention and filtration of stormwater in accordance with the LWMS;
- provision of potable water supply via a licensed water provider; and
- low density scale of development being proposed.

### 7.4.3.6 Liveable Neighbourhoods

The Structure Plan meets the objectives outlined in *Liveable Neighbourhoods* as it has demonstrated and documented a generally interconnected network of streets which facilitate safe, efficient and pleasant walking, cycling and driving environment for future residents. The lot sizes may also cater for the diverse housing needs which is currently not readily available in the Shire of Chittering. Footpaths would be to main thoroughfares only, including the entry road into the Structure Plan area from Reserve Road and on key roads that act as desire lines to the Public Open Space.

### 7.4.3.7 Government Sewerage Policy

The *Government Sewerage Policy 2019* (DPLH, 2019) generally requires a connection to sewer but allows some exemptions. Exemptions apply for areas outside of public drinking water source areas and sewage sensitive areas, and without an established reticulated sewerage scheme. The Chittering locality does not have an established reticulated sewerage scheme and continuing from the original endorsed Structure Plan, alternative sewage treatment is proposed.

The policy measures of the *Government Sewerage Policy 2019* (DPLH, 2019) set a 950m<sup>2</sup> minimum lot size of and 1,000m<sup>2</sup> average lot size for unsewered residential areas. The minimum lot sizes of 5,000m<sup>2</sup> (R2 density code) and 2,000m<sup>2</sup> (R5 density code) comply.

From the *Supplementary Geotechnical Report (Winter) – Lot 2 Reserve Road Chittering* (CMW Geosciences, 2016) the soils were classified as sandy over laterite. Therefore, the soil categories 4 (clay loams), 5 (light clays), and 6 (medium to heavy clay) referred to in the *Government Sewerage Policy* do not apply. This ensures that the site is suitable and capable of using alternative sewerage treatment systems and complying with the design requirements included in the *Government Sewerage Policy* (DPLH, 2019).

### 7.4.3.8 Revoked local planning policies

Between February and April 2020, Council resolved to revoke thirteen local planning policies including several policies that had previously been considered for the Structure Plan. As such, those revoked policies are not discussed. The following policies still apply.

#### 7.4.3.8.1 Local Planning Policy 18 – Setbacks

Consistent with the policy statement 5.1 in LPP 18 – *Setbacks* (SoC, 2007):

- the setbacks in the Residential zone are in accordance with the Residential Design Codes; and
- the setbacks in the Rural Conservation zone, including the Conservation Lot, are specified in Note 5 of the Structure Plan.

#### 7.4.3.8.2 Local Planning Policy 22 – Fences

LPP 22 – *Fences* (SoC, 2007) provides the following statements in relation to general fencing requirements in all zones:

- as a condition of planning consent the Council may require fencing to exclude the keeping of animals and poultry and the cultivation of crops, vines and fruit from watercourses, areas liable to flooding and/or land where soil erosion or other land degradation may occur;
- the erection of any fence or gate to prevent access to a strategic fire break is prohibited;
- applications for planning consent for fences may be dealt with by the Chief Executive Officer under delegation issued by Council in accordance with Section 5.42 of the Local Government Act; and
- planning consent is not required for the repair or replacement of an existing fence.

Where fencing is proposed that facilitates continuous access to Fire Service Access Routes, the Structure Plan intends to require fencing (if proposed) to be to a rural standard. Such a standard minimises the visual impact of fencing; rural type fences also allow for the movement of fauna through the vegetation corridors. Gates will be included as required to ensure access through/onto properties for fire crews in the case of fire.

## 7.4.4 Other approvals and decisions

### 7.4.4.1 Muchea Employment Node Structure Plan

The *Muchea Employment Node Structure Plan* (WAPC, 2011) provides a 20-year land use planning framework for serviced based uses such as transport, livestock, fabrication, warehousing, wholesaling and general commercial use.

It is recognised that the Muchea Employment Node should be supported by a local workforce. Population growth within the Shire is seen as an important contributor towards ensuring jobs are taken up by residents, with the proposed development assisting in attracting new residents to the area.

### 7.4.4.2 EPA decision – Scheme Amendment 55

The previous Scheme Amendment 55 was referred to the EPA and its decision was “Scheme Not Assessed: Advice Given (no appeals)” by correspondence dated 16 March 2015.

### 7.4.4.3 Ministerial Approval and gazettal – Scheme Amendment 55

Scheme Amendment 55 was approved by the Minister for Planning on 22 February 2016, and was published in the *Government Gazette* on 18 March 2016.

### 7.4.4.4 WAPC endorsement of Structure Plan

The Lot 2 Reserve Road and Lot 9001 Rosewood Drive Structure Plan was endorsed by the WAPC on 3 May 2016.

#### 7.4.4.4.1 Local Water Management Strategy

The Local Water Management Strategy (August 2016) for the endorsed Structure Plan was accepted by the (then) Department of Water on 24 October 2016. An addendum to the Local Water Management Strategy is provided in Appendix B to address the Structure Plan amendments. Urban water management plans would be prepared and implemented as a condition of subdivision approval.

#### 7.4.4.4.2 Bushfire Management Plan

A Bushfire Management Plan was approved for the Structure Plan area. An updated Bushfire Management Plan is provided in Appendix C to address the Structure Plan amendments. The Bushfire Management Plan will be implemented during subdivision works.

### 7.4.4.5 Water Services Licence

The Economic Regulation Authority granted Water Services Licence WL51 under the *Water Services Act 2012* to Aqua Ferre (Muchea) Pty Ltd (trading as Muchea Water) with a commencement date of 25 February 2020 and expiry date 24 February 2045.

## 7.5 Consultation

Since the endorsement of the Structure Plan and granting of subdivision approval, the developer has been in ongoing discussions with the Shire of Chittering and the Department of Planning, Lands and Heritage. The following consultation was undertaken prior to lodging the Structure Plan amendment.

### 7.5.1 Department of Planning, Lands and Heritage

On 17 June 2020, the proponent met with officers of the Department of Planning, Lands and Heritage. The discussion provided the Department with an overview of the proposal, a sketch of the amended Structure Plan, and confirmation of the process for the Scheme Amendment and Structure Plan amendment.

## 7.5.2 Shire of Chittering

A meeting with the proponent, their planning consultants and officers of the Shire of Chittering on 2 July 2020. The meeting was held to provide the Shire with an overview of the proposed amendments, a sketch of the amended Structure Plan, and a discussion in relation to the proposed lodgement of a Scheme Amendment and Structure Plan amendment to give effect to the modifications being sought.

