

HATCH

# NORTH STONEVILLE

STRUCTURE PLAN 34  
AMENDMENT NO. 1

JUNE 2024

FILED

14 JUN 2024

*SPN Judgment*

STATE ADMINISTRATIVE  
TRIBUNAL

 SATTERLEY

Revision	Date	Description
A	18 Jan 2023	Working draft to Client
B	25 Jan 2023	Issued for lodgement
C	24 May 2024	Working draft to Client
D	14 June 2024	Issued for lodgement

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# ENDORSEMENT PAGE

This Structure Plan is prepared under the provisions of the Shire of Mundaring Local Planning Scheme No. 4.

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

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

..... Date

.....Date of Expiry

**PHOTO 1:** LOOKING WEST BACK TOWARD ROLAND ROAD



Source: Cossill & Webley, March 2017



## TABLE OF AMENDMENTS

AMENDMENT NO.	SUMMARY OF AMENDMENT	AMENDMENT TYPE	DATE APPROVED BY WAPC
Amendment No. 1	Supersedes LSIP 265 (SP 34) Approved by WAPC in 1999	Major	

## TABLE OF DENSITY PLANS

DENSITY PLAN NO.	AREA OF DENSITY PLAN APPLICATION	DATE APPROVED BY WAPC
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HAWKESTONE STREET (FORMALLY CAMERON ROAD)

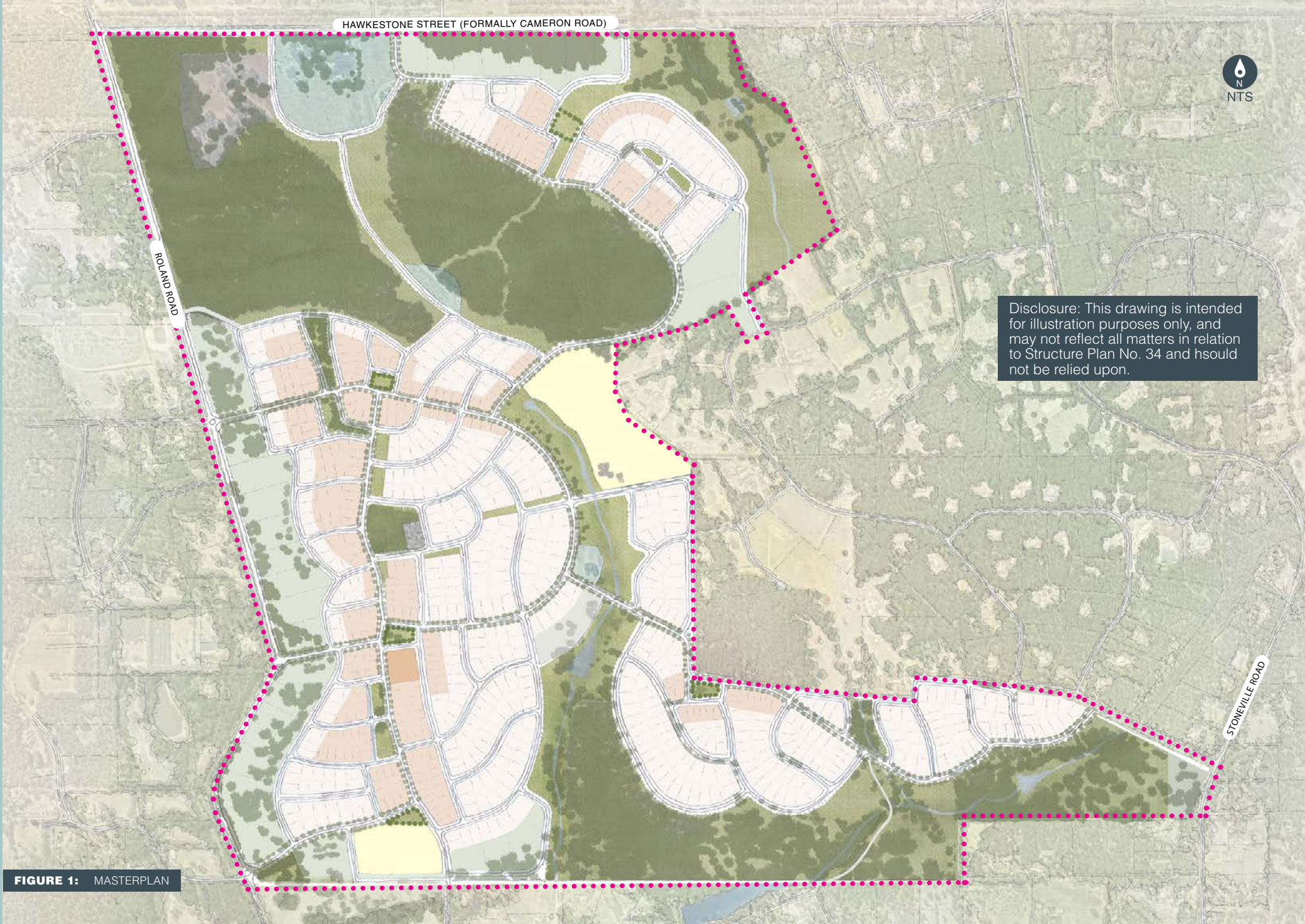


ROLAND ROAD

Disclosure: This drawing is intended for illustration purposes only, and may not reflect all matters in relation to Structure Plan No. 34 and should not be relied upon.

STONEVILLE ROAD

FIGURE 1: MASTERPLAN





# EXECUTIVE SUMMARY

The proposed North Stoneville townsite was first identified for future residential development during the preparation of the Shire of Mundaring's previous Local Planning Scheme (Town Planning Scheme No. 3), which came into effect in 1994. This growth area reflects a long standing approach to urban development in the Shire which aims to avoid fragmented subdivision of rural lots, concentrate growth into discrete town sites and contribute to a more sustainable economic catchment for the Mundaring District Centre.

Amendment no. 1 to the North Stoneville Structure Plan no. 34 (SP34) represents an update to the approved Local Structure and Infrastructure Plan no. 265, approved by the Western Australian Planning Commission (WAPC) in 1999. The need for an update follows an understanding established with the Shire of Mundaring and the WAPC during consideration of a request to lift the Urban Deferred Metropolitan Region Scheme (MRS) zoning, approved in October 2016, to ensure the planning framework reflects contemporary policy and practice. The proposal is consistent with expectations of rezoning to urban (MRS) and is consistent with the planning intent of the zoning.

Satterley Property Group in conjunction with the owner of the land, the Anglican Arch Diocese, is progressing development of the North Stoneville site, which is one of the only parcels of land held in single ownership of any significant scale in the Perth Hills context, that is not unduly constrained by environmental features or fragmented allotments.

The North Stoneville Structure Plan has been prepared based on a comprehensive review of relevant town planning and urban design research and policy, environmental and engineering considerations, and site specific conditions. The proposed Structure Plan Amendment 1 area is within the boundaries of the MRS Urban zone. The proposed development is consistent with the residential intent of the Urban zone and supports the productivity of non-residential uses in the Mundaring Town Centre and surrounds to deliver on the expectations of sustainable development per SPP 1.0: State Planning Framework Policy.

This Structure Plan will guide development on the 534.5985 ha site, and is expected to be staged over a period of approximately 15 years. It will fulfill a strategic role in serving the growing housing needs of people of the Eastern Hills districts, providing a new community for 2,803 people.

The Structure Plan is based on a spatial arrangement of walkable villages (approx. 400 m) focusing on discernible community nodes, with a design that responds and respects the site's natural features.

A Transect Design Guide is included by reference into the Plan and, along with Liveable Neighbourhoods, will be used to determine housing densities and lot sizes, as well as the design and construction of streets, landscaping and public open space.

North Stoneville is not just about building homes, it will also be about building a new community where residents can be connected

and have a sense of belonging. The Plan is supported by a Place Vision Blueprint which sets out the vision, values and strategies which will give North Stoneville its distinctive identity and sense of place, and the foundation to build the new community.

**TABLE 1:** Proposal Summary

ITEM	DATA	STRUCTURE PLAN REF (SECTION NO.)
Total area covered by the Structure Plan	534.5985 ha	1.3.2.1
Zoned MRS Urban*	238.3689 ha	1.4.1.1
Zoned MRS Rural	296.2296 ha	1.4.1.1
Area of each land use proposed:	ha	Yield
Residential	238.3 ha	959 lots 4.2
Rural Residential	120 ha	42 lots 4.3
Total estimated lot yield	1,001 lots	4.2
Estimated dwelling site density (Urban zoned land only)	4.02 dwellings per urban ha	1.4.3
Estimated population	2,803 people	4.2
Number of high schools	1 x Government High School abutting SP34 boundary	4.6.2
	1 x private Anglican School	4.6.3
Number of primary schools	1 x Government Primary School	4.6.1
Estimated commercial / entertainment floor space	1,500 sqm	4.5
Estimated area of public open space to be ceded:	31.48 ha (30.482 ha of Urban area)	4.8.5
Estimated area of credited public open space:	29.3603 ha	4.7.4
Estimated area of natural area (Conservation)	193.24 ha	4.8.2
		4.8.5

\*(NB: Actual Residential Gross Subdivisible Area is less than the full MRS Urban Zone).

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**PHOTO 2:** LOOKING EAST OVER CONSERVATION AREA





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<b>Appendix 2</b>	Commercial Strategy	Letter 19th June 2023
<b>Appendix 3</b>	Engineering Servicing Report	RevD 25Nov2022
<b>Appendix 4A</b>	Revised Transport Impact Assessment	r05a
<b>Appendix 4B</b>	Microsimulation Evacuation Modelling Report	r01g
<b>Appendix 5</b>	Local Water Management Strategy	Version C and Letter 23 May 2023
<b>Appendix 6A</b>	Environmental Assessment Report	Rev 2
<b>Appendix 6B</b>	Environmental Assessment Report (superseded)	Rev 0
<b>Appendix 7</b>	Bushfire Management Plan	R03 Rev 7
<b>Appendix 8</b>	Aboriginal Heritage Report	July 2017
<b>Appendix 9</b>	Bushfire Simulation Modelling Report	Rev 4

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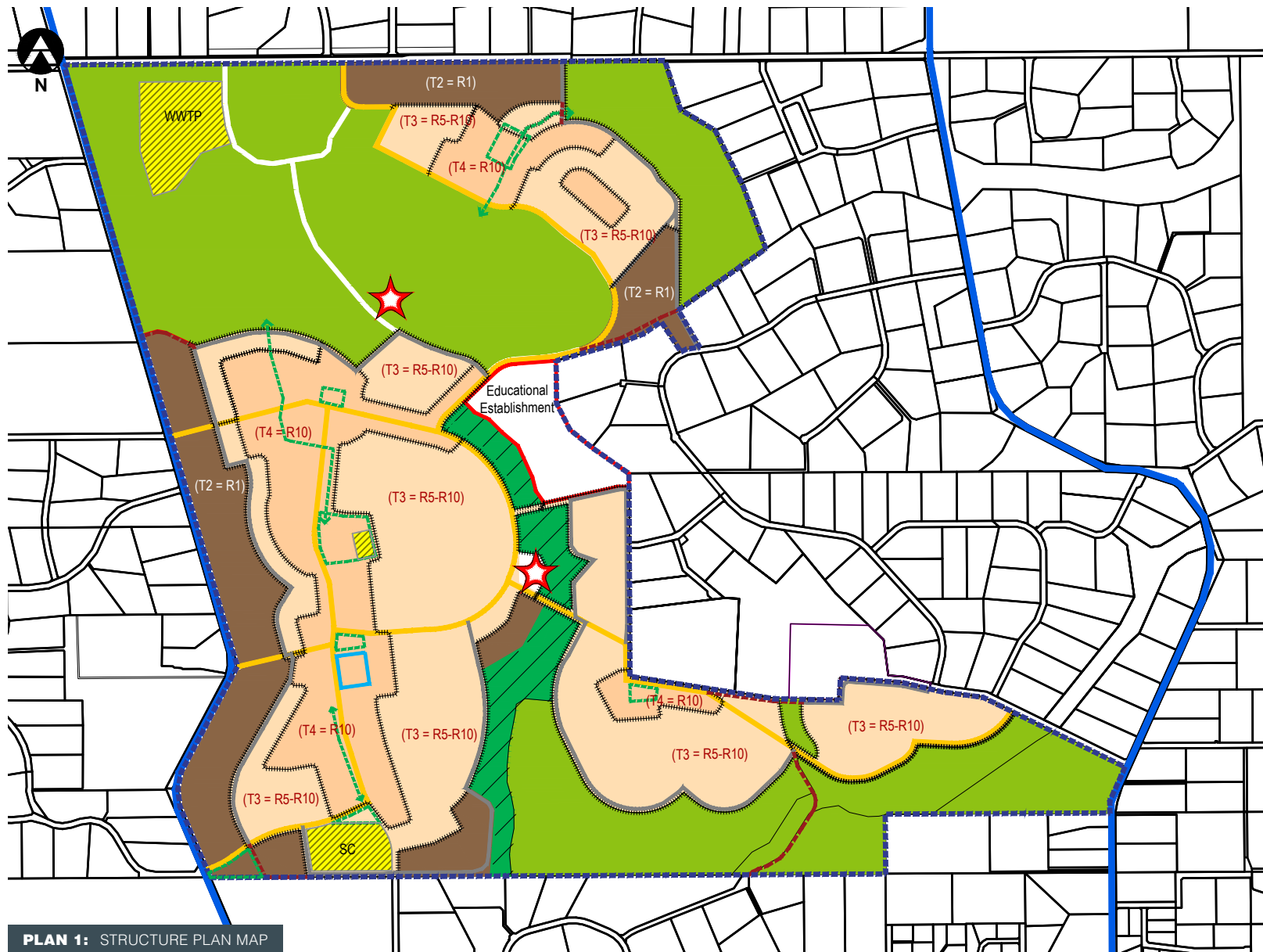


A light blue architectural sketch on a dark blue background. The sketch depicts a building with a gabled roof on the left side. A chimney is shown on the right side of the building. Below the building, there is a row of stylized trees. The drawing uses simple lines and shading to represent the structure and landscape.

# PART ONE IMPLEMENTATION

NORTH STONEVILLE STRUCTURE PLAN

# PART ONE: IMPLEMENTATION



## LEGEND

--- Structure Plan Boundary

### Local Scheme Reserves

- Conservation
- Important Local Roads
- Other Local Roads
- Public Purposes
- Public Purposes: School
- Public Purposes: Waste Water Treatment Plant
- Recreation

### Local Scheme Zones

- Residential
- Rural Residential
- Special Use
- Local Centre

### Other

Items contained in 'Other' also include matters that are intended to assist interpreting the Structure Plan intention.

- Connector Road
- Perimeter Road (Bushfire)
- Fire Service Access Route
- (T3=R5-R10) R Codes
- Suggested Recreation Reserve Location
- Green Link
- Potential Special Use Location

**PLAN 1: STRUCTURE PLAN MAP**

Plan Produced by: Hatch, 2024



## 1.0 Structure Plan Area

This Structure Plan applies to Lot 48 on Plan 029855 (4685 Stoneville Road, Stoneville) being the land shown within the inner edge of the line denoting the Structure Plan boundary on the Structure Plan Map (Plan 1).

## 2.0 Operation

The date this Structure Plan comes into effect is the date the Structure Plan is approved by the WAPC, as shown on the Endorsement page.

## 3.0 Structure Plan Content

- 3.1 The Structure Plan comprises:
- Part 1 - Implementation Section.
  - Part 2 - Explanatory Report.
  - Appendices - Technical Reports.
- 3.2 Part 1 comprises the Structure Plan map and planning provisions.
- 3.3 Part 2 comprises the planning and design report, which provides the planning content and explains the Structure Plan and proposed development.

## 4.0 Relationship to Planning Scheme

- 4.1 The Structure Plan is made pursuant to Schedule 2, Part 4 of the **Planning and Development (Local Planning Scheme Regulations) 2015** - Deemed Provisions for Structure Plans.
- 4.2 The subject land is zoned 'Development' under the Shire of Mundaring Local Planning Scheme No 4 (LPS4). Under the provisions of clause 5.17 of the Scheme a Structure Plan is required for the subdivision and development of land within the Development zone.
- 4.3 A planning decision-maker in determining an application for subdivision is to have due regard to, but is not bound by, the provisions of the Structure Plan when deciding the application, in accordance with cl. 27 (1) of the Deemed Provisions.

## 5.0 Staging

- 5.1 Development of the Structure Plan area will occur progressively over a number of stages. The timing, location and composition of the stages will be guided by the following triggers:
- a) Market conditions.

- b) Provision of reticulated water via construction and commissioning of a 7km trunk main extension from the Zamia Water Tank to ground level tanks and an elevated water tank to provide sufficient pressure to lots over RL 295 AHD.
- c) Construction and commissioning of a recycled water facility for the provision of reticulated sewerage services by a licensed service provider.
- d) Provision of electrical services by extension of the existing high voltage feeders from adjacent roads.

- 5.2 It is proposed that development will commence initially from the south-west corner of SP34, with two access points proposed to Roland Road.
- 5.3 Proposed upgrades to the local road network (refer Section 9.0 Other Requirements) are required to provide adequate capacity for the first 400 lots only. Development beyond the first 400 lots shall not be permitted until completion of works in relation to the proposed Perth-Adelaide National Highway (Orange Route). Should completion of the proposed Perth-Adelaide National Highway (Orange Route) precede commencement of subdivision works for SP34, the proposed upgrades listed in Section 9.0 Other Requirements are not required.

## PART ONE: IMPLEMENTATION

### 6.0 Subdivision and Development Requirements

- 6.1 The subdivision and development of the land is generally to be in accordance with the provisions of the Structure Plan.
- 6.2 The Structure Plan Map outlines the zones and reserves within the Structure Plan area. Land use permissibility is generally to be in accordance with the corresponding zone or reserve under the Scheme.
- 6.3 The Structure Plan designates certain locations for special uses which provide a public benefit.
- 6.4 The Structure Plan designates a proposed site for the location of the recycled water facility and associated infrastructure. The plant is to be set back a minimum 50m from Cameron (Hawkestone) Road and screened from the road by vegetation.
- 6.5 Residential densities applicable to the Structure Plan area are to be within the ranges shown on the Structure Plan map. A Residential Coding Plan is to be submitted to the WAPC at the time of subdivision indicating the Residential Coding applicable to each lot. The allocation of residential densities is to have regard to the following criteria:
  - a) Landform and topography.
  - b) Proximity to open space and amenities.
  - c) The North Stoneville Transect Design Guide (Appendix 1).
- 6.6 The subdivision and development of land including residential densities, the movement network and public open space, is generally to be in accordance with the WAPC's Liveable Neighbourhoods Policy and the North Stoneville Transect Design Guide.
- 6.7 A more detailed Bushfire Management Plan will be prepared prior to subdivision and development in accordance with the requirements of State Planning Policy 3.7: Planning in Bushfire Prone Areas, including Bushfire Attack Levels (BALs) for subdivision and development.
- 6.8 The Structure Plan identifies approximately 193ha of Conservation reserve and 36ha of Recreation reserve.
- 6.9 Of the 36ha Recreation reserve, 29.36ha can be credited for the purposes of calculating Public Open Space under Liveable Neighbourhoods, and represents 12.03% of the Urban zoned land (exceeding the minimum requirement under Livable Neighbourhoods).
- 6.10 A Conservation Management Plan shall be prepared in consultation with the Western Australian Planning Commission, Department of Biodiversity, Conservation and Attractions and Shire of Mundaring, prior to the transfer of land for conservation purposes to the Crown.



## 7.0 Local Development Plans

- 7.1 Local Development Plans shall be required as a condition of subdivision (excluding land amalgamations, super lot subdivision and subdivision/development facilitating servicing, access and/or infrastructure) and shall be prepared pursuant to the Planning and Development (Local Planning Schemes) Regulations 2015 Schedule 2 - Deemed Provisions for Local Planning Schemes. Local Development Plans shall be prepared and approved for lots with one or more of the following characteristics:
- Lots containing a direct boundary interface with Recreation or Conservation areas (Local Scheme Reserves)
  - Lots fronting Roland Road
  - Lots with a Bushfire Attack Level (BAL) rating of 12.5 or higher
  - Residential lots (required to address any matters in clause 7.2)
  - Rural Residential lots (required to address any matters in clause 7.3)
  - Other circumstances approved by the Shire of Mundaring
- 7.2 Local Development Plans for Residential lots are to address the following:
- Setbacks, building placement, dwelling orientation and views in response to contours, geological constraints and other site conditions or adjacency to

areas of amenity, including Recreation or Conservation areas (Local Scheme Reserves)

- Private open space and site coverage (may include fencing and screening considerations)
  - Preferred garage and outbuilding locations
  - Corner treatments or other elements requiring design attention to address an important view from the public domain or a terminating vista
- 7.3 Local Development Plans for Rural Residential lots are to address the following:
- Building setbacks and/or envelope in response to contours, geological constraints, vegetation and other site conditions
  - Asset protection zone (for bushfire)
  - Vehicle access point and driveway location
  - Any specific drainage requirements
  - Fencing details.

## 8.0 Notifications of Title

- 8.1 In respect of applications for the subdivision of land, the Shire of Mundaring is to recommend to the WAPC that a condition is imposed on the grant of subdivision approval for a notification to be placed on the Certificate of Title as outlined below:
- For residential lots with a BAL rating of 12.5 or higher:

**“This land is within a bushfire prone area as designated by an Order made by the Fire and Emergency Services Commissioner and is subject to a Bushfire Management Plan. Additional planning and building requirements may apply to development on this land.”**

- For Rural Residential lots assessed as BAL-40 or BAL-Flame Zone:

**“Habitable buildings are only to take place outside of areas identified as BAL-40 or BAL-Flame Zone.”**

## PART ONE: IMPLEMENTATION

### 9.0 Other Requirements

To implement the first stage development, as contemplated by SP34, the proponent will fund and carry out the following road upgrades as part of the first stage of subdivision:

- A dedicated left-turn (continuous) lane on Stoneville Road (north-bound) at the Toodyay Road/ Stoneville Road intersection;
- A dedicated left-turn (continuous) lane on Roland Road (north bound) at the Toodyay Road/ Roland Road intersection;
- Construction of proposed northern and southern SP34 access intersections on Roland Road, to ultimate roundabout format;
- Construction of the missing portion of Hawkstone Street along the northern boundary of the SP34; and
- Upgrade of the existing Great Eastern Highway/Seaborne Street intersection to include separate left- and right-hand lanes on Seaborne Street approach.

On approval of SP34, the proponent undertakes to prepare a revised LWMS to reflect any modifications and to ensure successful implementation.

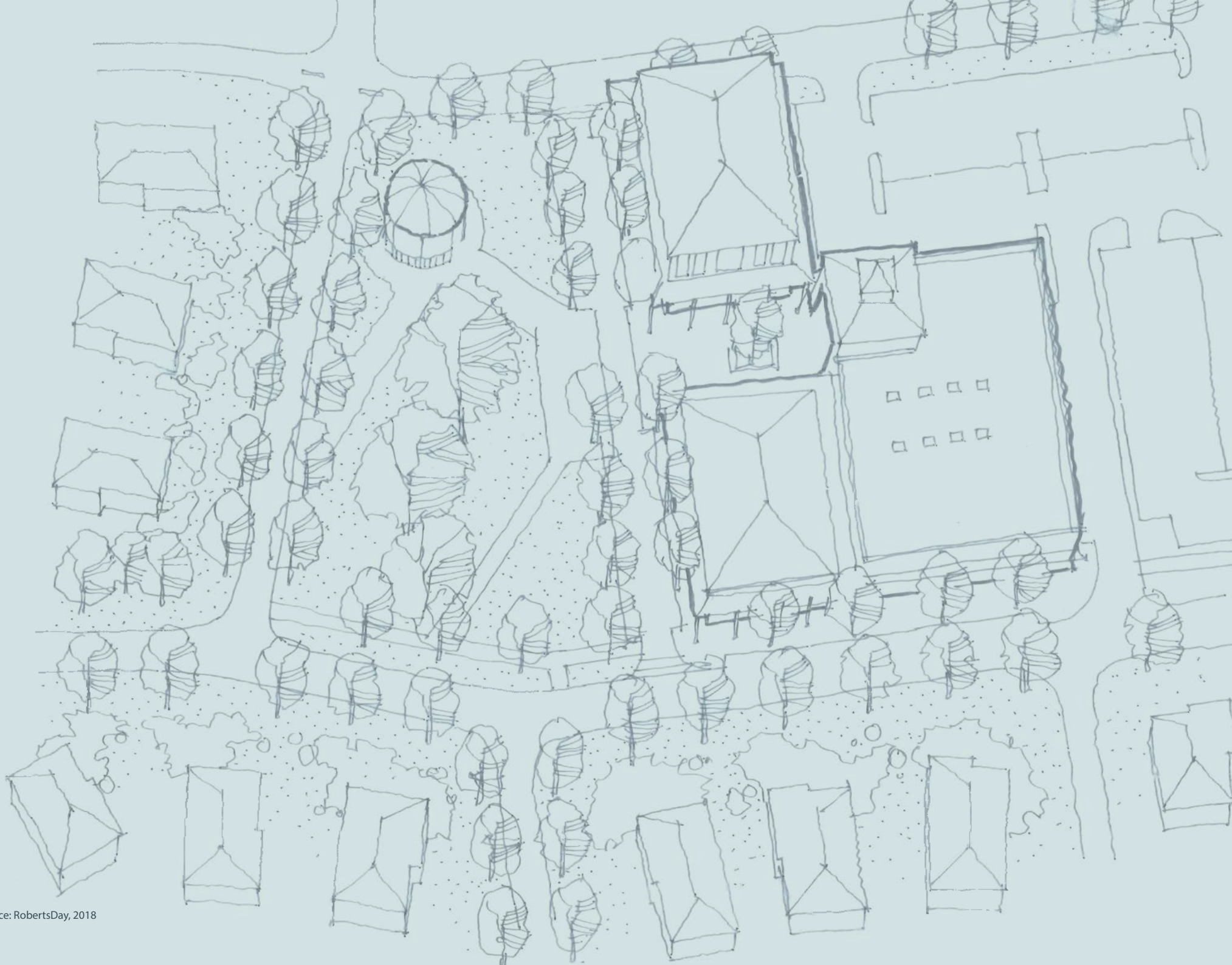
### 10.0 Additional Information

10.1 The following additional plans and/or information are to be submitted as set out in Table 2 below.

**TABLE 2:** Additional Information

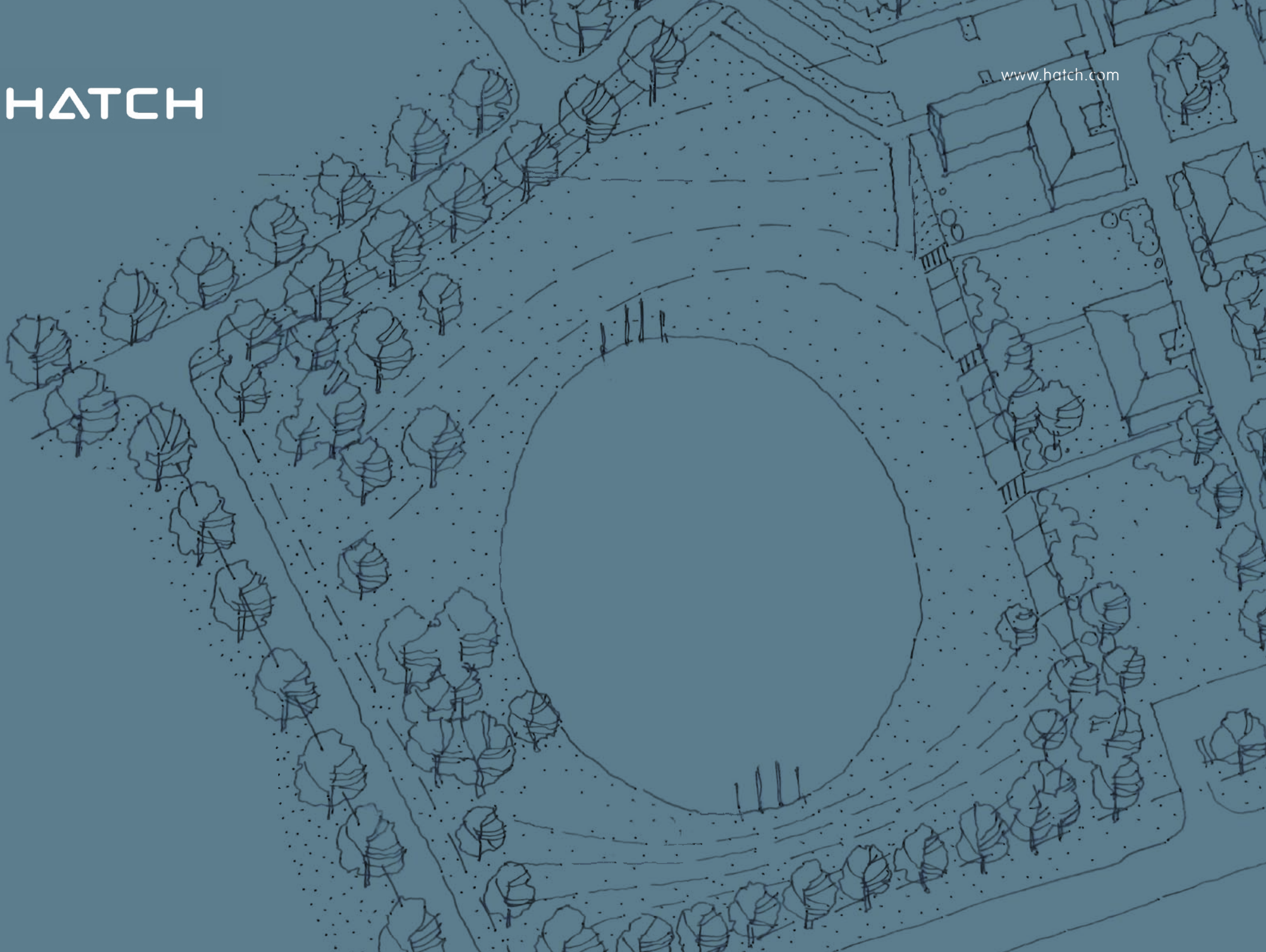
ADDITIONAL INFORMATION	APPROVAL STAGE	CONSULTATION REQUIRED
Density Code Plan	Subdivision	Shire of Mundaring / Western Australian Planning Commission
Public Open Space Schedule	Subdivision	Western Australian Planning Commission
Bushfire Management Plan, including BAL Contour Map	Subdivision	Department of Fire and Emergency Services
Indicative Building Envelopes for Rural lots only	Subdivision	Shire of Mundaring / Western Australian Planning Commission
Local Development Plan	Condition of Subdivision	Shire of Mundaring
Local Water Management Plan	Condition of Subdivision	Shire of Mundaring / Department of Water and Environmental Regulation
Conservation Area Management Plan (for conservation/recreation only)	Condition of Subdivision	Western Australian Planning Commission, Shire of Mundaring / Department of Biodiversity, Conservation and Attractions,



