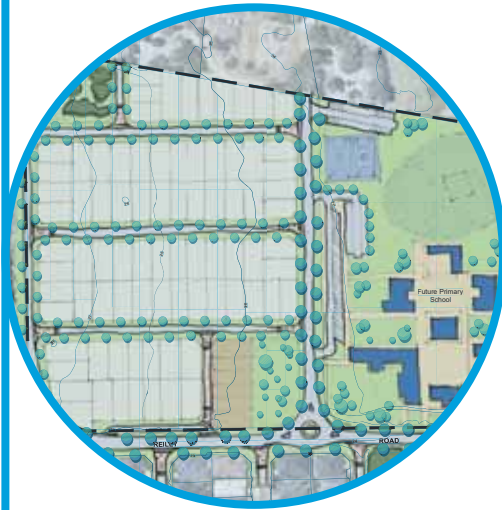


# DEVELOPMENT AREA NO. 25 NORTH FORRESTDALE STAGE 1 / CENTRAL

PART ONE - IMPLEMENTATION  
LOT 9006 REILLY ROAD, HARRISDALE  
CITY OF ARMADALE

## STRUCTURE PLAN AMENDMENT



May 2021

**CLE** Town Planning + Design  
[www.cleplan.com.au](http://www.cleplan.com.au)

Title: Development Area No. 25 | North Forrestdale Stage 1 / Central Structure Plan Amendment | Part One - Implementation

Prepared for: Sytka Pty Ltd

CLE Reference: 3089Rep35C

Date: 5 May 2021

Status: Final

Review date: 5 May 2021

Prepared by: CLE Town Planning + Design

Project team: Town Planning & Design - CLE Town Planning + Design  
Environmental - Strategen Environmental  
Hydrology - JDA Consultant Hydrologists  
Civil Engineering - Cossill & Webley Consulting Engineers  
Landscape Design - Emerge Associates  
Bushfire - Strategen Environmental  
Traffic & Transport - Flyte  
Acoustics - Llyod George Acoustics

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This structure plan is prepared under the provisions of the City of Armadale Local Planning Scheme No. 4.

IT IS CERTIFIED THAT THIS STRUCTURE PLAN WAS APPROVED BY RESOLUTION OF THE WESTERN AUSTRALIAN PLANNING COMMISSION ON: **16 JUNE 2021**

Signed for and on behalf of the Western Australian Planning Commission



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



Witness

17 JUNE 2021

Date

16 JUNE 2031

Date of Expiry

Table of Amendments

Amendment No.	Summary of the Amendment	Amendment Type	Date Approved by WAPC





# Executive Summary

The amendment area, Lot 9006, and a portion of Lot 9005 Reilly Road, Harrsidale, comprising approximately 10ha, forms part of the Development Area No. 25 (Stage 1 / Central) North Forrestdale Structure Plan. At the time of adoption the of Structure Plan, Lot 9006 was annotated with a note requiring the further site investigations including a spring flora and Noise Assessment study.

Since the adoption of the Structure Plan, extensive field survey work has been undertaken in respect of the potential Declared Rare Flora (DRF). It is now conclusively reported that the site does not contain any DRF. In respect to noise impacts from the dog kennelling, the acoustic reporting prepared in support of this amendment concludes that noise emanating from the single kennel located in proximity of the site can be managed by incorporating noise mitigation measures in the landscaping and built form.

Furthermore in 2019 approval was granted by the Department of Environment and Energy for the clearing of remnant vegetation on part of Lot 9006 that was subject to a controlled action under the Environmental Protection and Biodiversity Act. A financial offset has subsequently been paid to the Department of Biodiversity, Conservation and Attractions, now permitting the clearing part Lot 9006.

The Lot 9006 structure plan amendment allows for the logical conclusion of development within the Development Area No. 25 (Stage 1 / Central) Structure Plan area. Lot 9006 supports the creation of a primary school site, 85 to 95 dwellings, areas of open space supporting active and passive recreation and an integrated road network allowing appropriate connection to both existing and future residential areas.

On 27 June 2018 the Western Australian Planning Commission granted subdivision approval to create the 3.99ha Primary School Site. The Department of Education has commenced design of the Primary School and intends to have it open at the commencement of 2021.

The Lot 9006 structure plan amendment draws on key elements of the overarching North Forrestdale Structure Plan and is consistent with State and Local policy as demonstrated in this report. The site can be readily serviced with essential infrastructure located in proximity to the site. To inform and support the Lot 9006 structure plan amendment, the followed technical appendices have been prepared:

- Engineering and Servicing (Cossill & Webley Consulting Engineers)
- Environmental Assessment Report (Strategen Environmental)
- Bushfire Management Plan (Strategen Environmental)
- Local Water Management Plan (JDA Consultant Hydrologists)
- Noise Management Plan (Lloyd George Acoustics)
- Transport Assessment (Flyt)
- Landscape Concept (Emerge Associates)

Table 1 – Summary Table

Item	Data	Structure Plan Reference (Section No.)
Total area covered by the structure plan	10.01ha	Section 1.2.2
Area of each land use proposed Zones (as per the Scheme)		
- Residential	3.65ha	Section 3.1
Reserves (as per Scheme and MRS)		
- Road Reserves	1.75ha	
- Parks and Recreation	0.62ha	
- Public Purpose (Primary School)	3.99ha (deduction)	
Total estimated lot yield	75 to 85 lots	Section 3.2.1
Estimated number of dwellings	85 to 95 dwellings	
Estimated residential site density		
- Dwellings per residential site hectares	24.65 du/ha	
Estimated population	252 @ 2.8 people per household	
Number of Primary School	1	Section 3.9
Amount of Public Open Space	6000m <sup>2</sup> (gross) 5400m <sup>2</sup> (unrestricted) 600m <sup>2</sup> (restricted)	Section 3.3



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CLE

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- 3.0 Operation**
- 4.0 Interpretation and Relationship with Statutory Planning Framework**
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- 6.0 Land Use and Subdivision**
  - 6.1 Land Use and Zones
  - 6.2 Residential
  - 6.3 Public Open Space
- 7.0 Development**
  - 7.1 Local Development Plans
  - 7.2 Notification on Title
  - 7.3 Bushfire Management
- 8.0 Other Requirements**

## **Plan A: Structure Plan Map**

## 1.0 Subject Area

Lot 9006, and a portion of Lot 9005, also known as the 'Structure Plan area' or 'the site', is the land contained within the dashed black line on the Structure Plan Map (Plan A).

## 2.0 Structure Plan Content

This Local Structure Plan comprises:

Part One: Implementation

Part Two: Explanatory Report

Technical Appendices – Technical Reports

Part One of the Structure Plan comprises the Structure Plan Map and planning provisions. Part Two of the Structure Plan is the planning report component which can be used to interpret and implement the requirements of Part One.

## 3.0 Operation

The date this Structure Plan comes into effect is the date that the Structure Plan is endorsed by the Western Australian Planning Commission, pursuant to Section 16 of the Planning & Development Act 2015.

## 4.0 Interpretation and Relationship with Statutory Planning Framework

The Lot 9006 Structure Plan Amendment constitutes a Structure Plan pursuant to Part 6A of the City of Armadale Town Planning Scheme No. 4 and the *Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 – Deemed provisions for local planning scheme*. The Structure Plan Map outlines future land use, zones and reserves applicable with the structure planning area.

Pursuant to the *Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 – Deemed provisions for local planning schemes*, a decision maker of an application for development approval or subdivision approval is to have due regard to the provisions of this Structure Plan, including the Structure Plan Map, Implementation Report, Explanatory Report and Technical Appendices.

## 5.0 Staging

Development staging will follow an orderly sequence and shall not exceed the extension of essential service infrastructure or constructed road access.

## 6.0 Land Use and Subdivision

### 6.1 Land Use and Zones

The subdivision and development of land is to generally be in accordance with the Structure Plan. Land use permissibility within the Structure Plan areas shall be in accordance with the corresponding zone or reserve under the Scheme, or as otherwise outlined in the this Structure Plan.

### 6.2 Residential

#### 6.2.1 Dwelling Target

In accordance with the requirements of Liveable Neighbourhoods, subdivisions are to achieve an average residential density of 22 dwellings per site hectare across the Structure Plan area.

#### 6.2.2 Density

Residential densities applicable to the Structure Plan shall be those residential densities shown on the Structure Plan Map.

### 6.3 Public Open Space

The provision of public open space being provided generally in accordance with the Structure Plan Map.

Dieback hygiene / treatment measures to be implemented during subdivision.

## 7.0 Development

### 7.1 Local Development Plans

The preparation of a Local Development Plan may be required by the Western Australian Planning Commission (WAPC), on the advice of the City of Armadale, as a condition of subdivision approval where deemed necessary for land comprising but not limited to:

- Lot requiring variations to the Residential Design Codes, as set out in Part Two.
- Lots abutting areas of Public Open Space:
  - Primary street orientation to be depicted;
  - At least one major opening facing the POS and public road; and

- Stair access and retaining wall with uniform semi permeable fencing and gate to be provided along the POS boundary.

- Lots subject to 'Quiet House Design' requirements as identified in the Noise Management Plan.

### 7.2 Notification on Title

In respect of applications for the subdivision of land the City of Armadale shall recommend to the Western Australian Planning Commission that a condition be imposed as part of a subdivision approval for a notification to be placed on the Certificate of Title to advise of the following –

- (i) Land or lots deemed to be affected by environmental noise as identified in Noise Management Plan contained in Appendix 4.

### 7.3 Bushfire Management

This Structure Plan is supported by a Bushfire Management Plan (Appendix 5). Regardless of whether the land has been formally designated as bushfire prone, any building to be erected on land identified as falling within 100m of a bushfire hazard is designated as bushfire prone land and shall comply with the requirements of Australian Standard 3959 under the Building Code of Australia.