The Shire's officers provided in-principle support to the proposed Scheme Amendment modifications, and offered to review draft documentation prior to formal lodgement. A copy of the draft Scheme Amendment request was submitted to the Shire's officers on 14 August 2020. In response, the Shire provided in-principle support to the proposed changes. Further, the Shire also suggested incorporating modifications to the Military Considerations SCA that the local government, Department of Planning, Lands and Heritage and Department of Defence had previously collaborated and updated. These are included as they also are relevant to the future development of housing within the residential zoned land.

# 8.0 Site Conditions

## 8.1 Biodiversity and Natural Area Assets

The Structure Plan area is situated on the Dandaragan Plateau east of the Darling Scarp, in the Brockman River catchment. The Structure Plan area occurs on low sand hills and the site generally slopes from north to south, with topography varying from approximately 135m to 165m AHD.

The free draining sandy soils show no evidence of definable watercourses or streamlines. Rocky Creek to the south is the only nearby watercourse which runs partly alongside the Great Northern Highway, and any runoff would be by means of dissipated flows through the porous soils and percolation into the water table, which flows in a southerly direction to Rocky Creek and then to Ellen Brook systems.

For Lot 9001, **Table 5** indicates the identified Land Management Units.

**Table 5 Land Management Units at Lot 9001 Rosewood Drive (Bessell-Browne unpub)**

Unit	Name	Description	Soils
222MB_1	Mogumber 1 Subsystem	Undulating broad crests and very gentle upper slopes <10% with common lateritic duricrust outcrop and shallow gravelly sands. Low woodland and shrubland of <i>E. tottiana</i> and <i>Acacia</i> spp.	Shallow gravelly sands
222MB_2	Mogumber 4 Subsystem	Gently to moderately inclined slopes <10% with shallow gravelly sands and few areas of lateritic outcrop. Low woodland with some <i>C. calophylla</i> and <i>E. marginata</i> also with <i>E. tottiana</i> , <i>Dryandra</i> spp. and <i>Acacia</i> spp.	Shallow gravelly sands
222MB_3	Mogumber 3 Subsystem	Gently inclined undulating slopes and minor drainage head-waters. Deep grey siliceous or bleached sands. Low woodland and shrubland of <i>C. calophylla</i> and <i>Acacia</i> spp.	Deep grey siliceous or bleached sands
222MB_11	Mogumber 11 Subsystem	Drainage depressions in gently sloping (<10%) plain. Duplex brown and yellow duplex soils that are often gravelly. Low woodland of <i>C. calophylla</i> and <i>E. wandoo</i> with the occasional <i>E. marginata</i> , <i>Banksia</i> and <i>Allocasuarina</i> spp.	Duplex brown and yellow soils that are often gravelly

Lot 2 Reserve Road, with the exception of some stands of vegetation, has been cleared of native vegetation for native flower production. A brick and tile dwelling and associated farming infrastructure, which includes a shade house, packing sheds, water tanks and reticulation are located in the south west corner of the property.

## 8.2 Vegetation

### 8.2.1 Surveys

A basic ecological assessment was undertaken for Lot 2 Reserve Road by Belleng VDM Pty Ltd in December 2005. The report recommendations were reflected in the preparation of the Structure Plan. A full copy of the report is appended in Appendix F and a summary of the findings are outlined below:

- The existing vegetation on-site comprises a mosaic of planted vegetation, due to the site previously being a plant nursery. The site was highly disturbed by non-declared weedy grasses.
- There were no species of State, Federal or local fauna identified on the site and it was established that there were no significant habitat species identified during the basic fauna survey.

- There was the identification of one mature Blackbutt (*Eucalyptus pilularis*) on the southern boundary of the site which may provide fauna habitat, however it was considered that given the isolation of the tree from surrounding areas it was unlikely to be used as habitat for the fauna expected in the area.
- There are no wetlands, waterbodies or drainage lines within the site.

A vegetation survey was undertaken by VDM Environmental in September and October 2007 for Lot 9001 Rosewood Drive. A full copy of the report is appended in Appendix F and a summary of the findings are outlined below:

- Two System 6 vegetation complexes occur on Lot 9001. Both are extensive in the Muchea sandplain area and neither were considered to be under immediate threat.
- No Threatened Ecological Communities were identified on Lot 9001.
- A number of declared rare flora and conservation priority species are identified in the vicinity of Lot 9001; however, these were not identified on-site during the vegetation survey.
- There was no indication of Dieback (*Phytophthora cinnamomi*).
- Extant native vegetation consisted of Marri (*Corymbia calophylla*), Jarrah (*Eucalyptus marginata*), Banksia species woodland, with a variable open to closed understorey consisting of numerous wooden shrubs and herbaceous species. Stands of tall Common Woollybush (*Adenanthos cygnorum*) dominate locally. Variation in plant community floristics and structure is related to soil type. Three communities were recognised and these relate to topographic features and substrate. Plant community health was good with peripheral weed invasion being the main disturbance.
- The vegetation on-site was observed to be in consistently good condition with low level disturbance and, as an ecological linkage, can be maintained via the retention of vegetation outside building envelopes.

## 8.2.2 Dieback Considerations

Based on the site investigations by VDM Environmental, there were no dieback implications over the subject site. However, the following dieback mitigation measures were proposed to be put in place when the site is being developed:

- Ensuring, by visual inspection and/or cleaning, that vehicles, plant and equipment, footwear and bicycles were cleaned when entering an un-infested area.
- Ensuring that any basic raw material (rock, stone, gravel, soils and sands) being used on-site were free of the plant pathogen.
- When planting seedlings that were sourced from nurseries, it is essential that plant stock is uninfected and sterilised soil is utilised. Care is taken during seedling transport to ensure that seedlings do not come into contact with infested soil or plants.
- Water draining from areas likely to be infested should be directed away from un-infested areas.

## 8.2.3 Review

For the Structure Plan amendment, 360 Environmental was engaged to consider the environmental implications of the proposed change of density. 360 Environmental concluded that the proposed increase in lot density will result in comparable environmental impacts as would have occurred because of the originally endorsed Structure Plan. 360 Environmental noted the increase in density will have implications with regards to water management and the Site and Soil Evaluation and revised Local Water Management Strategy address those implications.