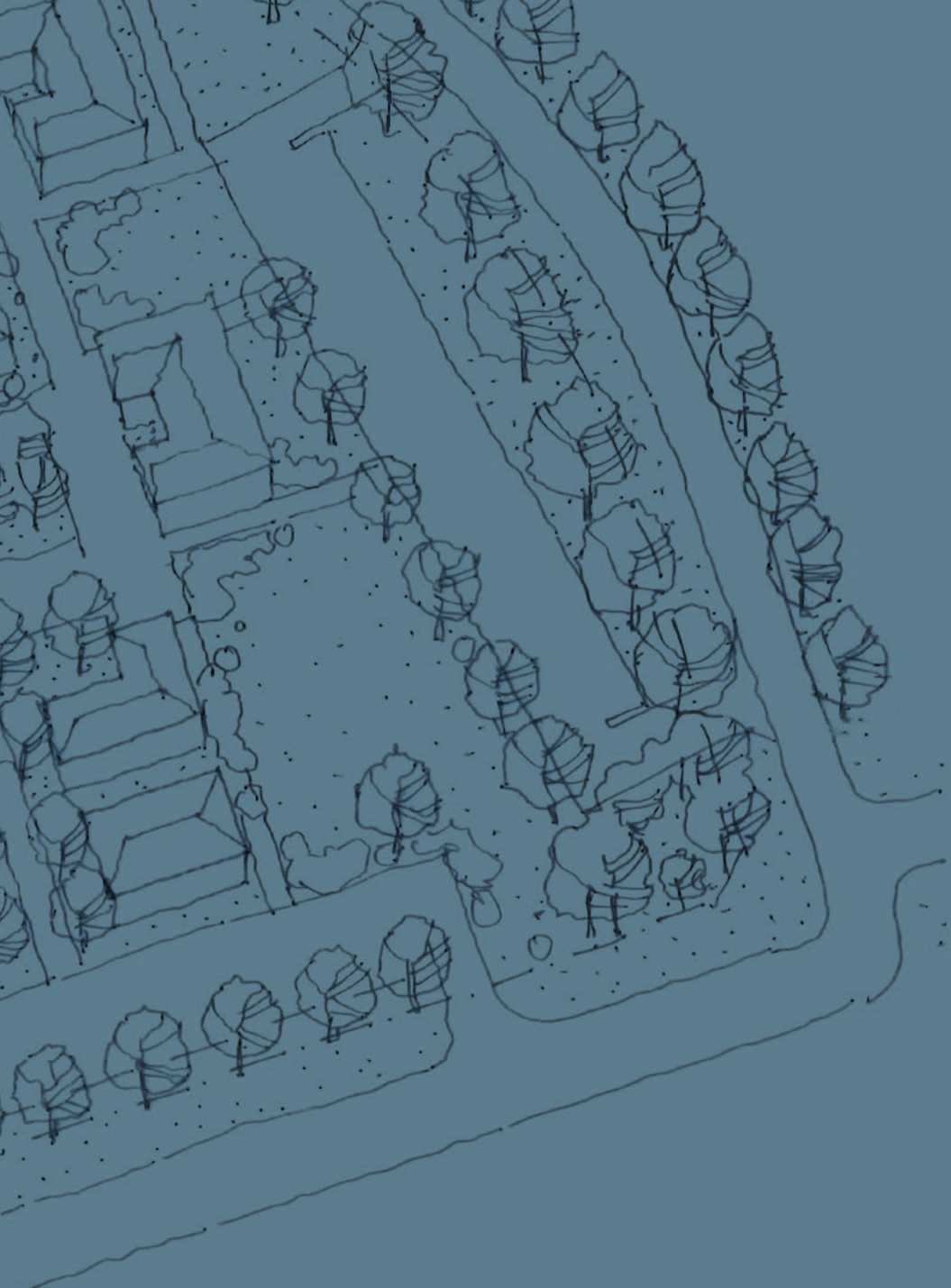


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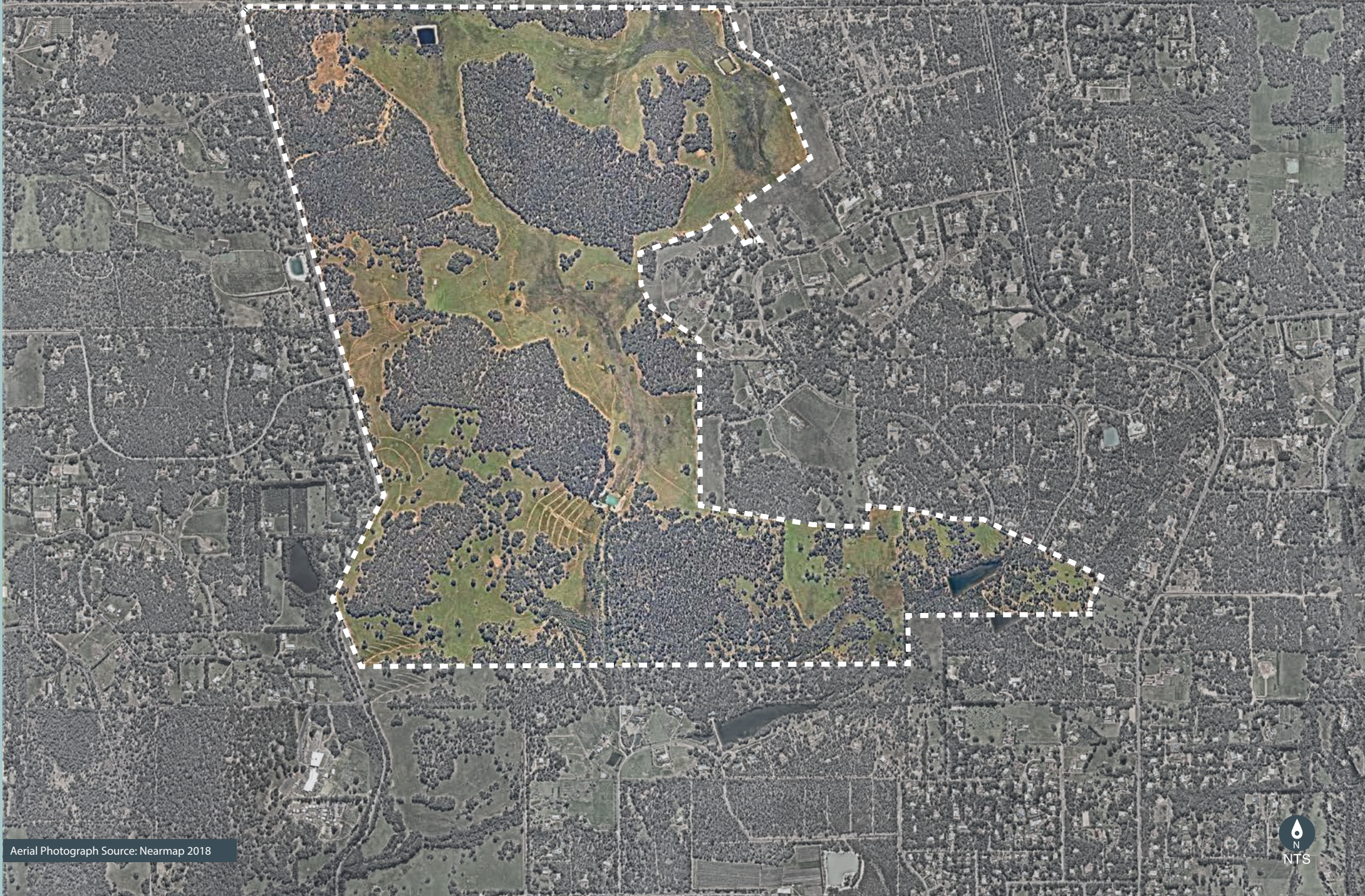


# PART TWO EXPLANATORY

NORTH STONEVILLE STRUCTURE PLAN



**FIGURE 2:** AERIAL PHOTOGRAPH



Aerial Photograph Source: Nearmap 2018





## 1.0 PLANNING BACKGROUND

### 1.1 Introduction

#### 1.1.1 Background

##### 1.1.1.1 Planning for North Stoneville

The proposed North Stoneville townsite was first identified for future residential development during the preparation of the Shire of Mundaring's previous Local Planning Scheme (Town Planning Scheme No. 3), which came into effect in 1994. This growth area reflects a long standing approach to urban development in the Shire which aims to avoid fragmented subdivision of rural lots, concentrate growth into discrete town sites and contribute to a more sustainable economic catchment for the Mundaring District Centre.

Local Subdivision and Infrastructure Plan No. 265 (LSIP 265) was approved by Council in 1998 and noted by the WAPC in 1999 (subject to conditions).

An amendment to the MRS to rezone a portion of the land from 'Rural' to 'Urban' was initiated in 1999. At that time, the WAPC supported rezoning under the MRS, subject to delivery of a suitable wastewater treatment solution and was subsequently zoned 'Urban Deferred'.

The proposed Structure Plan Amendment 1 area is within the boundaries of the MRS Urban zone. The proposed development is consistent with the residential intent of the Urban zone and supports the productivity of non-residential uses in the Mundaring Town Centre and surrounds to deliver on the expectations of sustainable development (per SPP 1.0: State Planning Framework Policy).

##### 1.1.1.2 'Lifting' of the Urban Deferment under the MRS.

In 2008 Council advised WAPC of its support to 'lift' the Urban Deferred zoning, subject to the currently approved LSIP being reviewed prior to development occurring and confirmation of a suitable wastewater solution.

In October 2016 the WAPC was satisfied that a wastewater solution could be provided for the development and resolved to lift the Urban Deferred zoning.

##### 1.1.1.3 Additional Planning Context

The Development zone allows future lot sizes to be in accordance with the zoning prescribed in an approved Structure Plan.

The 2014 Shire of Mundaring Local Planning Scheme No.4 (LSP4) renamed LSIP 265 to Structure Plan 34 (SP34). The adopted SP34 comprises approximately 1700 lots, a neighbourhood centre, primary and high schools, and public open space.

#### 1.1.2 Purpose

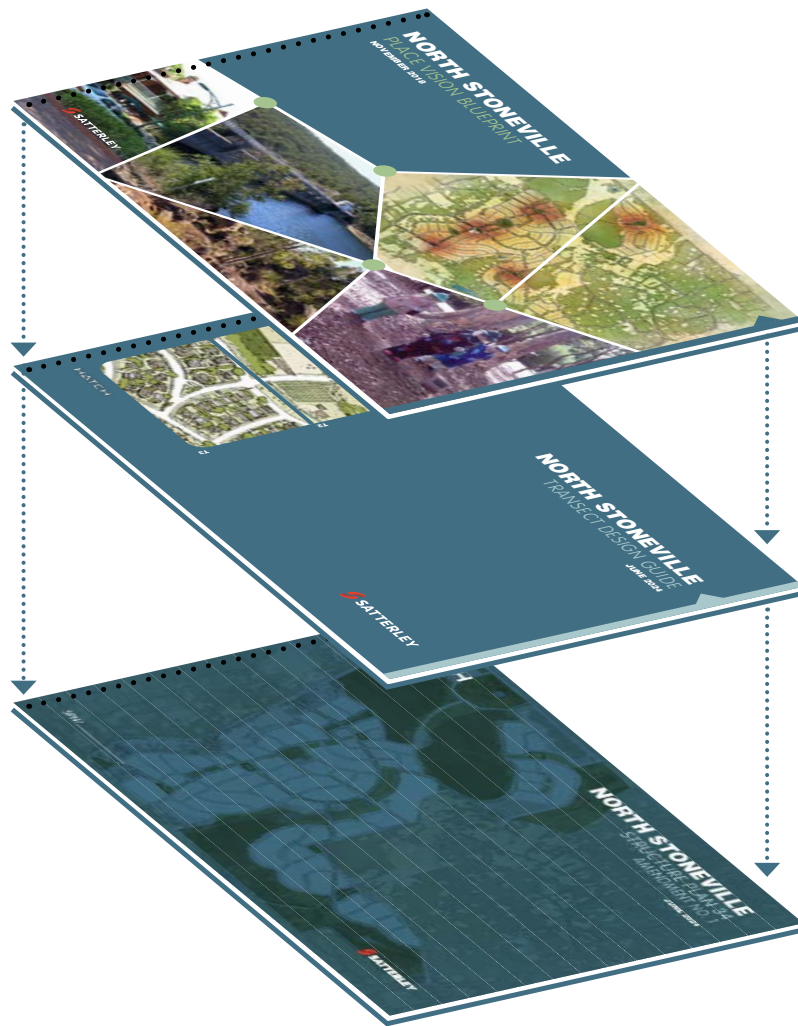
SP34 was adopted as a Structure Plan as part of the Shire of Mundaring LPS4, however, it has not been updated since 1999 and is now outdated with regard to contemporary policy and practice, including bushfire mitigation, environmental protection and residential densities suitable for the location.

This Structure Plan report represents a formal amendment to SP34, but is written and presented as a new Structure Plan document in order to best respond to the current WAPC Structure Plan Framework and Planning and Development (Local Planning Schemes) Regulations 2015.



## PART TWO: EXPLANATORY

### ADDITIONAL GUIDANCE FOR NORTH STONEVILLE



#### PLACE VISION BLUEPRINT

**PURPOSE:**

Articulate Vision and key Place Drivers for the new community.

#### TRANSECT DESIGN GUIDE

**PURPOSE:**

Supplementary design guidance for streets, private land and parks

#### STRUCTURE PLAN REPORT

**PURPOSE:**

Establish the Planning Framework

## 1.2 Supporting Documents

### 1.2.1 Overview

Additional work has been undertaken to inform the preparation of a robust Structure Plan and to guide the delivery of the development and the North Stoneville community, beyond that of statutory planning controls.

Figure 3 references the documents that inform and support the Structure Plan.

### 1.2.2 Place Vision Blueprint

The Structure Plan is underpinned by a Place Vision Blueprint which seeks to establish the vision for the new community and the place drivers that will inspire and ultimately define the place.

The Blueprint provides a framework for achieving a sense of place that will be unique to North Stoneville, and create a sense of belonging and ownership for future community residents and visitors.

#### THE PLACE VISION:

North Stoneville will grow as a contemporary Hills Townsite that feels quintessentially local - with a rich sense of community and a strong spirit of collaboration.

Blending seamlessly within the local landscape, North Stoneville will bring new homes and facilities to make the Hills lifestyle dream a reality for up to 2,803 residents.

The investment into modern services and new technologies will promote a sustainable community and fresh lifestyle alternative.

FIGURE 3: SUPPORTING DOCUMENTS

The place drivers for North Stoneville are:

**1. Hills Character and Lifestyle**

The Hills lifestyle is underpinned by a strong sense of community and reinforced by charming ‘country-style’ buildings.

Reflecting local values and staying true to established building style and character will embed North Stoneville as a modern community with amenities and services to provide wider lifestyle opportunities.

**2. One with nature**

Hills residents are drawn to a sustainable lifestyle and have a strong affinity with nature and trees.

Valued landscapes, fire-resistant design, conservation initiatives, walking trails, mountain biking, wildlife corridors and demonstrating leadership in sustainability will establish an intuitive connection with nature and strengthen the lifestyle aspirations for new residents to live at ‘one with nature’.

**3. Community Building**

Healthy communities are founded on strong resident networks and participation.

North Stoneville will establish the foundations to nurture and grow an engaged, close-knit community through a range of housing types, early and on-going investment in parks and meeting spaces, integration with existing residents and providing essential infrastructure such as schools.

**4. Partnerships**

Visionary outcomes and strong community bonds are forged through partnerships, already exemplified in the Perth Hills community. North Stoneville will build on these networks.

Collaboration will be a key focus at all stages of the development, with other government agencies, the Shire of Mundaring, community organisations, local businesses, residents and future funding partners.

**1.2.3 Transect Design Guide**

This Transect Design Guide has been formulated to supplement the WAPC’s Liveable Neighbourhoods Policy and to provide context specific and site responsive design guidance to development.

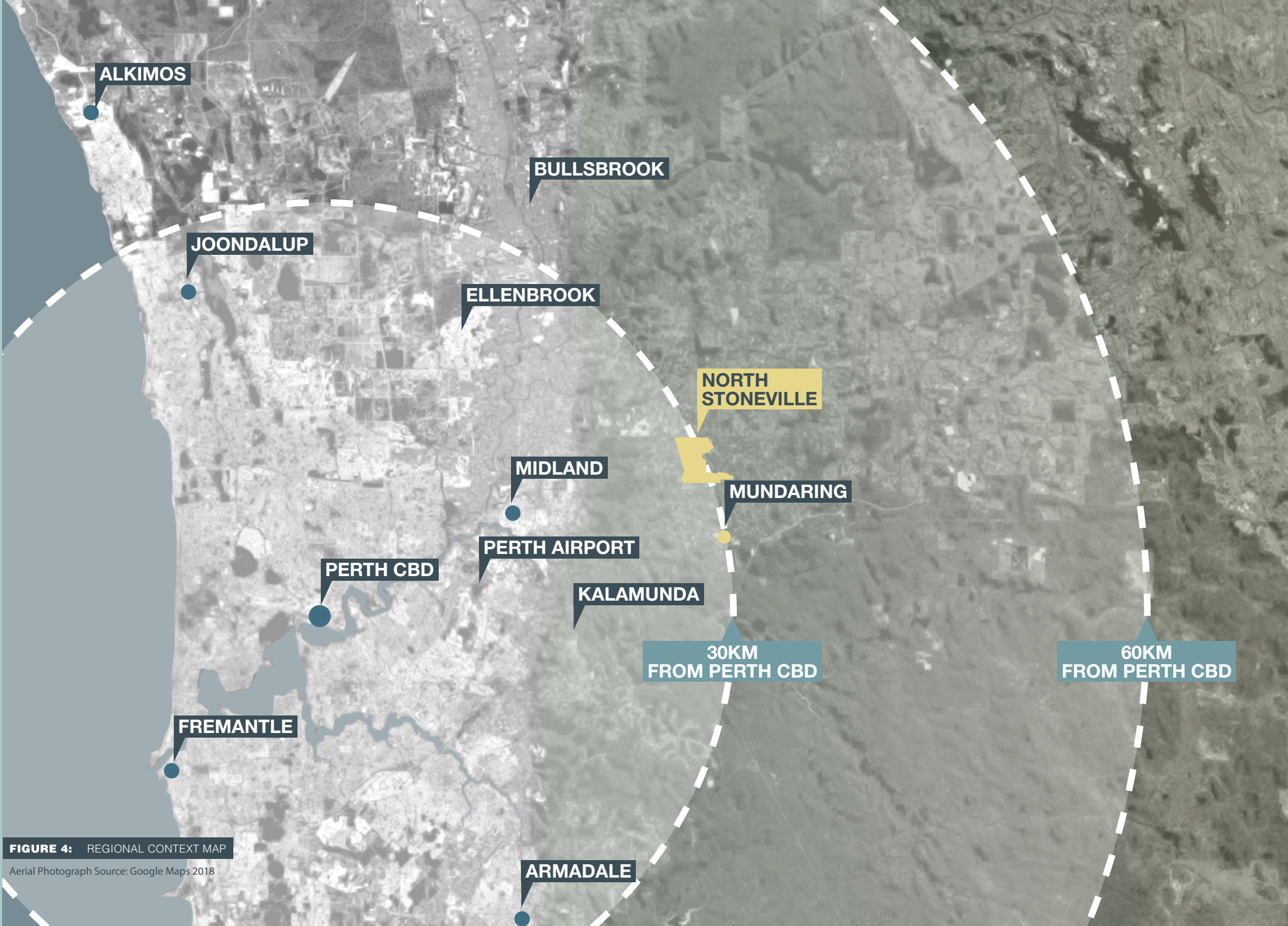
The primary purpose for adopting a transect approach to the North Stoneville Structure Plan is to establish an overarching organising framework to guide all technical and delivery inputs in implementing the design objectives of Liveable Neighbourhoods.

The general intent is to define and create distinctively different character areas based on individual transects that transition in their level of urban intensity. This will assist in providing a memorable set of experiences and a variety of different environments to appeal to a broad range of housing needs.

The major departure from conventional practice is to place context at the forefront of all design decisions, rather than apply the same standard without consideration to its setting and intended character.

Refer Appendix 1 for a copy of the North Stoneville Transect Design Guide.





**FIGURE 4:** REGIONAL CONTEXT MAP

Aerial Photograph Source: Google Maps 2018



NORTHAM

YORK

90KM  
FROM PERTH CBD

### 1.3 Land Description

#### 1.3.1 Location

##### 1.3.1.1 Regional Context

Located within Perth's Darling Ranges, North Stoneville is approximately 30 km east of the Perth CBD, 15 km east of Midland and 5.0 km north of the Mundaring District Centre.

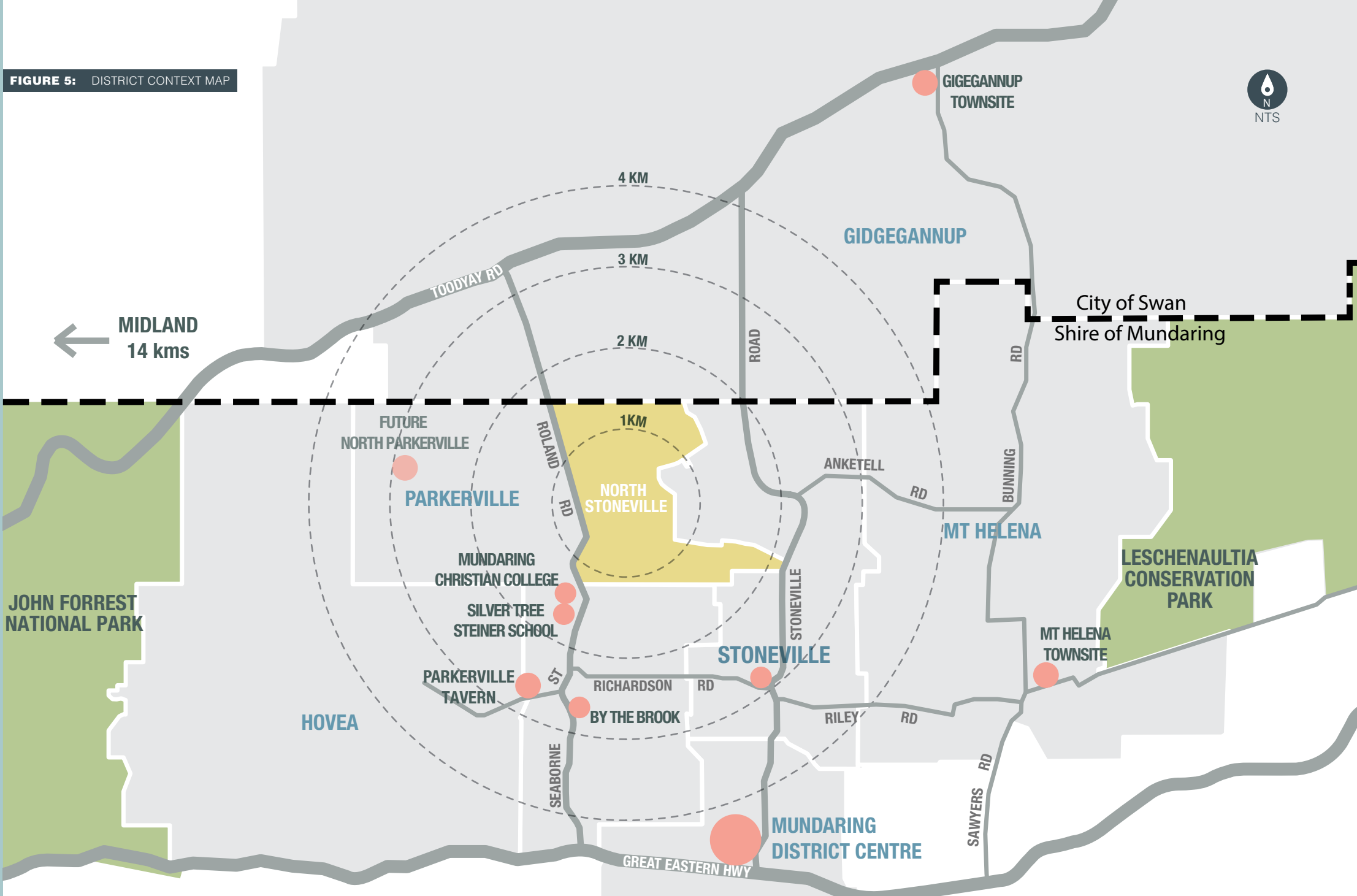
It is a similar distance to established urban growth areas in other metropolitan development corridors, as depicted in Figure 4.