## 8.0 Other Requirements

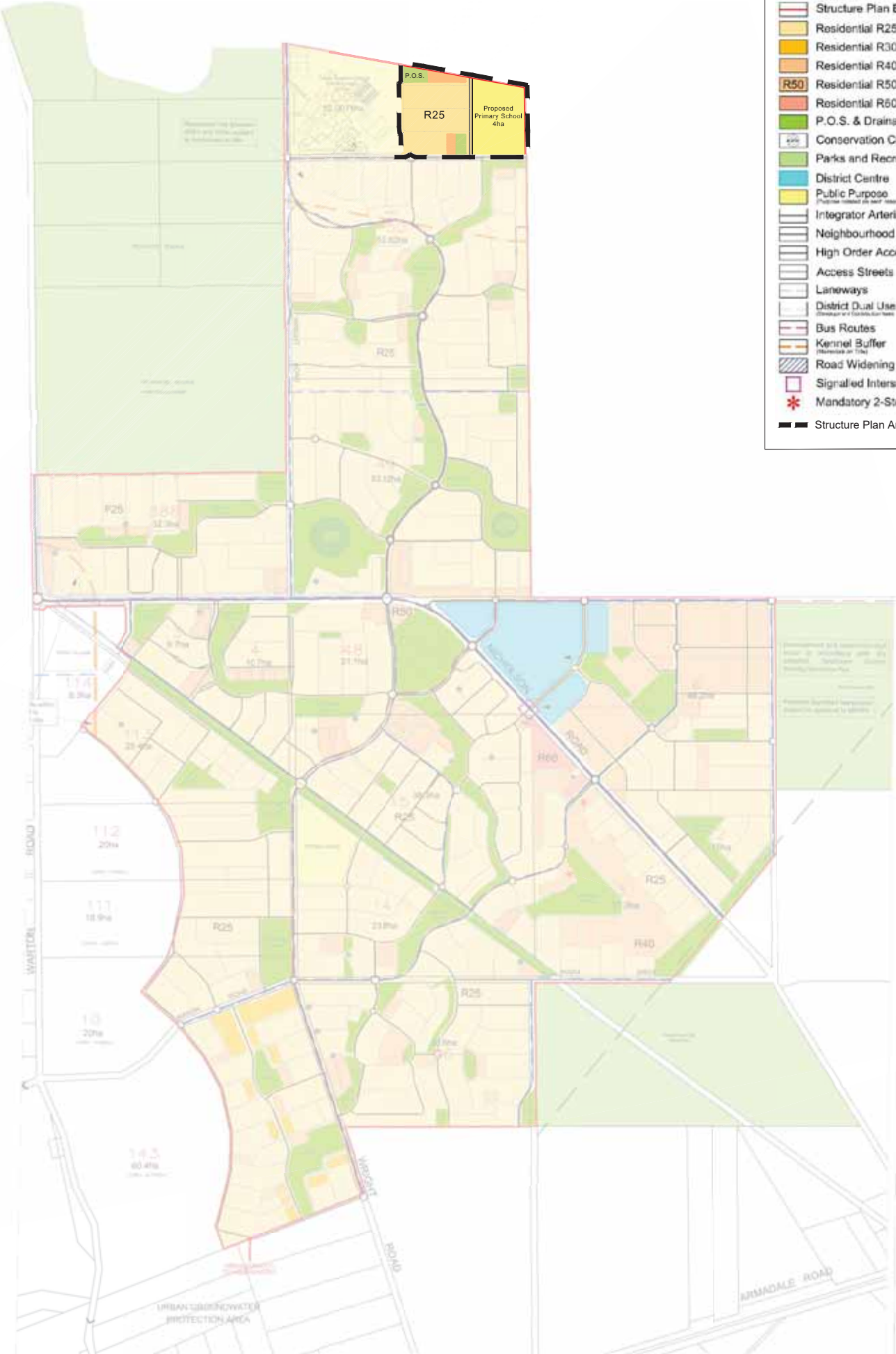
The following technical reports / strategies are to be prepared and submitted as a condition of subdivision approval (where applicable):

- Urban Water Management Plan.

Local road network and public open space is indicative only and subject to change and refinement at subdivision stage.

### LEGEND

-  Structure Plan Boundary
-  Residential R25
-  Residential R30
-  Residential R40
-  Residential R50
-  Residential R60
-  P.O.S. & Drainage
-  Conservation Category Wetland
-  Parks and Recreational (Regional)
-  District Centre
-  Public Purpose (Public Open Space)
-  Integrator Arterial
-  Neighbourhood Connector
-  High Order Access Street
-  Access Streets
-  Laneways
-  District Dual Use Path (Greater or 1.1m clearway)
-  Bus Routes
-  Kennel Buffer (Minimum 3m Wide)
-  Road Widening
-  Signalled Intersection
-  Mandatory 2-Storey Dwellings
-  Structure Plan Area



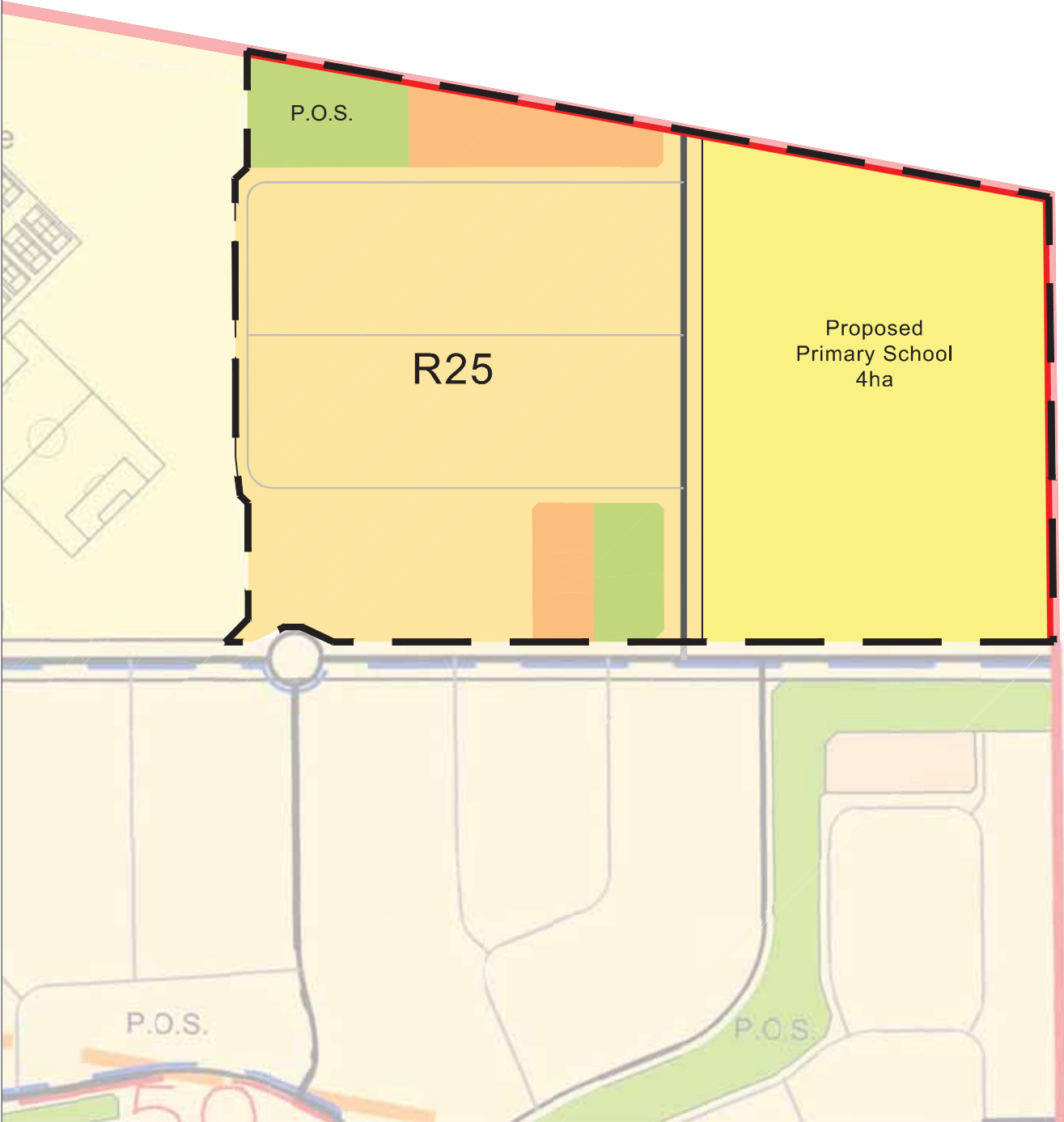
Source: City of Armadale



Local road network and public open space is indicative only and subject to change and refinement at subdivision stage.

**LEGEND**

- Structure Plan Boundary
- Residential R25
- Residential R40
- P.O.S. & Drainage
- Public Purpose  
(Purpose notated on each reserve)
- Neighbourhood Connector
- Access Streets
- Structure Plan Area



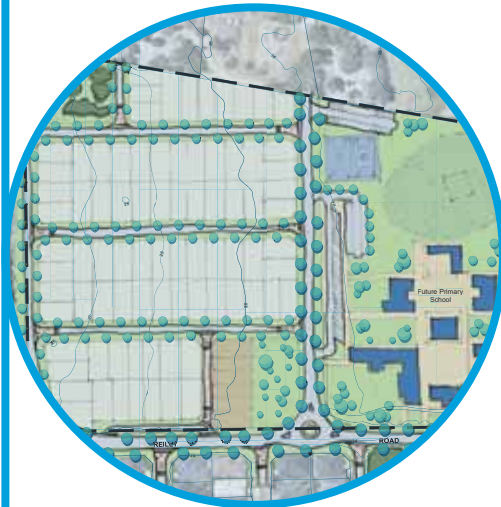
Source: City of Armadale



# DEVELOPMENT AREA NO. 25 NORTH FORRESTDALE STAGE 1 / CENTRAL

PART TWO - EXPLANATORY REPORT  
LOT 9006 REILLY ROAD, HARRISDALE  
CITY OF ARMADALE

## STRUCTURE PLAN AMENDMENT



May 2021

**CLE** Town Planning + Design  
[www.cleplan.com.au](http://www.cleplan.com.au)



Title: Development Area No. 25  
North Forrestdale Stage 1 / Central  
Structure Plan Amendment  
Part Two - Explanatory Report

Prepared for: Sytka Pty Ltd

CLE Reference: 3089Rep36B

Date: 7 May 2021

Status: Final

Review date: 7 May 2021

Prepared by: CLE Town Planning + Design

Project team: Town Planning & Design - CLE Town Planning + Design  
Environmental - Strategen Environmental  
Hydrology - JDA Consultant Hydrologists  
Civil Engineering - Cossill & Webley Consulting Engineers  
Landscape Design - Emerge Associates  
Bushfire - Strategen Environmental  
Traffic & Transport - Flyte  
Acoustics - Lloyd George Acoustics

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- Appendix 7: Local Water Management Strategy (JDA)
- Appendix 8: Engineering Servicing Report (Cossill and Webley)

# 1.0 Planning Background

## 1.1 Introduction and Purpose

This report has been prepared by CLE Town Planning + Design on behalf of Sytka Pty Ltd, the owner of Lot 9006 Reilly Road, Harrisdale.