## 8.3 Landform and Soils

### 8.3.1 Acid Sulfate Soils

The Structure Plan area is located in the Low to No Risk of Actual (ASS) and Potential (PASS) Acid Sulfate Soils at depths of >3m. Having regard to the topographical characteristics and geological location of the site coupled with the Low to No Risk classification of the land, acid sulfate soils are not considered to be a site constraint.

No potentially contaminating land uses and/or activities were identified and there were no records of contamination for the Structure Plan area. In the absence of visible signs of staining and/or residues at the surface of past and/or current contamination, no further assessments were deemed necessary.

### 8.3.2 Bulk Earthworks / Site Works

The majority of Lot 2 Reserve Road is cleared and developed as a plant nursery. Extensive reticulation lines existed across the site and these would be removed.

Site works and earthworks would be undertaken to give effect to the subdivision approval. Preparatory works for development should be limited to the following:

- Demolition of selected existing outbuildings, slab structures and remnant improvements. It is envisaged that the retained dwelling will be within a newly created lot.
- Removal of reticulation and nursery/agricultural related services other than in areas where landscaping treatments will require the retention of vegetation (where appropriate and compliant with the Bushfire Management Plan).
- Stripping and grubbing of areas to be earthworked and with due regard to vegetation retention and bushfire management.

Consideration of landscape treatments for road verges, common areas and site entries will be an important feature of the redevelopment strategy, being mindful of bushfire management requirements.

It is anticipated that the bulk earthwork operations for the Structure Plan area will be completed using available site materials with some importation of additional fill, if and as required.

Once the earthworks have been completed, the site will be temporarily stabilised (prior to construction commencing), either by the respreading of stockpiled topsoil or by hydromulch stabilisation as appropriate.

## 8.4 Groundwater and Surface Water

No surface water or watercourses are present in the Structure Plan area. Groundwater is available for the purposes of a potable water supply.

## 8.5 Bushfire

The Structure Plan area is recognised to be within a Bush Fire Prone Area (DFES, 2020).

A Bushfire Management Plan (BMP) was prepared for the Structure Plan in 2015 by the ICS Group. That BMP was written prior to SPP 3.7 coming into effect. That BMP is now being superseded by a BMP that has been prepared by Bushfire Prone Planning in 2020 which assessed the bushfire risk for the amended Structure Plan under the current policy and regulatory frameworks. This BMP demonstrates compliance with the policy requirements confirming that the bushfire risk can be managed. A copy of the BMP is found in Appendix C.

Given the rural nature of the Structure Plan area, the BMP recommends that a minimum BAL-12.5 construction standard be adopted across the entire development (BPP, 2020). Against the Bushfire Protection Criteria, the decision-making authority's assessment of a future proposal would be on the basis of it being able to meet the Acceptable Solutions, once construction and landscaping (if applicable) is complete, as follows:

- For Element 1 'Location', all lots are able to achieve the acceptable solution (by being located in an area that will on completion be subject to BAL-29 or less).
- For Element 2 'Siting and Design', the proposal is able to meet the acceptable solutions by habitable buildings being able to achieve an Asset Protection Zone (APZ) of sufficient size to ensure the radiant heat impact does not exceed BAL-29. APZs will be managed in a low-fuel state within individual lots and cross the neighbouring established residential lots.
- For Element 3 'Vehicular Access', the location of the development is able to meet the current acceptable solution A3.1 (provision of two access routes to different destinations) and A3.2 (public roads will be constructed to meet the technical requirements).
- For Element 4 'Water', the development is able to achieve the acceptable solution (it is located in a reticulated water supply area for fire-fighting).

Lot 2 Reserve Road has been cleared and maintained to remove vegetation that was planted as part of the previous use of the site as a plant nursery. Landscaping is considered in the BMP whereby the park and future garden landscape areas will be managed to rate as low threat.

### 8.5.1 Vegetation Management

Lot 2 Reserve Road has been cleared of remnant vegetation previously, to be used as a plant nursery and as such vegetation on-site is not representative of endemic vegetation complexes. Vegetation cover varied significantly and included open paddocks, scrub and shrubland.

Vegetation cover on Lot 9001 potentially included the Threatened Ecological Community “Banksia Woodland of the Swan Coastal Plain” under the EPBC Act 1999. Lot 9001 is mapped in state-level broad-scale mapping and was previously discussed with the (then) Department of the Environment and Energy in 2016. The proponent is aware of its obligations under the EPBC Act 1999 on whether clearing will have or is likely to have a significant impact for matters of National Environmental Significance (mNES).

In order to reduce bushfire attack levels within the Structure Plan area, most of the vegetation on Lot 2 and Lot 9001 will be managed as open parkland. Bushfire fuel loads across the Structure Plan area will generally be maintained below two-tonnes per hectare in accordance with the requirements of the APZs.

The vegetation on the Conservation Lot can generally be retained in its current form, except where adjacent to buildings as bushfire fuel loads have to be maintained as low threat vegetation to reduce bushfire attack levels to achieve compliance with AS3959-2018.

Landscaping within the sites require consideration of the bushfire management planning requirements to ensure an increase in bushfire hazards does not occur, nor alter bushfire attack levels determined for the site. Future garden landscape areas will be managed and lawn on-site is able to be maintained below 100mm in height to the extent required and subsequently all on-site vegetation will rate as low threat.

### 8.5.2 Building Protection

The Bushfire Management Plan (BPP, 2020) recommends a minimum BAL-12.5 construction standard for Residential zoned lots, based on the wider landscape fire potential. The BMP (BPP, 2020) notes that lots in the Rural Conservation zone can achieve a BAL-29 asset protection zone (APZ), a process that has been made possible through subdivision design and clustered building envelopes.

Buildings will need to be constructed to required standards. This will be:

- The standard corresponding to the determined BAL rating, as per the bushfire provisions of the Building Code of Australia (BCA); and/or
- A higher standard as a result of the BMP establishing that construction is required at a standard corresponding to a higher BAL rating.

Landowners will have responsibility for their future buildings to be designed and constructed in full compliance with:

- The requirements of the *Building Act 2011* and the bushfire provisions of the BCA; and
- With any identified additional requirements established by the BMP as approved by the local government.

## 8.6 Heritage

### 8.6.1 Aboriginal

A search of the Department of Planning, Lands and Heritage's Aboriginal Heritage Inquiry System (AHIS) has been undertaken and there were no registered Aboriginal Heritage sites recorded within the Structure Plan area.

### 8.6.2 European

A search of the Heritage Council inHerit database has been undertaken and no matches were recorded for the Structure Plan area.