The John Forrest National Park is west of the site on the foothills of the Darling Range escarpment and east of Midland; the nearest urban area on the Swan Coastal Plain. Large scale urban development surrounding North Stoneville is also restricted by virtue of fragmented land ownership created by the prevailing historical use of land in the Hills for rural residential purposes.

The site, therefore, represents a unique opportunity, within the Perth metropolitan context, to create a stand-alone townsite with a greater emphasis on appropriately transitioning the intensity of land uses from rural to urban.

The Hills lifestyle provides opportunities not found in many places in the Perth Metropolitan Region, including privacy afforded by well separated allotments, a choice of lots with gradation of sizes and the sense of community generated by a defined urban settlement. The ability to live within a seemingly remote and varied natural environment providing a diversity of landscapes, yet be accessible to the city, is expected to be attractive to many people who would otherwise live in suburban communities a similar distance from the Perth CBD (as illustrated in Figure 4).

FIGURE 5: DISTRICT CONTEXT MAP



JOHN FORREST NATIONAL PARK

MIDLAND  
14 kms



### 1.3.1.2 District Context

North Stoneville is located in the Shire of Mundaring, which has a population of 39,166 at 2021<sup>1</sup>.

Approximately half of the Shire's land mass consists of National Park, State Forest or water catchments. The majority of the Shire's population reside in residential townships; although the most dominant land use in terms of land consumption is rural and rural residential.

The Shire has experienced an annual population growth rate of 1.01% from 2006 to 2016, as compared to the Western Australian average of 2.56% per annum for the same period<sup>1</sup>. This has largely been because of a lack of new large-scale growth areas, limited servicing capacity (in particular sewer), and employment and education factors.

The Shire's younger adult cohort (age 18 to 34) is under-represented, comprising 18.1% of total population compared to Greater Perth at 24.9%<sup>1</sup>. With the concentrated provision of tertiary education and employment in the Midland sub-regional centre, North Stoneville is strategically positioned to provide housing opportunities for this younger demographic.

44% of the Shire's workforce currently live outside the municipality itself, with the majority of workers travelling from the City of Swan (15.6%) and the Shire of Kalamunda (5.7%)<sup>1</sup>. The Structure Plan represents an opportunity to bolster the Shire's employment self-sufficiency, catering for workers in the district already employed.

The Structure Plan can also accommodate a growing older demographic that remain loyal to the Perth Hills, but currently reside on large rural residential lots, and may seek to downsize to home-sites that require less maintenance.

Sales data from 2012 to 2017 reveals that 2.0 ha lots represent 43% of all sales, while 2,000sqm lots represent 33% (76% in total)<sup>2</sup>. However, the availability of lots to market has largely been a function of minimum lot size requirements, determined by the absence of reticulated sewerage.

As sewer services will not represent a constraint for North Stoneville, the Structure Plan intends to accommodate a range of residential lots that will round out housing diversity, addressing some of the key planning issues outlined above.

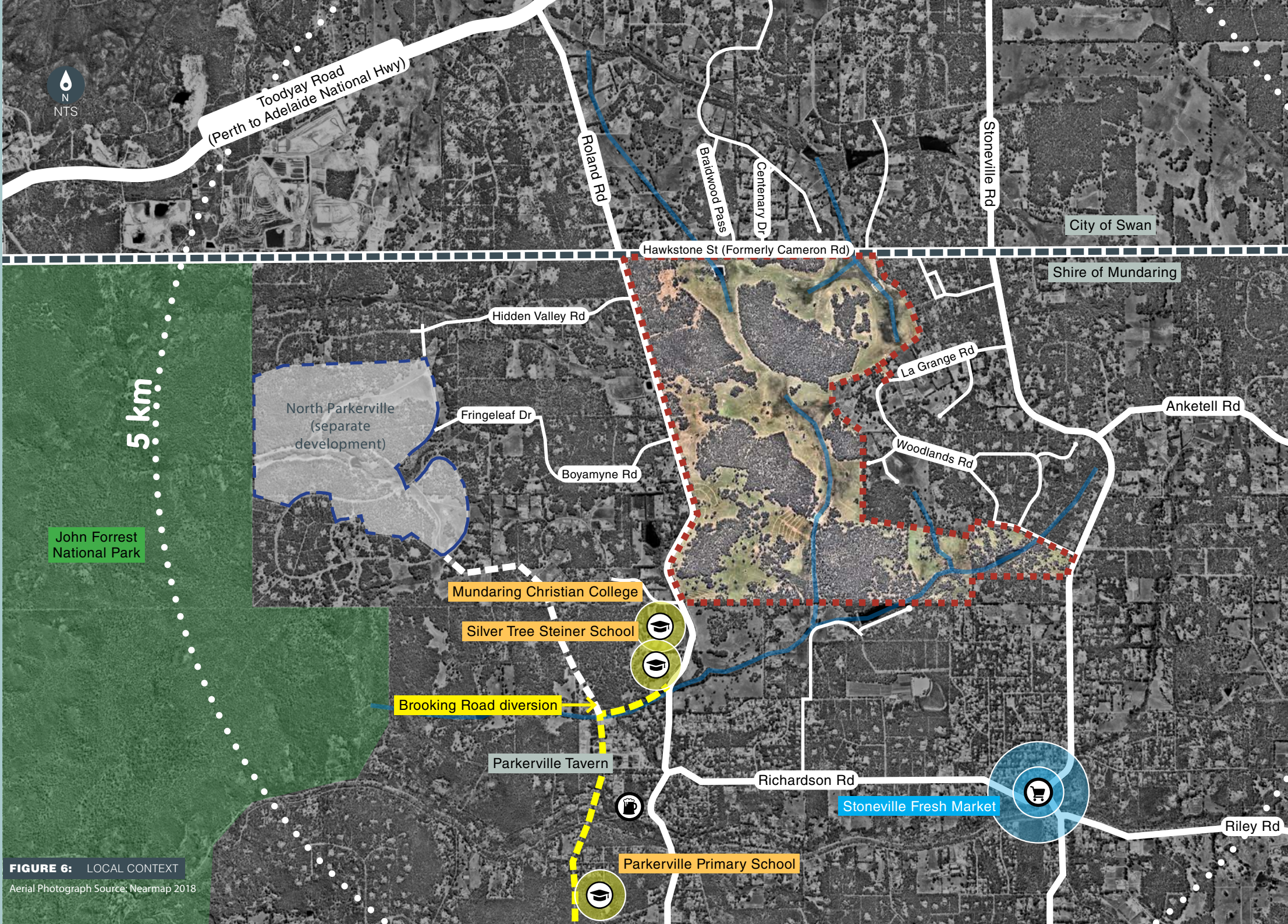
One of the primary motivators for the Shire historically supporting urbanisation of the site was to accommodate projected population growth in the broader Eastern Hills Region, and in that process reduce the pressure for urban expansion on existing settlements, to maintain their own unique characteristics.

Figure 5 demonstrates that the North Stoneville community will be in close proximity to a range of lifestyle and recreational attractions (including Lake Leschenaultia and the John Forest National Park), in addition to essential services at Mundaring and Midland.

Toodyay Road and Great Eastern Highway provide good district access to the local area.

<sup>1</sup>Data from 2021 Census, Australian Bureau of Statistics <sup>2</sup>RP Sales Data 2017





**FIGURE 6:** LOCAL CONTEXT  
 Aerial Photograph Source: Nearmap 2018



1.3.1.3 Local Context

The Site is surrounded by an established network of rural style roads comprising Roland Road to the west, Hawkstone Street (formerly Cameron Road) to the north, and lower order roads such as La Grange Road and Woodlands Road to the east. Stoneville Road abuts the most eastern boundary of the site, and connects to the Mundaring district centre to the south.

Hawkstone Street is the boundary between the Shire of Mundaring and the City of Swan.

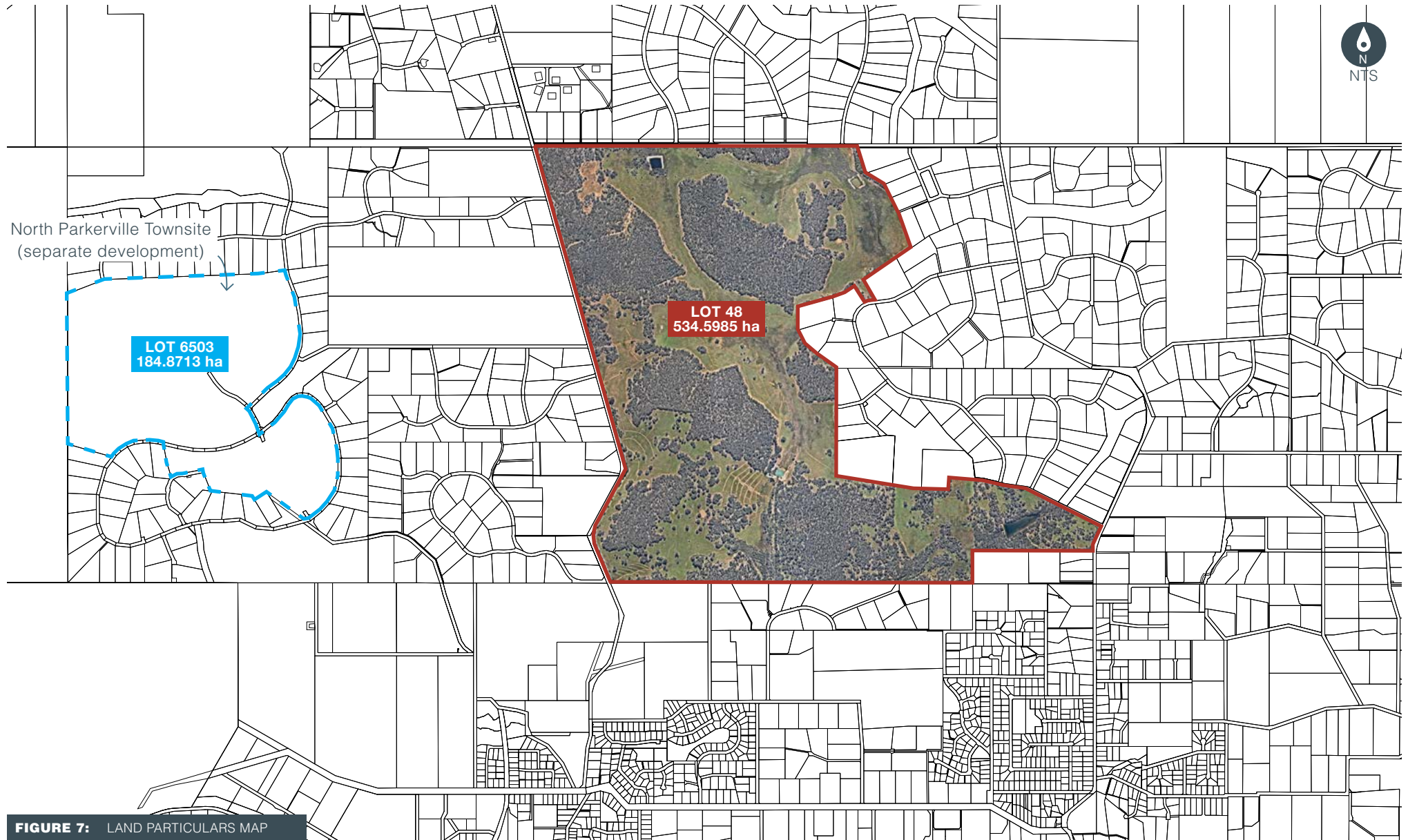
The Stoneville-Parkerville-Hovea locality has a population of 5,379 at 2016<sup>1</sup>. The average household size is 2.61 persons. A slightly larger household size of 2.7 exists in the broader statistical area. Given that the Townsite is likely to be attractive to families, planning for North Stoneville assumes an average of 2.8 persons per household, resulting in 2,803 people (at 1,001 lots).



<sup>1</sup>Data from 2016 Census, Australian Bureau of Statistics



## PART TWO: EXPLANATORY



**FIGURE 7:** LAND PARTICULARS MAP

Cadastral Data Source: Landgate 2018

### 1.3.2 Area and Land Use

#### 1.3.2.1 Site Area

The North Stoneville Structure Plan relates to Lot 48 and is 534.5985 ha.

#### 1.3.2.2 Historical Use of Land

The land has been used for pastoral and dairying activity for over 50 years, and approximately 45% of the site has been cleared.

The northern sector of the site has been quarried for gravel. A small quarried area has resulted in some clearing within remnant bushland in the north-west of the site.

The site contains no significant improvements or large structures, other than some sheds associated with its current grazing use that will be demolished prior to development.

#### 1.3.2.3 Site Description

The site ranges in height with some moderate to steep slopes occurring typically adjacent to creek lines.

The Structure Plan area is traversed by a series of small creek lines that drain into either Jane or Susannah Brooks.

The landform is typical of the western sector of the Darling Scarp and the soils consist primarily of mottled clays over a granite basement with clays often capped by laterite.

Remnant vegetation within the site is restricted largely to the upland areas, and typically comprises jarrah and marri open forest with some sheok and banksia woodland. The areas of remnant vegetation are dispersed over the site and substantial portions have been degraded by grazing and contain little or no understorey. The portion of remnant vegetation in the north of the site has been largely fenced from grazing activities and, as a result, is in good condition with considerable understorey and higher species diversity.

#### 1.3.2.4 Use of Land Surrounding Site

The Structure Plan area is located within a precinct that is characterised by rural residential activity. The land to the north, east and west is substantially developed for rural residential purposes, with lot sizes in the order of 2.0 ha (as shown in Figure 7).

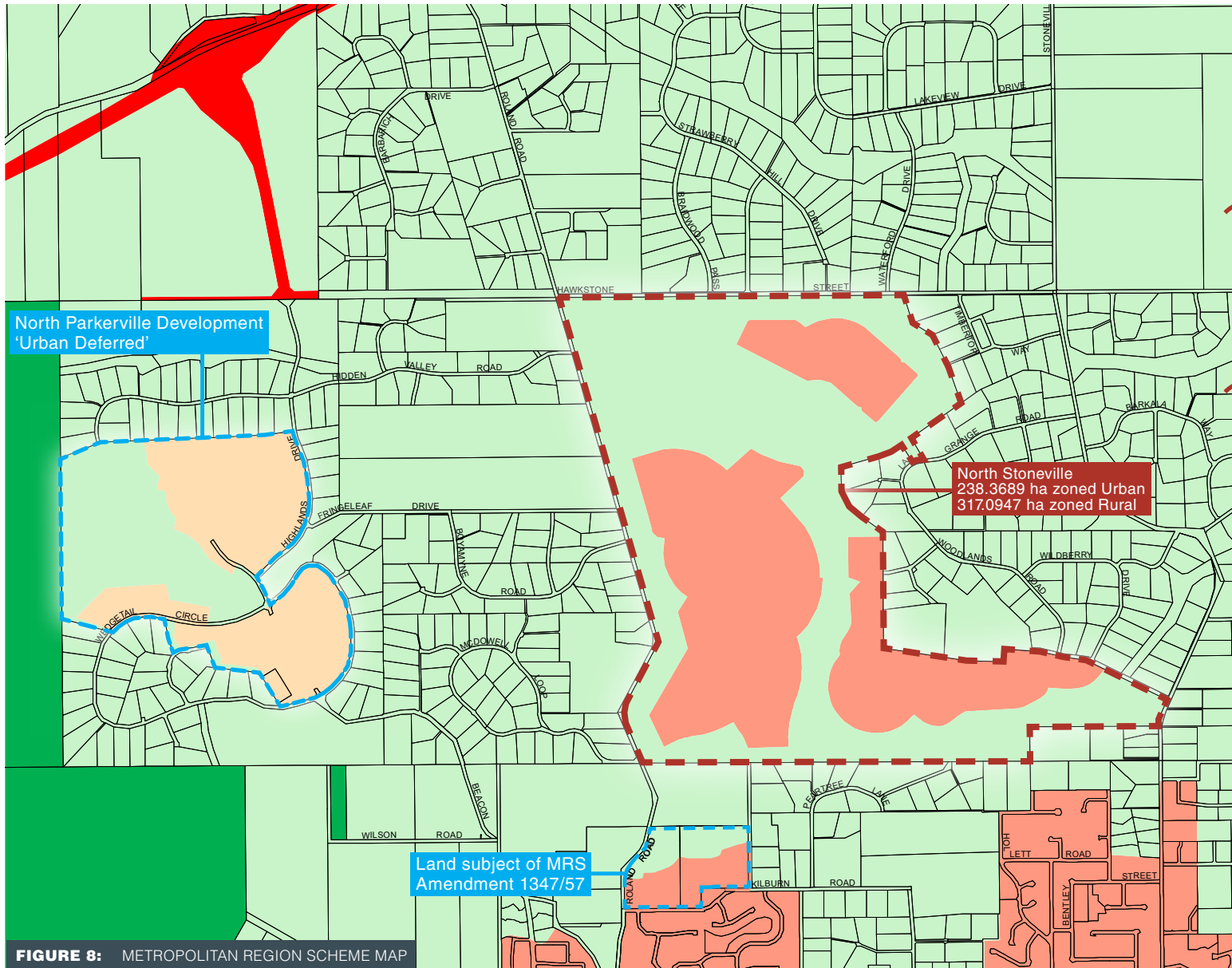
### 1.3.3 Legal Description and Ownership

The site comprises Lot 48 on Plan 029855, street number 4685 Stoneville Road, Stoneville and is owned by the Perth Diocesan Trustees.

Satterley and the Perth Diocesan Trustees have entered into a Development Agreement to progress planning and subsequent development of the North Stoneville Structure Plan area.



# PART TWO: EXPLANATORY



## MRS Legend

### Reserved roads

- █ Primary regional roads
- █ Other regional roads

### Zones

- █ Urban
- █ Urban deferred
- █ Central city area
- █ Industrial
- Special industrial
- █ Rural
- █ Rural - water protection
- █ Private recreation

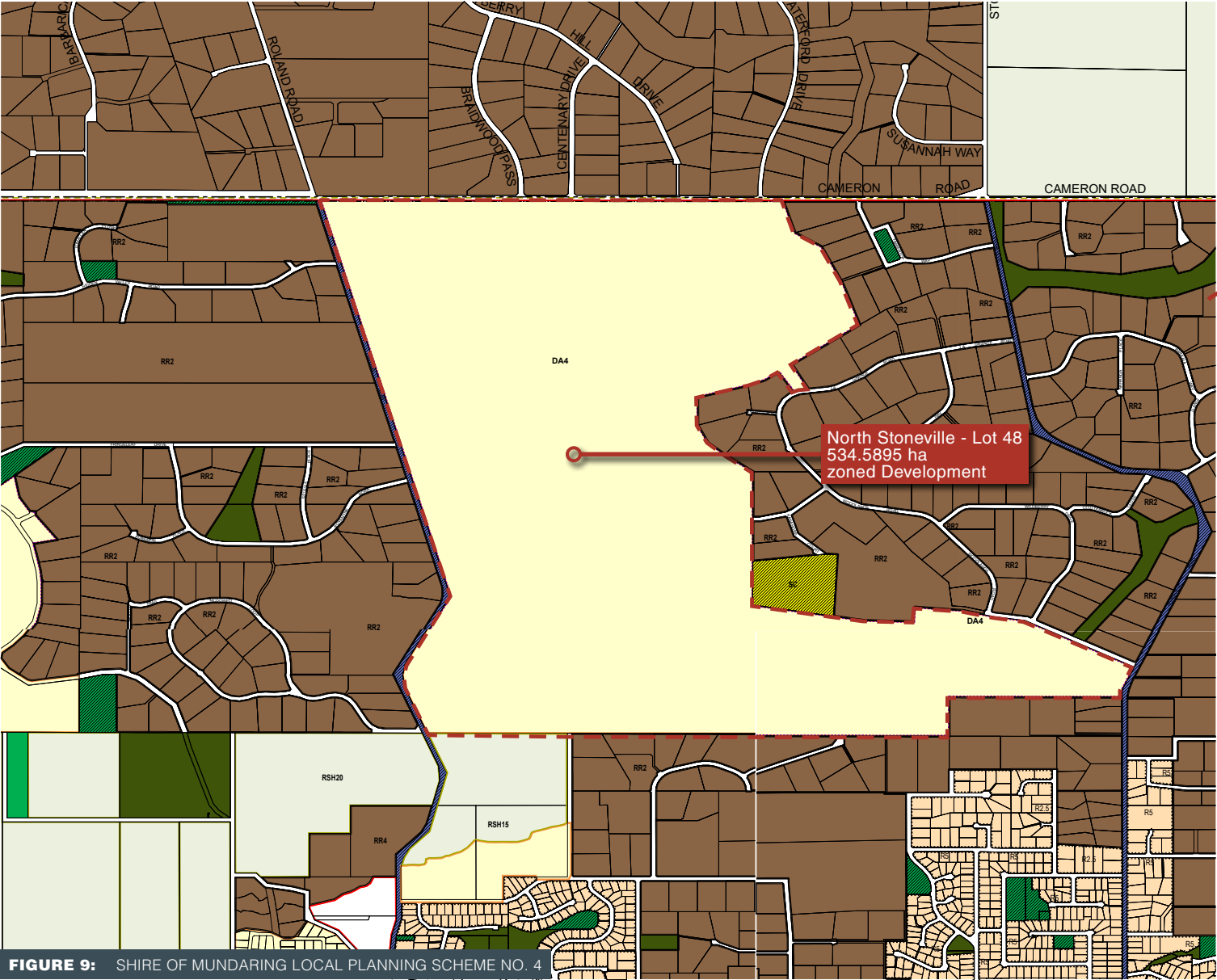
### Reserved lands

- █ Parks and recreation
- R Restricted public access

**FIGURE 8:** METROPOLITAN REGION SCHEME MAP

Map Source: WAPC 2018





**Local Scheme Legend**

**LOCAL SCHEME RESERVES**

- Conservation
- Important Local Roads
- Other Local Roads
- Public Purposes
- Public Purposes : Drainage
- Public Purposes : School
- Public Purposes : Shire Depot
- Public Purposes : Waste Water Treatment Plant
- Recreation

**LOCAL SCHEME ZONES**

- Development
- General Agriculture
- Light Industry
- Local Centre
- Residential
- Rural Residential
- Rural Small Holdings
- Service Commercial
- Special Use
- Town Centre

\*RR2 - number refers to min. lot size

**OTHER CATEGORIES**

- (see scheme text for additional information)
- Scheme Area Boundary
  - Local Government Boundary
  - R20 R Codes

**FIGURE 9:** SHIRE OF MUNDARING LOCAL PLANNING SCHEME NO. 4

Map Source: WAPC 2018

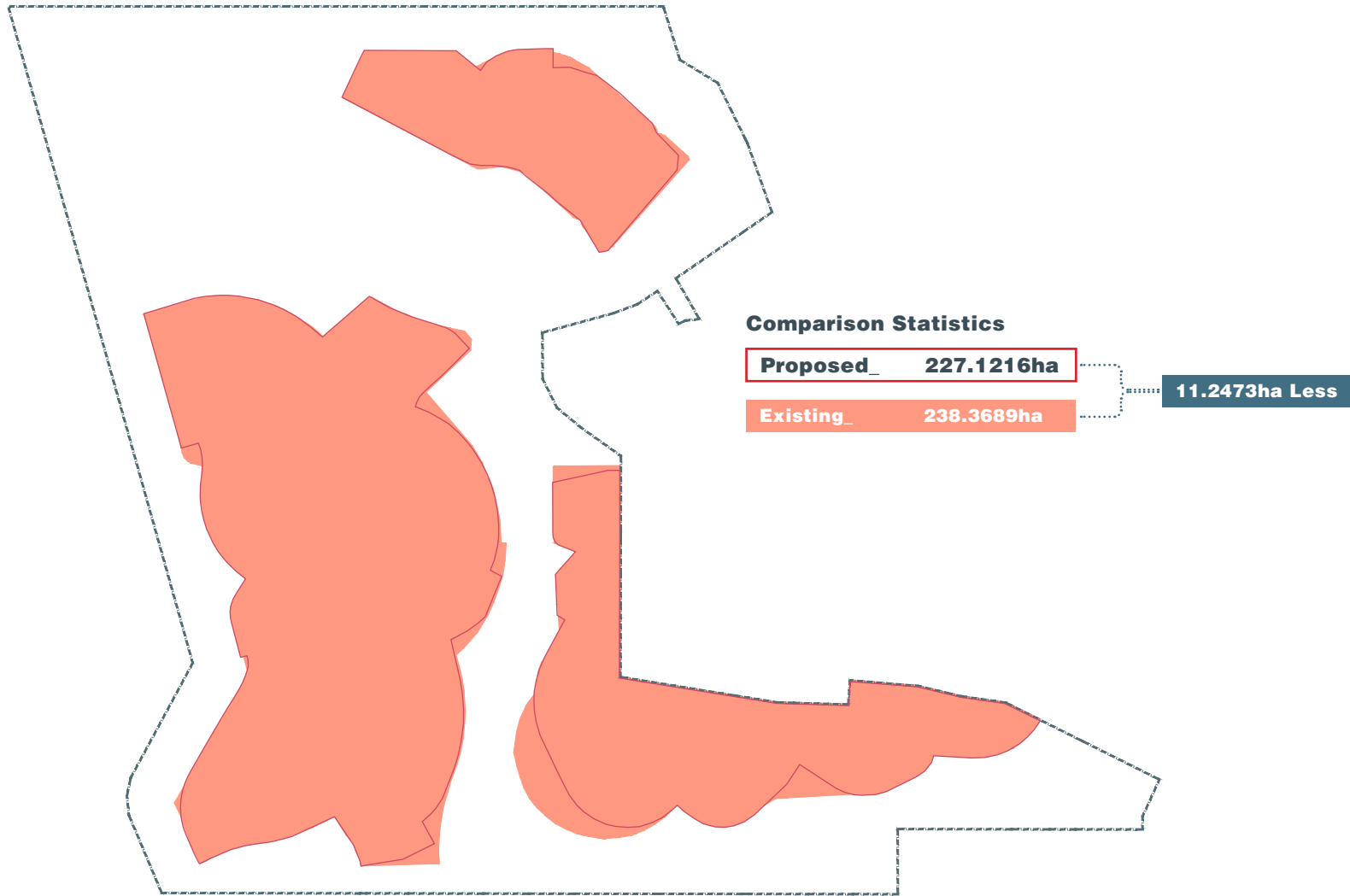




## PART TWO: EXPLANATORY



1:20,000



MRS Data Source: WAPC 2018  
Map Produced by Hatch 2024

**FIGURE 10:** MRS COMPARISON MAP

## 1.4 Planning Framework

### 1.4.1 Zoning and Reservations

#### 1.4.1.1 Metropolitan Region Scheme

Under the provisions of the Metropolitan Region Scheme (MRS), 43% of the site (238.3689ha) is zoned Urban while the balance (296.2296ha) is zoned Rural.