When originally prepared, the 'North Forrestdale (Stage 1/Central) Structure Plan' included Lot 9006 in its areal extents; however the Structure Plan did not show a land use proposal or any provisions relevant to Lot 9006. Instead an annotation was applied as follows:

*"Lot 1001 (now 9006) is to be subject to further investigations including a separate spring flora survey and Noise Assessment study, if required. A separate/revised Structure Plan will be required prior to development to identify specific land uses."*

This requirement, which effectively sterilised Lot 9006 in the short term, was owing to the potential presence of Declared Rare Flora, *Caladenia huegellii*; and noise impacts emanating from neighbouring dog kennels.

These constraints to development were also reflected in the statutory planning framework at a State and local level. Until recently Lot 9006 was shown as 'Urban Deferred' under the Metropolitan Region Scheme.

Since the introduction of the 'North Forrestdale (Stage 1/Central) Structure Plan', the owner of Lot 9006 has undertaken extensive field survey work towards satisfying the regulator in respect of the potential Declared Rare Flora. It is now conclusively reported that there are no DRF on site.

Furthermore in 2019 approval was granted by the Department of Environment and Energy for the clearing of remnant vegetation on part of Lot 9006 that was subject to a controlled action under the Environmental Protection and Biodiversity Act. A financial offset has subsequently been paid to the Department of Biodiversity, Conservation and Attractions, now permitting the clearing part Lot 9006.

In respect of noise impacts from dog kennelling, the City of Armadale has been progressively phasing out kennelling activities in the immediate area through non-renewal of operator licenses. The acoustic reporting prepared in support of this Structure Plan Amendment concludes that the noise emanating from the single kennel located in proximity to the site can be managed by incorporating noise mitigation measures in the landscaping and built form.

In recognition of the evolved circumstances, the WAPC lifted the 'Urban Deferred' status of the site in December 2017, meaning that Lot 9006 is now zoned 'Urban' under the Metropolitan Region Scheme. The land is also appropriately zoned 'Urban Development' in accordance with the City of Armadale Town Planning Scheme No.4.

With the necessary statutory planning framework now in place, amending the 'North Forrestdale (Stage 1/Central) Structure Plan' is the final action required before subdivision and development of the site.

The format of this Structure Plan Amendment (the amendment) follows that set out in the Western Australian Planning Commission's (WAPC) Structure Plan Framework, comprising three parts:

**Part 1: Implementation:** Contains the Structure Plan Map and outlines the requirements that will be applied when assessing subdivision and development applications.

**Part 2: Explanatory Report:** Discusses the key outcomes and planning implications of the background and technical reports and describes the broad vision and more detailed planning framework being proposed. Part 2 is based on detailed site specific analysis of opportunities and constraints and the following Technical Reports:

- Engineering and Servicing (Cossill & Webley Consulting Engineers)
- Environmental Assessment Report (Strategen Environmental)
- Bushfire Management Plan (Strategen Environmental)
- Local Water Management Plan (JDA Consultant Hydrologists)
- Noise Management Plan (Lloyd George Acoustics)
- Transport Assessment (Flyt)
- Landscape Concept (Emerge Associates)
- Approval: Residential development and bushfire protection within Part Lot 9006 Reilly Road, Harrisdale (EPBC 2016/7846); Department of the Environment and Energy

**Technical Appendices:** Includes the technical reports and supporting plans and maps as prepared by the technical reports in support of the proposal.

The purpose of this report is to request that the Western Australian Planning Commission (WAPC) amend the existing 'North Forrestdale (Stage 1/ Central) Structure Plan' to include new planning considerations for Lot 9006.

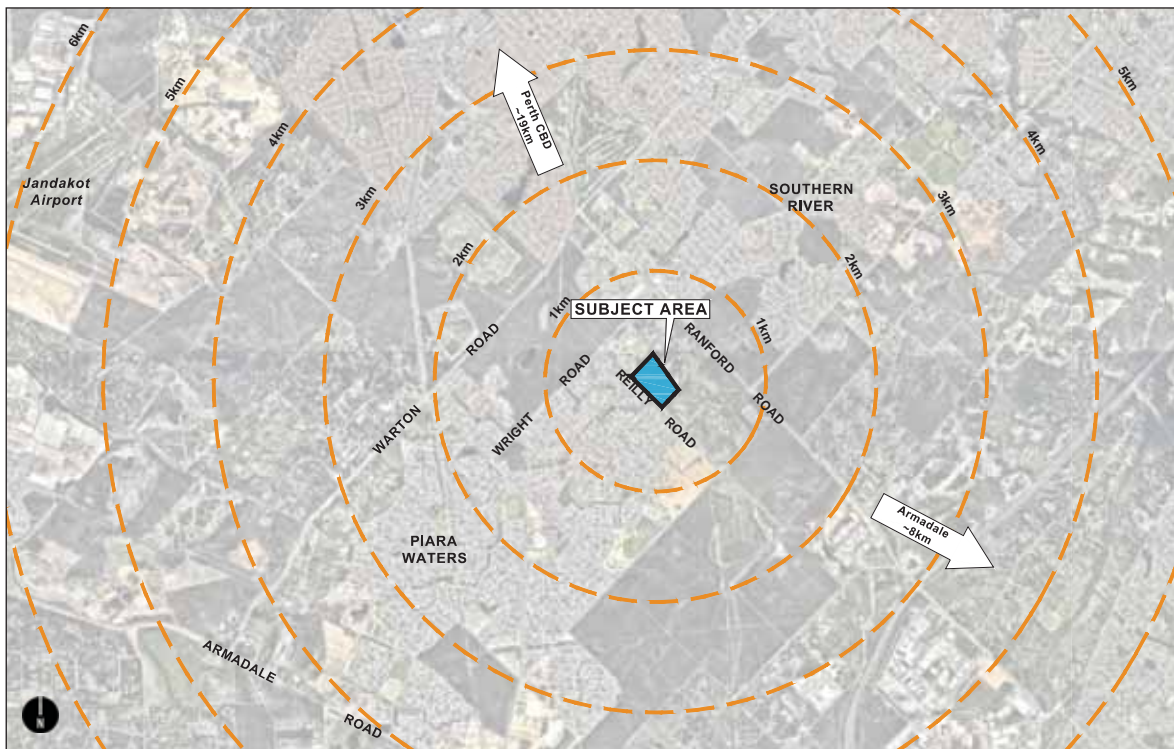


Figure 1 Location Plan

source: Nearmap

## 1.2 Land Description

The following section provides a brief summary of the location, land use and ownership within the amendment area.

### 1.2.1 Location

The amendment area is located within the City of Armadale, approximately 8km north-west of the Armadale Strategic Metropolitan Centre and 19 kilometres southeast of the Perth CBD (Figure 1: Location Plan).

The amendment area is generally bound by the Carey Baptist College on its west, the Hatch Court and Ballanup 'Rural Planning' lots on its northern and eastern most boundaries and Reilly Road on its southernmost boundary. Immediately south and south east of the amendment area are the residential estates of Vertu and Herron Park. The amendment area represents a logical extension of these established residential areas.

The amendment area has excellent access to major traffic routes including Armadale Road, the Kwinana Freeway and Tonkin Highway.





Figure 2 Site Plan

source: Nearmap & SLIP

### 1.2.2 Area and Land Use

The structure plan area comprises the entirety of Lot 9006, and a small portion of Lot 9005 Reilly Road, Harrisdale, and is approximately 10ha (Figure 2, Site Plan).

There are currently no land use activities taking place on this site, which is covered by scattered and varied vegetation types.

### 1.2.3 Legal Description and Ownership

The majority of the Structure Plan is contained within a single title and is legally described as follows:

<b>Description</b>	Lot 9006 Reilly Road, Harrisdale
<b>Area (m<sup>2</sup>)</b>	10,0122
<b>Plan / Diagram</b>	P057667
<b>Volume / Folio</b>	2683 / 748
<b>Registered Owner</b>	Sytka Pty Ltd

## 1.3 Planning Framework

### 1.3.1 Metropolitan Region Scheme Zoning

The amendment area is zoned 'Urban' under the Metropolitan Region Scheme (Figure 3: Metropolitan Region Scheme Zoning).

### 1.3.2 City of Armadale Town Planning Scheme No. 4

The amendment area is zoned 'Urban Development' in accordance with the City of Armadale Town Planning Scheme No. 4 (TPS4) (Figure 4: City of Armadale Town Planning Scheme No. 4 Zoning). In accordance with clause 6A.1.1 of TPS 4, a structure plan is to be prepared and adopted prior to subdivision and development of land.

### 1.3.3 Southern River / Forrestdale / Brookdale / Wungong District Structure Plan – 2001

The Southern River / Forrestdale / Brookdale / Wungong District Structure Plan (DSP) is a non-statutory plan that provides a framework for the urbanisation of a large parcel of land in Perth's south-eastern corridor and is the basis for more detailed local structure planning. The site is identified for both urban and community facility (public school) in the DSP. The DSP also indicates that a kennel area buffer affects part of the site.

The proposal is entirely consistent with the DSP. The kennel buffer is no longer considered a constraint to residential development given the very few numbers of operating kennels. Furthermore the proposal provides for retention of a public school site of approximately 4ha and the balance of the site for residential development, entirely consistent with the DSP.