## 8.7 Context and Other Land Use Constraints and Opportunities

### 8.7.1 Environmental Conclusions / Recommendations

With respect to environmental considerations to be addressed in the subdivision design, the following has been provided:

- Conservation of vegetation in a 20.22-hectare Conservation Lot will be protected by putting conservation covenants in place, to ensure protection in perpetuity.
- Liaison with the (then) Department of Environment and Energy was undertaken and the proponent is aware of their obligations under the EPBC Act.
- Where consistent with the recommendations of the Bushfire Management Plan, the Structure Plan area will ensure ongoing management as low threat vegetation, which will warrant some thinning of vegetation to ensure fuel loads are below 2-tonnes per hectare and APZs are provided to dwellings.
- Planting in cleared areas will have regard to the requirements of the Bushfire Management Plan. The upcoding is supported by the Bushfire Management Plan on the basis that it is capable of meeting the acceptable solutions under the current planning framework. This demonstrates that the bushfire risks are capable of being adequately managed.
- A landscaping plan is prepared for the Public Open Space.
- Clearing within building envelopes, together with managed open parkland for areas outside of building envelopes, will assist with minimising overall vegetation clearing and retained vegetation will contribute to screening of future dwellings.
- The Structure Plan has a Local Water Management Strategy that incorporates water sensitive design principles.
- A Site and Soil Evaluation was conducted to confirm the soil capability for on-site sewage treatment, which was prepared and appended to the Structure Plan.

# 9.0 Land Use and Subdivision Requirements

## 9.1 Land Use

In addition to the Local Planning Strategy (refer to section 7.4.1) the Structure Plan has been formulated for residential development having regard to the following:

- To create a subdivisional form that is responsive to the physical and environmental sensitivities of the land;
- To create a subdivision design that provides for an ecological link within the Conservation Lot across the northern extent of the Structure Plan area;
- To create a subdivision design that is safe and protects people, property and the environment, consistent with the latest guidelines;
- To acknowledge the future development potential of adjoining land and provide for future continuity between developments; and
- Solar oriented layouts for lots with dimensions conducive to the housing types envisaged to be constructed within the Structure Plan area.

## 9.2 Public Open Space

During the preparation of the original Structure Plan, the local government advised the proponent that the Shire did not want to manage significant areas of public open space as it had limited resources for maintenance. In addition, the Shire's *Local Planning Strategy* sought to protect and conserve remnant bushland on private property. The planning outcome was for:

- A freehold Conservation Lot of 20.22-hectares within Lot 9001 Rosewood Drive, that would be subject to the nature conservation covenant program; and
- The local government supported and the WAPC endorsed the Structure Plan with a Public Open Space area of 2.7423 hectares located centrally within the Lot 2 Reserve Road site to optimise its proximity to surrounding residential lots and in the knowledge of the Conservation Lot being supported.

Given the vegetation retained on 'Rural Conservation' zoned lots and the variety of lot sizes, it is considered that the proposed Public Open Space would deliver functional space and amenity for the use and enjoyment of residents.

The size of the Public Open Space incorporates some existing trees and vegetation. It will also be developed in a manner that delivers amenity and functionality for residents, and a landscape masterplan has been prepared to provide an indication of how it would be developed (refer Appendix D). The Public Open Space will be developed in consultation with the local government. Further, a formal deed of agreement will be entered into with the local government for delivering community infrastructure within the Public Open Space.

### 9.2.1 Public Open Space Schedule

The endorsed Structure Plan had a Public Open Space Schedule which provided the equivalent of 2.03%. The local government and WAPC acknowledged that the 20.22-hectare Conservation Lot and the provision of the Public Open Space collectively provided a suitable balance based on the principles of conservation and functional, sustainable open space provision. A deed of agreement is also being prepared between the local government and proponent to deliver other community infrastructure within the Public Open Space. In the overall context, the Public Open Space provision was considered to be acceptable by the local government and the Department of Planning, Lands and Heritage.

For this Structure Plan amendment, the Public Open Space Schedule is updated for the Structure Plan area. As demonstrated in Table 6, 2.7907 hectares (2.08%) of Public Open Space is proposed within the development.

Table 6 Public Open Space Schedule

<b>PUBLIC OPEN SPACE SCHEDULE</b> Dated 14 October 2020 Lot 2 Reserve Road Chittering		
<b>Gross Site Area (ha)</b>		<b>136.6865</b>
<b>Deductions</b>		
<b>Infrastructure</b>		
Public Drinking Water Source Site	1.4341	
Reserve Road 10m widening	1.0829	
<b>Total Deductions</b>		<b>2.5170</b>
Net Subdivisible Area		134.1695
<b>Required Public Open Space (5%)</b>		<b>6.7085</b>
Unrestricted Public Open Space – minimum 80%	5.3668	
Restricted Public Open Space – maximum 20%	1.3417	
<b>PUBLIC OPEN SPACE PROVISION</b>		
<b>Unrestricted Public Open Space</b>		
Recreation/Nature	2.7907	
<b>Total Unrestricted Public Open Space</b>		<b>2.7907</b>
<b>Restricted Public Open Space</b>		
<b>Total Credited Restricted Public Open Space</b>		<b>0.0000</b>
<b>Total Credited Public Open Space</b>		<b>2.7907</b>
<b>Percentage of Credited Public Open Space Provided</b> (Unrestricted and Restricted POS Contribution)		<b>2.08%</b>
<b>Shortfall of POS</b>		<b>3.9177</b>
<b>Notes:</b>		
1. This schedule is to be read in conjunction with the Structure Plan (TBB Plan 05/096/025B).		

Consistent with the principles of DC 2.5 clause 3.2.3(b), because of their spacious character and larger lot sizes, the WAPC does not specify a standard Public Open Space contribution for Special Residential lots, such as these lots in the Structure Plan area that are between 2,000m<sup>2</sup> and one hectare in size. The Structure Plan amendment continues to propose low-density residential development with lot sizes ranging from 2,000m<sup>2</sup> and up towards 1-hectare.

The Public Open Space is provided for recreational amenity for the residents of the subdivision. Consistent with the endorsed Structure Plan, the Public Open Space composition has been formulated based on previous close consultation with the Shire of Chittering and acknowledging a number of factors, including:

- The desire to protect Indicative High Conservation Value land within Lot 9001 Rosewood Drive for conservation purposes;
- Minimising the financial burden on the local government to maintain and manage extensive areas of Public Open Space in perpetuity. The local government has previously acknowledged that it will assume maintenance and management of the Public Open Space, once it has been established by the proponent;
- The desire to create a central area of Public Open Space within Lot 2 Reserve Road to satisfy the needs of the existing and planned community from a recreational and amenity perspective; and
- The 'R5' density coding ensures a greater number of dwellings to be within reasonable walking distance of the Public Open Space. Noting that this increase still represents low-density and a marginal increase in population, it does ensure a greater catchment of the residents within a short walk of the park and its proposed amenities.