Figure 8 depicts the spatial extent of each MRS zone.

The integrity of the Urban boundaries was established by LSIP 265 and was based on a range of considerations such as topography, environment and landscape, among other things. Proposed Amendment 1 to SP34 maintains the integrity of the Urban zone and the structure of villages, according to well established and desired urban design principles.

The updated design as depicted in Figure 10, and presented in Section 3 of this report, achieves a similar, but slightly smaller footprint of MRS Urban zoning. It is noteworthy that the proposed development footprint is contained within the MRS zoning.

The integrity of the MRS Urban zoning of the site is maintained, with a decrease in the urban development footprint.

#### 1.4.1.2 Shire of Mundaring Local Planning Scheme No. 4 (LPS4)

Lot 48 has been zoned Development since 1994 when Town Planning Scheme No.3 (TPS3) came into effect.

The Development zone permits urban development, subject to an approved Structure Plan to guide the pattern and layout of subdivision in accordance with cl. 5.17.2.1(a) of LPS4.

Figure 9 illustrates the zoning of the land and surrounds under LPS4.

When LPS4 came into effect in 2014, the approved LSIP 265 (Figure 11) was renamed Shire of Mundaring Structure Plan No. 34 (SP34).



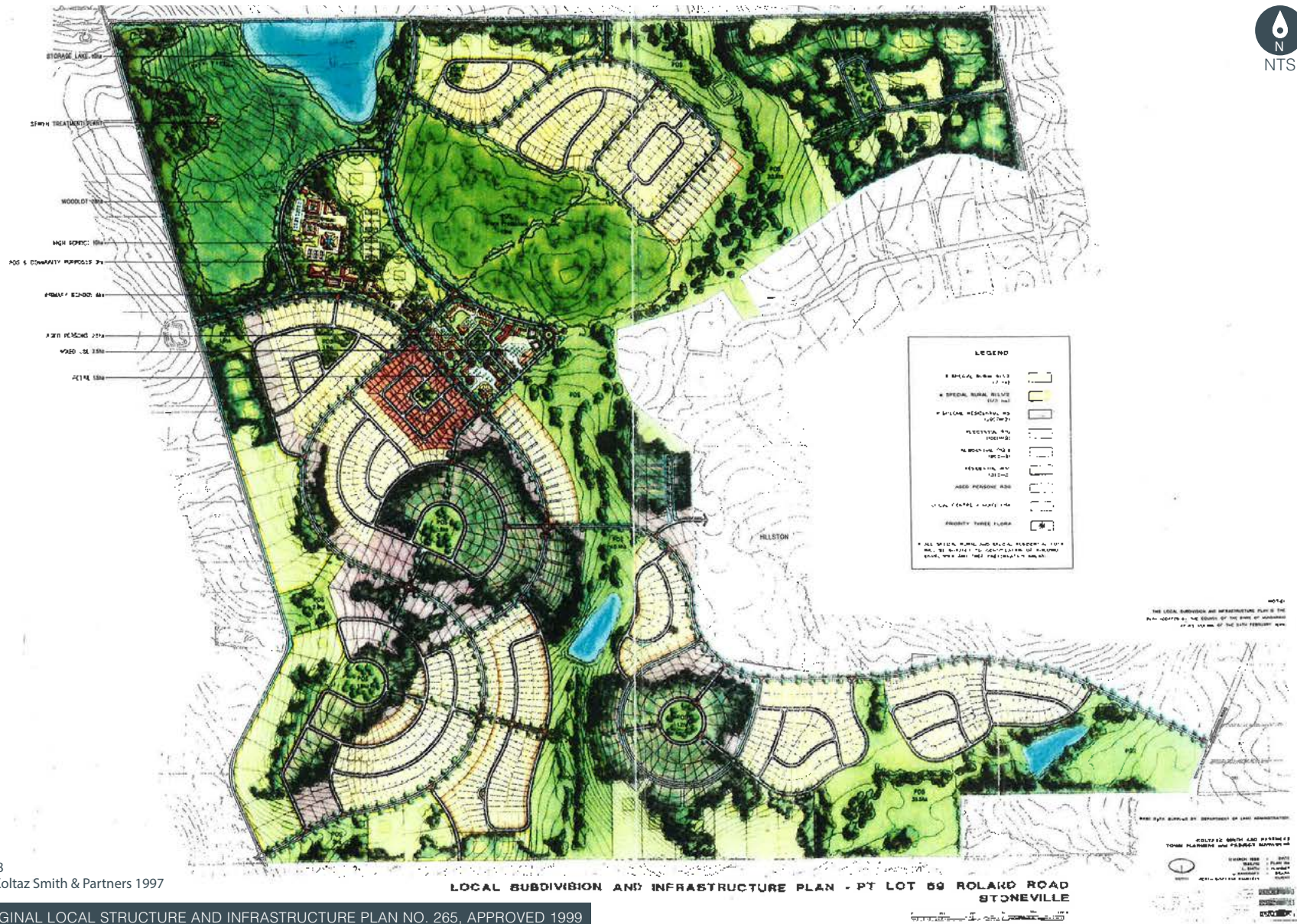


Image Source: Shire of Mundaring 2018  
 Approved LSIP 265 map produced by Koltaz Smith & Partners 1997

**FIGURE 11:** COPY OF THE ORIGINAL LOCAL STRUCTURE AND INFRASTRUCTURE PLAN NO. 265, APPROVED 1999

LOCAL SUBDIVISION AND INFRASTRUCTURE PLAN - PT LOT 59 ROLARD ROAD  
 STONEVILLE

### 1.4.2 Planning Framework

Amendment No.1 to SP34 was prepared with due regard to all planning and related strategies and policies. Amendment No.1 to SP34 is consistent with the following:

REGULATION	STRATEGIES	PLANNING POLICIES
<ul style="list-style-type: none"> <li>Environment Protection and Biodiversity Conservation Act 1999</li> <li>Aboriginal Heritage Act 1972</li> <li>MRS Amendment 1019/33 (North Stoneville)</li> </ul>	<ul style="list-style-type: none"> <li>Perth and Peel@3.5million: The Transport Network (WAPC, 2018)</li> <li>Shire of Mundaring Local Planning Strategy (Shire of Mundaring, 2012)</li> <li>Shire of Mundaring Local Commercial Strategy (Essential Economics Pty Ltd, 2018)</li> <li>Shire of Mundaring Public Open Space Strategy (Shire of Mundaring, 2001)</li> </ul>	<p><u>STATE PLANNING POLICIES</u></p> <ul style="list-style-type: none"> <li>SPP 1.0: State Planning Framework Policy (WAPC, 2017)</li> <li>SPP 2.0: Environment and Natural Resources Policy (WAPC, 2003)</li> <li>SPP 2.8: Bushland Policy for the Perth Metropolitan Region (WAPC, 2010)</li> <li>SPP 2.9: Water Resources (WAPC, 2006)</li> <li>SPP 2.10: Swan-Canning River System (WAPC, 2006)</li> <li>SPP 3.0: Urban Growth and Settlement (WAPC, 2006)</li> <li>SPP 3.1: Residential Design Codes (WAPC, 2018)</li> <li>SPP 3.7: Planning in Bushfire Prone Areas (WAPC 2015)</li> </ul> <p><u>DEVELOPMENT CONTROL AND OPERATIONAL POLICIES</u></p> <ul style="list-style-type: none"> <li>Liveable Neighbourhoods (WAPC 2009)</li> <li>Local Planning Policies</li> <li>Shire of Mundaring Street Trees Policy (PS-08 2018)</li> </ul>

### 1.4.3 Perth and Peel@3.5million (North-East Sub-regional Planning Framework) (WAPC: 2018)

SP34 proposes a density of 5.7 dwellings per gross urban zoned hectare.

The North-East Sub-Regional Planning Framework aims for a target density of 15 dwellings per gross urban hectare for new Structure Plans, in this location, where appropriate. This target density is inappropriate for the following reasons:

- The density target of 15 dwellings per gross urban zoned hectare is a metropolitan average. Monitoring of development activity since 2011 by the Department of Planning, Lands and Heritage (DPLH) confirms that the Shire of Mundaring has generally averaged much lower dwelling densities (approx. 5-8 dwellings per urban zoned hectare). This is consistent with the desired character of Hills communities.
- The site's features (specifically, moderate to steep slopes and clay soils capped by laterite) do not lend themselves to significant landform modification, which would be required to achieve higher densities.
- Amendment No. 1 to SP34 is based on the North Stoneville Place Vision Blueprint and Transect Design Guide, which do not form part of the Structure Plan, but have been prepared to help guide project delivery and establish a design response that reflects the distinct local sense of place and avoid an undesirable suburban pattern of development, as expressed by the local community and the Shire of Mundaring.



## PART TWO: EXPLANATORY

### 2.0 SITE CONDITIONS AND CONSTRAINTS

#### 2.1 Topography

##### 2.1.1 Contour Mapping

The site is generally undulating, with slopes ranging from flat to approximately 15 degrees (limited to the southern portion of the site). Elevation across the site ranges from approximately 247 meters Australian Height Datum (AHD) in the south-western portion of the site, to approximately 316 m AHD in the centre of the site.

Detailed design of the street network at subdivision stage, will need to carefully considered with engineering input to avoid steep grades for most streets. It is expected that a limited number of streets will contain very steep grades where it is necessary to respond to the existing slope.

Refer Figure 12, site topography map.

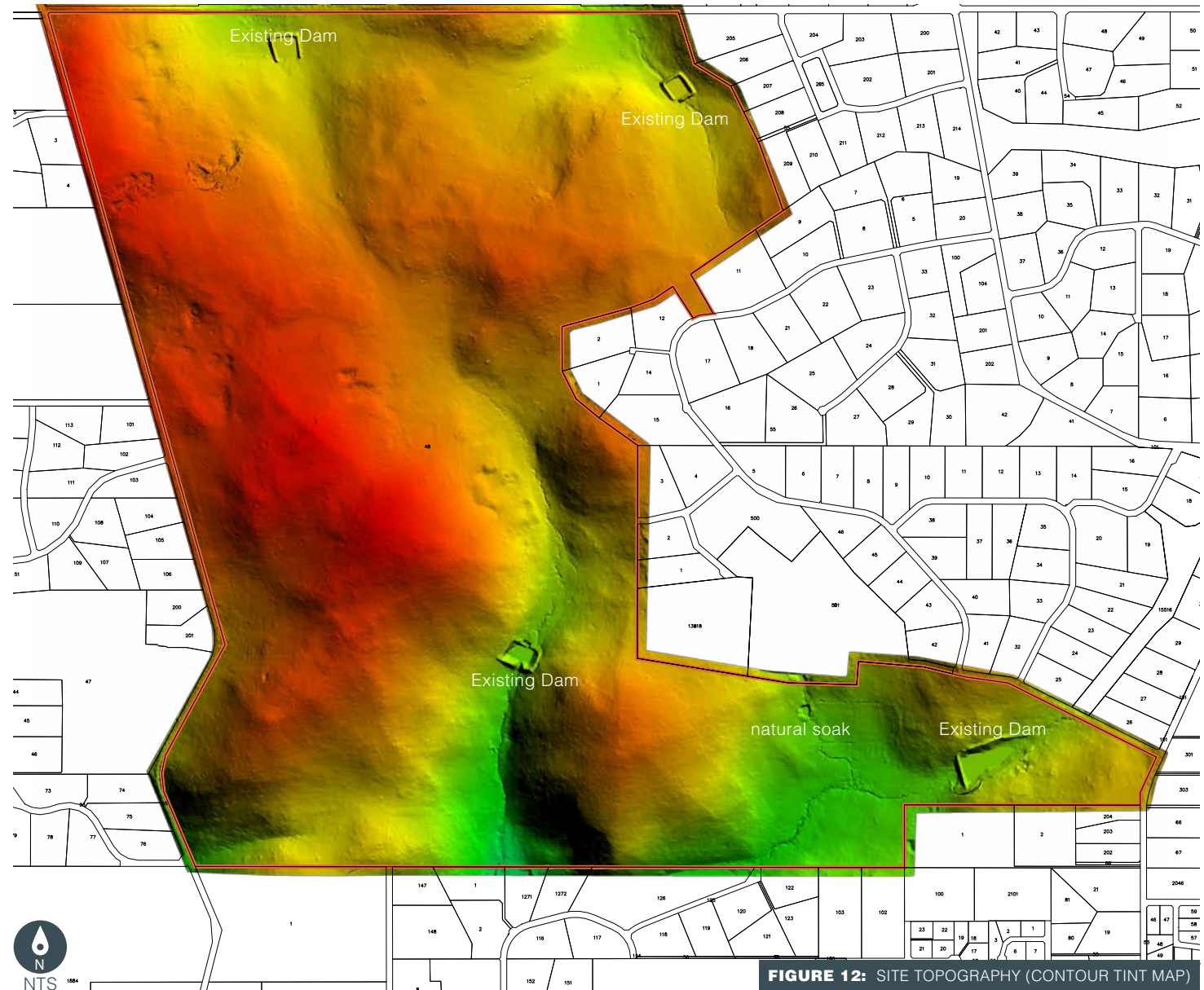


FIGURE 12: SITE TOPOGRAPHY (CONTOUR TINT MAP)

Data Source: MNG Surveyors 2017

2.1.2 Slope Analysis

Slope analysis has been a key input into the design response for the Structure Plan.

As shown at Figure 13, land depicted in bright red has a 10% grade or more. Typically, it is very difficult to develop land and engineer roads to acceptable grades on land with slope greater than 10% (fall of 1m over 10m).

The steepest parts of the site are typically found on the side of the hills framing the central watercourse (shown in yellow and red).

Careful consideration will need to be given to building methods and lot sizes to avoid unacceptable and cost prohibitive earthworks.

Smaller lot sizes are to be concentrated on flat and gently undulating land (0 to 4%) where available.

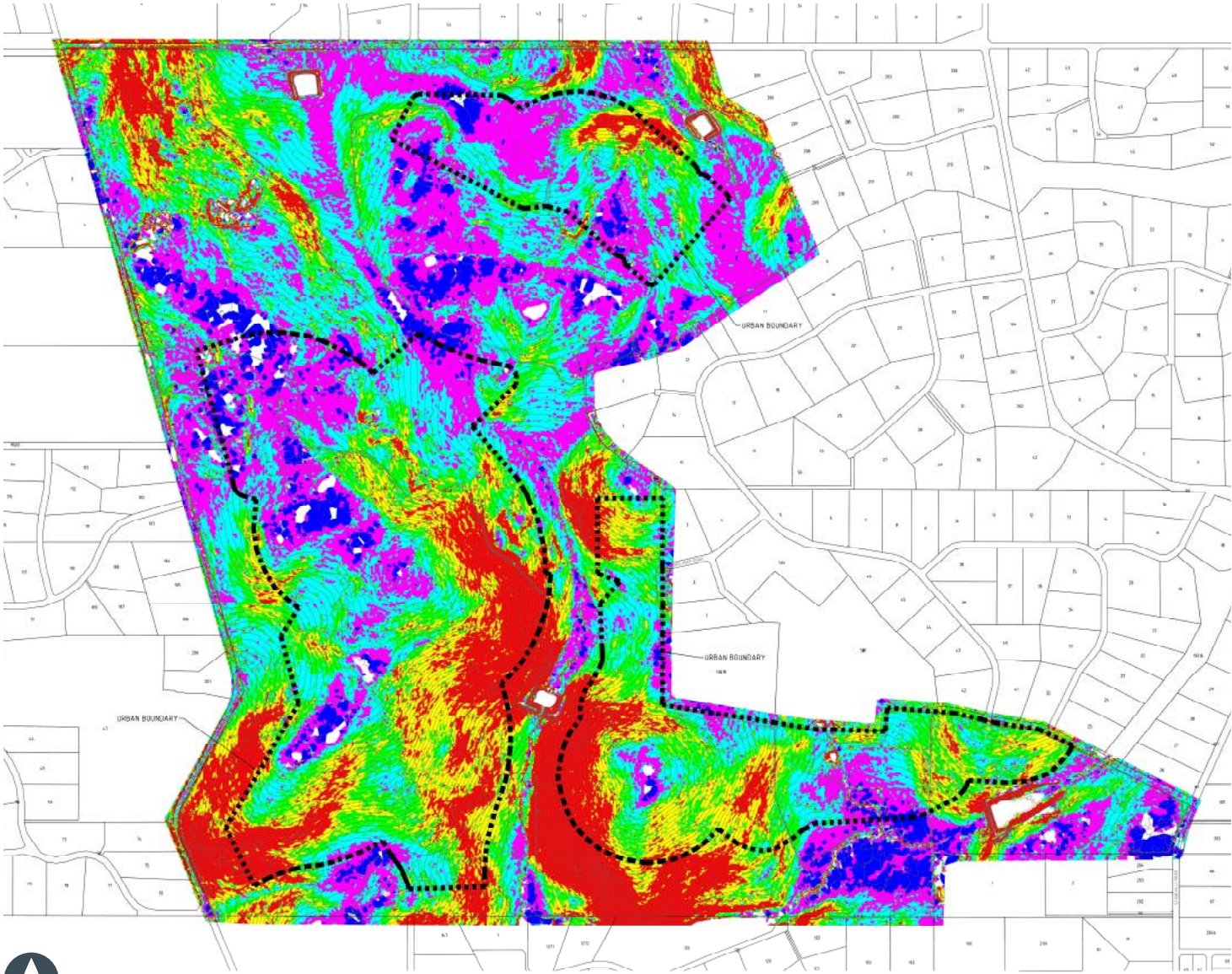
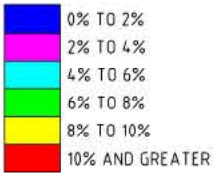


FIGURE 13: SLOPE ANALYSIS MAP

Data Source: Cossill & Webley 2017

SLOPE ANALYSIS LEGEND





## PART TWO: EXPLANATORY

### 2.2 Biodiversity and natural areas assets

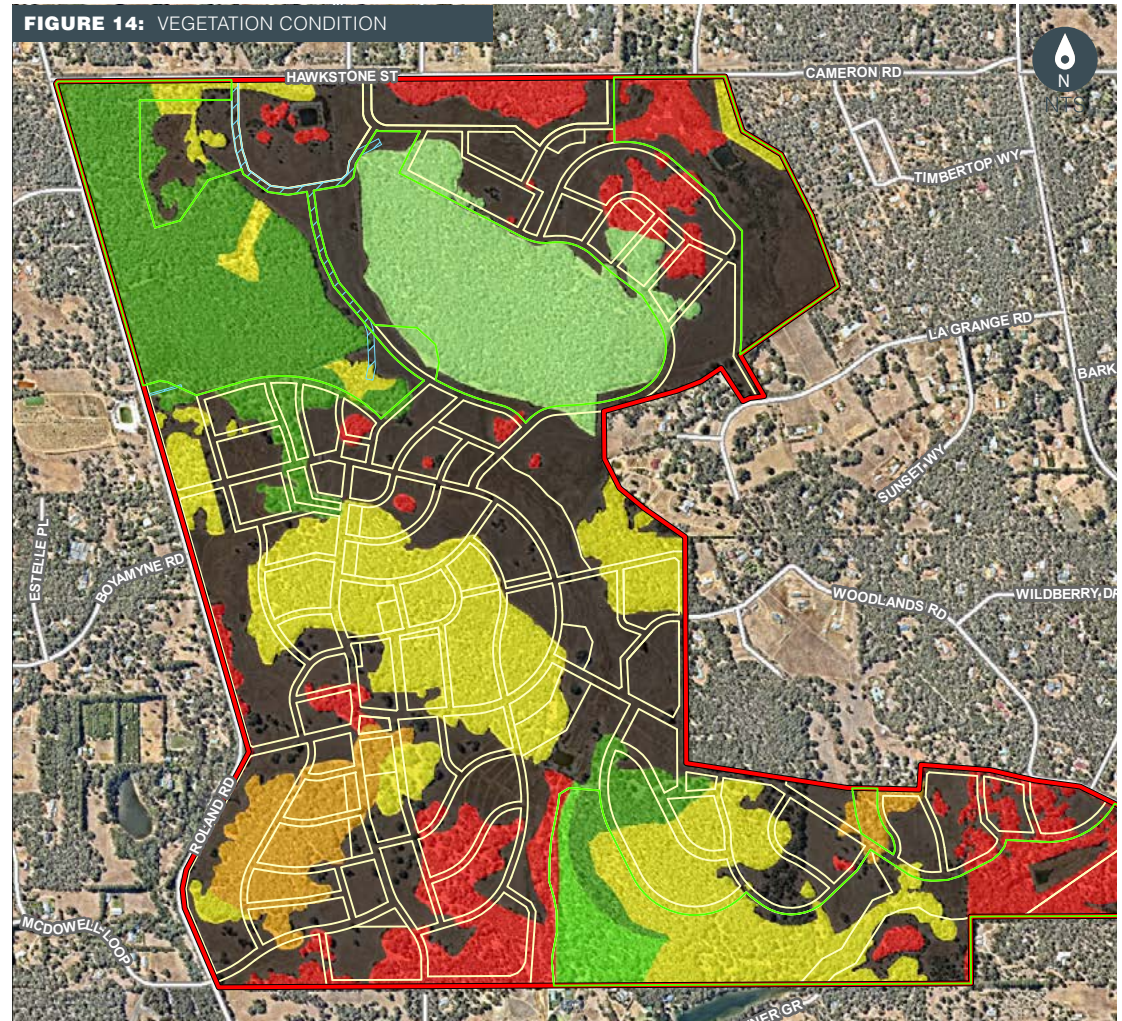
#### 2.2.1 Vegetation and Flora

Remnant vegetation within the site is restricted largely to the upland areas, and typically comprises jarrah and marri open forest with some sheek and banksia woodland. The areas of remnant vegetation are dispersed over the site and substantial portions have been degraded from grazing and contain little or no understorey. The portion of remnant vegetation in the north of the site has been largely fenced from grazing activities and, as a result, is in good condition with considerable understorey and higher species diversity.

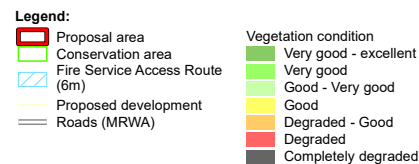
Flora and vegetation surveys of the subject site conducted in Spring 2016 and Spring 2017 by then JBS&G (formally Strategen) did not identify the presence of any ecological community or flora species of State or Commonwealth conservation significance on the site.

Approximately 40% of the site was assessed as containing remnant native vegetation that can be described as good, good to very good or very good to excellent condition. A large majority of this vegetation identified will be retained in conservation areas.

Of the area to be developed, approximately 54% is in Completely Degraded condition and 5% is in Very Good to Excellent condition.



Map Source: JBS&G 2022



### 2.2.2 Fauna and Habitat

JBS&G advise that the following fauna species of importance are likely to use the site based on desktop assessment:

- Carnaby's Black-Cockatoo.
- Forest Red-tailed Black-Cockatoo.
- Baudin's Black-Cockatoo.
- Chuditch.
- Brush-tailed Phascogale.
- Wedge Tailed Eagle.

The site provided approximately 297 ha of Black Cockatoo habitat of a similar age and habitat value to the vegetation surrounding the site and provided regionally by the Dwellingup Complex and Yarragil 1 Complex, which have approximately 86 % and 81 % of the pre-European extent remaining, respectively.

Although on-site surveys confirmed that there are many significant Jarrah-Marri forest trees that could provide Black Cockatoo habitat, no direct evidence (adults entering hollow or young birds heard) of nesting was observed, nor was indirect evidence e.g. feathers on the ground or bespatter. In addition, bees were recorded in several of the hollows during the assessments.

JBS&G advise that the Chuditch has been recorded in the Parkerville and Mundaring areas (Parks and Wildlife 2007) and is highly likely to occur as a resident or visitor to the site in low numbers. However, no signs of the Chuditch were observed during the 2017 assessment.

The retained vegetation is representative of the better quality potential Chuditch habitat on the site and therefore any impact to this species is considered to be minimal.

Similarly, whilst potential habitat for the Brush-tailed Phascogale exists, the quality and age of the vegetation limits the potential for this species to inhabit the site. If present on site, it is most likely to occur in the better quality vegetation, the majority of which is being retained.

The value of impacted habitat is primarily relevant to Black Cockatoo species and clearing of habitat quality is summarised as follows:

- Excellent quality – 20.3ha
- Good quality – 91.7ha
- Moderate quality – 46.6ha

Whilst not listed by State or Commonwealth legislation as being of conservation significance (i.e. declining numbers or under threat of decline), the Wedge Tailed Eagle is an iconic species and is known to utilise the site, with one pair known to have nest sites on the property as well as in surrounding areas that form part of their home range. This species is likely to utilise the site due to the presence of a large number of kangaroos, the young of which are prey for Wedge Tailed Eagles.

Refer to section 5.3.2 of the Environmental Assessment Report (Appendix 6A) for mitigation and management strategies and Environmental Assessment Report Addendum (Appendix 6B).



## PART TWO: EXPLANATORY

### 2.3 Landform and soils

#### 2.3.1 Landform and Soil Profile

The site lies in the Darling Ranges, with the description for the region as follows:

*Gently undulating lateritic uplands with well drained, shallow to moderately deep gravelly brownish sands, pale brown sands and earthy sands, overlying lateritic duricrust (hardpan).*

The lateritic hardpan is a layer of gravel with varying degrees of cementation from low to high. These hardpans may be up to 4 m thick and are generally underlain by a clayey pallid zone. While the sandy soils above the hardpan have a high permeability, the hardpan layer generally has a low permeability. Laterite hardpans have been observed at the surface of hilltops (refer Photo 3).

On hilltops, these hardpans may be exposed at the surface. Further downhill:

- The thickness and cementation of the hardpans decreases.
- The depth of soil above the hardpan increases.

On valley floors, the action of streams will have eroded the hardpans, leaving behind Yarragil group soils including duplex soils (sand over clay) and earthy soils (loam over clay) which do not have a cemented layer. These soil types occur only in the vicinity of creek lines within the site.

The site is predominantly granite and gravel geological units, which are compatible with urbanisation and the construction of roads.

#### 2.3.2 Acid Sulphate Soils

Acid Sulphate Soils (ASS) were not encountered during the two Geotechnical Site Investigations. There is no known risk of ASS occurring within 3m of the natural soil in the surrounding area, including the John Forrest National Park, so it is highly probable that the site will contain a similarly low level of ASS risk. The risk associated with ASS is further reduced by the proposed earthworks strategy which favours importing or generating clean sand for filling over excavation into in situ material due to the presence of hardpan laterite.