### 1.3.4 Development Area No. 25 – North Forrestdale (Stage 1/Central) Structure Plan

The site is located within Development Area No. 25 – North Forrestdale (Stage One / Central) Structure Plan (DA 25) (Figure 5). DA 25 currently identifies the site for a primary school site over a portion of the site and an annotation stating that the site is “*subject to further investigations including a separate spring flora survey and Noise Assessment study, if required. A separate / revised structure plan will be required prior to development to identify specific land uses*”.

As discussed previously, the matters relating to a spring flora survey and a noise assessment have been addressed and are discussed further in this report. The proposal is therefore entirely consistent with the Development Area No. 25 – North Forrestdale (Stage 1/Central) Structure Plan.

### 1.3.5 Strategic Planning Framework

#### *Perth & Peel @ 3.5 Million (March 2018)*

Perth and Peel @ 3.5 Million provides an overarching strategic planning framework for the metropolitan Perth and Peel regions, considering an increased population projection of 3.5 million by 2050. The documents include Central, North-West, and North-East and South Metropolitan Peel Sub-regional frameworks (discussed below) which provide spatial guidance on where development should occur over the next 35 to 40 years.

The document continues to promote more efficient use (and reuse) of land and infrastructure, and maintains a target of 47% of new lots by infill. It anticipates the need for 800,000 new dwellings to accommodate an additional 1.5 million people within the region by 2050, of which 380,000 are sought in strategic infill positions.



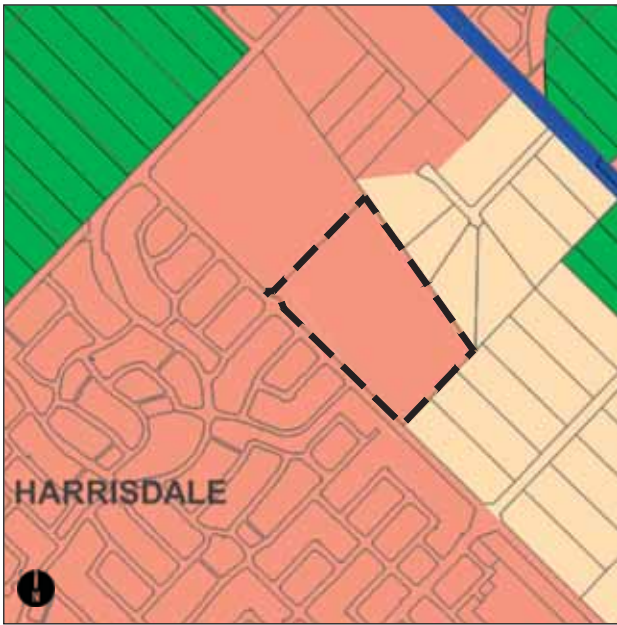


Figure 3 Metropolitan Region Scheme Zoning

source: WAPC

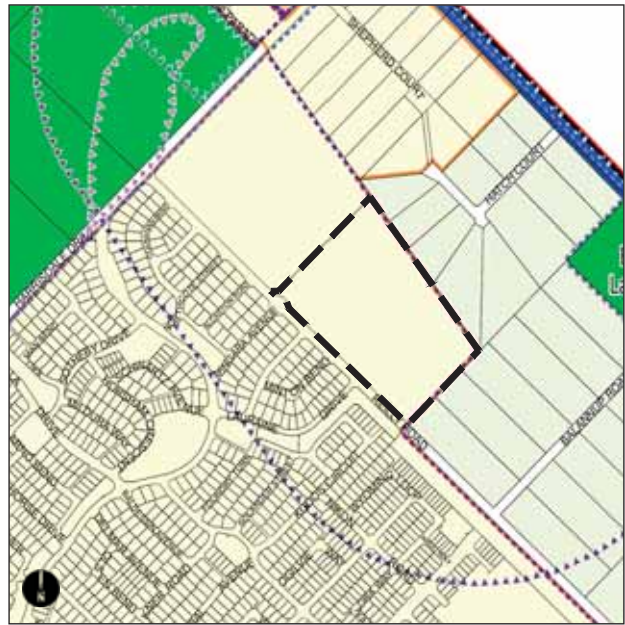


Figure 4 City of Armadale Town Planning Scheme No. 4 Zoning

source: WAPC

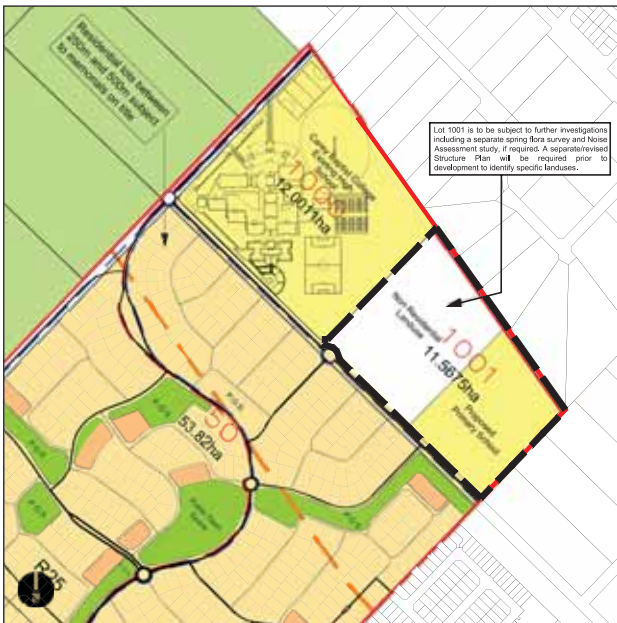


Figure 5 Development Area No. 25 - North Forrestdale (Stage 1/Central) Structure Plan

source: City of Armadale



Figure 6 South Metropolitan Peel Sub-regional Framework

source: WAPC



*South Metropolitan Peel Sub-regional Framework  
(March 2018)*

The South Metropolitan Peel Sub-regional Planning Framework “provides high-level strategic guidance for the future development of the Metropolitan South-West, Metropolitan South-East and Peel sectors to accommodate part of the long-term growth of the Perth and Peel regions to 3.5 million people.

*“The framework provides guidance in relation to anticipated timeframes and sequencing for the delivery of urban development sites as well as the identification of industrial sites and key infrastructure, while recognising that the delivery of these sites will depend on a number of factors including demand for land, progress of more detailed planning and provision of infrastructure.”*

The proposal is consistent with the South Metropolitan Peel Sub-regional Framework (2018). Whilst the site is identified as ‘Urban Deferred’ in this document with a short term timeframe of between 2015-2021. (Figure 6: South Metropolitan Peel Sub-regional Framework) the WAPC have since lifted the ‘Urban Deferred’ designation, recognising the growth rates and infrastructure availability in Forrestdale.

### 1.3.6 Other Planning Considerations

*WAPC State Planning Policy 3.0: Urban Growth and Settlement*

SPP 3.0 sets out the principles and considerations that guide the location of new urban growth and settlements. It focuses on contiguous expansion of urban areas, consolidation in areas with good access to employment, services and transportation, minimised environmental impact and efficient use of suitable land and infrastructure.

The proposal is consistent with SPP 3.0 as it realises planned urban consolidation within the region. Further the site has excellent access to existing and planning transport networks, employment nodes and activity centres, all in addition to there being no environmental constraints on the site. All essential service infrastructure can be readily and efficiently connected from immediate surrounding areas.

*WAPC State Planning Policy 3.7 – Planning in Bushfire Prone Areas (2015)*

Planning for bushfire protection has become an increasingly significant issue within Australia with a number of recent disasters reinforcing its importance. The WAPC’s SPP 3.7 and associated Guidelines provide guidance on how this issue is to be addressed by new planning proposals.

The site is located within a designated bushfire prone area where proposed development requires the application of State Planning Policy No.3.7: Planning in Bushfire Prone Areas (SPP 3.7).

Strategen Environmental has prepared a Bushfire Management Plan (BMP) in accordance with SPP 3.7 in support of this amendment. The BMP is attached as Appendix 5, with a summary of findings and management measures are included within Section 3 of this report. The BMP confirms that bushfire is not a constraint to development subject to construction of dwellings in accordance with AS3959 as well as identification of a development exclusion area.

### *Liveable Neighbourhoods*

Liveable Neighbourhoods is the WAPC's 'operational policy' for greenfields development in Western Australia. Liveable Neighbourhoods sets out the key considerations for the planning of new communities including subdivision layout and movement networks, the location of open space, community facilities, schools and activity centres.

The proposal has been prepared in accordance with Liveable Neighbourhoods and best practice urban design principles, creating a walkable neighbourhood supported by an interconnected network of local roads and pathways, and adopting an integrated approach to the design of public open space and urban water management. Further discussion regarding compliance with Liveable Neighbourhoods is provided in Section 3 of this report.

### 1.3.4 Pre-Lodgement Consultation

Pre-lodgement consultation has been undertaken with relevant agencies and stakeholders including the following:

- City of Armadale
- Department of Planning, Lands and Heritage
- Department of Education
- Department of Environment and Energy
- Department of Water and Environmental Regulation
- Department of Biodiversity, Conservation and Attractions
- Carey Baptist College

# 2.0 Site Conditions and Constraints

## 2.1 Biodiversity and Natural Assets

Strategen has prepared a comprehensive Environmental Assessment Report (EAR) which describes the site conditions and constraints within the Structure Plan area. The EAR demonstrates that the environmental factors affecting the site can all be addressed adequately through the planning approval process and through the application of appropriate land use responses and management practices. A copy of the EAR is included as Appendix 1.

Importantly, the EAR reports on the extensive surveys undertaken over the site to date for identification of conservation significant flora.

### 2.1.1 Flora and Vegetation

A dieback survey was undertaken by Glevan Consulting in July 2017 which indicated that over 50% of the site is infested with dieback, which is spreading throughout the site, upslope in a north-westerly direction. Retention of this vegetation would likely lead to the ongoing decline of the condition of Banksia Woodland vegetation.