Acknowledging these objectives, the Structure Plan amendment continues the previous proposals for the creation of:

- A Conservation Lot of 20.22-hectares on Lot 9001 Rosewood Drive (which equates to approximately 10 percent of the total Structure Plan area). The vegetation on that Conservation Lot would be protected in perpetuity through a conservation covenant on the Certificate of Title, in conjunction with DBCA; and
- A centrally-located Public Open Space area on Lot 2 Reserve Road. The development of the Public Open Space area be undertaken in accordance with *Liveable Neighbourhoods* policy requirements. In accordance with clause 3.6.2 of DC

Policy 2.3, the WAPC may, in particular circumstances, be prepared to support the spending of cash-in-lieu funds on the development of that Public Open Space being set aside by the subdivider. In addition, the developer has proposed to enter into an agreement with the local government to provide additional infrastructure within the Public Open Space, over and above the policy's requirements.

The increase in lot yield is not relevant to the provision of Public Open Space, as per clause 3.2.3 (b) of DC Policy 2.5 there is not a specified standard open space contribution for lots within this lot size range. The function and quality of the Public Open Space will be complemented by community infrastructure as per the deed of agreement between the developer and the local government. This will improve the amenity and function of the Public Open Space.

### 9.2.1.1 Landscape Masterplan

A landscape masterplan has been prepared and is provided in Appendix D. The landscape masterplan demonstrates the intent for borrowing cues from the site's unique setting and its recent use as a native flower farm.

The central park area will make use of an existing stand of eucalypts as a backdrop. The Public Open Space will be organised spatially through the use of desire lines and a circuitous path network. Landscaping will provide a focus area with the provision of shade structures, play equipment, lawn area, BBQ facilities, water fountain and public conveniences (as per the Deed of Agreement). The balance areas of the park will provide a strong visual suggestion of the site's original use, with local planting of native species.

The landscape intent for the residential lots is primarily influenced by maintaining a 'sense of place'. This will be influenced by fire management requirements, to ensure vegetation is managed and maintained. Within Lot 9001, vegetation retention has been a key influence on the approved layout of those lots, refer section 9.2.2 below.

## 9.2.2 Areas for Vegetation Retention

To enhance the objectives of vegetation retention within the Structure Plan area, work has been done to inspect remnant vegetation on Lot 9001 Rosewood Drive to determine biodiversity values. An outcome was the need to ensure areas of vegetation retention remain classified as low threat vegetation for new dwellings. This is achieved by ensuring areas for vegetation retention are limited to 2,500m<sup>2</sup> in area. On the Structure Plan, except for the Conservation Lot, vegetation retention clusters within the Rural Conservation zone are not to exceed 2,500m<sup>2</sup> in area. All vegetation retention areas have separation distances of 20 metres between other areas of vegetation retention, and to building envelopes.

Indicative areas for vegetation retention are shown on the face of the Structure Plan. Theoretically, these indicative areas represent approximately 99,388m<sup>2</sup> within individual lots, the equivalent of approximately 29 percent aggregate land area of the lots.

The extension of Rosewood Drive is an entry point for the Rural Conservation zoned land on Lot 9001 Rosewood Drive. Vegetation retention areas along the frontages of these lots aim to maintain the character of the locality, whilst providing environmental outcomes in the form of landscape corridors.

The land contained within the 20 metre separation areas will be maintained in accordance with the Bushfire Management Plan. The separation areas would enable fire appliances to use these as accessways for fire suppression.

## 9.3 Residential

### 9.3.1 Lots Created

Since the Structure Plan was approved, a subdivision approval was granted for 103 lots. Of those 103 lots, one public drinking water source site (Lot 102) of 1.4341 hectares, one larger residential lot (Lot 101) of 2.4342 hectares, and 30 lots ranging in size between 5,000m<sup>2</sup> and 6,810m<sup>2</sup> have been created. 22 lots ranging in size between 5,000m<sup>2</sup> and 8,081m<sup>2</sup> are under construction.

### 9.3.2 Lot Design – Structure Plan Amendment

The Structure Plan amendment does not propose any changes relating to Lot 9001 Rosewood Drive. The Structure Plan amendment retains the 'R2' density code for lots that have been created or under construction.

The Amendment seeks to deliver future lots within the 'R5' density code. This density code permits minimum lot sizes of 2,000m<sup>2</sup>. The average lot size is anticipated to be approximately 4,129m<sup>2</sup> across the Structure Plan area. This is in part due to the larger lots within the Rural Conservation zone and the 52 lots at the R2 density code which had minimum lot sizes of 5,000m<sup>2</sup>.

The Structure Plan amendment provides an indicative road network and a street block layout where lots will be in a north-south or east-west configuration. Lots within the 'R5' density coded area will have typical frontages ranging between 35 and 50 metres, which are consistent with the minimum frontage requirements of the R-Codes. Typical lots will have lot depths of 70-75 metres. These lot dimensions allow for dwellings designs that reflect lifestyle opportunities afforded by these spacious lot dimensions; sufficient land for outbuildings, vehicles and attachments (i.e. caravans, trailers); suitable land for alternative sewage treatment systems; gardens and landscaping. In turn, these lot dimensions are conducive to ensuring dwellings achieve 'R5' density code minimum setbacks (12 metres primary street; 6 metres secondary street; 6 metres rear boundary).

A 35-50 metre frontage can provide the opportunity for a 'homestead' style dwelling that typically is designed wider than it is deep. This would still provide sufficient curtilage around the home for vehicle access to the rear of the properties, landscaping and sufficient privacy for residents.

The north-south and east-west configured lots provide opportunities for dwellings to take advantage of solar passive house design principles and sustainability objectives. Landowners will have the opportunity to take advantage of considerations such as:

- Orienting rooms used most to the northern side of the home, to maximise winter sunlight into these rooms. Bedrooms and other suitable rooms can be to the southern side of the home, to take advantage of lower ambient temperatures;
- Maximising glazing to the north for winter sun, and designs incorporating eaves and verandahs, and blinds and other shade elements where appropriate for sufficient shading during summer;
- Locating openings to maximise air movement and prevailing winds through the home in summer;
- Considering the use of materials, ceiling heights and ceiling fans, and other elements to help regulate home temperatures without relying on air conditioning;
- Opportunities to install energy efficient and water efficient appliances, rooftop solar, solar hot water systems, and rainwater harvesting from roofs and storage / re-use.