**PHOTO 3:** LATERITIC HARDPAN AND LATERITE BOULDERS AT THE SURFACE ON THE SITE



Source: Strategen, 2018

2.4 Surface Water and Groundwater

2.4.1 Surface Water

The site conveys a reasonable amount of surface water during the winter months due to the steep terrain, gravelly surface and low permeability soil and laterite. Stormwater runoff congregates into natural water courses across the site, the most prominent runs north to south through the central area and flows south towards Clutterbuck Creek, ultimately flowing into Jane Brook towards the south-west.

Four main man-made pastoral dams exist on site, which can be seen on the contour tint map (Figure 12). Each dam is outside of the Urban zoned areas and provides an opportunity to form part of the overall drainage strategy as an efficient form of stormwater detention.

There is a natural soak within the eastern portion of the Urban zoned land, that may also be described as a small dam (Photo 6).

2.4.2 Groundwater

The low permeability of underlying laterite soils exhibit poor drainage and act as an aquiclude. There is not expected to be any substantial and/or connected aquifers within the site. Emerge Associates advise that it is possible for fractured rock aquifers to be at some locations, however there is no evidence onsite of this occurring. Groundwater is not expected to significantly recharge within the site, and therefore the quality of any limited groundwater contributions is not relevant to the ongoing management of the site.

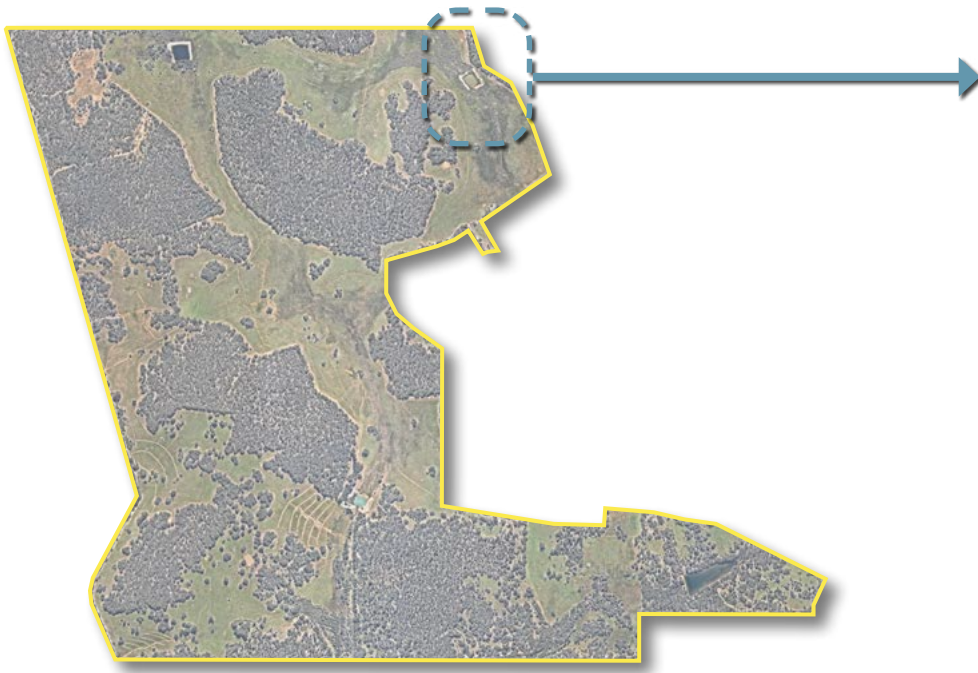
Refer to Appendix 5, Local Water Management Strategy.

Photo locations

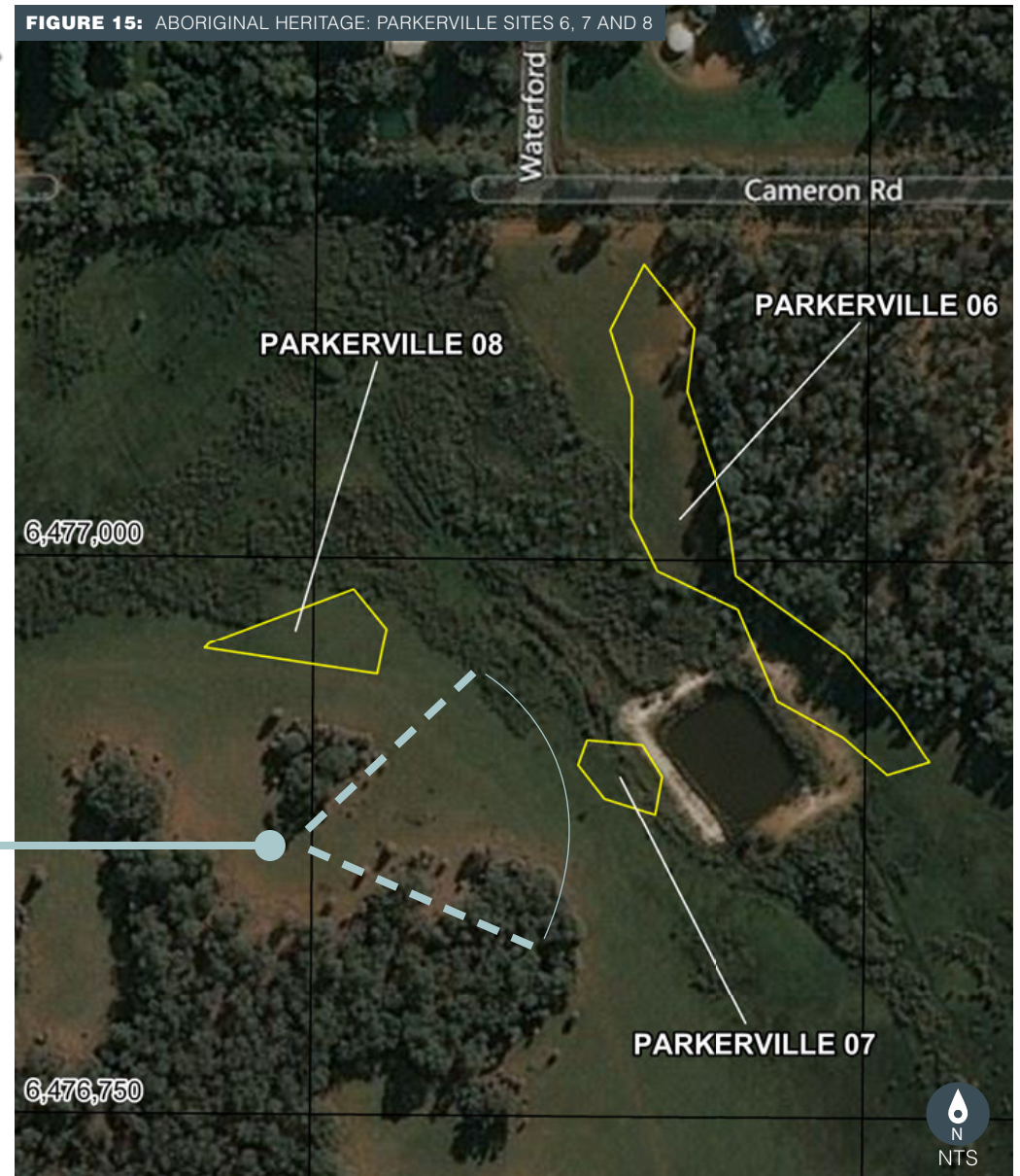




## PART TWO: EXPLANATORY



**FIGURE 15:** ABORIGINAL HERITAGE: PARKERVILLE SITES 6, 7 AND 8



**PHOTO 7:** LOOKING OVER DAM; ABORIGINAL PARKERVILLE SITES 6, 7 AND 8



Photo Source: Emerge Associates 2018

Map Source: Snappy Gum Heritage Services Pty Ltd 2018

## 2.5 Bushfire Hazard

The majority of the project area is designated as bushfire prone on the WA Map of Bush Fire Prone Areas.

The pre-development bushfire assessment identified areas of Class A Forest, Class D Scrub and Class G Grassland within 150 m of proposed development resulting in a moderate to extreme bushfire hazard level, with all proposed development being located on land with a low to moderate bushfire hazard level post-development.

The objective of creating a bushfire resilient community has been a strong influence on design.

A Bushfire Management Plan (BMP) was prepared in support of the request to lift the Urban Deferred zoning in 2016.

Refer to section 4.8

## 2.6 Heritage

### 2.6.1 European Heritage

There is no known European heritage listings or sites within the Structure Plan area.

### 2.6.2 Aboriginal Heritage

The site is subject of a s18 approval under the Aboriginal Heritage Act granted in 1998 to permit the residential development subject to a number of conditions including:

1. The incorporation of Parkerville sites 6,7 and 8 (refer Figure 15) into public open space.
2. All watercourses to be retained in public open space where practicable with 30m buffers.

The s18 approval also stated that where practicable Parkerville site 5 should also be incorporated into public open space.

Snappy Gum Heritage Surveys Pty Ltd c/- Ethnoscience has provided (Appendix 8) up to date advice on the locations of the sites and future management. The advice is that Parkerville site 5 cannot be located and is not practicable for inclusion in public open space.

Parkerville sites 6,7 and 8, in addition to the water courses, are proposed for inclusion into public open space. Recommendations for management are set out in detail in the Snappy Gum report.



## PART TWO: EXPLANATORY

Historic townships and settlements typically have a permeable grid pattern, punctuated by interruptions where needed to respond to landform or physical features, and a graduation of urbanity from their village cores to their rural peripheries.



**FIGURE 16:** LAYOUT OF TRADITIONAL TOWNSHIPS (L-R) MARGARET RIVER, PINJARRA AND YORK Source: Hatch, 2018

## 3.0 URBAN DESIGN FRAMEWORK

### 3.1 Introduction to Design Approach

This section summarises the key site conditions and constraints presented at section 2.0, and interprets the major findings of the technical appendices by spatially illustrating the primary design considerations.

A review of the local context and broader hills environment, in addition to understanding the urban morphology and design layout of traditional townships and urban settlements, has informed the design approach. Many of the best examples of historic hills settlements, such as Margaret River, Pinjarra and York share common urban design features that are instructive to form the basis of the new community.

The Structure Plan seeks to emulate the broader urban philosophy of the Hills lifestyle where urban settlement areas are defined by landform and the landscape reflects the character of the landform.

With due regard to the constraints and opportunities of the site, the Structure Plan seeks to create individual urban villages within a broader rural setting and separated by major open spaces. This approach preserves, as far as practical, the important landscape, form and vegetation of the site.

### 3.2 Design Process

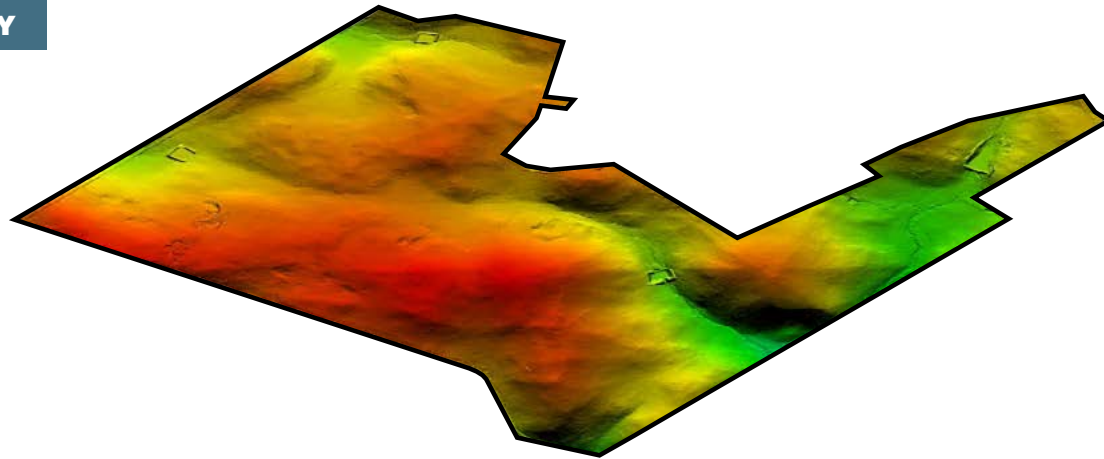
The Structure Plan has been based largely upon a landform analysis approach which recognises the opportunities and constraints of the site and results in an urban form that respects the areas of highest environmental value.

The following pages summarise the key considerations that have informed development of the concept masterplan.

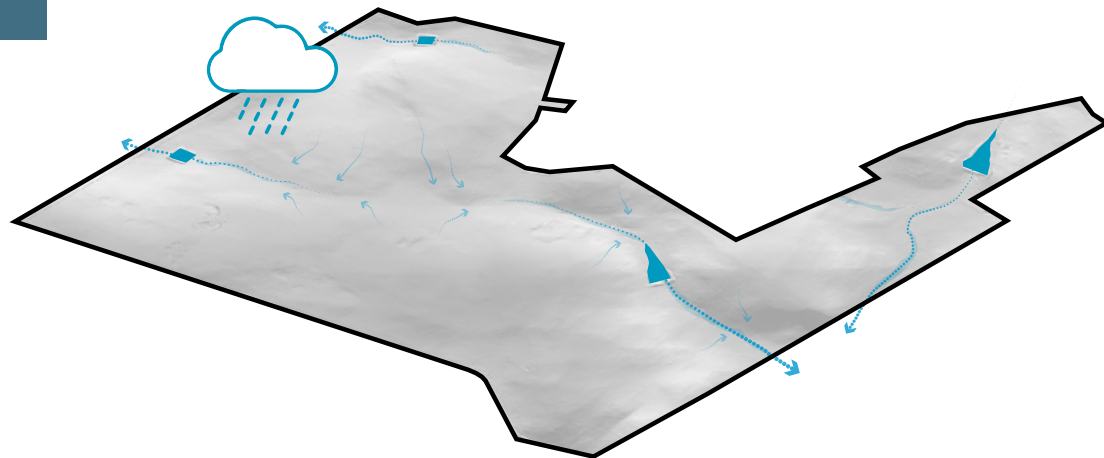


## PART TWO: EXPLANATORY

### 1 CONSIDER TOPOGRAPHY



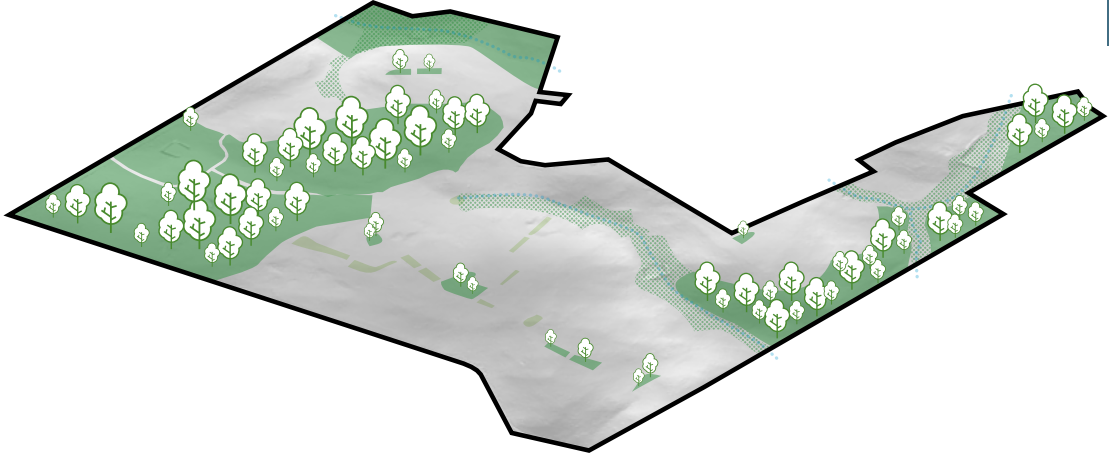
### 2 WATER MOVEMENT



**FIGURE 17:** DESIGN PROCESS

Plans produced by Hatch, 2022

CONSERVATION + POS 3



SCHOOL 4

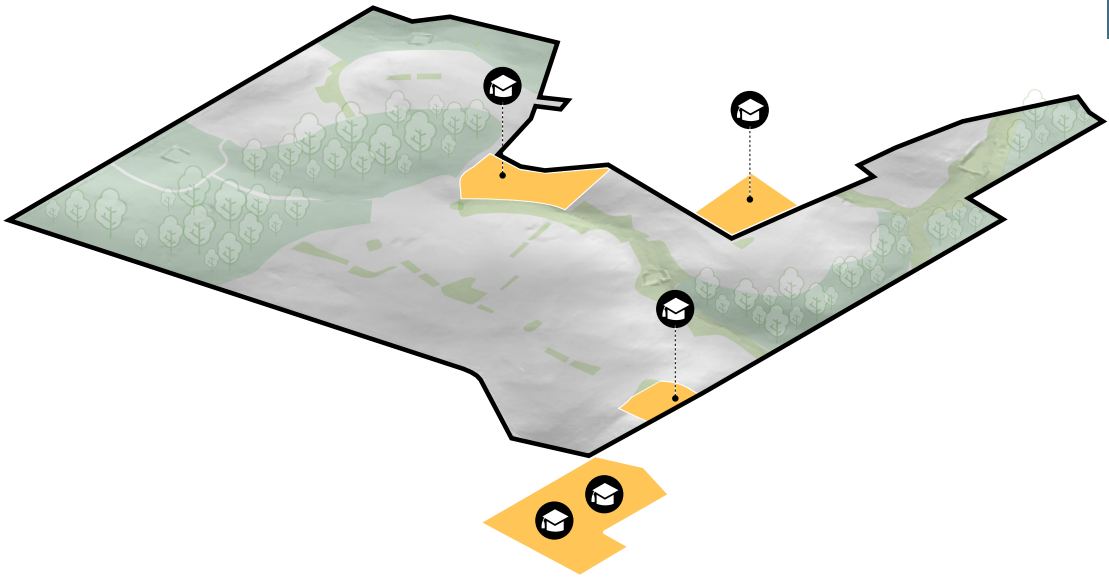


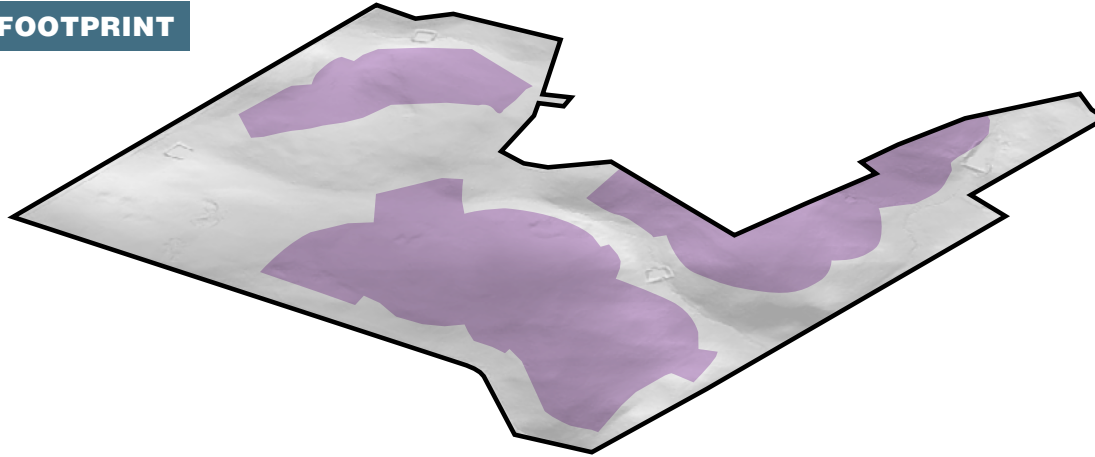
FIGURE 17: DESIGN PROCESS (CONTINUED)

Plans produced by Hatch, 2022

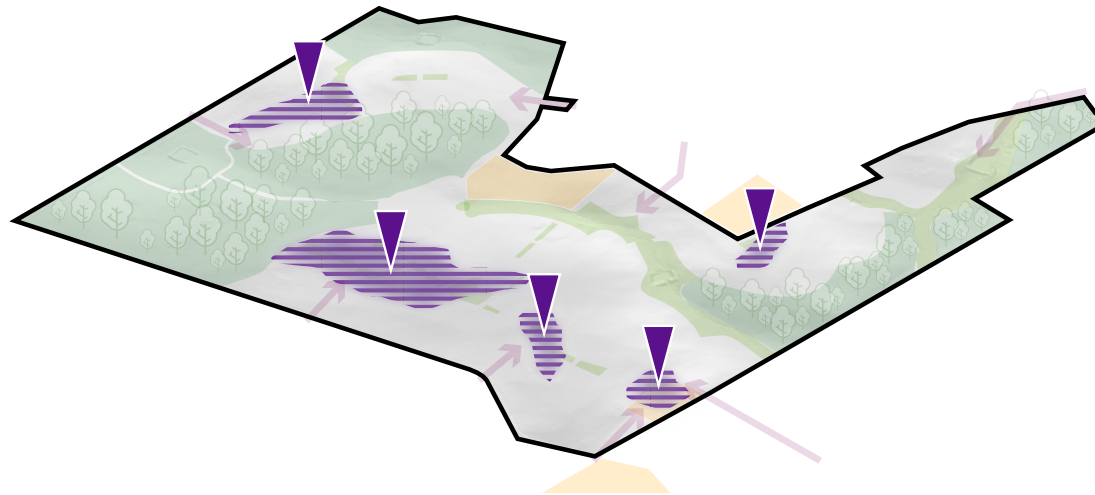


## PART TWO: EXPLANATORY

### 5 DEFINE DEVELOPMENT FOOTPRINT



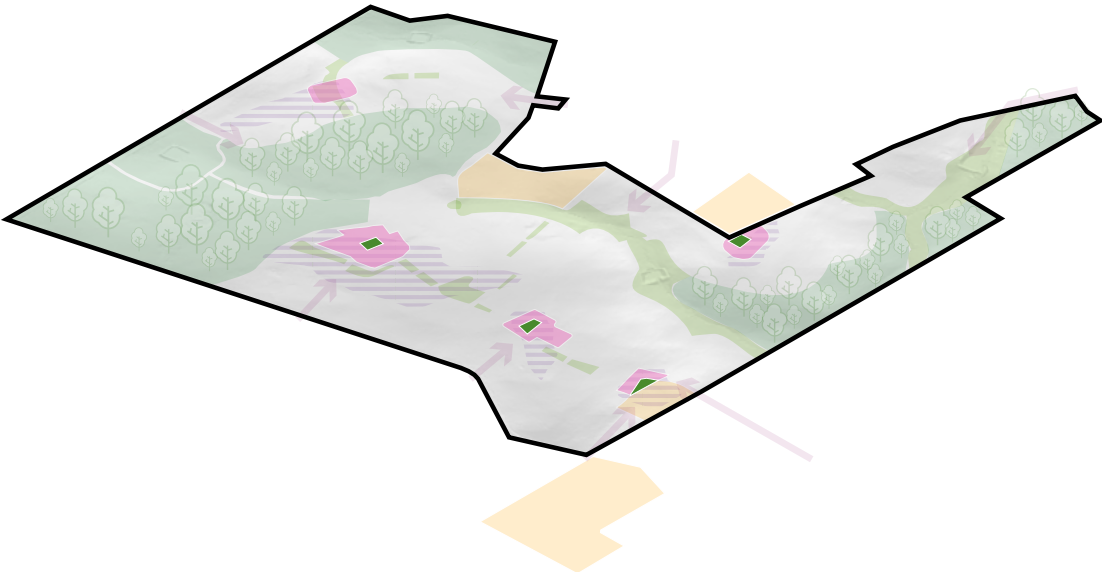
### 6 IDENTIFY FLAT SITES



**FIGURE 17:** DESIGN PROCESS (CONTINUED)

Plans produced by Hatch, 2022

SHAPE VILLAGE NODES 7



CONNECT VILLAGE CORES 8

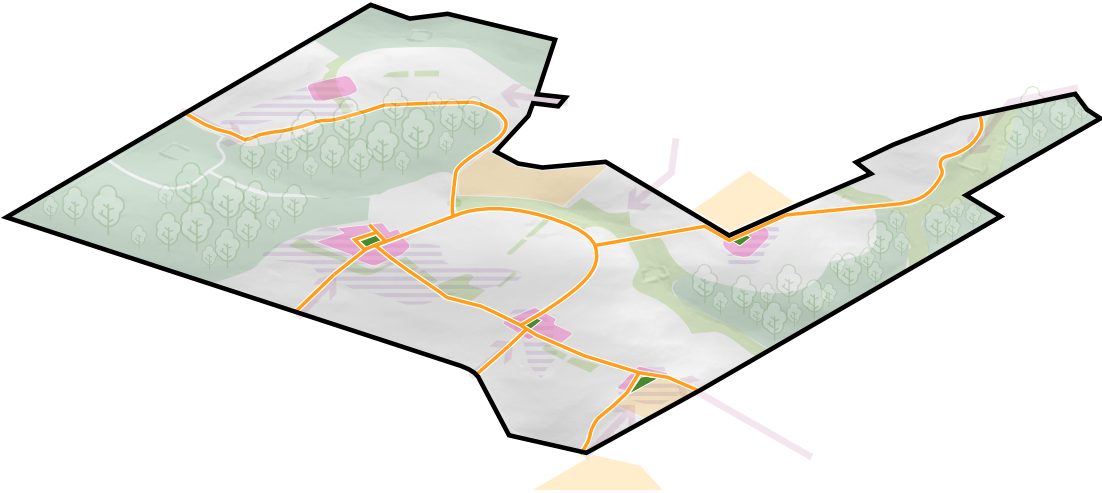


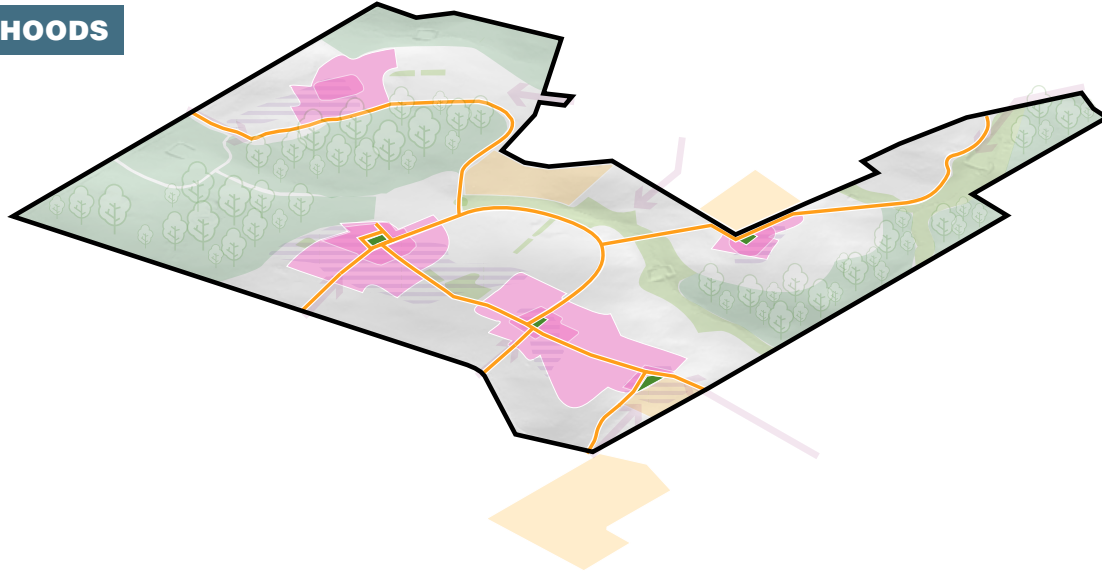
FIGURE 17: DESIGN PROCESS (CONTINUED)