The majority of vegetation within the amendment area is considered to represent Floristic Community Type 23a Central Banksia Attenuata-Banksia Menziesii Woodlands (Banksia Woodland). The eastern portion of the site includes Mixed Shrub Damplands which is not a Threatened or Priority Ecological Community. Both vegetation communities are well reserved and deemed 'low risk' within the Swan Coastal Plain (ATA 2005), and therefore imply no restriction to development.

#### *Environmental Protection and Biodiversity Conservation Act 1999*

In 2019 approval was granted by the Department of Environment and Energy for the clearing of remnant vegetation on part of Lot 9006 that was subject to a controlled action under the Environmental Protection and Biodiversity Act.

In 2016 a referral was submitted to the Department of Environment and Energy (DEE) to clear approximately 6.3ha of remnant vegetation which included 4.66ha of the Banksia Woodland Threatened Ecological Community (TEC) and the retention of approximately 0.4ha of the Banksia Woodland TEEC and good quality Carnaby's Cockatoo (CC) and Baudin's Black Cockatoo (BBC) habitat within POS.

The outcome of the EPBC Act referral decision was a controlled action, due to the provision of listed threatened species and communities. Additional preliminary documentation was forwarded to the DEE for assessment late 2017 / early 2018. In March 2019, a decision to approve the proposed action and the subsequent clearing of 4.66ha of Banksia Woodland TEC within the site (EPBC 2016 / 7846) was issued by the DEE. The decision is subject to specific environmental conditions being implemented to compensate for the loss of Banksia Woodlands TEC, namely the purchase and management of offset sites. A copy of the decision (EPBC 2016/7846) is included at Appendix 2.

The EPBC conditions of approval (EPBC 2016/7846), detailed the following project specific actions required to be undertaken prior to the development commencing:

- No more than 4.66ha of Banksia Woodland TEC within the site may be cleared: and
- To compensate for the loss of Banksia Woodland TEC, the following offset package has been implemented:
  - Purchase and management of an offset site of 13ha of Banksia Woodland TEC;
  - A financial contribution to DBCA to fully fund the purchase and management of an additional 56ha of Banksia Woodland TEC in very good to excellent condition.

The financial offset has now been paid to the Department of Biodiversity, Conservation and Attractions and a Banksia Woodland TEC offset site acquired, meaning that the EPBC approval has now been implemented, permitting the clearing part lot 9006.

### 2.1.2 Fauna and Habitat

In September 2016 Strategen Environmental undertook a site inspection to identify vegetation communities and the potential for Black Cockatoo foraging species, and significant trees with the potential to be used by Black Cockatoos for breeding. Based on the site assessment and vegetation mapping within the area, no roosting or breeding habitat occurs within the site and there are no known records of Black Cockatoos roosting of foraging within the area.

Based on the above and large areas of potential habitat contained in surrounding conservation areas, the site is not considered a significant habitat for Black Cockatoos within the amendment area.

In recognition of the site's existing attributes however, the amendment proposes to retain an area of open space within the north-west section of the site to provide an ecological connection to the existing vegetation with the Carey Baptist College and remnant vegetation within the properties located along the site's northern most boundary. The overall commitment to retention of Black Cockatoo foraging habitat is 0.4ha within the north-western area of POS and in road reserves where practicable.

## 2.2 Topography and Soils

### 2.2.1 Topography

The overall topography of the amendment area is relatively flat and is well suited for urban development. The site generally falls from approximately 27m in the north-west to 23m in the south-east (Australian Height Datum (AHD)). The 4.0m vertical difference is experienced over a distance of approximately 400m, with no significant high or low areas.

A preliminary earthworks strategy has been prepared for the amendment responding to the topography, soils and groundwater, and is discussed further in this report.

### 2.2.2 Acid Sulphate Soils

The (then) Department of Environmental Regulation (now Department of Water and Environmental Regulation (DWER)) Acid Sulphate Spoils mapping indicates that the site has a moderate to low risk of ASS occurring within 3m of the natural soil surface (or deeper). Monitoring or groundwater effluent during construction of underground services will be required along with treatment of any soils excavated below the groundwater table.

### 2.2.3 Contamination

The amendment is not located within any DWER listed contamination sites, with the past and present land uses of the site not generating a high risk of contamination.

Acid Sulphate Soil detailed investigations have commenced and it is not considered that ASS will be an impediment to development.

## 2.3 Hydrology

### 2.3.1 Ground Water

The site is located on the Perth Superficial Swan aquifer and the Confined Leederville and Yarragadee North Aquifers.

The Perth Groundwater Atlas (DWER 2018) indicates that the historical maximum groundwater level to be approximately 22-24 mAHD which equates to a depth to groundwater within the site of approximately 3-5m.

### 2.3.2 Wetlands

An environmental assessment was undertaken at the time of the North Forrestdale District Structure Plan which identified the REW for urban development, which was confirmed by the Environmental Protection Authority via MRS Amendment 1072/33. As the REW has been rationalised through previous structure planning processes, wetlands are not considered to be a constraint to development.

## 2.4 Bushfire Considerations

A Bushfire Management Plan (BMP) has been prepared by Strategen Environmental and is included as Appendix 4 to this report. The BMP identifies that bushfire risk can be managed through implementation of a range of mitigation measures by the developer, City of Armadale and prospective landowners.

Assessment of the site's location, vegetation, topography and planned infrastructure indicates that compliance with all applicable bushfire legislation, policy, standards and guidelines are capable of being achieved; including the Bushfire Protection Criteria.

## 2.5 Cultural Heritage

A search of the Department of Planning, Lands and Heritage (DPLH) Aboriginal Heritage Inquiry System (DPLH 2018) found no registered Aboriginal Heritage sites or Other Heritage Places within the site.

A search of the State Heritage Council (SHC) *inHerit* database (SCH 2018) found no State Heritage sites within the site. A search of the *Australian Heritage Places* inventory (DIA 2015) found no National Heritage sites within the site.

# 3.0 Land Use and Subdivision Requirements

## 3.1 Land Use

A Concept Plan has been prepared for the site to demonstrate a development scenario based on the Structure Plan principles and requirements (Figure 7). The Concept Plan represents one way that development could occur with further refinement to take place as part of subdivision design.

The key principles of the Concept Plan and the Structure Plan amendment are:

- Support a range of housing product to cater and respond to changing market demand;
- Provide an urban form that responds to local context and integrates with the surrounding residential areas already established under the framework of the North Forrestdale Structure Plan as well as existing and future school sites;
- Provide for an appropriately sited and configured primary school site of approximately 4ha, consistent with the overarching structure plan;
- Provide accessible and multi-functional open space to support vegetation retention, drainage requirements for both active and passive recreational opportunities;
- Establish a legible and permeable road network.

In line with these key principles, the Structure Plan amendment provides for the following:

- Approximately 85 to 95 residential dwellings with residential densities of R25 and R40. The R40 density is focussed around open space consistent with the principles of the overarching structure plan;
- An area of approximately 2200m<sup>2</sup> of open space located adjoining Reilly Road to support both drainage requirements and to also provide for active recreation;
- An area of approximately 4000m<sup>2</sup> of open space to accommodate retention of existing vegetation. Infrastructure to support passive recreational opportunities will also be provided in this area of open space such as footpaths and benches. The siting of this open space adjoins existing areas of vegetation in surrounding landholdings and provides the opportunity for retention of a much larger integrated open space with greater ability to support conservation values;
- A permeable local road network that responds to the existing surrounding road network and future key road connections providing a framework for the provision of pedestrian and cycling infrastructure;

A Context Plan (Figure 8) has been prepared demonstrating the subject site in the context of the surrounding landholdings. The Context Plan is provided to demonstrate the amendment has regard to the future development of surrounding landholdings with the framework of the overarching 'North Forrestdale (Stage 1/Central) Structure Plan'.