Such outcomes would provide lower household operation costs for landowners, and a reduced carbon footprint.

### 9.3.3 Rural Conservation Zone – Indicative Building Envelopes

For 'Rural Conservation' zoned lots, the indicative building envelopes shown on the Structure Plan are based on the setbacks being 20 metres from the primary street, 10 metres from a secondary street and 10 metres from other/rear boundaries. The building envelopes are sited based on the principle of the setbacks providing a APZ and also a maximum area of 2,000m<sup>2</sup> (refer Figure 5). This ensures that development would be located towards primary streets and centrally within lots, to optimise setback distances between dwellings to the sides and rear.

To clarify the fire management requirements for lots contained within Lot 9001, the following is provided:

- For each building envelope separation distance of 20m has been identified. This assumes that the habitable building may be positioned anywhere within the building envelope. This will not require all of the 20m separation distance to be cleared however that cannot be determined until such time as the house is positioned within the building envelope.
- Vegetation areas cannot exceed 2,500m<sup>2</sup> in land area and must be located 20m apart.
- Vegetation within building envelopes will be retained to the extent possible to be classified as low threat vegetation as determined within Australian Standard AS3959-2018 (as amended). Individual landowners would then have the ability to undertake further clearing within the building envelope as reasonably required to accommodate dwellings, outbuildings and other structures approved by the local government.
- Wherever possible, building envelopes have been placed in a manner that enables the overlapping of the 20m separation distance requirements; whereby building envelopes are 20m apart from each other. This enables the effective use of space and minimises the need for further management of vegetation to achieve requirements of the Bushfire Management Plan.

- For the north-south oriented Rural Conservation Lots, a minimum front setback of 10m is proposed for buildings within the building envelopes. This 10m setback results in an increased vegetation retention area in the front of the lot.

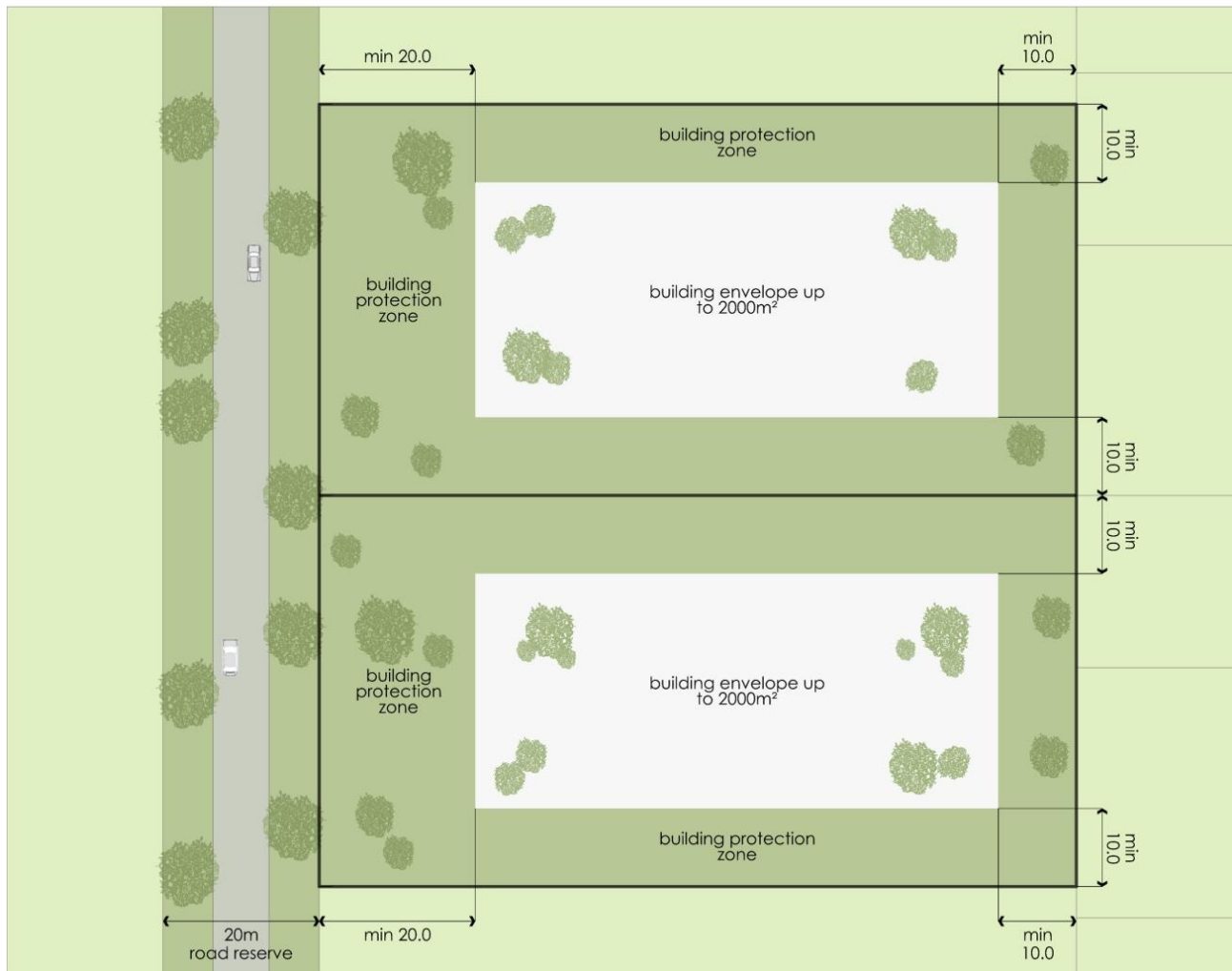
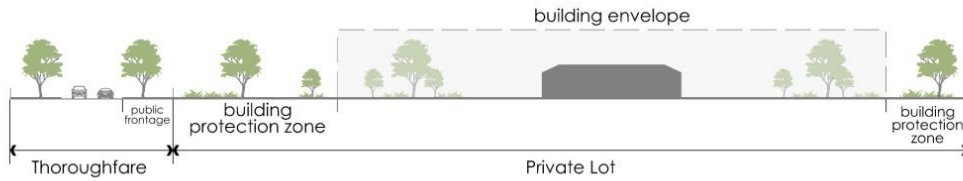


Figure 5 Indicative Building Envelopes and Cross-Section – Typical Lots

### 9.3.4 Yield and Population

354 lots are proposed to be created within the Structure Plan area. The proposed distribution is for 318 residential zoned lots and 36 rural conservation zoned lots (including the 20.22-hectare Conservation Lot).