Plans produced by Hatch, 2022

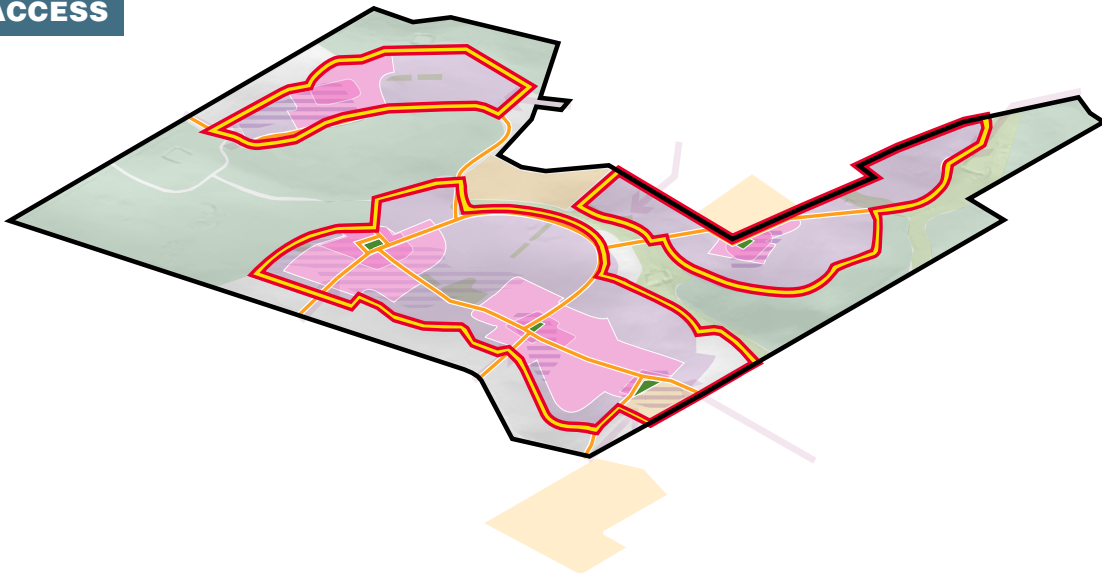


## PART TWO: EXPLANATORY

### 9 ESTABLISH NEIGHBOURHOODS



### 10 BUSHFIRE PERIMETER ACCESS



**FIGURE 17:** DESIGN PROCESS (CONTINUED)

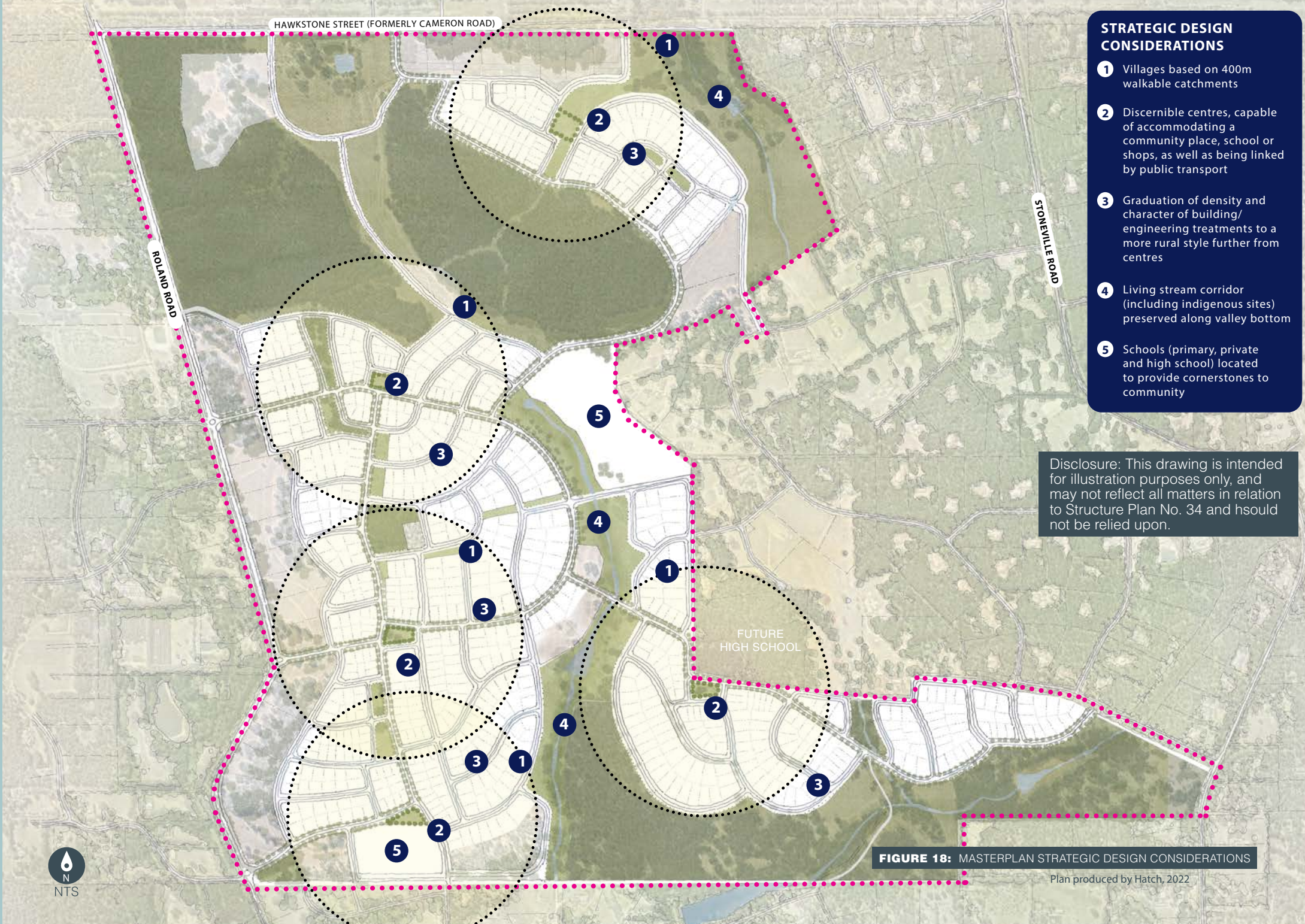
Plans produced by Hatch, 2022



FIGURE 17: DESIGN PROCESS (CONTINUED)

Plans produced by Hatch, 2022





- ### STRATEGIC DESIGN CONSIDERATIONS
- 1** Villages based on 400m walkable catchments
  - 2** Discernible centres, capable of accommodating a community place, school or shops, as well as being linked by public transport
  - 3** Graduation of density and character of building/ engineering treatments to a more rural style further from centres
  - 4** Living stream corridor (including indigenous sites) preserved along valley bottom
  - 5** Schools (primary, private and high school) located to provide cornerstones to community

Disclosure: This drawing is intended for illustration purposes only, and may not reflect all matters in relation to Structure Plan No. 34 and should not be relied upon.

**FIGURE 18:** MASTERPLAN STRATEGIC DESIGN CONSIDERATIONS

Plan produced by Hatch, 2022





### 3.3 The Design Response

The masterplan design for North Stoneville is framed around a vision of creating a contemporary Hills Townsite that feels quintessentially local, blending seamlessly within the local landscape. In addition to place drivers (i.e., pursuing a Hills character, designing 'at one with nature', and fostering community-building) the masterplan specifically responds to the following physical design considerations:

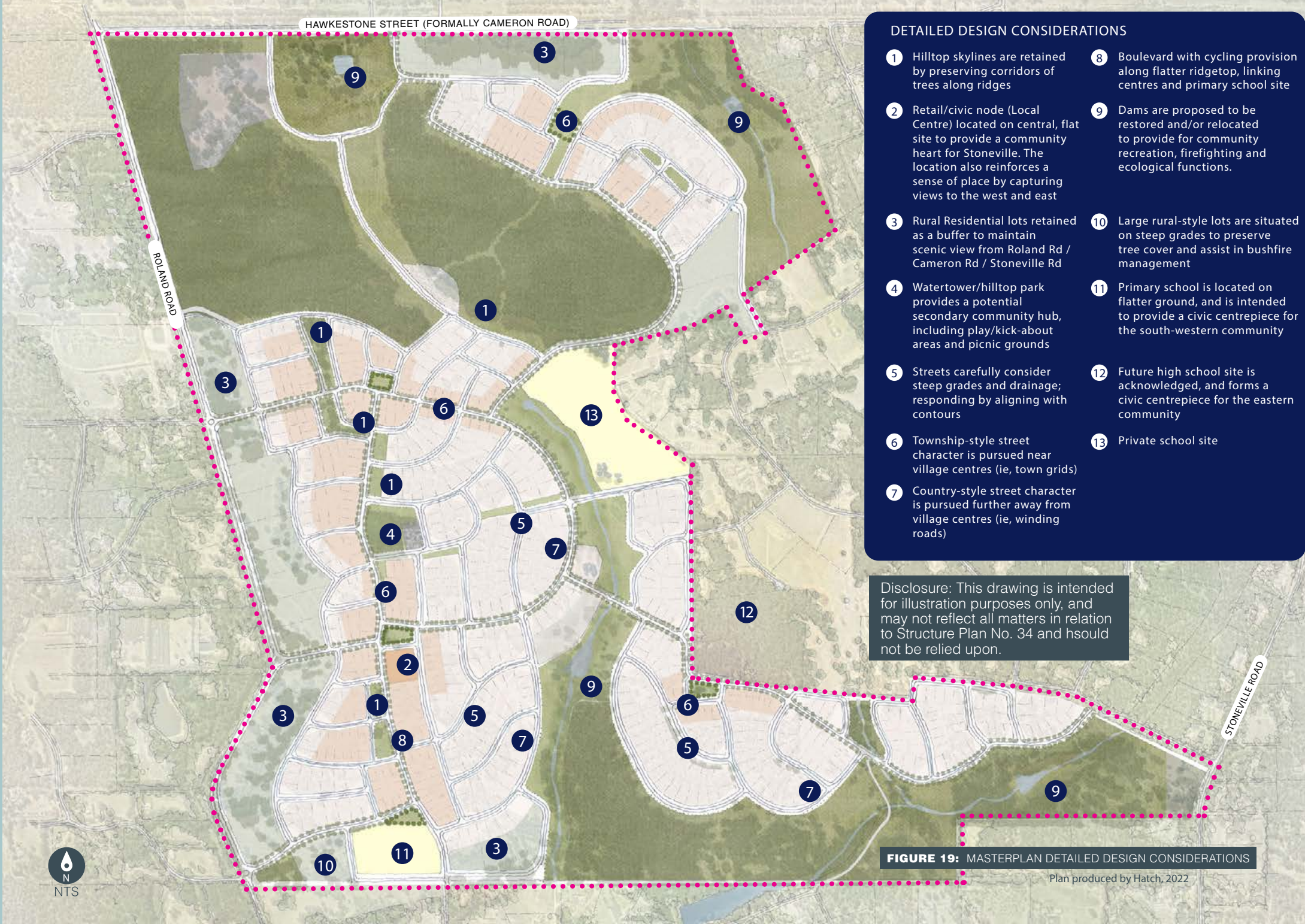
- the preservation of environmental features;
- responding to topography and landscape;
- achieving a walkable village structure;
- creating authentic township patterns;
- creating definable community places and centres;
- achieving a diversity of form and character with areas guided by the rural to urban transect; and
- achieving bushfire resilience.

In summary, the masterplan is based on the creation of defined villages in a natural landscape setting, reflecting the landform and the character of Hills settlements.

The key elements of the masterplan are as follows:

- **Preservation of environmental features** is achieved through the retention of all the natural drainage corridors and creeklines, the allowance for a conservation area in the north, and retention of good quality vegetation along ridge lines. The masterplan also incorporates buffers and setbacks for bushfire, aboriginal heritage and creeklines. Through an analytical process, the retention of these environmental features defined three distinctive urban cells within which a number of villages can be designed.
- **Response to topography** and landscape has driven the positioning and arrangement of villages. Due to the undulating nature of the site, village core areas (which include civic places, compact cottages and community uses) are generally positioned on flatter land which is typically found along the ridge-tops. These nodes in turn drive the character of the village form through the graduation of density and streetscapes moving away from centres. The ridge-tops offer views across the site. Careful consideration to the severity of slope in different locations dictates the alignment of streets and lots, in addition to respecting drainage patterns.
- **Creation of a walkable village structure** is enabled by the spacing and arrangement of nodes to ensure that each part of the village settlement is around 400m of their respective centres.
- **A village design** was established through a careful study of traditional country town precedents. Typically, most Western Australian township settlements have been formed on grids, which occasionally respond to site constraints through techniques such as deflections.
- **Creation of definable community places and centres** to enable community-building is fostered by establishing central villages comprising a village green or square complemented by medium residential density uses (compact cottages) and where viable, commercial or civic functions.
- **Diversity of form** is achieved outside of village core areas by an upwards graduation of lot sizes moving away from village core areas and a transition to established rural lifestyle lots. Further diversity and responsiveness is achieved by a corresponding change in street typologies and landscaping to increasingly 'country-style' treatments.
- **Bushfire resilience** is achieved by providing a defined urban development footprint, framed by perimeter access roads, and minimising the amount of lots that have a direct boundary interface with an identified hazard area.





HAWKESTONE STREET (FORMALLY CAMERON ROAD)

ROLAND ROAD

STONEVILLE ROAD



### DETAILED DESIGN CONSIDERATIONS

- 1 Hilltop skylines are retained by preserving corridors of trees along ridges
- 2 Retail/civic node (Local Centre) located on central, flat site to provide a community heart for Stoneville. The location also reinforces a sense of place by capturing views to the west and east
- 3 Rural Residential lots retained as a buffer to maintain scenic view from Roland Rd / Cameron Rd / Stoneville Rd
- 4 Watertower/hilltop park provides a potential secondary community hub, including play/kick-about areas and picnic grounds
- 5 Streets carefully consider steep grades and drainage; responding by aligning with contours
- 6 Township-style street character is pursued near village centres (ie, town grids)
- 7 Country-style street character is pursued further away from village centres (ie, winding roads)
- 8 Boulevard with cycling provision along flatter ridgetop, linking centres and primary school site
- 9 Dams are proposed to be restored and/or relocated to provide for community recreation, firefighting and ecological functions.
- 10 Large rural-style lots are situated on steep grades to preserve tree cover and assist in bushfire management
- 11 Primary school is located on flatter ground, and is intended to provide a civic centrepiece for the south-western community
- 12 Future high school site is acknowledged, and forms a civic centrepiece for the eastern community
- 13 Private school site

Disclosure: This drawing is intended for illustration purposes only, and may not reflect all matters in relation to Structure Plan No. 34 and should not be relied upon.

**FIGURE 19:** MASTERPLAN DETAILED DESIGN CONSIDERATIONS



## 4.0 STRUCTURE PLAN PROPOSALS

### 4.1 Introduction

This section outlines more specific detail on the individual components of the Structure Plan including land use, services, open space, access, and staging.

### 4.2 Residential Lots

A total of 1,001 Residential lots are proposed.

The allocation of lot sizes shown on the masterplan has been chiefly informed by the Transect Design Guide.

All exceed 1,012sqm, as referred in Table 3: R-Code indicative Density Range.

Most of the earthworks on the site will be related to the formation of the road network. Earthworks to new lots are limited to building pads for some of the lots and the connected service trenches. It is expected that building pads of clean fill will be provided for a portion of lots, so a flat building pad is provided, with the balance of the lot to remain in its natural state. Ground improvements in the form of rock ripping will be provided beneath each pad to assist builders with service excavation and to facilitate infiltration at source where appropriate.

For the purposes of the Structure Plan, Plan 1 within the Implementation Section establishes with R-Code density ranges to guide subdivision design and Density Code Plans, with consideration to the established locational criteria at Part 1.

The Structure Plan proposes residential lots within the following R-Code densities:

**TABLE 3:** R-Code Indicative Density Range

R-Code	Preferred Lot Ranges	Lots	%
Rural Residential R1*	10,000 m <sup>2</sup>	42	4.2%
Residential R5 - R10*	1,428m <sup>2</sup> - 2,000m <sup>2</sup>	647	64.6%
Residential R10*	1,012m <sup>2</sup> - 1,428m <sup>2</sup>	312	31.2%
TOTAL		1,001	100.0%

\*R-Code bands relate to nominated R-Code classifications in Plan 1 North Stoneville Structure Plan

The location of density has been heavily informed by the Transect Design Guide (Appendix 1), which bolsters the Liveable Neighbourhoods design principle of creating walkable and discrete urban villages.

It is anticipated that 2,803 people will live in the Structure Plan area, assuming 2.8 people per dwelling.

### 4.3 Rural Residential Lots

A total of 42 Rural Residential lots are proposed.

Rural Residential lots are proposed where the landform and slope permits their development without the need for significant earthwork intervention and in areas highly vegetated.

Rural Residential lots will increase the range of housing choice available to future residents, by satisfying a niche market between the larger urban lots of 2,000-3,000sqm and the 1.0 ha lots which are predominant in the locality.

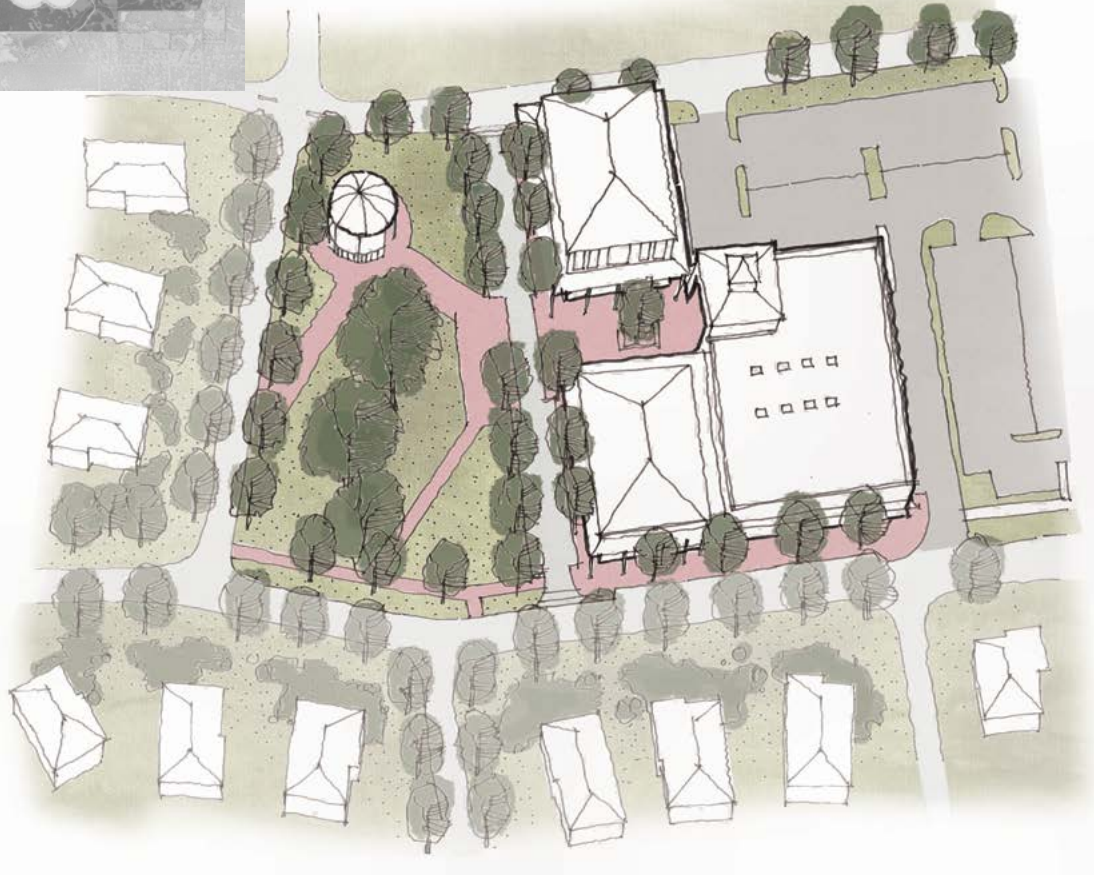
The endorsed Shire of Mundaring Local Planning Strategy provides for Rural Residential lots on the periphery of the Townsite, as a transition from urban lots to the Rural-Residential lots on adjacent land and to maintain the scenic aspect from Roland Road.

### 4.4 Local Development Plans

Local Development Plans (LDPs) are proposed to assist in enabling better built form and site response outcomes that may not otherwise be achieved through the application of R-Codes standards. Many locations within the SP34 area host slopes, granite geological units, soils, trees and landscape features that need to be respected through sensitive design responses. A site sensitive design approach was adopted for SP34, however, this alone will not safeguard appropriate treatment of the naturally occurring elements to ensure they are retained and integrated with development. To fulfill this objective, LDPs will be used to vary standard R-Codes controls and introduce other development control requirements also important to the site sensitive objective of SP34.

LDPs are favoured because the variation of site conditions across the SP34 area and their corresponding sensitive design responses demands development to also be treated on a site-by-site basis. Alternative generic policy type development control provisions are ineffective to deliver the desired outcomes. Moreover, LDPs can be used in contracts of sale ensuring a lot-by-lot clarity of development control requirements for prospective landowners, architects or builders, arresting the burden on local government administrations to interpret generic Town Planning Scheme and Structure Plan provisions for proponents of building licenses (and similar development proposals).

## PART TWO: EXPLANATORY



**FIGURE 20:** LOCAL CENTRE CONCEPT

Concepts produced by Hatch, 2018

### 4.5 Services and Amenity (Local Centre)

The North Stoneville Local Centre will be a high amenity convenience-oriented location that services both the immediate North Stoneville development, and the broader communities of Stoneville and Parkerville.

At the full build-out of the project, the Local Centre could ultimately support the following uses:

- Up to 850m<sup>2</sup> net lettable area of convenience retail activity;
- Two convenience hospitality offerings such as a café/wine bar, each of approximately 50m<sup>2</sup> net lettable area.
- Medical centre incorporating 3-4 consulting rooms. This may include capacity to offer allied health services; and
- A medium-sized childcare facility catering for 50-75 children.

In addition, a small business support centre could be included to support the development of the local community and contribute to the sustainability goals. This would incorporate a co-working space for up to 10 fledging local businesses, common ICT facilities and meeting room. Such a facility could benefit from being co-located with one of the cafés.

Refer to Appendix 2, Commercial Strategy.



## 4.6 Schools

### 4.6.1 Primary School Site

The Structure Plan generates the need for a Public Primary School. The Department of Education has confirmed that an area be set aside in the Structure Plan for a Primary School, that is not unduly constrained by significant level changes.

A 3.5 ha site is proposed to be co-located with a junior size oval on 1.5 ha of public open space, in accordance with accepted policy and practice of the Department of Education and Liveable Neighbourhoods.

Small level changes in the site will not preclude development, as established by a concept plan (refer Figure 21). In accordance with the Department of Education requirements, the concept steps down levels at no more than 0.5m increments between key areas, to ensure universal access can be achieved for students.

Consistent with the design philosophy for the Structure Plan, the concept encourages the Primary School Administration and early learning areas to open out to the village green space, so as to create opportunities for informal social exchange and create a sense of community. The masterplan aims for the village green to be a comfortable meeting point for parents that may choose to collect younger students after school and travel home by foot or cycle.



**FIGURE 21:** PRIMARY SCHOOL CONCEPT

Concepts produced by RobertsDay 2018

## PART TWO: EXPLANATORY

### 4.6.2 High School Site

A future high school is proposed by the Department of Education on land owned by the State of WA, being the 10 ha Lot 13418 on Plan 194358. The site is located centrally to the Structure Plan area, as shown on the masterplan (Figure 18).

Provision for access has been made with a Neighbourhood Connector B street abutting the site boundary. A village core area also responds to the future use, and will encourage local walking and cycling trips once the high school is built. Engagement with the Department of Education has confirmed that the high school site is not required in the short to medium term, and is expected to be provided beyond 2031.

In the interim, the nearest Government high school is the Eastern Hills Senior High School at Mount Helena, approximately 5.0 km east of the Structure Plan area.

Other private schools are located adjacent to the Townsite in the south west, including the Mundaring Christian College and the Silver Tree Steiner School.

### 4.6.3 Anglican School

A 12ha site has been set aside for a future private K-12 school for the Anglican Schools Commission. The timing for future development of the school is subject to further investigation and consideration by the Commission.

### 4.7 Special Use Sites

The Plan identifies two locations as suitable for special uses. These uses have not been defined at this stage. They are likely to be public or private recreational or community uses which provide a public benefit and enhance the attraction and amenity of the townsite.

### 4.8 Open Space and Landscape Response

#### 4.8.1 Overview

A substantial portion of the site is set aside for conservation, recreation, and landscape amenity. This includes the following:

The woodland conservation area comprising an extensive area of jarrah-marri forest in the northern portion of the site together with adjacent land of recreational value which collectively is proposed to be set aside for conservation/recreation.

Linear open spaces along the valley of Clutterbuck Creek, the major north-south creek and associated creek lines to retain the key landform, and for recreation, particularly walking and cycling, and water management.

Green links in the future urban areas to maintain and enhance the tree canopy and for residential amenity.

A range of neighbourhood and local parks providing for a combination of passive and active open space within walking distance of homes.

The conservation/recreation reserve, linear corridors and internal open space linkages provide a high level of pedestrian and cyclist accessibility and the opportunity for special purpose access such as mountain biking and horse riding.

#### 4.8.2 Conservation Covenant / Recreation Reserve

In excess of 190ha of land in the Structure Plan is designated as a Conservation Covenant / Recreation Reserve. The intention is to enhance and retain in perpetuity the existing natural value and conditions of the area. The Reserve makes provision for the following compatible uses:

- Bike and Hike trails, to allow people to move through and enjoy the conservation area in a controlled manner.
- Rehabilitation of some areas with limited or degraded vegetation.
- A central fire access route and fuel break in the centre of the conservation area.
- Special Use sites to be permitted in areas that have little or no vegetation.
- The Recycled Water Facility located in the former quarry in the north-west of the Reserve.

Recreational uses may be provided in areas that do not impact significant vegetation.