Figure 7 Concept Plan



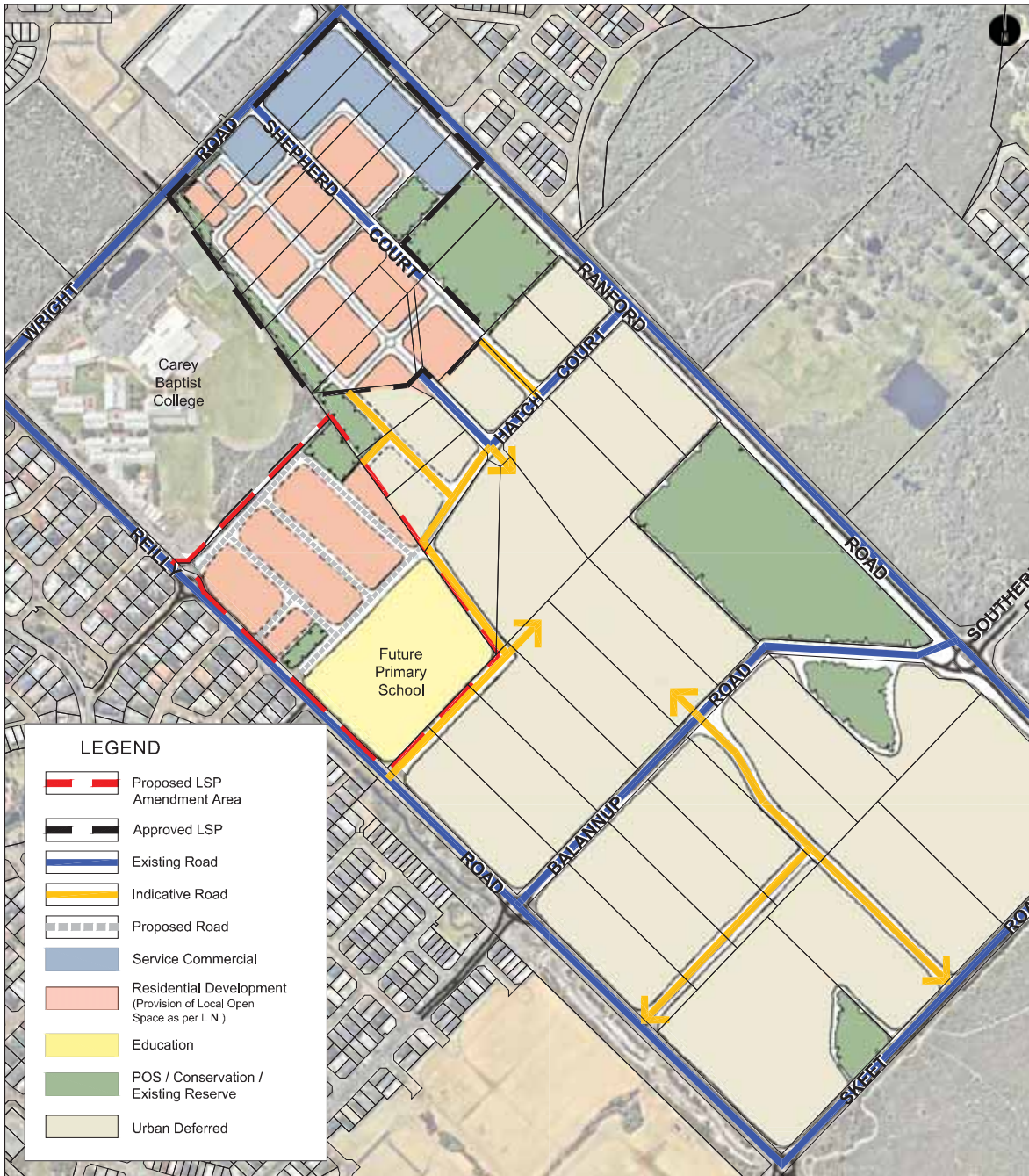


Figure 8 Context Plan





## 3.2 Residential

The amendment provides a framework to deliver a range of lot types and satisfy density targets. Consistent with the objectives of the overarching Structure Plan, the delivery of quality housing and streetscapes that reflect the amenity and environmental values is a key objective of the amendment.

### 3.2.1 Dwelling Yields and Density Targets

The amendment establishes a framework for the delivery of between 75 to 85 dwellings utilising density codes of R25 and R40 as follows:

- A 'base coding' of R25 applies, providing opportunity to deliver a range of more traditional front loaded product ranging from 350m<sup>2</sup> to 450m<sup>2</sup>.
- Medium density R40 coded lots are located adjacent to areas of public open space where a higher level of amenity exists located adjacent to open space.

Liveable Neighbourhoods recommends a residential site density target of 22 dwellings per residential site hectare with the aim of this target to encourage more efficient use of infrastructure and housing. The structure plan has the potential to achieve 24.6 dwelling per site hectare, exceeding the target set out in Liveable Neighbourhoods.

### 3.2.2 Local Development Plans

Local Development Plans (LDPs) will be required for the following –

- Where lots require specific variations of the Residential Design Codes to deliver a contemporary built form response.
- Where lots interface directly with public open space;
- Where lots are subject to 'Quiet House Design' requirements.

These LDP's will be required as a condition of subdivision approval, and are to be approved by the City of Armadale.

#### *Residential Design Code Variations*

An overview of the potential R Code variations that may be addressed in an LDP is provided below.

#### *Building Setbacks*

*Principle – To ensure dwellings address and engage with the street, allow tight urban streetscapes and promote efficient use of land, the following variations may be incorporated into LDP's:*

- 0.5m minimum garage setback to laneway (R40 lots);
- Minimum setback of 1.2m for wall heights 3.5m or less with major openings (R25 and R40 lots);
- No maximum length for boundary walls and permitted to both side boundaries (R40 lots);
- No maximum length to one side boundary, 2/3 maximum length to second side boundary for wall heights 3.5m or less (R25 lots);



### *Overshadowing*

*Principle – Encourage the provision of two-storey housing and recognise the constraints of the current R Codes in allowing single storey medium density housing.*

- No maximum overshadowing for single storey wall with heights of 3.5m or less (R25 and R40 lots);
- No maximum overshadowing for a wall height greater than 3.5m where overshadowing is confined to the front half of the lot. If overshadowing intrudes into the rear half of the lot, shadow cast does not exceed 50% (R40 lots) / 25% (R25 lots).

### *Privacy*

*Principle – Encourage the provision of two storey housing and recognise the constraints of the current R Codes in allow single storey medium density housing.*

- Minimum privacy setback of 3m to bedrooms and studies where wall heights greater than 3.5m (R25 and R40 lots).
- Minimum privacy setback of 4.5m to all other openings where wall heights are greater than 3.5m (R25 and R40 lots).

### *Lots abutting areas of Public Open Space*

Local Development Plans (LDPs) will also be required for lots adjoining areas of public open space. Liveable Neighbourhoods supports residential lots directly adjoining open space where the functionality of the POS is not compromised and where the dwellings interface with open space appropriately.

Where lots interface with open space LDPs will need to be prepared to control built form and include provisions that will address:

- Minimum setbacks to the public open space;
- Major openings (other than bedrooms) to address the space;
- Permeable fencing to ensure surveillance.

### *Lots subject to Quiet House Design requirements*

A Noise Assessment has been prepared by Lloyd George Acoustics in support of the proposed amendment. The Noise Assessment identifies a number of lots affected by noise from the adjoining single kennel site that are subject to Quiet House Design requirements. These requirements will be included in a future LDP to ensure that these are incorporated in the dwelling design.

### 3.3 Public Open Space

The amendment creates a framework for the delivery of open space that will serve a range of functions within the amendment area, balancing active and passive recreational pursuits and accommodating key drainage requirements.

The Structure Plan provides for approximately 6200m<sup>2</sup> of local open space which (when Liveable Neighbourhoods credits are applied) represents 10.02% public open space as shown in Table 1 and also reflected in the Landscape Masterplan (Figure 9).

The following is a summary of the key aspects of public open space provision –

- Approximately 0.03ha of open space will receive drainage from storm events occurring more frequently than the 1 in 1 year event (for calculation purposes this is treated as a deduction from the Net Site Area, as set out in Liveable Neighbourhoods;

- Approximately 0.08 of open space will take drainage from the 1 in 1 year to the 1 in 5 year drainage events via landscaped infiltration swales and bio-retention area, reflecting water sensitive urban design principles. The 1 in 1 year to the 1 in 5 year drainage event is treated as restricted use open space in accordance with Liveable Neighbourhoods.
- Drainage management is also supported via landscaped swales in verges within the 18m road reserve adjoining the primary school site.
- The area of open space adjoining the northern most boundary will allow for vegetation retention, and provide managed access to the public via clearly delineated pathways. This area of open space has received a full credit.

Table 1 - Public Open Space Schedule (all areas are in hectares)

<b>Site Area <sup>1</sup></b>			<b>10.01</b>
<b>Deduction</b>			
Primary School	3.99		
<b>Total</b>		<b>3.99</b>	
<b>Deduction</b>			
Total drainage area up to the 1:1 yr event <sup>2</sup>	0.03		
<b>Total</b>		<b>0.03</b>	
<b>Gross Subdivisible Area</b>			<b>5.99</b>
<b>POS @ 10%</b>		<b>0.60</b>	
<b>Public Open Space Contribution</b>			
Minimum 80% unrestricted POS	0.47		
Maximum 20% restricted POS able to be credited	0.12		
<b>Unrestricted Open Space <sup>2</sup></b>			
POS Adjoining Reilly Road	0.14		
POS Adjoining Northernmost boundary	0.40		
<b>Total Unrestricted Use</b>		<b>0.54</b>	
<b>Restricted Open Space <sup>2</sup></b>			
Drainage area between 1:1 year and 1:5 year events not exceeding 20% of total open space area	0.06		
<b>Total Unrestricted POS</b>		<b>0.06</b>	
<b>Summary of POS</b>			
Unrestricted Open Space Provided	0.54	90.0%	
Restricted Open Space Provided	0.06	10.00%	
<b>Total Unrestricted and Restricted Public Open Space Provision</b>			<b>0.60</b>
<b>Total Public Open Space Provision as a % of Gross Subdivisible Area</b>			<b>10.02%</b>

Notes:

1. The site area is based on subdivision plan (3089-33F)

2. In accordance with Liveable Neighbourhoods: the area subject to inundation more frequently than a one year average recurrence interval rainfall event is not included as restricted or unrestricted open space and is a deduction from the net site area (LN R33); areas for the detention of stormwater for a greater than one year average recurrence interval up to the five year recurrence interval is restricted open space up to 20%, the area greater than 20% is a deduction (not applicable in this case) (LN R26 & Table 11); areas for the detention of stormwater for a greater than five year average recurrence interval is within unrestricted open space (LN R25).

Liveable Neighbourhoods recommends that no more than 20% of public open space should be made up of 'restricted use' open space, with the aim being to ensure open space areas should provide a balance between offering a diversity of recreational options while also incorporating water sensitive design principles and nature spaces that protect areas of environmental significance.

### 3.3.1 Description of Open Space

The Landscape Masterplan prepared by Emerge demonstrates conceptually how landscaping is proposed within areas of public open space. The Landscape Masterplan is included as Figure 9 and the following provides a summary of the key characteristics of each of the areas of open space provided in full as Appendix 3.

#### POS 1 – Area of open space adjoining Reilly Road

- Approximately 2200m<sup>2</sup> of open space;
- Provides opportunities for picnic facilities, seating, playground and shade structures to support active and passive recreation;

- Shall feature an all age playground and extensive turfed area;
- Provide for water storage through a vegetated drainage basin;
- Support retained vegetation (where possible).

#### POS 2 – Area of open space adjoining northernmost boundary

- Approximately 3950m<sup>2</sup> of open space;
- Supports retention of existing vegetation;
- Shall be provided with conservation fencing, however shall be accessible to the public via clearly delineated walkways.

The location of this northern area of POS provides an extension of the existing area of retained vegetation (within the Carey Baptist College site) and also provides an opportunity for further connection to open spaces with future adjoining structure plans. Larger areas of vegetation retention provide greater scope for supporting environmental linkages and existing environmental values. This is the basis for the siting of this area of open space.