A review of the 2006, 2011 and 2016 census data for the Shire of Chittering local government area and Chittering suburb indicates an average of 2.7 persons per household. Based on this guide for household sizes, approximately 956 persons could be accommodated within the Structure Plan area when fully developed.

## 9.4 Movement Network

Access to the subject land is provided via Great Northern Highway, Reserve Road and Rosewood Drive. The NorthLink WA project has also been completed. The site is well located with strong road linkages and accessibility.

Reserve Road extends along the southern and entire western boundary of Lot 2 Reserve Road. Since the approval of the Structure Plan, Reserve Road has been updated to a sealed standard from Rocky Ridge Drive through to the Public Drinking Water Source Site.

The primary (southern) access point into the Structure Plan area has been constructed to Reserve Road and incorporates entry statement landscaping that provides a sense of arrival. As part of the amendment, four access points are proposed to Reserve Road along the western boundary and two connections to Rosewood Drive from the eastern boundaries of the Structure Plan area, creating a legible and robust street network. The access points along the western boundary of Lot 2 Reserve Road provide connectivity through the Structure Plan area towards the proposed Public Open Space. One east-west access road straddles the northern boundary of Lot 2 Reserve Road to be shared with any future development of Lot 9000 Reserve Road. Lot 9000 is not part of the Structure Plan area. This creates an east-west access street that logically terminates with a proposed intersection to Rosewood Drive.

Connectivity to the rural residential development is proposed by road connections to the southern and northern ends of Rosewood Drive. These new road connections will be of a similar width and construction standard to coordinate with the existing road pavements. Residents will be capable of accessing the district and regional road network primarily via Reserve Road and will also be able to via Rosewood Drive. The Structure Plan also provides alternative means of entry/access in the event of bushfire or other emergencies.

The internal roads facilitate a high degree of connectivity and where appropriate have a road design that moderates vehicle speeds. Footpaths will be provided to the one side of nominated roads to further support walking and cycling within the Structure Plan area. The road network within the subject site is logical and interconnected to create a regular layout which focuses on a sense of arrival within the design by converging the network towards an internal Public Open Space. All roads extend either north-south or east-west, promoting good solar access opportunities in housing construction. Access streets are designed within 20-metre-wide road reserves. The road grid is supportive of emergency service movement. The road network would be capable of supporting future school bus services, if provided by the Public Transport Authority.

The traffic assessment (refer Appendix E) of the proposed changes to the Structure Plan indicates an ultimate potential traffic generation of 2,832 vehicle movements per day. The forecast demand is below 3,000 vehicle movements per day and would not be expected to result in any operational issues for streets. The traffic assessment also considered for the Reserve Road / Great Northern Highway intersection that there is a long-term indication Level of Service A for the Great Northern Highway and Level of Service B for Reserve Road. Excellent operation is forecast. As an upgraded intersection, visibility meets current standards and all approaches are to optimum design requirements.

### 9.4.1 Roadworks

As per the approved Structure Plan, Reserve Road has been upgraded to a sealed pavement treatment to provide improved access from Great Northern Highway. The entrance road from Reserve Road has been constructed. The segment of Reserve Road along the western property boundary will require upgrading to a sealed pavement treatment. This is anticipated to be a 7.4m wide, two coat seal.

The western boundary of the Structure Plan area is identified for road widening for Reserve Road. This road widening will be ceded at the appropriate subdivision stages and the ultimate outcome will be to provide for a 30m wide road reserve.

Internal roads will be designed and constructed in accordance the specifications and requirements of the local government. The road reserves are designed to accommodate the relevant services required for the development, and will provide opportunities for landscaping along the road reserve boundaries. The road pavements are proposed to be sealed and offset from centre to provide verge space for swales as part of the overall local water management strategy.

Road reserves within the Structure Plan area will be proposed at 20 metres, except where connections with existing road reserves require a road reserve width of 25 metres. Minimum recommended carriageway widths will be preferable to help promote a slow speed environment and ensure sufficient verge space for localised drainage and footpaths on nominated roads. Parallel parking is contemplated in proximity to the Public Open Space to provide convenience to residents.

It is proposed that the developer will construct the subdivisional roads with future management by the local government.

## 9.5 Water Management

An approved Local Water Management Strategy (LWMS) covers the Structure Plan area. An addendum has been prepared to the approved LWMS which addresses the drainage design and landscaping.

## 9.5.1 Stormwater Drainage

Stormwater is to be managed effectively within sites, road reserves, and a small swale proposed within the Public Open Space.

As per the approved Structure Plan, the design philosophy is that on-site drainage within the Structure Plan area limits any downstream discharges, including compensation and nutrient stripping prior to stormwater being allowed to overflow into the adjacent road drainage networks. As such, the local water management strategy (refer Appendix B) aims to incorporate storage and flood attenuation.

Frequent events (first 15mm) will be infiltrated within lots using soakwells, and from road reserves using roadside swales and a bio-retention area within the drainage basin in the Public Open Space. Roadside swales in the verges will be capable of managing up to the 1% AEP event. The roadside swales are not calculated to infiltrate all water from the entire Structure Plan area, and a small drainage basin in the Public Open Space is required to manage water from the western side of the Structure Plan area.

All road reserves will be drained with rural standard open drains and drainage swales designed in accordance with water sensitive design techniques, and discharge into soakage basins within lots. Any soakage or compensation basin systems would require an easement in favour of the local government and should be extensively landscaped to encourage nutrient stripping and natural filtration of the stormwater.

In general, stormwater management for all development options would comprise the following features:

- Localised infiltration of stormwater within lots;
- Maximising on-site storage and recharge of surface runoff into aquifers;
- Limiting runoff to pre-development conditions by promoting filtration of runoff through enhanced natural vegetation and storage systems.

In addition, the stormwater management system will incorporate the following features:

- Runoff to be collected in the roadside swales and naturalised channels traversing the biodiversity corridor;
- Small areas of rock pitching will be located along the naturalised channels to allow detention and infiltration of stormwater as well as reducing the velocity of flows along the swales; and
- Any flow at the south-east corner of the subject land not contained will flow beyond the Structure Plan area.