#### 4.8.3 Green Links

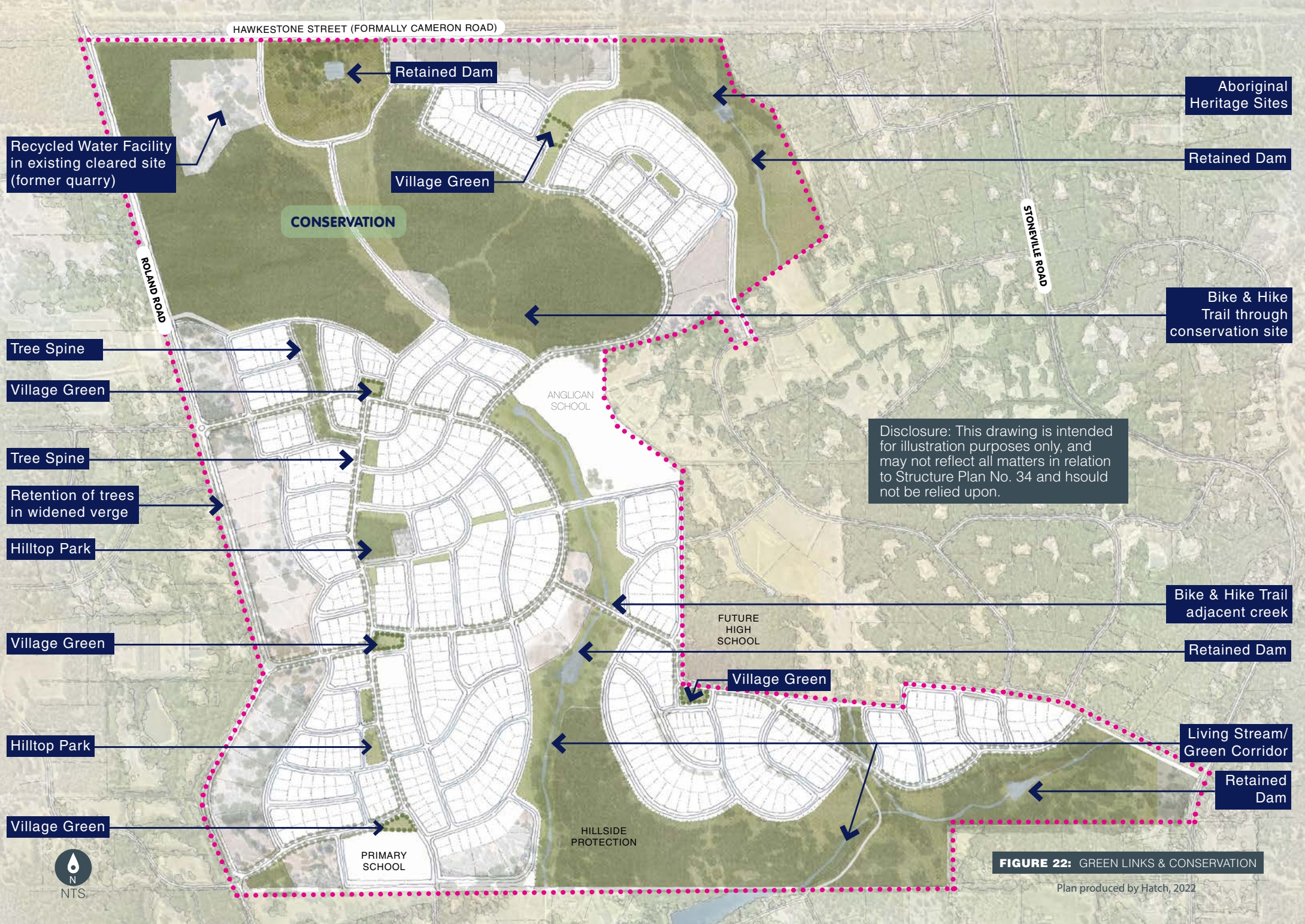
Green links include spaces within the future urban areas containing trees worthy of retention and additional planting in road reserves and public open space.

Some of these green links will retain trees within wider road reserves, and can not, therefore, be credited toward the Public Open Space (POS) contribution. However, they will play a key role in contributing to the character of the area, providing ongoing habitat for Black Cockatoos and other wildlife, and framing views with naturalistic clusters of existing trees.

In order to deliver green links as proposed, it may be necessary for some services to be located on non-standard alignments.

Refer figure 22, green links and conservation.





Recycled Water Facility  
in existing cleared site  
(former quarry)

Tree Spine

Village Green

Tree Spine

Retention of trees  
in widened verge

Hilltop Park

Village Green

Hilltop Park

Village Green

**CONSERVATION**

Retained Dam

Village Green

ANGLICAN  
SCHOOL

FUTURE  
HIGH  
SCHOOL

Village Green

HILLSIDE  
PROTECTION

PRIMARY  
SCHOOL

Aboriginal  
Heritage Sites

Retained Dam

Bike & Hike  
Trail through  
conservation site

Disclosure: This drawing is intended  
for illustration purposes only, and  
may not reflect all matters in relation  
to Structure Plan No. 34 and should  
not be relied upon.

Bike & Hike Trail  
adjacent creek

Retained Dam

Living Stream/  
Green Corridor

Retained Dam

**FIGURE 22: GREEN LINKS & CONSERVATION**

Plan produced by Hatch, 2022





## PART TWO: EXPLANATORY

### 4.8.4 Creek Lines (Living Streams)

It is proposed to enhance or rehabilitate the existing creek lines, to build upon the strong sense of place they offer, and provide an area of high amenity that is attractive to residents and visitors. Areas of POS are proposed either side of the creek line, to satisfy the Aboriginal heritage buffer requirement and provide an area of reduced fuel loads for bushfire management.

The approach for stormwater is for water quality treatment to occur at source, and for safe conveyance to occur via surface based structures, minimising the need for traditional drainage approaches throughout the road network. Runoff will be directed to designated stormwater detention areas and natural watercourse which will be enhanced as living streams.

Whilst the existing vegetation along the living streams are generally degraded and dominated by pasture grass, there are some stands of trees that have value in retaining.

Works within the living streams themselves will be limited to additional rockery to promote water aeration, rehabilitation planting with sedges to promote nutrient stripping and potentially dedicated footbridge crossing points.

The majority of investment will be focused on the central living stream, which will be used by the most amount of residents and visitors of the future North Stoneville community.

Refer Figure 23, landscape concept plan – central dam.

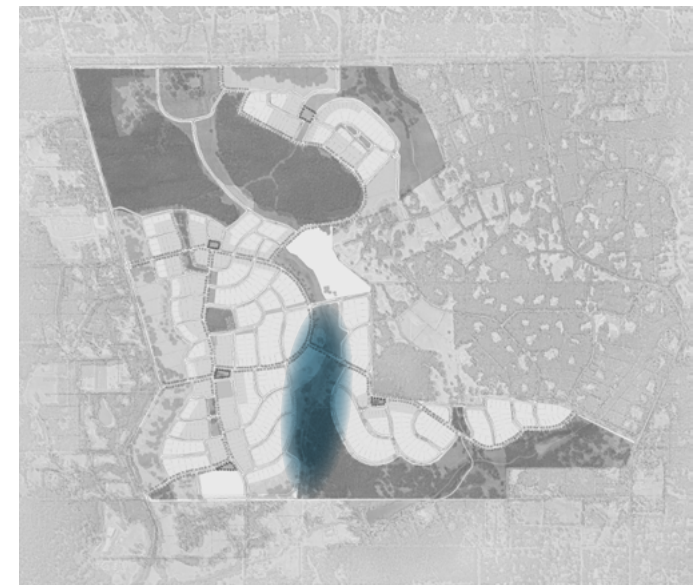


**FIGURE 23:** LANDSCAPE CONCEPT - CENTRAL DAM

Concept produced by Plan E, 2022

### LANDSCAPE CONCEPT FEATURES

- 1 Kick-about areas provide active recreation and vision to creek line; lawn acts as reduced fuel zone for bushfire management
- 2 Rehabilitation planting to central creek
- 3 Recreational bike & hike connections
- 4 Special Use site (potential community use)
- 5 bio-retention drainage basins
- 6 Adventure playground
- 7 Smaller playground
- 8 Shade structures, viewing platform and boardwalk





#### 4.8.5 Public Open Space (POS)

A mixture of pocket, local and neighbourhood parks as well as civic spaces are proposed in accordance with Liveable Neighbourhoods and the North Stoneville Transect Design. In addition, the location of POS areas that include key site features and conservation of vegetation and landform specifically respond to site considerations.

POS will provide recreation opportunities and key community facilities which would be designed to respond to the natural and urban environment. Amenity would typically include active kickabout spaces, playgrounds and nature play areas, picnic and barbecue areas, shaded resting areas, educational spaces and key community meeting places with a civic focus.

SP34 makes provision for:

- 24.4776ha of local, unrestricted Public Open Space, “Local Scheme Reserve – Recreation”, or 10.02% POS.
- 12.2118ha local open space (“Local Scheme Reserve – Recreation”) classified as restricted POS, accommodating 20% AEP (annual exceedance probability) drainage or foreshore reserves associated with rehabilitated watercourses, or 2.03% POS, and
- 193.2400ha “Local Scheme Reserve – Conservation”

As shown in Table 4, 12.03% POS is achieved, excluding the provisioning of significant areas for conservation. It is noteworthy that the expected 10% POS is provided by the proposed provisioning of ‘unrestricted POS’. The POS within the North Stoneville Townsite is proposed in a variety of locations including adjacent to existing drainage areas, around areas of existing vegetation

or landform earmarked for retention and at high and low points of the site to provide a variety of landscape typologies.

Some POS areas will accommodate important drainage functions. Bio-retention basins (for the 1 exceedance per year event) will be incorporated at key locations and will be planted with native reeds and sedges to assist the leaching of nutrients prior to infiltration.

Provision of drainage for a major storm event (1% - AEP) will be accommodated where possible within and adjacent to existing flow paths, dams and low points. The 1% AEP drainage areas, where slopes and existing vegetation allow, shall provide active or passive recreation opportunities via open turf, or will be contained within dams as concentrated drainage spaces.

The proposal is to connect open space areas to a greater urban footpath network. The planting palette is likely to include predominantly native and water wise plant species selected to suit the soil conditions. Some culturally relevant exotic plant species, particularly trees which are prevalent in surrounding small rural properties, will reinforce the Hills character.

The Transect Design Guide (Appendix 1) provides guidance on the function and landscape response for each area of POS, subject to the proposed rural or urban setting. Refer Figure 24, Indicative POS Plan.

The key objective of conservation areas is to protect habitat for the Black Cockatoo and Chudith. The land is proposed to be retained in private ownership. The key objective relating to the conservation areas and associated mechanism is to facilitate protection of the Black Cockatoo and Chuditch habitat through implementation of a legally binding instrument. To

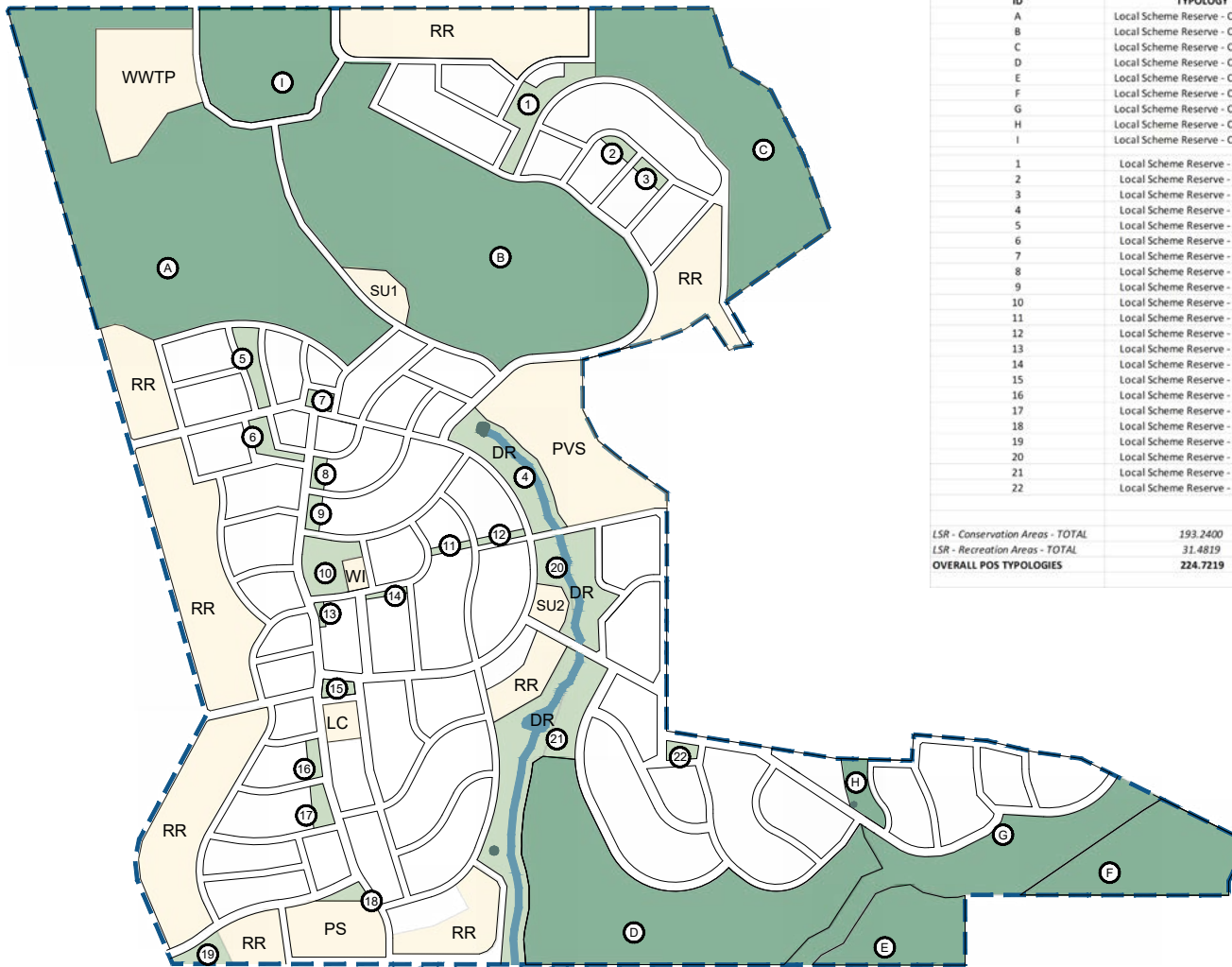
ensure the protection and security in perpetuity of the Matters of National Environmental Significance habitat, a Conservation Covenant will be placed of the conservation area, pursuant to Section 305 on the EPBC Act, and administered in accordance with an agreed Conservation Area Management Plan.

#### 4.8.6 Irrigation

The development does not have a ground water allocation for the irrigation of Public Open Space. Recycled water is proposed for irrigation of Public Open Space and streetscapes.

Generally, the irrigation design will include the provision of recycled water to all active turf areas, some passive turf areas and more prominent garden beds and large street trees. Some areas of establishment watering will be provided. Unirrigated dry land planting will also be implemented and will reduce the water usage across the Structure Plan area.

# PART TWO: EXPLANATORY



ENTIRE SUBJECT LAND PUBLIC OPEN SPACE TYPOLOGIES				
ID	TYPOLGY	AREA	UNRESTRICTED	RESTRICTED
A	Local Scheme Reserve - Conservation	50.4674		
B	Local Scheme Reserve - Conservation	47.8578		
C	Local Scheme Reserve - Conservation	22.6446		
D	Local Scheme Reserve - Conservation	28.9183		
E	Local Scheme Reserve - Conservation	7.0054		
F	Local Scheme Reserve - Conservation	10.5012		
G	Local Scheme Reserve - Conservation	13.3902		
H	Local Scheme Reserve - Conservation	1.3084		
I	Local Scheme Reserve - Conservation	11.1467		
1	Local Scheme Reserve - Recreation	2.4170	2.4170	
2	Local Scheme Reserve - Recreation	0.3597	0.3597	
3	Local Scheme Reserve - Recreation	0.4000	0.4000	
4	Local Scheme Reserve - Recreation	4.2012	2.6521	1.5491
5	Local Scheme Reserve - Recreation	1.1104	1.1104	
6	Local Scheme Reserve - Recreation	0.7528	0.7528	
7	Local Scheme Reserve - Recreation	0.3808	0.3808	
8	Local Scheme Reserve - Recreation	0.3607	0.3607	
9	Local Scheme Reserve - Recreation	0.4007	0.4007	
10	Local Scheme Reserve - Recreation	2.1143	2.1143	
11	Local Scheme Reserve - Recreation	0.2321	0.2321	
12	Local Scheme Reserve - Recreation	0.2777	0.2777	
13	Local Scheme Reserve - Recreation	0.1495	0.1495	
14	Local Scheme Reserve - Recreation	0.1867	0.1867	
15	Local Scheme Reserve - Recreation	0.4180	0.4180	
16	Local Scheme Reserve - Recreation	0.4114	0.4114	
17	Local Scheme Reserve - Recreation	0.6067	0.6067	
18	Local Scheme Reserve - Recreation	0.4285	0.4285	
19	Local Scheme Reserve - Recreation	0.8947	0.8947	
20	Local Scheme Reserve - Recreation	4.4248	3.1086	1.3162
21	Local Scheme Reserve - Recreation	10.5277	6.3887	4.1390
22	Local Scheme Reserve - Recreation	0.4265	0.4265	
		<b>224.7219</b>	<b>24.4776</b>	<b>7.0043</b>
LSR - Conservation Areas - TOTAL		193.2400		
LSR - Recreation Areas - TOTAL		31.4819		
<b>OVERALL POS TYPOLOGIES</b>		<b>224.7219</b>		

**LEGEND**

- Subject Site
- Local Scheme Reserve - Conservation
- Local Scheme Reserve - Recreation
- Deductions

PS	- Primary School	4.3092 ha
PVS	- Private School	11.9498 ha
LC	- Local Centre	1.0416 ha
WI	- Water Infrastructure	0.5400 ha
WWTP	- Waste Water Treatment Plant	8.6786 ha
DR	- Drainage	3.9227ha
RR	- Rural Residential	62.2519ha
SU1	- Special Use Site 1	1.6622ha
SU2	- Special Use Site 2	1.0820ha

**FIGURE 24:** INDICATIVE PUBLIC OPEN SPACE PLAN  
Plan produced by Hatch, 2022





TABLE 4: Indicative Public Open Space Schedule

<b>Total Structure Plan Area less</b>	<b>534.5985</b>	
Site Area less		
Local Scheme Reserve: Conservation	193.2400	
Roads outside MRS urban zone and Rural Residential area (*)	4.5301	
<b>Total Net Site Area</b>	197.7701	336.828
<b>Deductions</b>		
Primary School	4.3092ha	100.5057
Private School	11.9498ha	
Local Centre	1.0416ha	
Water Infrastructure (Tower)	0.5400ha	
Waste Water Treatment Plant (recycling)	8.6786ha	
Dedicated Drainage Reserves	0.3754ha + 3.5473ha (Dams within POS) = 3.9227ha	
Rural Residential (Rural Living Lots)	62.2519ha	
<b>Gross Subdivisible Area (for POS calculation)</b>	92.6938	244.1346
Public Open Space due @ 10%		24.4135
<b>Public Open Space Contribution Required</b>		
May comprise:		19.5308
-minimum 80 percent unrestricted public open space		4.8827
-minimum 20 percent restricted use public open space (i.e. one-fifth of 24.4135ha)		

**Public Open Space Provided**

Total Unrestricted public open space provided (actual 90% unrestricted POS)	24.4776ha	24.4776ha	
Actual restricted public open space provided (watercourse foreshore situated within the Local Scheme Reserve - Recreation)	12.2118ha		Not applied to POS calculation
	(20% AEP surface area [5.2075ha] plus dam core foreshore corridor to watercourses (incised watercourse plus 10m foreshore both sides for bioretention) [7.0043ha])		
	= 12.2118ha		
20 percent restricted use public open space (ie, one-fifth of 24.4135ha)		4.8827ha	Not applied to POS calculation
<b>Total Public Open Space Provided</b>	<b>29.3603</b>	<b>29.3603</b>	
<b>Percentage public open space provided</b>			<b>12.03%</b>

## PART TWO: EXPLANATORY

### 4.9 Planning for Bushfire Management

A Bushfire Management Plan (BMP) was prepared in support of the request to lift the Urban Deferred zoning in 2016.

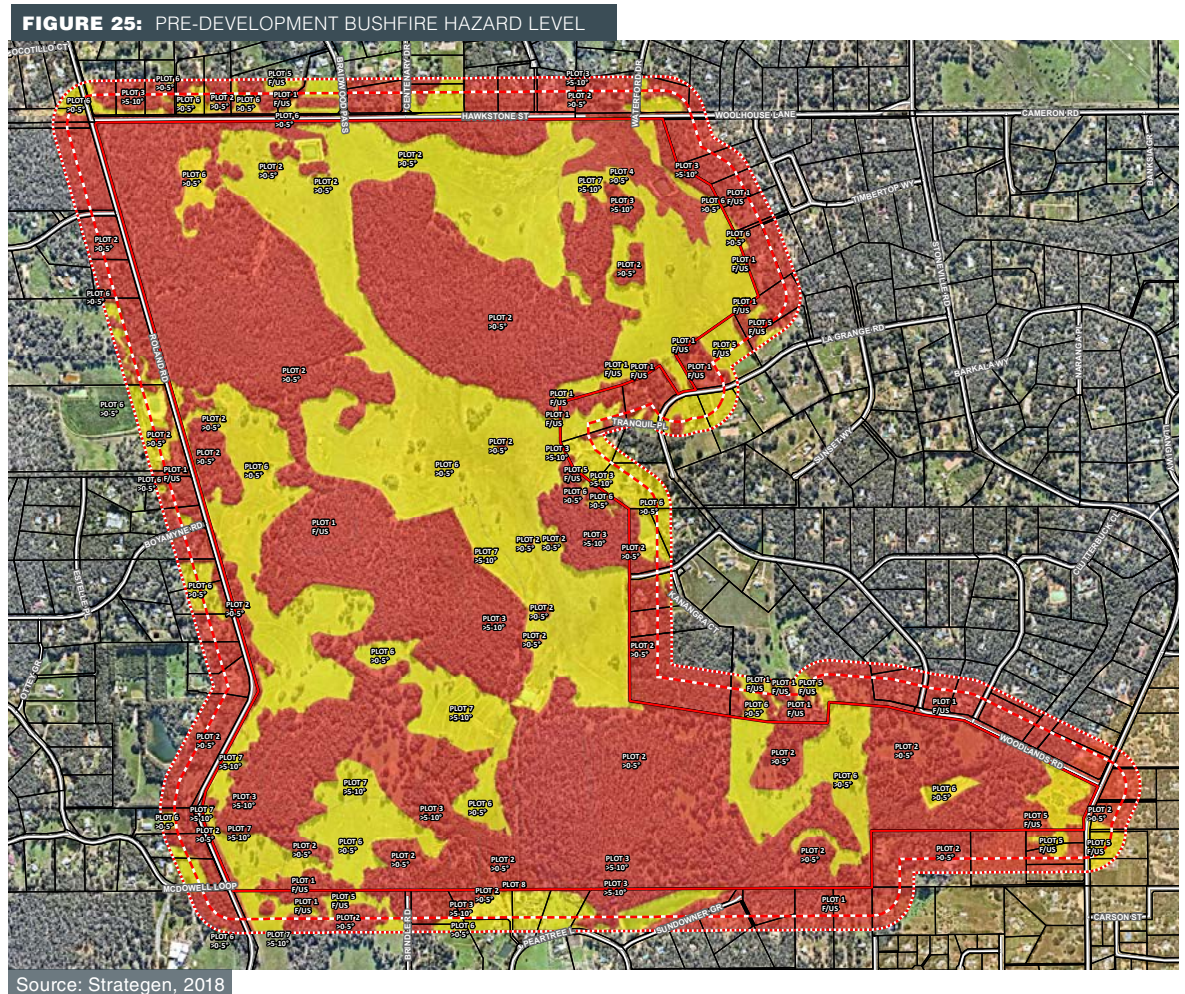
An updated Bushfire Management Plan has been prepared for the Structure Plan (refer Appendix 7), and addresses the key requirements of State Planning Policy 3.7: Planning in Bushfire Prone Areas (SPP 3.7), including:

- A bushfire hazard level (BHL) assessment or where lot layout is known, a Bushfire Attack Level (BAL) contour assessment to determine the indicative acceptable BAL ratings across the site
- Identification of any bushfire hazard issues arising from the above assessment.
- Assessment against the bushfire protection criteria requirements contained within the Guidelines demonstrating compliance can be achieved in subsequent planning stages.

The BMP is prepared in accordance with Guidelines for Planning in Bushfire Prone Areas (the Guidelines). The BMP supports the structure plan which details how the development will achieve compliance with the requirements of SPP3.7 and the Guidelines, and importantly how bushfire risk to future residents will be managed.

The establishment of the Stoneville development as a bushfire resilient community has been a pillar of the planning and design response to the landscape. The development of the bushfire management initiatives has been undertaken through consultation with the Department of Fire and Emergency Services and the Shire of Mundaring. Some of the key features of design that meet SPP 3.7 requirements and to establish a bushfire resilient community are:

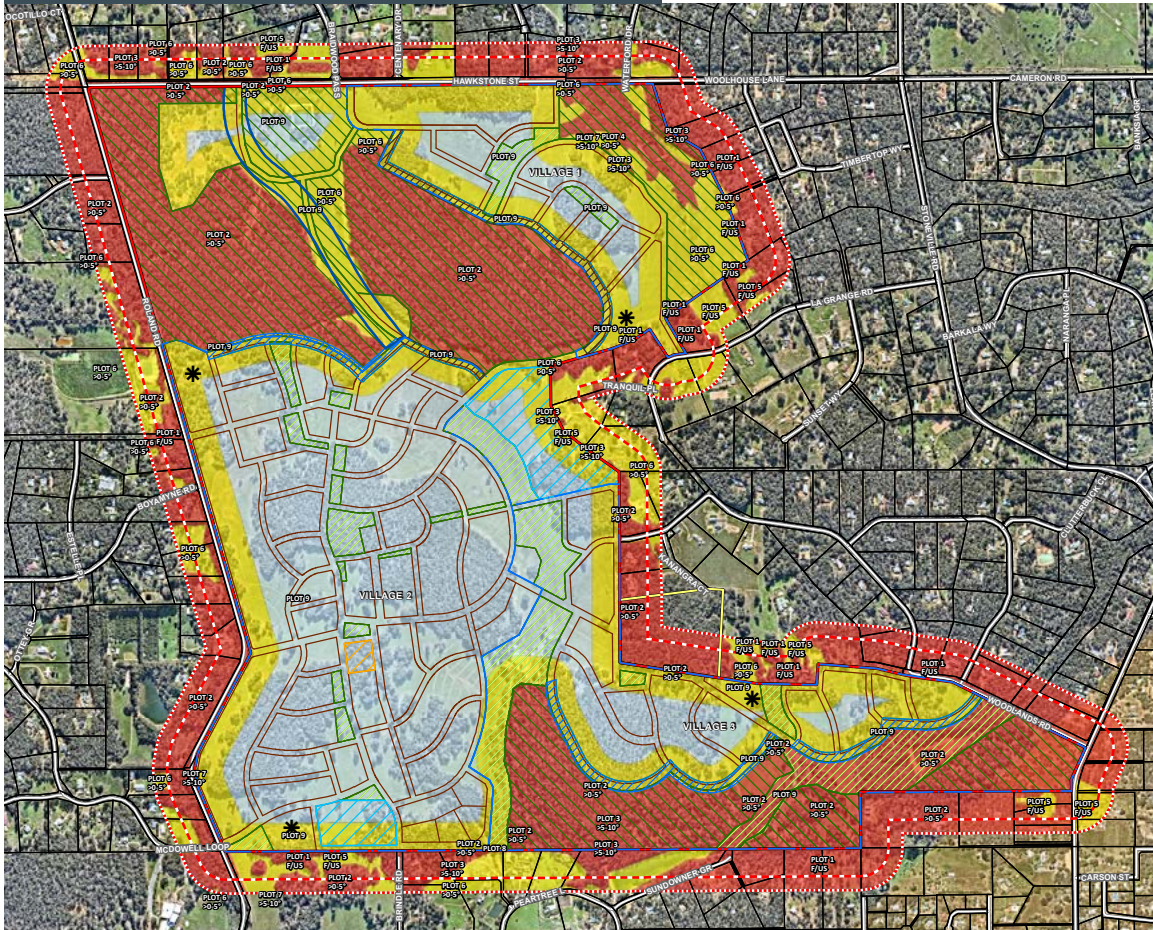
- Multiple points of vehicular access in and out of the site.
- Provision of a rationalised vehicular access network to ensure multiple egress routes for residents and visitors, whilst providing fire and emergency services with sufficient vehicular access in and around the site. This includes the creation of several fire service access routes along significant interfaces and an Emergency Access Way to enable public connection to or from the surrounding public road network.