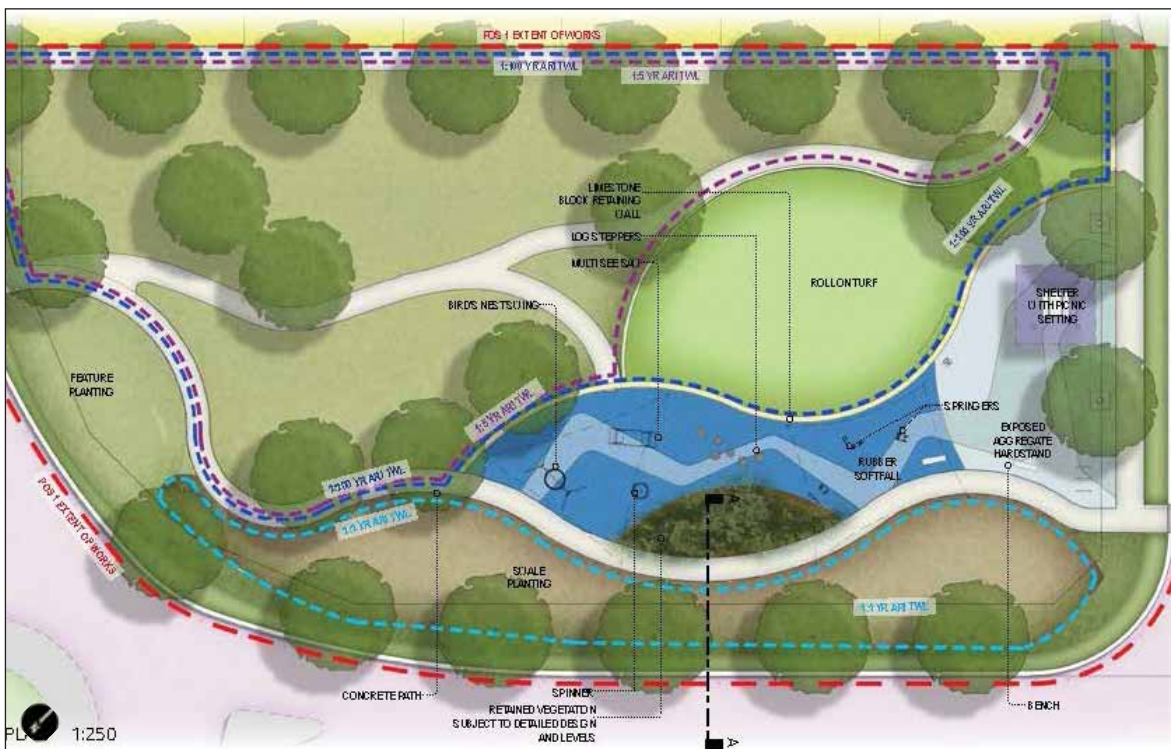


Figure 9 Landscape Masterplan

source: Emerge





Figure 10 BAL Contour and Management Measures Map

source: Strategen

### 3.4 Bushfire Management

The Structure Plan provides a design response and the planning framework that addresses potential bushfire hazards. A Bushfire Management Plan (BMP) has been prepared by Strategen Environmental and is included as Appendix 4 to this report. The BMP identifies that bushfire risk can be managed through implementation of a range of mitigation measures by the developer, City of Armadale and prospective landowners.

Assessment of the site's location, vegetation, topography and planned infrastructure indicates that compliance with all applicable bushfire legislation, policy, standards and guidelines are capable of being achieved; including the Bushfire Protection Criteria.

On-site vegetation clearing will manage the bushfire risk posed by temporary vegetation through the delivery of individual stages to ensure a BAL rating of BAL-29 or lower is achieved. Portions of residential lots are impacted by a BAL-FZ/40 classification from vegetation adjacent to the north and east of the site.

This will be managed by a temporary development exclusion area until vegetation on adjoining sites are at a permanent low fuel state. The school site is partially impacted by BAL-FZ/40 however there is adequate capacity to ensure that all habitable development can be located within areas of BAL-29 or less.

Where lots are affected by a BAL rating of BAL-12.5 or higher, notifications on title will be required at the time of subdivision and increased construction standards will be required in accordance with the appended BMP or a future bushfire assessment at future planning approval and / or building permit stages.

### 3.5 Movement Network

A Transport Impact Assessment has been prepared by Flyt transport planning consultants, refer Appendix 5. The following section discusses the key elements of the Assessment, including existing and planning movement network, road hierarchy classification and an overview of the cyclist and pedestrian network.

#### 3.5.1 Existing Movement Network

- The subject site is bound by Reilly Road on its southernmost boundary, which is classified as an Access Street within the Main Roads WA (MRWA) functional hierarchy and as a Neighbourhood Connector by the DA 25 North Forrestdale Structure Plan. Reilly Road is the main access to the Structure Plan amendment area and is set within a 20m road reserve;
- Wright Road, located to the east of the subject site, is a local distributor road, and has a traffic volume of around 10,000 vehicle per day;
- There are existing cycling network connections in the locality with an internal shared use and pedestrian path connecting to William Lockhart Park. There is also a path running along the northern side of Reilly Road, along the extent of the subject site;
- Public bus service 518 provides connections to Murdoch and Cockburn Stations. Bus stations accessing this service are located within 300 to 400m from the subject site along Wright Road.

#### 3.5.2 Proposed Movement Network

##### *Road Network*

The road network reflects the principles and standards of Liveable Neighbourhoods and has been design to provide a permeable and legible movement structure.

The Structure Plan amendment proposes:

- A 15m wide road reserve extension of Mingara Avenue of which 6m will be located within the Carey Baptist College site (Lot 9005);
- An 18m wide road reserve on the western most side of the primary school site which intersects Reilly Road between Minto Bend and Lauraine Drive. A round-about will be located at the intersection of Reilly Road and the proposed 18m wide road reserve, and become of a 3-way roundabout. The design of this road reserve will be cognisant on the final design for the school site and incorporate relevant parking and footpath areas;
- Three (3) access streets running parallel to Reilly Road. The access streets will be designed in accordance with Liveable Neighbourhoods and City of Armadale standards. All internal access streets shall be controlled as marked or unmarked give way controlled intersections;
- A laneway is proposed to support rear loaded product fronting an area of open space and accommodate parking for laneway product;
- A caped road providing access for lots fronting Reilly Road.

### *Pedestrian and Cyclist Facilities*

The Structure Plan amendment provides a good level of accessibility and permeability for pedestrians and cyclists, both within the subject area and through to surrounding areas.

The precise location and alignment of footpaths and shared paths will be determined in consultation with the City of Armadale as part of detailed engineering design following subdivision approval. Importantly, footpaths will be provided on at least one side of all access roads and a footpath will be provided on both sides of the road reserve adjoining the future school site.

### *Public Transport*

All future planning for bus routes will be undertaken by Transperth and it is likely that a bus service to and from the primary school site will be introduced at a time that population demand warrants such services.

### **3.5.3 Transport Network Analysis**

#### *Traffic Generation*

Flyt has undertaken detailed traffic modelling for the road network proposed by the Structure Plan amendment. It demonstrates that the network and associated reserve widths have the capacity to accommodate the expected traffic volumes right through to the ultimate development. A key consideration of the modelling is potential opening of the primary school site anticipated in 2020. The assessment is considered on the basis on the enrolment of 800 students in the opening year. The Structure Plan amendment area is forecast to generate up to 935 two way vehicle movements.

A SIDRA assessment carried out for the structure plan amendment area indicates that roundabout intersections adjacent to the structure plan site will function appropriately from a traffic engineering perspective.

It is noted that future connections to the north and the east of the site will require assessment when planning has further progressed for the adjoining areas.

## **3.6 Noise Management**

A Noise Management Plan has been prepared by Lloyd George Acoustics and is included as Appendix 6. A noise assessment was also undertaken to support a lifting request for the transfer of the land to the Urban zone. The assessment was focussed on the impact of noise associated with single kennel located on Hatch Court. The Noise Management Plan concluded noise from barking dogs is predicted to exceed the Regulations for a number of lots within the proposed subdivision. This impact can be addressed by construction of a noise bund immediately adjoining the location of the kennel within the subject land and by implementing Quiet House design constructions standards (façade treatments) for the affected lots. A Memorial on Title highlighting the proximity of the affected lots to the dog kennels is also required.

It is important to note that the report concludes that the closure of the kennels will ultimately result in compliance with the Environmental Protection (Noise) Regulations and the need for the noise barrier on the property boundary and facade protection to affected lots will no longer be required.

The Department of Education has subsequently commenced the concept planning of the Primary School. This has resulted in the school oval being located on the northern boundary, resulting in acceptable and compliant noise levels for the Primary School.

### 3.7 Water Management

The Structure Plan has been designed to accommodate best practice urban water management principles by integrating stormwater detention and infiltration within areas of public open space.

A Local Water Management Strategy (LWMS) has been prepared by JDA, refer Appendix 7, in support of the LSP amendment prepared in accordance with the principles and objectives of WAPC's Better Urban Water Management Guidelines and is consistent with the overarching principles and objectives of the Southern River Integrated Land and Water Management Strategy and the North Forrestdale Structure Plan – Urban Water Management Strategy (UWMS).

The key elements of the LSP amendment related to water management include:

- Drainage south-west toward the Balannup Drain located on the southern side of Reilly Road.
- Stormwater pipe connection to the existing Reilly Road pipe drainage system. Separate outlets will be required for the residential parcel and school site (2 connections to Reilly Road).
- Use of bioretention treatment systems for detention and treatment of stormwater.
- Local native plants make up a minimum 50% of the planted areas and streetscape treatments. Any non-local species will be selected for drought tolerance and low fertiliser requirements.

Establishing key principles for the management of stormwater runoff and groundwater quality, implementation of the LWMS will be through the development of a subsequent Urban Water Management Plan (UWMP), which will be prepared at the time of subdivision.

#### 3.7.1 Stormwater Management Strategy

The LWMS proposes stormwater management and groundwater recharge in a manner that is consistent with water sensitive design practices: comprising a series of pipes, bio-retention areas, and detention basins to infiltrate and provide water quality treatment for stormwater runoff.

- Maximise infiltration opportunities through using soakwells on individual lots and perforated manholes and detention basin for road reserve and other associated runoff.
- Rainfall from the 1 year event will be retained within bio-retention areas located within areas of public open space; allowing for nutrient stripping as runoff collected infiltrates onsite. Roof and road drainage will be connected to soak wells to promote at source infiltration.
- For high frequency Average Recurring Interval (ARI) storms (up to 5 years ARI), stormwater runoff will flow via a local pipe drainage system leading to bioretention and detention basins within areas of public open space.
- For greater than the 5 year ARI, and up to the 100 year ARI, stormwater will be collected within detention basins, located within designated areas of public open space, and conveyed to Ballanup Drain.