## 9.5.2 Road Verges and Medians

The use of verge areas for drainage swales is required to enable for on-site infiltration, and these areas will benefit from seasonal 'passive irrigation' of planting. The location of swales in verges and medians (if applicable) will create areas that are seasonally inundated and generally wetter than other areas. Species selection will directly reflect the anticipated water regime and determined in consultation with the local government.

## 9.5.3 Water Quality Control

A treatment train approach to maintain water quality and protect the receiving environment will be adopted, which includes at-source infiltration within lots and the road reserve. This is proposed to replicate the predevelopment hydrological regime.

## 9.5.4 Groundwater Resource Management

As mentioned in section 8.4, groundwater levels are at medium depths. No groundwater management measures including permanent dewatering or control of groundwater levels with subsoil drainage are to be implemented, owing to the existing significant clearance to groundwater and the size of the lots.

Groundwater levels will allow for on-site sewage treatment.

A groundwater abstraction license is held by the licensed water provider (Muceha Water, 2019). As a licensed water provider, Muceha Water intends to allocate water to the Muceha Industrial Park, the Structure Plan area including the lots, and Public Open Space. Muceha Water has sufficient allocation available for the increase in lot and dwelling numbers.

## 9.6 Education Facilities

As mentioned in section 7.3.1 there are education facilities within the district. No education facilities are proposed within the Structure Plan area.

It is noted that 'Child Care Premises' and 'Family Day Care' are 'A' discretionary uses within the Residential zone. Such land uses could potentially be provided if there was sufficient demand and relevant approvals were obtained.

## 9.7 Activity Centres and Employment

No activity centres or significant employment generators are proposed within the Structure Plan area.

There are several towns (Gingin, Bindoon, and Toodyay), the Midland sub-regional centre and Joondalup city centre within a 40 kilometre radius of the Structure Plan area. As mentioned in section 7.3.1 there are shopping, community and civic facilities and services within Muchea, Bullsbrook and Gingin.

Some small-scale land uses incidental to the residential uses may be contemplated in the Residential zone. Pursuant to the Zoning Table, 'Home Business' is an 'A' discretionary use in the Residential zone. The Scheme Amendment request also proposes to insert 'Home Store' as an 'A' discretionary use and 'Home Office' as a 'P' permitted use. Such land uses could provide some incidental employment opportunities in the Structure Plan area.

## 9.8 Infrastructure Coordination, Servicing and Staging

Each lot will be connected to a potable water supply provided by the licensed water provider. Each lot will be capable of having an alternative sewage treatment on-site and under the *Government Sewerage Policy* will be capable of supporting alternative sewage treatment on-site. The 'R5' density coding has been considered given the availability of potable water and electricity, and the soil capability for alternative sewage treatment.

It is noted that there are minimal site constraints for Lot 2 Reserve Road given the gentle landform undulation, lack of endemic vegetation, no watercourses, and the requirement for maintaining the land as low threat vegetation in accordance with the Bushfire Management Plan.

### 9.8.1 Western Power

There is a service network within the vicinity of the Structure Plan area. The network has sufficient capacity to service the development.

All lots within the Structure Plan area will be connected via extensions made of the existing infrastructure. It is likely that an underground network will be required, and provided, to the Structure Plan area. Standard Western Power requirements will apply.

### 9.8.2 Street Lighting

Standard Western Power street lighting design principles would be adopted in the Structure Plan area. Western Power will provide one point of connection. A separate reticulation system will be required to be designed and installed as part of the construction of the reticulated lighting network.

### 9.8.3 Telecommunications

Telstra information indicates there is a service network in the vicinity of the Structure Plan area. The network is understood to have sufficient capacity to service the Structure Plan area with telecommunication services.

Telstra will install any new telecommunication network facilities to the proposed lots, subject to the developer providing, at its cost, trenching for cable laying. Alternatively, where cable routes match Western Power underground power supply routes, Telstra will wherever possible use the Western Power trenches in lieu of the developer providing additional trenching. No headwork charges for Telstra services are anticipated.

## 9.8.4 Gas Supply

Reticulated gas services are not available in the area. It is anticipated that the cost of providing a reticulated gas supply will be cost prohibitive and will not be provided in this instance. Landowners may be able to arrange a supply of bottled LPG if required.

## 9.8.5 Effluent Disposal

Reticulated sewage infrastructure is not available in the area and will not be provided to the Structure Plan area.

Effluent produced from each house is proposed to be discharged on-site. Alternative sewage treatment systems will be utilised to allow for treatment of effluent to an acceptable level. The Site and Soil Evaluation (refer Appendix A) demonstrates that each lot is able to accommodate an appropriately sized treatment system and effluent land application area. Installation of systems will require applications to be submitted to the Shire of Chittering.

Standard Water Corporation sewerage headworks charges will not apply to this development.

## 9.8.6 Water Supply

Clause 4.8.4 of the Scheme requires all buildings for residential use must include provision for the storage of water in tanks of not less than 120,000 litres capacity unless satisfactory arrangements have been made for connection to a reticulated water supply provided by a licensed water provider. Clause 4.19.1 also reiterates the requirements in clause 4.8.1.

A reticulated potable water supply is provided to an appropriate standard by a licensed water supplier. The public drinking water source site has been created and the infrastructure for the water supply (including bore and water treatment plant) has been constructed, has an active licence, and is operational. The provision of a reticulated water supply complies with clauses 4.8.4 and 4.19.1 of the Scheme.

The Economic Regulation Authority granted Water Services Licence WL51 under the *Water Services Act 2012* to Aqua Ferre (Muchea) Pty Ltd (trading as Muchea Water) with a commencement date of 25 February 2020 and expiry date 24 February 2045. The Structure Plan area will connect to this water supply.

It is anticipated that reticulated water will be a condition on the approval of both the Structure Plan and subdivision application. Connecting to the reticulated water supply helps facilitate subdivision of the lots down to 2,000m<sup>2</sup> in size. With respect to this and in relation to SPP 2.5, land is provided for the water supply infrastructure. Potable water is supplied by the licensed water provider. Lots will be provided with a reticulated potable water service to the appropriate standard.

In accordance with the requirements of the Bushfire Management Plan, fire hydrants will be installed within road reserves at the required regular intervals. The water provision to these hydrants will come from the reticulated water supply.

## 9.9 Development Contribution Arrangements

No development contribution arrangements are required for the Structure Plan area.

A deed of agreement is being entered into between the proponent and local government for additional community infrastructure within the Public Open Space.