- Modelling of possible bushfire events that could impact the land has focused on the capacity of the road network to accommodate the evacuation of existing and future communities (refer appendices 10 and 11). Based on these findings, and for the improved safety of the existing and future communities, the proponent has committed to upgrading the Toody Road intersections at Roland Road and Stoneville Road (refer Part 1, section 9.0).

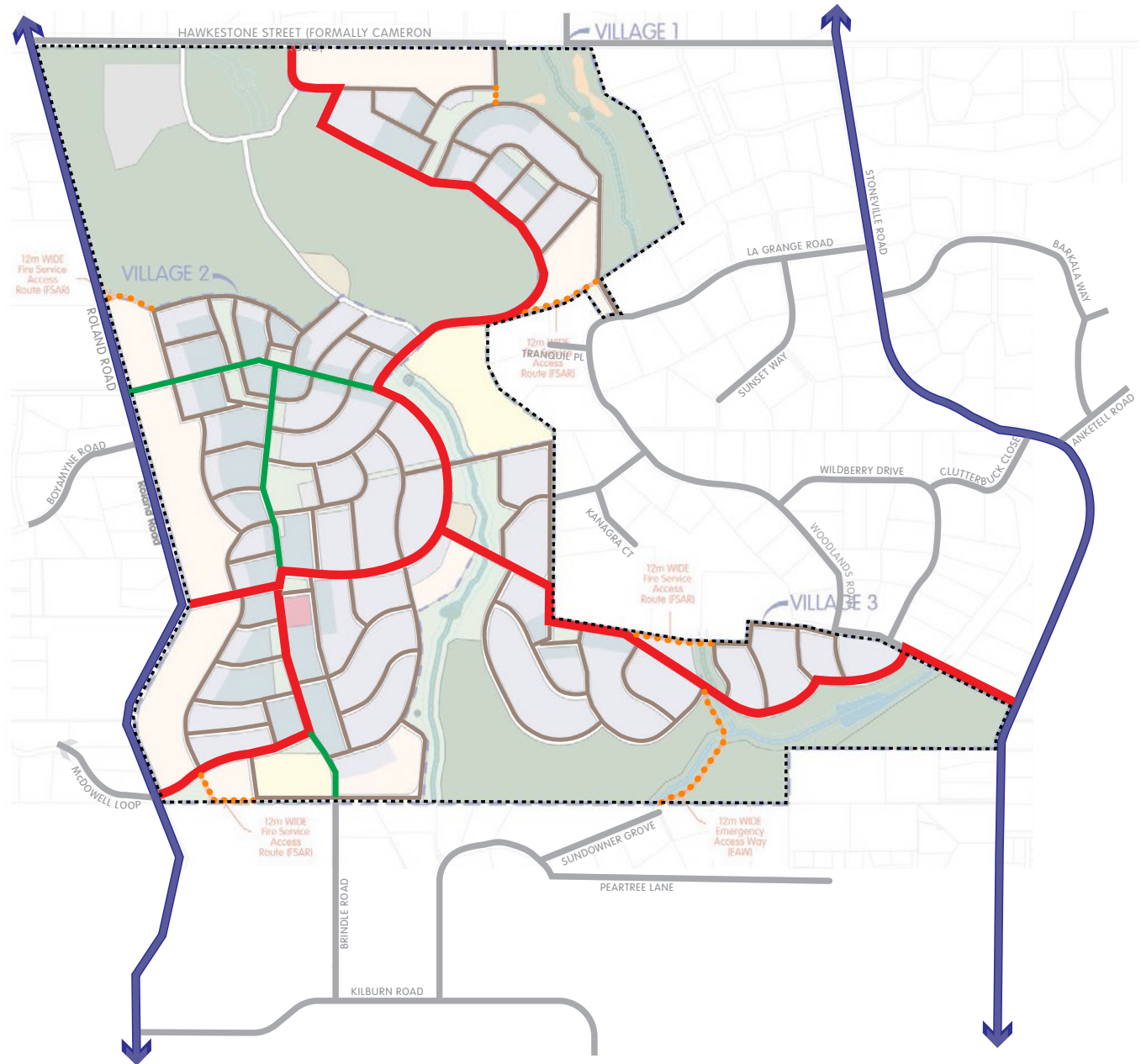


FIGURE 26: POST-DEVELOPMENT BUSHFIRE HAZARD LEVEL



- Protection of proposed habitable buildings from the bushfire hazard, through the implementation of low fuel Asset Protection Zones (APZs). The design of the APZs has been rationalised at a development-wide level, through the use of APZs and proposed rural residential lots to protect proposed residential development from the bushfire hazard, whilst also retaining the character of the area. Increased APZ widths are proposed for the higher risk interfaces.
- Use of perimeter road network to establish Asset Protection Zones between existing rural residential properties, retained vegetation and residential dwellings. Perimeter roads also provide defensible space for fire suppression operations.
- Use of managed Public Open Space within the proposed residential development to reduce fire risk.
- Retention and maintenance of a fuel break in the centre of the Conservation Area.
- Provision of information to new residents on bushfire safety and reliance.
- Establishment of the proposed development areas as a fully low threat, managed landscape to prevent fire spread through the site.
- Resolution of several no-through roads which currently exist within the surrounding area.
- Provision of sufficient fire water supply, expected to comprise primarily of a reticulated hydrant system.
- Public road upgrades sufficient to ensure there is no impact to the existing population from a traffic management point of view.
- Provision of place of relative safety for the benefit of the wider community due to the creation of significant areas of Low BHL/BAL-Low land that do not currently exist in the area.

# PART TWO: EXPLANATORY



- LEGEND TYPE**
- █ Important Local Roads
  - █ Neighbourhood Connector B
  - █ Access Street A
  - █ Access Street
  - 12m Fire Service Access

**FIGURE 27:** HATCH LSP HIERARCHY PLAN



4.10 Transport

4.10.1 Overview

This section summarises the key findings of the Transport Impact Assessment (Appendix 4A). Traffic modelling established likely typical weekday traffic flows for the full build-out scenario of SP34, which is estimated to generate approximately 8,000 vehicle movements per day (both inbound and outbound trips).

The street network of SP34 has been designed based on WAPC Liveable Neighbourhoods principles, supported by the Transect Design Guide (Appendix 1).

4.10.2 Integration with Surrounding Network

SP34 proposes 10 connections to the surrounding existing road network, enabling equitable disbursement of traffic. These are listed in Table 5 with descriptions of intersection types expected to address the traffic management needs for each circumstance. The proposed street network is designed to accommodate anticipated future traffic from the surrounding locality of SP34, including the catchments of the proposed public primary and private K-12 schools.

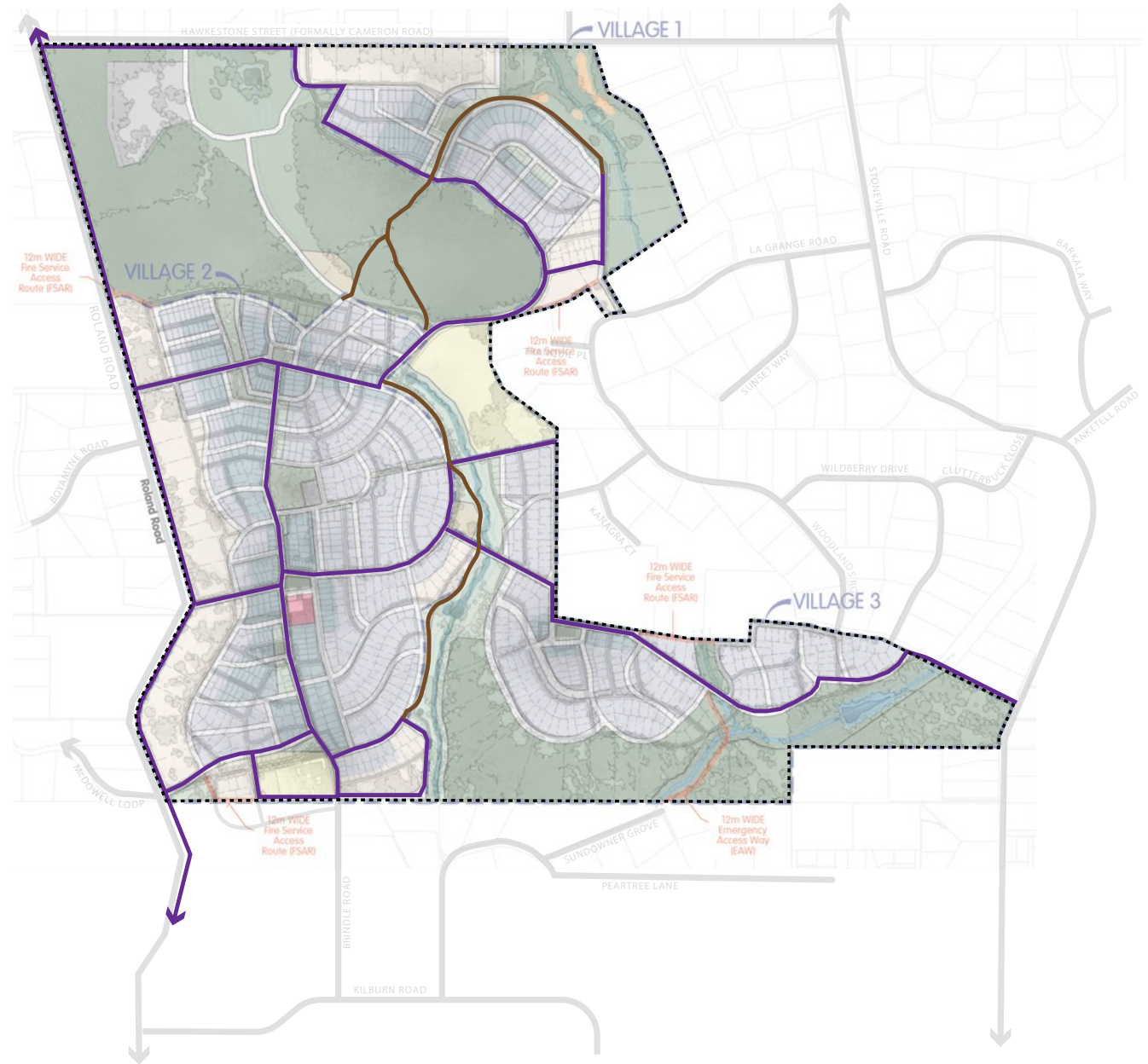
TABLE 5: Vehicular Access Points

	Access Point Description	Intersection Details
1-3	Hawkstone Street Access Intersection	T-Intersections
4	North-East La Grange Rd Access Intersection	T-Intersection
5	Central Woodlands Road Access	Extension into proposed road system
6	Southern Woodlands Road	T-Intersection
7	Brindle Road extension	Northbound extension into proposed road system
8	Southern Roland Road intersection	4-way roundabout
9	Central Roland Road intersection	T-Intersection
10	Northern Roland Road intersection	3-way roundabout (TBC)



FIGURE 28: SITE ACCESS POINTS

# PART TWO: EXPLANATORY



- LEGEND TYPE**
- Bike and Hike Trail
  - Separated Bike Path / Shared Path

**FIGURE 29: ACTIVE TRANSPORT NETWORK**

Plan Produced by Hatch, 2022



### 4.10.3 Regional and District Access

Future residents of SP34 can access regional centres, that provide employment and important services, via Great Eastern Highway to the south and Toodyay Road to the north. The Midland sub-regional centre is less than a 20-minute drive from the site.

Both east-west arterial roads are under the control of Main Roads WA and are planned to be upgraded. Toodyay Road is planned to be upgraded as part of the Perth-Adelaide National Highway (Orange Route) proposal diverting freight traffic away from Great Eastern Highway. The final highway concept design is nearing completion, which will conclude the planning and development phase. State and Federal Government funding is committed to develop the project. The ultimate regional road network will provide adequate capacity to accommodate the demands at full build out of SP34.

The Toodyay Road/Roland Road and Toodyay Road/Stoneville Road intersections were recently upgraded to improve operating and safety performance. Both are proposed to be further upgraded by the proponent as part of the first stage of implementation of SP34 to provide adequate capacity for the first 400 lots, and prior to the completion of the upgrade works for the regional road network described above.

The surrounding existing road network to the SP34 land is of a good standard to support the traffic demands at the completion of developing SP34. However, where development precedes the proposed Perth-Adelaide National Highway (Orange Route) upgrades, the following improvements to the local road network are proposed to improve vehicular movement generally and facilitate safe and efficient bushfire evacuation. These works will be funded by the developer and completed as a requirement of the first stage of subdivision.

- Addition of a dedicated left-turn (continuous) lane on Stoneville Road (north-bound) at the Toodyay Road/Stoneville Road intersection
- Addition of a dedicated left-turn (continuous) lane on Roland Road (north bound) at the Toodyay Road/Roland Road intersection
- Construction of proposed northern and southern SP34 access intersections on Roland Road, to ultimate roundabout format
- Construction of the missing portion of Hawkstone Street along the northern boundary of the SP34 and
- Upgrade of the existing Great Eastern Highway/Seaborne Street intersection to include separate left- and right-hand lanes on Seaborne Street approach.

### 4.10.4 Street Types

The design intent for SP34 is to disburse internal traffic movements and encourage walking and cycling by a permeable movement network that connects to key external road networks and respectfully responds to topography and site features. No street in SP34 is required to accommodate more than 3,000 vehicles per day (the upper limit threshold for Access Street A and Neighbourhood Connector B under Liveable Neighbourhoods).

The Transport Impact Assessment recommends a road hierarchy as generally depicted in Figure 27. Three street classifications are recommended under Liveable Neighbourhoods, including Neighbourhood Connector B, Access Street A, and Access Street D.

Neighbourhood Connector B streets are strategic links that host the highest volumes of transport movement through the townsite to areas of interest within SP34.

Access Street A streets serve a similar function to Neighbourhood Connector B streets and form the framework of the internal street network.

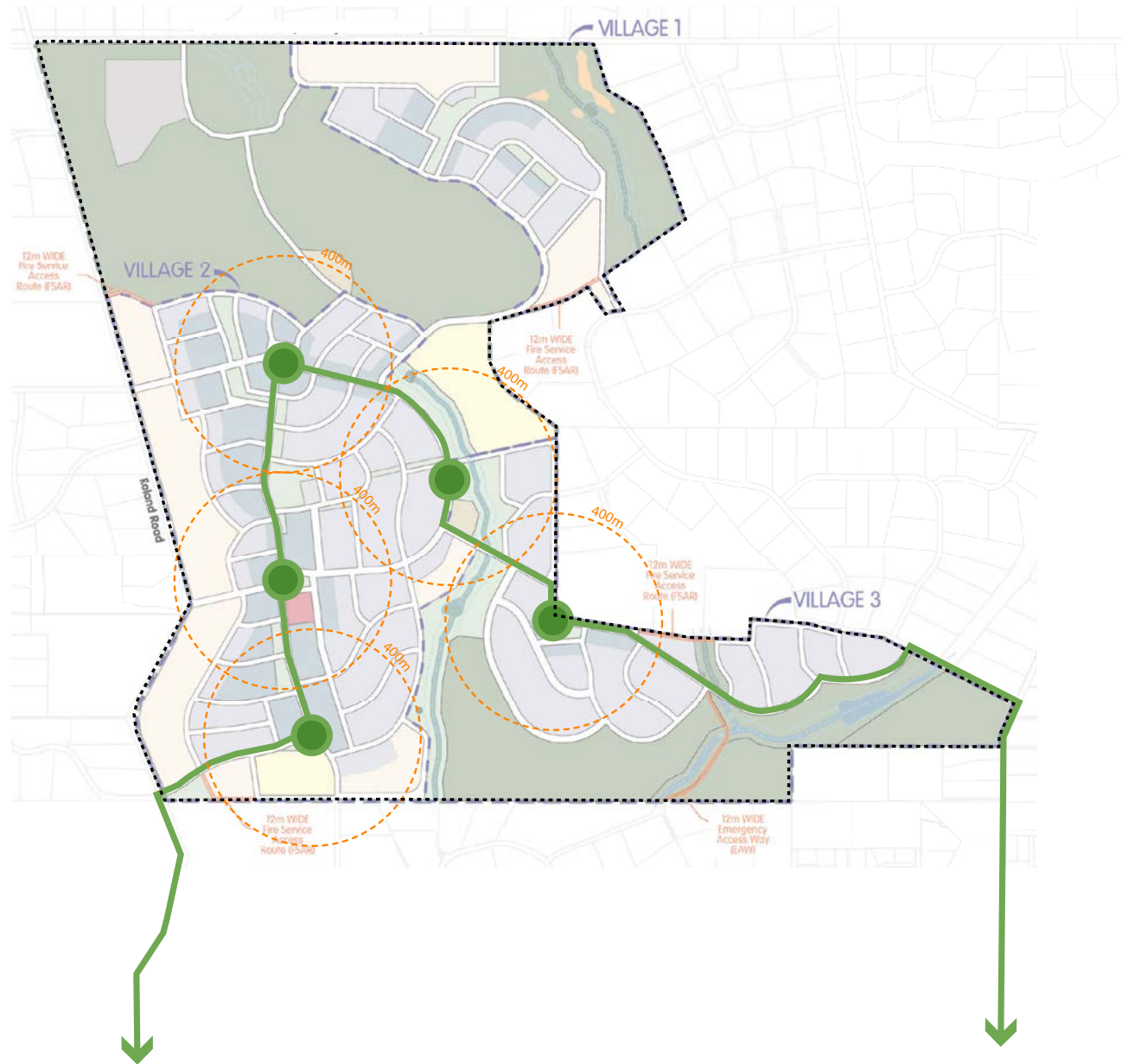
Access Street D, the most common street type in the Structure Plan, will support low to moderate traffic volumes.

The Transect Design Guide (Appendix 1) provides design guidance for each street typology and explains how the character of each will change across sequential transects, ranging from a rural setting to an urban condition. Detailed design of street type cross sections and street intersections will be resolved at subdivision stage.

Refer Figure 27, Street Types.

A slope analysis performed for SP34 credits a sensitive response to existing landform and the minimisation of earthworks to achieve desirable road gradients. Detailed design will continue to ensure compliance with maximum grade standards and ensure no roads critical to emergency evacuation are compromised.

# PART TWO: EXPLANATORY



- LEGEND TYPE
- Future Bus Route
  - Potential Bus Stop

**FIGURE 30:** PUBLIC TRANSPORT NETWORK



#### 4.10.5 Active Transport Network

The Structure Plan provides for a comprehensive network of shared paths and footpaths to encourage and facilitate non-motorised modes of traffic throughout the site.

The Structure Plan allows for footpaths to be provided as generally required by Liveable Neighbourhoods, on at least one side of all access streets within the MRS Urban area.

Dual use paths are to be provided alongside Access Street A and Neighbourhood Connector B streets, as shown on the Active Transport Network plan. Some of the Access Street A and Neighbourhood Connector B streets may include separated bicycle paths, subject to further negotiations with the Shire of Mundaring and Department of Transport.

No streets within the Structure Plan are expected to carry traffic flows beyond levels that are likely to affect the ability for pedestrians to safely cross.

An allowance for Bike and Hike trails has been made within the Active Transport Network. Bike and Hike trails are typically located within public open space and conservation areas as shown on the Active Transport Network map (Figure 29). They will function primarily as recreational linear connections, and will encourage residents and visitors to walk and cycle in a relaxed and comfortable setting; typically under the shade of trees.

Refer Figure 29, Active Transport Network.

#### 4.10.6 Future Bus Route

There are no public transport service proposals for SP34, however, the Shire of Mundaring Local Planning Strategy supports the provision of frequent services to North Stoneville. SP34 makes provision for a future bus route along Neighbourhood Connector B streets, which are generally routed through village core areas to equitably service proposed walkable catchments. Bus stops are intended to be located adjacent village greens proposed near the village cores.

A future bus service should connect residents with the Mundaring District Centre and the Midland Regional Centre.

Refer Figure 30, Public Transport Network.

## PART TWO: EXPLANATORY

### 4.11 Servicing and Staging

For further details on servicing, refer to Appendix 3, Engineering Servicing Report.

#### 4.11.1 Power

Western Power has confirmed that there is sufficient network capacity to service the proposed development.

An extension of 22 kV High Voltage feeder cables is required to connect to Western Power's Darlington network from Roland Road to the west and to Sawyer's Valley to the east through the existing rural-residential areas.

Sustainable power generation and storage (eg. Solar, batteries etc.) is being explored as part of the development feasibility, but has not been relied on for the purposes of developing this Structure Plan.

#### 4.11.2 Water

The Water Corporation has confirmed that potable water can be provided to service the site, via an extension of the existing water main network along Roland Road from the Zamia Water Tank source, 7 km south of the site.

The ultimate development will require two 2.0 ML ground level tanks and a 100 kL elevated tank, along with a pump station to transfer water from the ground tanks to the elevated tank and will be located at the existing topographical high point on the site. Development of residential lots above 295m AHD will require construction and operation of the 17m high 100kL elevated tank at 327m AHD and construction of the pump station to service the elevated tank.

#### 4.11.3 Drainage

Due to the hardpan laterite and clay profile, in addition to moderate to steep slopes, the site is subject to low drainage permeability. The approach for stormwater is for safe conveyance to occur throughout the road network and into designated stormwater detention areas and natural water courses. The main flood storage will utilise the existing dams to help retain the existing rural character of the site.

Drainage has played a key role in influencing the design and layout of the street network shown on the masterplan (figure 18). The drainage approach has been considered in the context of Transect Design Guide, with kerbs and pipe and pit drainage in urban areas, and open swales and streets with one way cross falls in more rural settings.

Refer to Appendix 5, Local Water Management Strategy.

#### 4.11.4 Recycled Water Facility and Waste Water Connections

The Structure Plan area is outside the Water Corporation's servicing area for sewer.

Development of the Structure Plan area can proceed subject to the provision of adequate sewer services, to be provided by a licenced wastewater provider. Water West, a private-sector water utility and licenced wastewater provider under the Water Services Act 2012, will service the development.

Water West will design, build and operate the scheme.

The key feature of the scheme entails all wastewater from the development being collected, treated and reused entirely within the development. A Recycled Water Plant (RWP) will be located in the north-west of the site, within a former quarry site that has been mostly cleared.

The RWP does not require any noise or odour buffers but will be set back a minimum 50m and screened from Hawkstone Street and Roland Roads. Direct access will be from Hawkstone Street.

Servicing will involve a pressure pipe sewerage system, with individual lots to be provided with a macerator pump and on-site tank, to be owned and operated by Water West.

The majority of recycled water produced by the RWP will be used for irrigation of public open spaces. The Scheme will also explore the potential for some recycled water to be made available for irrigation of residential gardens.

#### 4.11.5 Telecommunications

Telecommunications and high-speed internet (NBN) will be connected to the site, and provided on a stage by stage basis.

#### 4.11.6 Gas

Gas is not available within proximity of the Structure Plan area and is not proposed to be provided as part of the development.

#### 4.11.7 Sustainability

Sustainability is a key consideration for the North Stoneville development and is a feature of proposed Structure Plan. The aim is to seek EnviroDevelopment™ project accreditation, which is not a statutory requirement of the Shire of Mundaring.

Table 6 shows how the sustainability measures proposed in the Structure Plan will be achieved through alignment with EnviroDevelopment™ criteria.



### 4.11.8 Staging

Development of the site will be carried out in stages, with staging anticipated to commence from Roland Road from the south west corner of the project and focus around the establishment of the first Village Core.




Proposed upgrades to the local road network (refer Section 9.0 Other Requirements) are required to provide adequate capacity for the first 400 lots only. Development beyond the first 400 lots shall not be permitted until completion of works in relation to the proposed Perth-Adelaide National Highway (Orange Route). Should completion of the proposed Perth-Adelaide National Highway (Orange Route) proceed commencement of subdivision works for SP34, the proposed upgrades listed in Section 9.0 Other Requirements are not required.

The design allows for a variety of different lot sizes to be presented for sale within each stage.

The first stages require essential services to be provided, as outlined in the Engineering Servicing Report.

Refer Appendix 3, Engineering Servicing Report.

**TABLE 6:** EnviroDevelopment™ Category Residential Subdivision <1,500 lots

ENVIRODEVELOPMENT™ ELEMENT	ENVIRODEVELOPMENT™ ACTIONS (FOR SP34)
<b>ECOSYSTEMS</b> 	SP34 protects riparian zones and buffers, supports water sensitive design principles and makes provision for a Recycled Water Facility. (ED 1.1.1) A Flora + Fauna Survey accompanies SP34 Amendment 1 (ED 1.2.1) In excess of 193ha is proposed for "Local Scheme Reserve - Conservation" (ED 1.2.1) To retain landform a Transect Design Guide will inform assignment and design of lot sizes (ED 1.2.1) Subdivision design is based on walkable neighbourhood structuring (ED 1.2.5) Rehabilitate Creek line (ED 1.3.6) Bushfire Management Plan was updated + accompanies SP34 Amendment 1 (ED 1.3.7) In excess of 193ha is proposed for "Local Scheme Reserve - Conservation" and approximately 36.7ha of "Local Scheme Reserve - Recreation" (Actual area), includes existing vegetation, creeklines and wildlife corridors - or 29.3606ha (12.03%), credited in accordance with Liveable Neighbourhoods.
<b>WATER</b> 	SP34 Amendment make provision for a Recycled Water Facility that uses membrane technology and biological processes. Recycled water will be used for irrigation of parks and gardens. (ED 5.2.1)
<b>COMMUNITY</b> 	SP34 is supported by a Place Vision Blueprint (ED 6.1.1) Community contributed to the development of the Place Vision Blueprint; "A Sense of Stoneville: Community Workshop was held on 12 July 2018. (ED 6.2.2 + 6.2.3) Areas of Aboriginal significance (per Section 18 approval under the Aboriginal Heritage Act 1972) have been protected (ED 6.2.3) A 'Bike and Hike' network is proposed to promote healthy active living. (ED 6.4.3) A bus route is proposed within a comfortable walking distance of about 75% of proposed dwellings (ED 6.4.5) The public realm (including streets and open space) has been designed to a hierarchy of functions, according to the proposed Transect Design Guide. (ED 6.5.1) A range of housing types is proposed (ED 6.6.2) A primary school is proposed (ED 6.7.3) A K-12 Anglican School is proposed (ED 6.7.4) A Local Centre is proposed, which could accommodate a range of convenience uses (ED 6.7.7 - 6.7.10) A range of parks are proposed catering for a range of uses and people of varying ages and abilities. (ED 6.9.2)

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