### 3.7.2 Groundwater Management Strategy

To protect infrastructure from high seasonal groundwater levels, subsoil drainage will be required a part of the residential development with the following criteria adopted:

- All subsoils to be freely draining.
- Subsoils installed where required to ensure sufficient clearance to lot finished level.
- Subsoils will be set at or above pre-development AAMGL.

Lot and road finished levels should have a clearance of 1m to the post-development groundwater level. The post-development groundwater level will be determined at UWMP stage, as part of detailed design.

Groundwater management for the school site will be determined by the Department of Education (DoE). It is anticipated that the DoE will trench across Reilly Road to Ballanup Drain to provide an outlet for the school site.

#### 3.7.3 Implementation and Monitoring

The LWMS sets the overall water management strategy for development within the Structure Plan area. It will be the responsibility of the developer to construct and maintain the stormwater drainage system in accordance with the UWMP to be prepared at subdivision stage.

Monitoring of groundwater levels and quality will be carried out on a quarterly basis for three years, with samples being analysed for physical parameters, nutrients and heavy metals at a NATA accredited laboratory.

## 3.9 Education

The amendment identifies a school site, consistent with the overarching structure plan framework of approximately 4ha. On 27 June 2018, a subdivision approval was issued by the WAPC over the Structure Plan amendment area. The subdivision approval provides for a school site of 3.98ha, an 18m road reserve and a balance lot of 5.53ha (Figure 11).

Transfer of the school site has occurred and now is owned by the Department of Education. Considerable planning has been undertaken for the site, with conceptual designs regarding the layout of the site complete (Figure 12). The school site is proposed to be open for students in 2021.

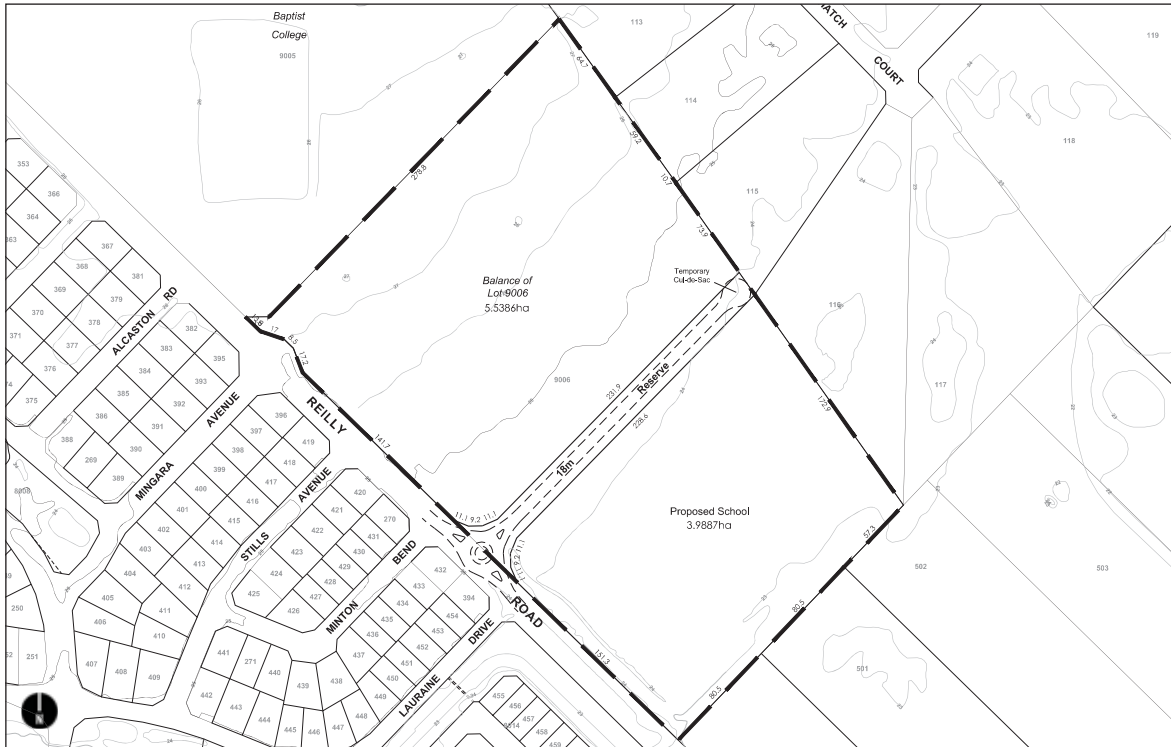


Figure 11 Subdivision Approval (WAPC 156256)

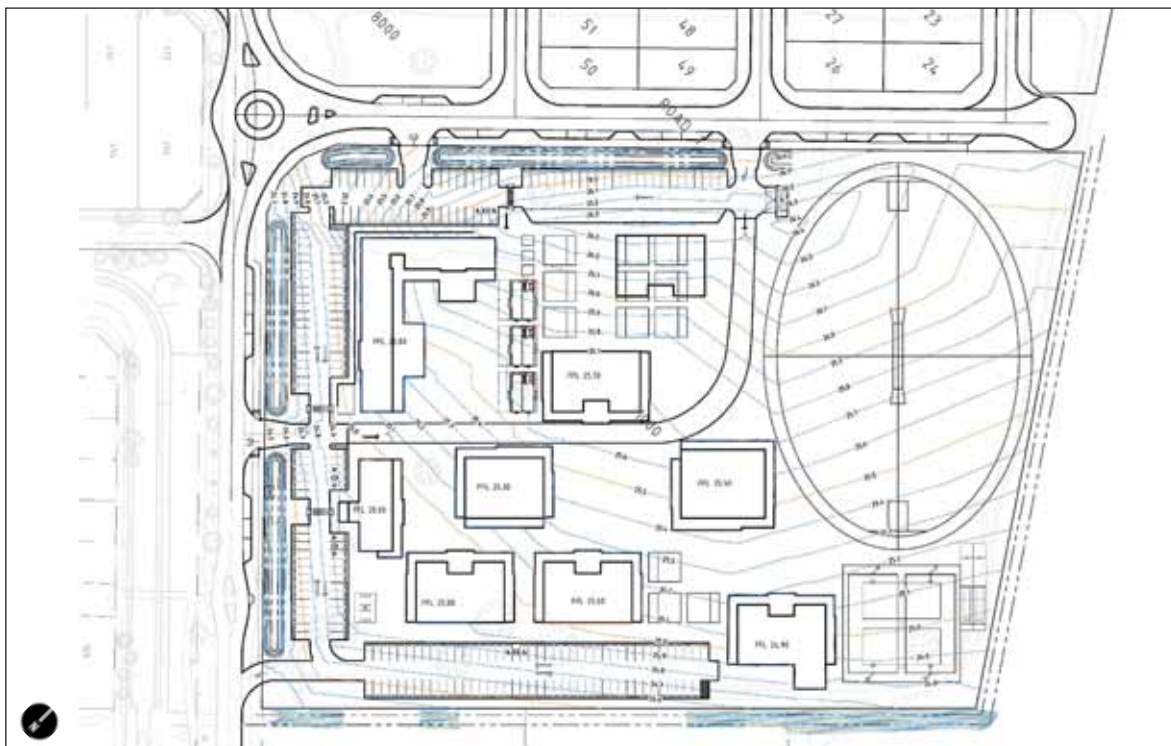


Figure 12 Primary School Concept

source: BG&E

### 3.10 Infrastructure Coordination, Servicing and Staging

The following section summarises the engineering considerations in the Engineering Servicing Report prepared by Cossil & Webley Consulting Engineers, provided as Appendix 8.

#### 3.10.1 Earthworks Strategy

The site is relatively flat and will not require significant site works, with only existing vegetation requiring removal to facilitate development. There are no existing structures on the lot which will require removal.

Earthworks will consist of imported fill to meet drainage and groundwater clearance requirements and to ensure finished lot levels are consistent with existing levels at Reilly Road. Some battering or retaining may also be required to achieve flat, developable sites.

#### 3.10.2 Waste Water

The Structure Plan area is capable of being serviced by the Balannup wastewater reticulation system, with preliminary investigations undertaken by the Water Corporation for the provision of deep sewerage to the site. The site will be serviced by the existing Balannup waste water pumping station located on Collared Street to the south of the site.

#### 3.10.3 Water Supply

The Structure Plan area located within the current boundary of the Water corporations Water Supply Scheme, and has been considered for residential development. The existing DN200mm reticulation Main Located within the Reilly Road reserve is capable of servicing the site subject to the timing and construction of the DN600mm water main on Harrisdale Drive. The Harrisdale Drive water main is currently on the Water Corporation's Capital Works Programme and will be funded by the Water Corporation.

#### 3.10.4 Power Supply

Electrical sub-consultant Underground Power Development have confirmed that a power supply can be provided via connection to the existing high voltage network at the intersection of Wright Road and Reilly Road. All power will be underground and fed from strategically located transformers within the Structure Plan area.

#### 3.10.5 Gas Supply

Atco Gas has confirmed that the site can be supplied with reticulated gas via an extension to the existing gas main located within the Reilly Road Reserve. Some minor modifications to upgrade the existing network are planned and will be undertaken as forward works by ATCO Gas.

#### 3.10.6 Telecommunications

NBN Co has confirmed that the site is within the fixed line footprint of the NBN an, and is capable of being serviced with fibre optic under the roll-out scheme for greenfield developments. Connection to the network would require backhaul along Reilly Road, Wright Road and Ranford Road to a connection Point at Flametree Boulevard. Pit and Pipe infrastructure will be provide by the developer to accommodate a high speed broadband network.

### 3.11 Development Contributions

The Structure Plan amendment is subject contribution to the costs of common infrastructure in accordance with a Development Contribution Plan and Cost Apportionment Schedule prepared pursuant to Part 6B and Schedule 13B Development Contribution Plans.